Comprehensive Sport Medicine Solutions

RIGIDLOOP™ Adjustable Cortical System
CONTENTS

Welcome Message 5

Organizing Committee 6
APKASS Board Members & Committee 2016
2016 APKASS Congress and the 13th IFOSMA 7

Acknowledgements 8

Congress Information 10
General Information
Social Program 12

Instruction for Presenter 13

Floor Map 14
Prince of Wales Hospital
The Jockey Club School of Public Health and Primary Care 15

Scientific Program 17
Program at a Glance
Thursday, June 9 20
Friday, June 10 22
Saturday, June 11 42
Sunday, June 12 64

Abstracts 78
Invited Lectures
Friday, June 10
Saturday, June 11 104
Sunday, June 12 122
Best Papers & Best Posters 130
Free Paper Oral Presentations
Friday, June 10 148
Saturday, June 11 156
Sunday, June 12 164
E-posters
APKASS & IFOSMA Session 170
Eliminate the Weak Link in ACL Reconstruction with

GraftLink® and ACL TightRope®
Attachable Button System

Reliable cortical, tibial fixation that is stronger than interference screws¹

Allows continuous retensioning of graft after fixation

No foreign bodies in tibial socket/tunnel
Clinically proven outcomes²³⁴


Tibial Fixation Strength*  

GraftLink with ACL TightRope ABS vs traditional interference screw fixation when the GraftLink is properly prepared and tensioned using the Arthrex All-Inside Technique. •Study #1

1. Ultimate Load  
2. Yield Load

**http://cptr.it/GLTR**  
© 2015, Arthrex Inc. All rights reserved.
Welcome Message

Dear Friends,

On behalf of the Asia-Pacific Knee, Arthroscopy and Sports Medicine Society (APKASS), and the International Forum of Orthopaedics Sports Medicine and Arthroscopic Surgery (IFOSMA), we cordially invite you to participate in the upcoming 2016 Congress from 9 – 12 June 2016 at the Jockey Club School of Public Health, Prince of Wales Hospital, Shatin, N.T. Hong Kong.

The theme of 2016 APKASS Congress & the 13th IFOSMA is “Cutting Edge in Arthroscopic Surgery”. The Congress offers the perfect platform for orthopedists and researchers from the field of Knee Arthroscopy and Sports Medicine to exchange professional scientific knowledge and valuable clinical experiences. We are devoted to provide the most up-to-date scientific program in the Congress and aim to promote the field’s education and research result to a new level.

From the Congress, you will gain insights into clinical application; and outside the Congress, you will enjoy the splendors of Hong Kong. Hong Kong is a city blended with East and West colours and we would like to showcase the very best of our city, our work, and above all our friendship and hospitality.

We welcome all of you to join us in Hong Kong and Macau to share and gain invaluable experience.

Best regards,

Shiyi Chen  M.D., Ph.D
2016 APKASS President
Co-Chairman, 2016 APKASS & 13th IFOSMA

Prof. Kai-Ming Chan           Dr. Wai-Sin Chan
Co-Chairman, 2016 APKASS & 13th IFOSMA

Dr. Patrick Shu-Hang Yung
Program Chairman, 2016 APKASS & 13th IFOSMA
Organizing Committee

APKASS Board Members & Committee 2016

Board Members & Committee 2016

President
Shi-Yi CHEN
Shanghai, China
Immediate Past President
Chih-Hwa CHEN
Taipei, Taiwan
Vice President
Myung-Chul LEE
Seoul, Korea
Vice President
David PARKER
Sydney, Australia
Secretary General
Patrick Shu-Hang YUNG
Hong Kong, China
Treasurer
Parag SANCHETI
Pune, India

APKASS Committee

Education Committee
Chair: Shi-Yi Chen (China)
Members:
Ying-Hui Hua (China)
Chun-Yan Jiang (China)
Mohammed Razi (Iran)
Takeshi Muneta (Japan)
Ashish Babhulkar (India)
Ryosuke Kuroda (Japan)

Travelling Fellowship Committee
Chair: Chih-Hwa Chen (Taiwan)
Members:
David Parker (Australia)
Mark Clatworthy (New Zealand)
Hua Feng (China)
Seung-Ho Kim (Korea)
Patrick Yung (Hong Kong)
Masataka Deie (Japan)

Congress Program Committee
Chair: Myung Chul Lee (Korea)
Members:
Kandiah Raveendran (Malaysia)
Nicolaas Budhiparama (Indonesia)
Kazunori Yasuda (Japan)
Dinshaw Pardiwala (India)
Jia-Kuo Yu (China)
Dennu Lie (Singapore)

Development Committee
Chair: KM Chan (Hong Kong)
Members:
Antonio A. Rivera (Philippine)
Ying-Fang Ao (China)
Konsei Shino (Japan)
Mitsuo Ochi (Japan)
Masahiro Kurosaka (Japan)
Mahmut Nedim Doral (Turkey)

Membership Committee
Chair: Parag Sancheti (India)
Members:
Ludwig Andre Pontoh (Indonesia)
Ji-Wu Chen (China)
Masoud al Riyami (Oman)
Chalin Lamsam (Thailand)
Wai-Sin Chan (Macau)
Jin-Zhong Zhao (China)
Yasuhiro Tanaka (Japan)
**2016 APKASS Congress and the 13th IFOSMA**

**APKASS President 2016:** Shiyi Chen  
**IFOSMA Honorary Chairman:** Guoping Li, Yingfang Ao  
**Congress Co-chairman:** Shiyi Chen, Kai-Ming Chan, Wai-Sin Chan  
**APKASS-China Section:** Hua Feng, Jian Li, Jiakuo Yu, Bing Xia, Jinzhong Zhao, Chunyan Jiang, Jiwu Chen, Xuesong Dai  
**Congress Program Committee:** Patrick Shu-Hang Yung, Yinghui Hua  
**Congress Secretariat:** Gina Wong, Wancy Lo, Annie Chen, Xiliang Shang

**IFOSMA Organizing Committee**

| Chairman | Baicheng Chen | Manyi Wang | Xueren Teng | Jianquan Wang | Weiping Li | Fangxiang Li | Baicheng Chen | Manyi Wang | Xueren Teng | Jianquan Wang | Weiping Li |
| Member | Xizhuang Bai | Daozhang Cai | Qirong Dong | Huayang Huang | Qi Liao | Yuan Lin | Xizhuang Bai | Daozhang Cai | Qirong Dong | Huayang Huang | Qi Liao | Yuan Lin |
| Zhongli Li | Yunxia Li | Jin Li | Kanglai Tang | Xueren Teng | Lei Wang | Chunxia | Zhongli Li | Yunxia Li | Jin Li | Kanglai Tang | Xueren Teng | Lei Wang | Chunxia |
| Ning Liu | Guicus Sun | Hong Wang | Yuli Wu | Weidong Xu | Chun Li | Chun Li | Ning Liu | Guicus Sun | Hong Wang | Yuli Wu | Weidong Xu | Chun Li |
| Yubin Wang | Jianquan Wang | Bo Yang | Lei Zhang | Chun Li | Chun Li | Chun Li | Yubin Wang | Jianquan Wang | Bo Yang | Lei Zhang | Chun Li |
| Jun Xia | Yai Xia | Bin Xu | Qinglei Xu | Weidong Xu | Weidong Xu | Weidong Xu | Jun Xia | Yai Xia | Bin Xu | Qinglei Xu | Weidong Xu |
| Youjia Xu | Haibo Yang | Xiaonan Zhang | Liheng Zhang | Jiangang Zhao | Jiangang Zhao | Jiangang Zhao | Youjia Xu | Haibo Yang | Xiaonan Zhang | Liheng Zhang | Jiangang Zhao |
| Weiguang Zhang | Wentao Zhang | Jingbin Zhou | (members' list is in alphabetical order by last name) | (members' list is in alphabetical order by last name) | (members' list is in alphabetical order by last name) | (members' list is in alphabetical order by last name) | Weiguang Zhang | Wentao Zhang | Jingbin Zhou | (members' list is in alphabetical order by last name) | (members' list is in alphabetical order by last name) | (members' list is in alphabetical order by last name) |

**IFOSMA Scientific Committee**

| Chairman | Yujie Liu | Xiaochun Wei | Qiujin Jiang | Liu Yang | Xuesong Dai | Hong Chen | Shuang Chen | Shuang Chen |
| Member | Lunhao Bai | Qing Bi | Bao Cheng | Hong Chen | Shuang Chen | Min Dai | Yung Hu | Yung Hu |
| Dongyang Chen | Gang Chen | Guoqing Cui | Zhizeng Gao | Yaqing He | Yaqing He | Min Dai | Yung Hu | Yung Hu |
| Yuqlin Hu | Jingmin Huang | Jie Lao | Yi Lu | Jian Li | Jian Li | Jian Li | Jian Li |
| Yifan Kang | Guanghua Lei | Lixin Huang | Wei Lu | Hengbin Lu | Hengbin Lu | Hengbin Lu | Hengbin Lu |
| Yanlin Li | Jianping Lin | Junbo Liang | Bing Qiu | Jianhong Qi | Jianhong Qi | Jianhong Qi | Jianhong Qi |
| Kun Mi | Lei Ni | Zhaoxun Pan | Lu Ning Sun | Wen Wang | Wen Wang | Wen Wang | Wen Wang |
| Zhiming Qi | Decheng Shao | Lei Sun | Qing Wang | Wanchun Wang | Wanchun Wang | Wanchun Wang | Wanchun Wang |
| Weiming Wang | Peng Wen | Jianzhong Xu | Qingyun Xue | Yadong Zhang | Yadong Zhang | Yadong Zhang | Yadong Zhang |
| Li Zhao | Lilian Zhao | | | | | | |

**Local Organizing Committee**

| Chairman | Chun-Kwong LO | | | | | | |
| Members | Joseph Jeremy H.T CHANG | Yung-Chak HSU | Brian Ming-Fat KONG | | | | |
| Billy Kan-Yip LAW | Pang-Hei LI | Chester Wai-Hung LIE | | | | | |
| Michael Tim-Yun ONG | Kevin Kwun Hung WONG | Tsz-Cheung WONG | | | | | |
| Yau Bun WONG | Gary Wing-hang YIP | Jonathan Shiu-Him YUEN | | | | | |

*(members' list is in alphabetical order by last name)*
Acknowledgements

Organizer

Co-organizer

Supporting Organization

Approved Course
Diamond Sponsor

smith&nephew

Platinum Sponsor

DePuy Synthes
MITEK SPORTS MEDICINE
COMPANIES OF Johnson & Johnson

Sponsor and Exhibitor

Arthrex®
ConMed
Menarini Asia-Pacific
STORZ KARL STORZ—ENDOSCOPE
VirtaMed®
DePuy Synthes
OrthoSpace
EMS Electro Medical Systems
Sanofi BioSurgery
Stryker
Takeda
Xishan
Zimmer Biomet
Congress Information

General Information

Date 9 – 12 June 2016 (Thu – Sun)
Theme Cutting Edge in Arthroscopic Surgery
Congress Venue Pre-Congress Symposium (Macau)
Administrative Building of Macau Health Bureau
(Inside Conde S. Januario Hospital of Macau), Ruoxian Rd. of Macau
Main Congress (Hong Kong)
The Jockey Club School of Public Health and Primary Care,
Prince of Wales Hospital, 30-32 Ngan Shing Street, Shatin, N.T., Hong Kong

Official language The official language is English.
Some IFOSMA sessions will be conducted in Chinese.

Registration Desk
Please register and receive your name badge at the Registration Desk. All participants are required to wear their name badges all the time during the Congress sessions.

On-site Registration Fees (Accept cash only)

<table>
<thead>
<tr>
<th>Main Congress</th>
<th>APKASS Member</th>
<th>US$ 300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-APKASS Member</td>
<td>US$ 380</td>
<td></td>
</tr>
<tr>
<td>Pre-Congress Symposium: The 3rd Sino-United Advanced Course on Sports Injury Imaging Diagnosis Workshop*</td>
<td>Sports Injury Imaging Diagnosis Workshop &amp; Ultra-Sound Diagnosis Workshop (Quota: 30)</td>
<td>Not Accepted</td>
</tr>
<tr>
<td></td>
<td>Sports Injury Imaging Diagnosis Workshop (Quota: 170)</td>
<td>US$ 125</td>
</tr>
</tbody>
</table>

* The symposium is held in Macau, on 9 Jun 2016. Participants are responsible for arranging their transportation and accommodation in Macau at their own expense.
Refreshment
Free coffee and tea will be served at the G/F foyer of The Jockey Club School of Public Health and Primary Care. Tea break and lunchboxes will be available to attendees. Please understand that there are limited number of refreshment and lunchboxes, they will be provided on a first-come, first-served basis.

Complimentary Conference Shuttle
Complimentary shuttle service will be provided for attendees between Congress Venue and the conference hotel. Your official conference name badge serves as your boarding pass. Service schedules will be posted in conference hotel lobby and available on-site at the Registration counter.

Conference Shuttle will depart SHARP at the time listed. Seats are limited and on first come, first served basis. Please understand that the schedule may vary due to traffic and weather conditions.

Conference policy
• Smoking is prohibited at all times in the conference rooms and the hospital area.
• Please switch off your mobile phone or turn on vibration mode during all sessions.
• Taking photos with flashes and recording movies during presentations are prohibited.
• Photography and/or recording are strictly prohibited in Live Surgery Demo sessions. Your compliance is much appreciated.

Correspondence
Please address all inquiries concerning APKASS 2016 to the following office.

Before and after the Congress:
Address: Rm 74029, 5/F, Lui Che Woo Clinical Sciences Building, Prince of Wales Hospital, Shatin, Hong Kong
Tel: +852 2144 5016
Fax: +852 2646 3020
Email: apkass.congress@gmail.com/
info@apkass.org
Website: www.apkass.org/2016congress

During the Congress
Address: 1/F, Secretariat Room, Congress Venue
Tel: +852 9143 8754

Wifi
Network: pecguest
User Name: APKASS
Password: 2016

Bad Weather Arrangement
Typhoon Signal No. 8 or Black Rainstorm Warning hoisted prior to the Opening Hours
(a) If Typhoon Signal No.8 or Black Rainstorm Warning Signal is hoisted before 8:30 am during the Congress days, the Congress will remain closed for the whole day unless the typhoon signal or Black Rainstorm Warning Signal is lowered at or before 2:00 pm.

(b) If Typhoon Signal No.8 or Black Rainstorm Warning Signal is lowered at or before 2:00 pm, the Congress will be re-opened two hours after the Typhoon Signal or Black Rainstorm Warning Signal is lowered. Exhibitors are reminded to re-deploy duty staff to manage their Booths before the Congress is re-opened to the public.

(c) The Congress will however remain closed if the Typhoon Signal or Black Rainstorm Warning Signal is lowered after 2:00 pm.

(d) The Organizers will make an announcement through our Congress web or you may call the following number should they wish to enquire about any matters concerning these special arrangements: (852) 2144 5016 (Congress Secretariat).

Typhoon Signal No. 8 hoisted during the Congress
If Typhoon Signal No.8 is announced during the Congress, the Congress will be closed two hours after the announcement. Participants will be requested to leave the Congress within two hours.

Black Rainstorm Warning Signal hoisted during the Congress
If Black Rainstorm Warning Signal is announced during the Congress, the Congress will remain open after the announcement. Participants should be encouraged to stay in the Congress halls for their own safety.
Social Program

The organizing committee has prepared different kinds of social activities to our honorable guests as well as participants. All you need to do is enjoy the amusement and excitement during your stay in Hong Kong!

<table>
<thead>
<tr>
<th>Program</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cocktail Reception</strong>&lt;br&gt;(By invitation)</td>
<td>Date: 9 June 2016 (Thurs)&lt;br&gt;Time: 5:00pm – 8:00pm&lt;br&gt;(Guests are welcome to come at their convenience)&lt;br&gt;Venue: Carnival Bar, 1/F, Regal Riverside Hotel, Hong Kong</td>
</tr>
<tr>
<td><strong>Presidential Dinner</strong>&lt;br&gt;(By invitation)</td>
<td>Date: 10 June 2016 (Fri)&lt;br&gt;Time: 6:45pm – 9:30pm&lt;br&gt;Venue: Hong Kong Jockey Club 4/F, Double Haven I, Sha Tin Clubhouse, Hong Kong</td>
</tr>
<tr>
<td><strong>Gala Dinner</strong>&lt;br&gt;(By invitation &amp; Gala Dinner Ticket)</td>
<td>Date: 11 June 2016 (Sat)&lt;br&gt;Time: 6:30pm – 9:30pm&lt;br&gt;Venue: Riverside Ballroom, 1/F, Regal Riverside Hotel, Hong Kong</td>
</tr>
<tr>
<td><strong>Horse Racing Tour</strong>&lt;br&gt;(By invitation)</td>
<td>Date: 12 June 2016 (Sun)&lt;br&gt;Time: 1:00pm - 4:00pm&lt;br&gt;Venue: Private Box F630, 6/F Grandstand II, Sha Tin Racecourse, Hong Kong</td>
</tr>
<tr>
<td><strong>Football for Friendship</strong>&lt;br&gt;(By invitation)</td>
<td>Date: 12 June 2016 (Sun)&lt;br&gt;Time: 2:00pm - 4:00pm&lt;br&gt;Venue: Jockey Club Kitchee Centre, 23 On Muk Street, Sha Tin, Hong Kong</td>
</tr>
</tbody>
</table>

Local tours in Hong Kong

Hong Kong is a fascinating city with lots of things to do and visit. If you would like to explore and discover the glamour of Hong Kong, you may consider joining local tours to make your trip unforgettable!

The optional local tour will be at your own expense, and depends on your own schedule and planning. To know more about local tours in Hong Kong, please contact:

Ms. Edith Chan (Splendid Tours & Travel)<br>Email: edith@splendid.hk<br>Website: www.splendid.hk/en/tours_hk.php
Instruction for Presenter

Presentation Time

- **Invited Lectures & IFOSMA Free Paper Presentation** time varies from a topic to another, please refer to specific program for details.

- **APKASS Free Paper Oral Presentation** is limited to 5 minutes. 10 presentations are scheduled in an hour, with Q&A during the last 10 minutes.

- For **Best Paper Presentation** session, each of the selected candidates will be assigned 6-minute presentation and 4-minute Q&A.

- For **Best Poster Presentation** session, each of the selected candidates will be assigned 3-minute presentation and 2-minute Q&A.

To ensure the program runs on time with enough time for questions and discussion, presenters will be notified ONE minute before the end of the presentation. At the end of the allowed time, the moderators reserve the right to terminate the presentation.

Preview Presentation Content on-site

Due to the tight schedule of Free Paper Presentation, on-site correction of your submitted presentation files is NOT allowed. Your submitted presentation file(s) will be downloaded in the computer and available for preview on-site at the PowerPoint Preview Room. Our technical staff will be available to assist you.

Opening Hours of PowerPoint Preview Room:

- 9 June 2016 (Thurs): 4:00pm to 6:00pm
- 10 - 11 June 2016 (Fri-Sat): 7:30am to 6:00pm
- 12 June 2016 (Sun): 7:30am to 1:00pm

Best Poster Presentation Set-up

Best Posters presentation will take place at the Foyer, G/F of Congress Venue. Poster boards will be available at the foyer and thumbtack pins will be provided. Please bring the printed version of Best Poster to the congress venue. (The Congress does not handle the printing or set up of any poster).

Please set up between 8:00 am – 8:30 am on your presentation day (i.e. 10 June for APKASS session, 11 June for IFOSMA session) and leave posters up throughout the day. Please remember to dismantle your poster by 6:30pm on the same day. Otherwise the posters will be discarded.

Instruction for E-poster Display

The format of poster presentation in the 2016 APKASS and the 13th IFOSMA is Electronic Poster. E-posters enhance the format possibilities for presenters and broaden accessibility beyond the congress. The corresponding author of the e-poster was required to register for the Congress. During the Congress, e-posters will be available for viewing on-demand at computer kiosks in a designated area. There is no formal presentation time/date for electronic posters.
Exhibitor List

1. Smith & Nephew Ltd
2. KARL STORZ Endoscopy China Ltd.
3. DEPUY SYNTHES COMPANIES
4. Arthrex APAC
5. E.M.S.
6. Kunshan Jiesen Medical Product Co., Ltd
7. A. Menarini Asia-Pacific Pte Ltd
8. Stryker (Beijing) Healthcare Products Ltd
9. VirtaMed AG
10. ORTHOSPACE Ltd
11. CONMED / Anaheim Medical Products Ltd
12. CONMED / Anaheim Medical Products Ltd
13. Chongqing Xishan Science & Technology Co., Ltd
14. Zimmer Biomet
15. Arthro Anda
In the early and ongoing management of patients with osteoarthritis (OA) knee pain...

**VISCOENGINEERING**

Only Synvisc and Synvisc-One have the unique formulation (Hylan G-F 20) that demonstrates:

- Proven pain relief and functional improvement up to 12 months³
- Delay in time to total knee replacement by up to 7 years²
- Potential cartilage preservation³

**References**


**Presentation**: Hylan G F 20. (See folio 90). *Indications: Conservative treatment and supplement for synovial fluid in cases of joint pain. Treatment of joint conditions with osteoarthritis (OA) of the hip and knee, treatment of osteoarthritis of the knee only. Synvisc-1, for single knee injection only. Synvisc-One, Treatment of OA of the knee with 1 injection in the knee, 1 week post-operative, 1 needle insertion. Intra-articular injection of Synvisc-1, 1 injection in the knee. Synvisc-One, Treatment of OA of the knee with 1 injection, 1 week after joint surgery. Treatment of OA of the knee with Synvisc-1 or Synvisc-One, 1 dose per knee, 1 week post-operative, 1 needle insertion in the knee. Synvisc-One, Treatment of OA of the knee with 1 injection, 1 week post-operative, 1 needle insertion in the knee. Synvisc-One, Treatment of OA of the knee with 1 injection, 1 week post-operative, 1 needle insertion in the knee.

**CE Mark**

Hong Kong Medical Device Listing Number – Synvisc: 090217 and Synvisc-One: 090218

**SANOFI BIOSURGERY**
<table>
<thead>
<tr>
<th>Date</th>
<th>Venue</th>
<th>Time</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th June</td>
<td>Macau Health</td>
<td>08:00 – 10:00</td>
<td>The 3rd Sino-United Advanced Course on Sports Injury Imaging Workshop &amp; Ultra-Sound Diagnosis Workshop</td>
</tr>
<tr>
<td>10th June</td>
<td>Shaw Auditorium</td>
<td>10:00 – 12:15</td>
<td>Opening Ceremony &amp; Plenary Session</td>
</tr>
<tr>
<td>11th June</td>
<td>Kai Chong Tong</td>
<td>12:15 – 15:15</td>
<td>Knee: Meniscus Injuries</td>
</tr>
<tr>
<td>12th June</td>
<td>Shaw Auditorium</td>
<td>15:30 – 18:00</td>
<td>APKASS Best Poster Presentation</td>
</tr>
</tbody>
</table>

**Program at a Glance**

<table>
<thead>
<tr>
<th>Date</th>
<th>Venue</th>
<th>Time</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th June</td>
<td>Macau Health</td>
<td>08:00 – 10:00</td>
<td>The 3rd Sino-United Advanced Course on Sports Injury Imaging Workshop &amp; Ultra-Sound Diagnosis Workshop</td>
</tr>
<tr>
<td>10th June</td>
<td>Shaw Auditorium</td>
<td>10:00 – 12:15</td>
<td>Opening Ceremony &amp; Plenary Session</td>
</tr>
<tr>
<td>11th June</td>
<td>Kai Chong Tong</td>
<td>12:15 – 15:15</td>
<td>Knee: Meniscus Injuries</td>
</tr>
<tr>
<td>12th June</td>
<td>Shaw Auditorium</td>
<td>15:30 – 18:00</td>
<td>APKASS Best Poster Presentation</td>
</tr>
</tbody>
</table>

**Program at a Glance**

<table>
<thead>
<tr>
<th>Date</th>
<th>Venue</th>
<th>Time</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th June</td>
<td>Macau Health</td>
<td>08:00 – 10:00</td>
<td>The 3rd Sino-United Advanced Course on Sports Injury Imaging Workshop &amp; Ultra-Sound Diagnosis Workshop</td>
</tr>
<tr>
<td>10th June</td>
<td>Shaw Auditorium</td>
<td>10:00 – 12:15</td>
<td>Opening Ceremony &amp; Plenary Session</td>
</tr>
<tr>
<td>11th June</td>
<td>Kai Chong Tong</td>
<td>12:15 – 15:15</td>
<td>Knee: Meniscus Injuries</td>
</tr>
<tr>
<td>12th June</td>
<td>Shaw Auditorium</td>
<td>15:30 – 18:00</td>
<td>APKASS Best Poster Presentation</td>
</tr>
</tbody>
</table>

**Program at a Glance**

<table>
<thead>
<tr>
<th>Date</th>
<th>Venue</th>
<th>Time</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th June</td>
<td>Macau Health</td>
<td>08:00 – 10:00</td>
<td>The 3rd Sino-United Advanced Course on Sports Injury Imaging Workshop &amp; Ultra-Sound Diagnosis Workshop</td>
</tr>
<tr>
<td>10th June</td>
<td>Shaw Auditorium</td>
<td>10:00 – 12:15</td>
<td>Opening Ceremony &amp; Plenary Session</td>
</tr>
<tr>
<td>11th June</td>
<td>Kai Chong Tong</td>
<td>12:15 – 15:15</td>
<td>Knee: Meniscus Injuries</td>
</tr>
<tr>
<td>12th June</td>
<td>Shaw Auditorium</td>
<td>15:30 – 18:00</td>
<td>APKASS Best Poster Presentation</td>
</tr>
</tbody>
</table>
Scientific Program

9-12 June 2016 (Thur - Sun)
Pre-Congress Symposium
9 June (Thur) | Macau
### Sports Imaging Diagnosis Session

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30-12:00</td>
<td>Tendon Imaging New Development &amp; Multi Modalities Approach</td>
<td>MQ. Huang (Expert of Sports Medicine Imaging and Ultrasound from Stony Brook University)</td>
</tr>
<tr>
<td>08:30-12:00</td>
<td>MRI in Sports Injury of Hip Circumference and Groin</td>
<td>Yuan Huishu (No.3 Hospital of Peking University)</td>
</tr>
<tr>
<td></td>
<td>MRI diagnosis in muscle sports injury</td>
<td>Cheng Xiaoguang (Jishuitan Hospital)</td>
</tr>
<tr>
<td></td>
<td>Imaging in ankle joint striking syndrome</td>
<td>Li Shaolin (Nanfang Hospital)</td>
</tr>
<tr>
<td></td>
<td>MRI and arthroscopy diagnosis in shoulder joint injury</td>
<td>Chen Shuang (Huashan Hospital of Fudan University)</td>
</tr>
<tr>
<td></td>
<td>Preoperative and postoperative MR imaging evaluation in knee joint sports injury</td>
<td>Pan Shinong (Shengjing Hospital of China Medical University)</td>
</tr>
<tr>
<td>12:00-13:00</td>
<td>Tea Break</td>
<td></td>
</tr>
</tbody>
</table>

### Hands-on Ultra-Sound Diagnosis Workshop

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:00-18:00</td>
<td>Point of care Ultrasound in Musculoskeletal and sports medicine and pain management</td>
<td>Dr. Lam King Hei Stanley (Muscle-bone ultrasound diagnosing expert-M.Sc. SM&amp;HS from The Chinese University of Hong Kong, PGDipSEM from Bath University )</td>
</tr>
<tr>
<td></td>
<td>New development of high-frequency ultra-sound implementation in foot ankle sports injury</td>
<td>Wang Yi (Huashan Hospital of Fudan University)</td>
</tr>
<tr>
<td></td>
<td>Ultra-sound workshop (6 ultra-sound machines will be provided and each machine is expected to be used by 4-5 students)</td>
<td></td>
</tr>
</tbody>
</table>
Main Congress
10 June (Fri) | Hong Kong
**Date:** 10 June 2016 (Fri)  
**Venue:** Shaw Auditorium (1/F)

### Symposium: Patello-Femoral Joint Instability

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 08:10</td>
<td>1. Case Presentation: Assessment Of Patello-Femoral Joint Instability (10 Mins)</td>
<td>Wai-Lam Chan</td>
</tr>
<tr>
<td>08:10 - 08:25</td>
<td>2. Patello-Femoral Pain Syndrome – Assessment &amp; Principle Of Non-Operative Treatment (15Mins)</td>
<td>Masataka Deie</td>
</tr>
<tr>
<td>08:35 - 08:50</td>
<td>4. MPFL Reconstruction – How I Do It? (15Mins)</td>
<td>Ryosuke Kuroda</td>
</tr>
<tr>
<td>08:50 - 09:05</td>
<td>5. Treatment Of Patello-Femoral Joint Cartilage Defect With Autologous Matrix- Induced Chondrogenesis (15Mins)</td>
<td>Karl Fredrik Almqvist</td>
</tr>
<tr>
<td>09:05 - 09:20</td>
<td>6. Revision Patello-Femoral Joint Surgery (15Mins)</td>
<td>Philippe Neyret</td>
</tr>
</tbody>
</table>

**[Surgical Innovations]:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:20 - 09:40</td>
<td>7. Osteotomy In Patello-Femoral Joint Instability (20 Mins)</td>
<td>Hua Feng</td>
</tr>
<tr>
<td>09:40 - 10:00</td>
<td>8. Fixing Habitual Patella Dislocation - How I Do It? (20 Mins)</td>
<td>James Hui</td>
</tr>
</tbody>
</table>

**10:00 - 10:15**  
**Tea Break**
**Date: 10 June 2016 (Fri)**
**Venue: Shaw Auditorium (1/F)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15 - 12:15</td>
<td>Welcome Address</td>
<td>Kai-Ming Chan</td>
</tr>
<tr>
<td></td>
<td>Highlights Of Congress Program</td>
<td>Patrick Yung</td>
</tr>
<tr>
<td></td>
<td>President Address (15 Mins) **</td>
<td>Shiyi Chen</td>
</tr>
<tr>
<td></td>
<td>Takagi &amp; Watanabe Award Lecture 1: Arthroscopic Surgery: Present Status And Future (25 Mins) **</td>
<td>Masahiro Kurosaka</td>
</tr>
<tr>
<td></td>
<td>Takagi &amp; Watanabe Award Lecture 2: Clinical Application Of Arthroscopic Approaches In Posterior Compartment Of The Knee Joint (25 Mins) **</td>
<td>Jin-Hwan Ahn</td>
</tr>
<tr>
<td></td>
<td>Future Of Arthroscopic Trochleoplasty</td>
<td>Philippe Neyret</td>
</tr>
<tr>
<td></td>
<td>Outcome Measurement That Prevent The Over Treatment In Sports Medicine</td>
<td>Freddie Fu</td>
</tr>
<tr>
<td></td>
<td>Meniscal Replacement</td>
<td>Rene Verdonk</td>
</tr>
<tr>
<td></td>
<td>Continued Progress In Biologic Healing Enhancement And Tissue Engineering</td>
<td>Bruce Reider</td>
</tr>
<tr>
<td></td>
<td>Less Invasive Treatment For Cartilage Defect With Magnet</td>
<td>Mitsuo Ochi</td>
</tr>
<tr>
<td></td>
<td>Anatomic ACL Reconstruction Tunnels To Pursue The Native ACL</td>
<td>Konsei Shino</td>
</tr>
<tr>
<td></td>
<td>At Last – No Long Term Disability From Knee Injury</td>
<td>John Bartlett</td>
</tr>
<tr>
<td></td>
<td>Use Of Virtual Reality Technology To Assist With Rehabilitation Of Injured Athletes</td>
<td>Diane Lynn Dahm</td>
</tr>
<tr>
<td></td>
<td>A Scarless Surgery For Trochleoplasty</td>
<td>James Hui</td>
</tr>
<tr>
<td></td>
<td>Sports Medicine The Pioneer Of Value Based Care</td>
<td>Christer Rolf</td>
</tr>
<tr>
<td></td>
<td>Articular Cartilage Repair: Current Trends And Future Prospects</td>
<td>Yingfang Ao</td>
</tr>
<tr>
<td></td>
<td>Future Treatment of Stress Fracture</td>
<td>Guoping Li</td>
</tr>
<tr>
<td></td>
<td>Intriguing Tendinopathies</td>
<td>Kai-Ming Chan</td>
</tr>
</tbody>
</table>
**Date:** 10 June 2016 (Fri)  
**Venue:** Shaw Auditorium (1/F)

### Live Surgery Demonstration - Knee Surgery

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15 - 13:15</td>
<td>KNEE: MPFL Reconstruction</td>
<td>Shiyi Chen</td>
</tr>
</tbody>
</table>

### PCL & Multiple Ligament Injuries

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15 - 13:30</td>
<td>1. PLC &amp; PMC Repair / Reconstruction &amp; Rehab Plan (15Mins)</td>
<td>Hung-Man Lee</td>
</tr>
<tr>
<td>13:30 - 13:45</td>
<td>2. Arthroscopic Fixation Of PCL Avulsion Fracture &amp; Rehab Plan (15 Mins)</td>
<td>Yi-Sheng Chan</td>
</tr>
</tbody>
</table>

### [Surgical Innovation: How I Do It?]

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15 - 13:30</td>
<td>1. PLC &amp; PMC Repair / Reconstruction &amp; Rehab Plan (15Mins)</td>
<td>Hung-Man Lee</td>
</tr>
<tr>
<td>13:30 - 13:45</td>
<td>2. Arthroscopic Fixation Of PCL Avulsion Fracture &amp; Rehab Plan (15 Mins)</td>
<td>Yi-Sheng Chan</td>
</tr>
</tbody>
</table>

### [Keynote Lecture]:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:45 - 14:00</td>
<td>1. Management Principle Of Multiple Ligament Injuries Of The Knee – Evidence Based Practice In 2016 (15 Mins)</td>
<td>Philippe Neyret</td>
</tr>
<tr>
<td>14:00 - 14:15</td>
<td>2. Role Of Osteotomy In Management Of Multiple Ligament Injuries Of The Knee. (15 Mins)</td>
<td>Hua Feng</td>
</tr>
</tbody>
</table>

### [Debate]:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
</table>
| 14:15 - 14:45 | 1. Management of Isolated PCL tear  
(Case: 21-year-old 200 pounds Rugby player with complete PCL tear, no other significant associated injuries. How to manage - Conservative vs Operative? What is your surgical & rehab protocol?) | Ryosuke Kuroda vs Jin-Goo Kim vs James Loh |
| 14:45 - 15:15 | 2. Management Of Multiple Ligament Injuries Of The Knee  
(Case: 26 years old gymnastic athlete with right knee injury, resulted in ACL, PCL, MCL & PLC tear. What is your surgical & rehabilitation protocol?) | Bancha Chernchujit vs Kyoung-Ho Yoon vs Jian Li |

**15:15 - 15:30**  
**Tea Break**
**Knee: Case Discussion Forum**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30 - 15:50</td>
<td>1. ACL In Kids</td>
<td>Robert Śmigielski vs Diane Lynn Dahm</td>
</tr>
<tr>
<td>15:50 - 16:10</td>
<td>2. ACL In Young Adult Basketball Player</td>
<td>Craig Bottoni vs Kazunori Yasuda</td>
</tr>
<tr>
<td>16:10 - 16:30</td>
<td>3. Cartilage Defect</td>
<td>Nobuo Adachi vs Jiakuo Yu</td>
</tr>
<tr>
<td>16:30 - 16:50</td>
<td>4. Recurrent PFJ Instability</td>
<td>Julian Feller vs Hua Feng</td>
</tr>
<tr>
<td>16:50 - 17:10</td>
<td>5. ACL Tear With Varus Knee &amp; Meniscus Tear</td>
<td>Kyoung-Ho Yoon vs Rainer Siebold</td>
</tr>
<tr>
<td>17:10 - 17:30</td>
<td>6. Residual Rotational Instability After ACL Reconsturciton</td>
<td>Joon-Ho Wang vs Wai-Pan Yau</td>
</tr>
</tbody>
</table>

**Date: 10 June 2016 (Fri)**

**Venue: Shaw Auditorium (1/F)**

**17:30 - 18:00** APKASS Best Poster Presentation (Foyer, G/F)

End of 10 June - Scientific Program at Shaw Auditorium (1/F)
Date: 10 June 2016 (Fri)
Venue: Kai Chong Tong (G/F)

IFOSMA: Knee I - Multiligaments & PCL Injuries (膝关节专场 I - 多韧带及后交叉韧带损伤)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:15</td>
<td>Invited Lecture: 膝关节多发韧带损伤华西分期分型诊治策略</td>
<td>Jian Li, Weidong Xu, Lunhao Bai</td>
</tr>
<tr>
<td>08:16-08:21</td>
<td>[B0839]: An Analysis Of The Posterior Cruciate Ligament Isometric Position Using An In Vivo 3-Dimensional Computed Tomography: A Cadaveric Study</td>
<td>Weidong Xu</td>
</tr>
<tr>
<td>08:22-08:27</td>
<td>[B0020]: Outcome Of Two-Stage Treatment Of Irreducible Posterolateral Knee Dislocation: 2–8 Year Follow-Up</td>
<td>Haobo Wu</td>
</tr>
<tr>
<td>08:28-08:33</td>
<td>[B0133]: 膝关节后外侧脱位治疗策略与疗效观察</td>
<td>Meng Wu</td>
</tr>
<tr>
<td>08:34-08:39</td>
<td>[B0195]: 膝关节多发韧带损伤关节镜下韧带重建后中长期疗效观察</td>
<td>Meng Wu</td>
</tr>
<tr>
<td>08:40-08:45</td>
<td>[B0196]: 132例膝关节多韧带损伤早期修复重建的经验及教训</td>
<td>Qiang Li</td>
</tr>
<tr>
<td>08:46-08:51</td>
<td>[B0363]: 膝关节多韧带损伤一期重建OR二期重建的临床疗效</td>
<td>Jiang Xin</td>
</tr>
<tr>
<td>08:52-08:57</td>
<td>[B0440]: Minimally Invasive Treatment Of KD - Type IV Knee Dislocation: A Evaluation Of The Results</td>
<td>Hao Wu</td>
</tr>
<tr>
<td>08:58-09:03</td>
<td>[B0698]: Arthroscopic Suture And Screw Double Fixation Method For Avulsion Fractures Of Both Anterior And Posterior Cruciate Ligament Tibial Insertions</td>
<td>Daohong Zhao</td>
</tr>
<tr>
<td>09:04-09:09</td>
<td>[B0311]: 膝关节下胫骨“腱钉栓”嵌入式后交叉韧带重建术</td>
<td>Daifeng Lu</td>
</tr>
<tr>
<td>09:10-09:15</td>
<td>[B0465]: 保留残端双入路治疗后交叉韧带损伤疗效评估与分析</td>
<td>Wenhe Jin</td>
</tr>
<tr>
<td>09:16-09:21</td>
<td>[B0270]: Anatomical Repair Of The Posterior Cruciate Ligament Avulsion Fracture : Clinical Comparison Of Total Arthroscopic Fixation With Small Incision Technique</td>
<td>Haobo Zhong</td>
</tr>
<tr>
<td>09:22-09:27</td>
<td>[B0643]: PCL重建--应用Fanelli的方法定位胫骨隧道于“斜坡”一定能改善PCL重建的效果吗？</td>
<td>Hui Wang</td>
</tr>
<tr>
<td>09:28-10:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

10:00 - 10:15  Tea Break

10:15 - 12:15 Opening Ceremony (Shaw Auditorium, 1/F)
Date: 10 June 2016 (Fri)  
Venue: Kai Chong Tong (G/F)

### Live Surgery Demonstration - Shoulder Surgery

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15 - 13:15</td>
<td>Arthroscopic Rotator Cuff Repair (Ultra Contact Technique)</td>
<td>Dinshaw Pardiwala</td>
</tr>
</tbody>
</table>

### Rotator Cuff Injuries

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:55 - 14:05</td>
<td>5. Prognostic Factors Of Rotator Cuff Repair (10 Mins)</td>
<td>Jae-Chul Yoo</td>
</tr>
</tbody>
</table>

#### Discussion

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
</table>

#### [Surgical Innovations: Dealing With The Irreparable Cuff]:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:15 - 14:25</td>
<td>1. Superior Capsule Reconstruction (10 Mins)</td>
<td>Teruhisa Mihata</td>
</tr>
<tr>
<td>14:25 - 14:35</td>
<td>2. Arthroscopic Allogenic Dermal Patch Graft For Massive Cuff Tear (10 Mins)</td>
<td>Joo-Han Oh</td>
</tr>
<tr>
<td>14:35 - 14:45</td>
<td>3. Arthroscopic Latissmus Dorsi Transfer (10 Mins)</td>
<td>Ashish Babhulkar</td>
</tr>
<tr>
<td>14:45 - 14:55</td>
<td>4. Arthroscopic Treatment Of Irreparable Massive Cuff Tear With A Novel Biodegradable Spacer (10 Mins)</td>
<td>Leslie Naggar</td>
</tr>
<tr>
<td>14:55 - 15:05</td>
<td>5. Reverse Shoulder Arthroplasty For Massive Cuff Tear (10 Mins)</td>
<td>Chunyan Jiang</td>
</tr>
</tbody>
</table>

#### Discussions

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
</table>

#### Tea Break

15:15- 15:30

---

2016 APKASS Congress and the 13th IFOSMA
# Date: 10 June 2016 (Fri)  
**Venue: Kai Chong Tong (G/F)**

## Bicep Tendon/SLAP lesion & Upper Limb Sports Injuries

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30 - 15:40</td>
<td>1. Influence Of Posterior Capsular Tightness On Throwing Shoulder Injury (10mins)</td>
<td>Minoru Yoneda</td>
</tr>
<tr>
<td>15:40 - 15:50</td>
<td>2. PASTA Lesion Of Cuff: Debridement Vs Take It Down Or Fix It In Situ? (10Mins)</td>
<td>Seung-Ho Kim</td>
</tr>
<tr>
<td>15:50 - 16:00</td>
<td>3. Surgical Treatment Of The Painful Bennett Lesion Of Shoulder In Throwing Sports Athletes (10 Mins)</td>
<td>Minoru Yoneda</td>
</tr>
<tr>
<td>16:00 - 16:10</td>
<td>4. Painful Bicep Tendinosis– The Hidden Lesion: Painful LHB: Tentomy Vs Tenodesis? (10mins)</td>
<td>Jiwu Chen</td>
</tr>
<tr>
<td>16:10 - 16:20</td>
<td>5. Treatment Of Isolated Type II SLAP Lesion In Throwing Sports Athletes (10mins)</td>
<td>Nobuyuki Yamamoto</td>
</tr>
<tr>
<td>16:30 - 16:40</td>
<td>7. Rationale Of Rehabilitation For Throwing Sports Athletes With Shoulder Injuries (10mins)</td>
<td>Teruhisa Mihata</td>
</tr>
<tr>
<td>16:30 - 16:45</td>
<td><strong>Discussions</strong></td>
<td></td>
</tr>
</tbody>
</table>

## [Elbow & Wrist Symposium]:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:45 - 17:00</td>
<td>1. Arthroscopic Elbow Arthroplasty - Any Step Forwards? (15 Mins)</td>
<td>Clara Wong</td>
</tr>
<tr>
<td>17:00 - 17:15</td>
<td>2. Treatment Strategies In Elbow Medial Collateral Ligament Pain/Insufficiency In Elite Throwing Sports Athlete (15 Mins)</td>
<td>Jin-Young Park</td>
</tr>
<tr>
<td>17:15 - 17:30</td>
<td>3. Wrist Arthroscopy: State Of The Art Surgical Technique In Handling Sports Injuries (15 Mins)</td>
<td>Clara Wong</td>
</tr>
</tbody>
</table>

17:30 - 18:00  
**APKASS Best Poster Presentation (Foyer, G/F)**

End of 10 June - Scientific Program at Kai Chong Tong (G/F)
### APKASS Free Paper: Knee - ACL (1)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:05</td>
<td>[B0172]: Can Clinical Evaluation Detect Isolated One Bundle Or Complete Two Bundles ACL Rupture?</td>
<td>Dongliang Shi</td>
</tr>
<tr>
<td>08:05-08:10</td>
<td>[B0086]: The Ideal Femoral Tunnel Position Using 3D-CT In Anatomic Single-Bundle ACL Reconstruction</td>
<td>Jung Suk Kim</td>
</tr>
<tr>
<td>08:10-08:15</td>
<td>[B0096]: Novel Anatomical Single Bundle ACL Reconstruction Using A Rounded Rectangle Femoral Dilator</td>
<td>Junsuke Nakase</td>
</tr>
<tr>
<td>08:15-08:20</td>
<td>[B0271]: CT value and tunnel enlargement of rounded rectangular femoral bone tunnel for anterior cruciate ligament reconstruction</td>
<td>Yasushi Takata</td>
</tr>
<tr>
<td>08:20-08:25</td>
<td>[B0396]: Efficacy And Safety Of Self-Flip Technique Of Tightrope RT Button For Anterior Cruciate Ligament Reconstruction</td>
<td>Kengo Harato</td>
</tr>
<tr>
<td>08:25-08:30</td>
<td>[B0637]: Comparison Of Clinical And Radiologic Outcomes And Second-Look Arthroscopic Findings After ACL Reconstruction Using A Fixed-Loop And Adjustable-Loop Cortical Suspension Devices</td>
<td>Young-Joo Shin</td>
</tr>
<tr>
<td>08:30-08:35</td>
<td>[B0542]: Retrograde RigidFix Femoral Fixation In Anatomic Single-Bundle ACL Reconstruction With Transportal Technique</td>
<td>Yong Hu</td>
</tr>
<tr>
<td>08:35-08:40</td>
<td>[B0551]: Biomechanics Of Single-Tunnel Double-Bundle Anterior Cruciate Ligament Reconstruction Using Fixation With A Unique Expandable Interference Screw</td>
<td>Huayang Huang</td>
</tr>
<tr>
<td>08:40-08:45</td>
<td>[B0236]: Relationship Between Tunnel Malposition And Intra-Articular Degeneration In Anterior Cruciate Ligament Reconstruction</td>
<td>Daisuke Chiba</td>
</tr>
<tr>
<td>08:45-08:50</td>
<td>[B0656]: Femoral And Tibial Tunnel Placement Correlate With Graft Tunnel Motion: A Quantitative Clinical Imaging Study</td>
<td>Fang Wan</td>
</tr>
<tr>
<td>08:50-09:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>
### APKASS Free Paper: Knee - ACL (1)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00-09:05</td>
<td>[B0294]: Twenty-Year Comparison Outcome Data Of A Longitudinal Prospective Evaluation Of Isolated Endoscopic Anterior Cruciate Ligament Reconstruction With Either Patellar Tendon Or Hamstring Autograft</td>
<td>Justin Roe</td>
</tr>
<tr>
<td>09:05-09:10</td>
<td>[B0104]: Comparison Of Three Different Methods For Drilling PLB Femoral Tunnel In Double Bundle ACL Reconstruction.</td>
<td>Shunichiro Kambara</td>
</tr>
<tr>
<td>09:10-09:15</td>
<td>[B0602]: The Effect Of SB-ACLR vs DB-ACLR On The Patellofemoral Joint By MRI Evaluation And More Than 2-Year’S Of Follow-Up</td>
<td>Jia-Kuo Yu</td>
</tr>
<tr>
<td>09:15-09:20</td>
<td>[B0811]: Single Vs. Double Vs. Triple Bundle Anterior Cruciate Ligament Reconstruction With Hamstring Tendon. –How Is The Effect Of Multi-Tunnel Reconstruction?</td>
<td>Tomoyuki Suzuki</td>
</tr>
<tr>
<td>09:20-09:25</td>
<td>[B0531]: Concomitant Cartilage And Meniscal Injuries In Patients With ACL Injuries Sustained During Basketball Versus Soccer: A Matched-Pair Analysis</td>
<td>Xunqi Cheow</td>
</tr>
<tr>
<td>09:25-09:30</td>
<td>[B0558]: Clinical Study On Anterior Cruciate Ligament Combined With Meniscus Ramp Injury Based On 268 Cases And The Analysis Of Typical Cases</td>
<td>Yingliang Wei</td>
</tr>
<tr>
<td>09:30-09:35</td>
<td>[B0720]: Clinical Study On Anterior Cruciate Ligament Combined With Lateral Meniscus Root Tear Injury Based On 577 Cases And The Analysis Of Typical Cases</td>
<td>Yingliang Wei</td>
</tr>
<tr>
<td>09:35-09:40</td>
<td>[B0489]: Staged Anatomical Reconstruction Of MCL Using Achilles Allograft, A Modification To Marx’S Technique</td>
<td>Hamidreza Yazdi</td>
</tr>
<tr>
<td>09:40-09:45</td>
<td>[B0239]: A Comparison Of Two Superficial MCL Reconstruction Including Single-Bundle Anterior Cruciate Ligament (ACL) Reconstruction</td>
<td>Jiangtao Dong</td>
</tr>
<tr>
<td>09:45-09:50</td>
<td>[B0335]: Primary Reconstruction Of ACL And PMC Of The Knee</td>
<td>Lei Zhang</td>
</tr>
<tr>
<td>09:50-10:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
<tr>
<td>10:00 - 10:15</td>
<td>Tea Break</td>
<td></td>
</tr>
<tr>
<td>10:15 - 12:15</td>
<td>Opening Ceremony (Shaw Auditorium, 1/F)</td>
<td></td>
</tr>
</tbody>
</table>
**Date:** 10 June 2016 (Fri)  
**Venue:** Seminar Room A (1/F)

### IFOSMA Best Free Paper Presentation (6 mins each + 4 mins Q&A)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15-12:25</td>
<td>[B0855]: Four-Strand Hamstring Autograft Versus LARS Artificial Ligament In The Anterior Cruciate Ligament Reconstruction: A Retrospective Follow-Up Study Of A Minimal 9-Year Period</td>
<td>Tianwu Chen</td>
</tr>
<tr>
<td>12:25-12:35</td>
<td>[B0261]: Clinical Research Of Arthroscopy Assisted In Schatzker I-Ⅲ Tibial Plateau Fracture</td>
<td>Qing Bi</td>
</tr>
<tr>
<td>12:35-12:45</td>
<td>[B0337]: 前交叉韧带的个体化定位及保残重建</td>
<td>Lei Zhang</td>
</tr>
<tr>
<td>12:45-12:55</td>
<td>[B0209]: 全关节镜下肩袖修补术治疗肩袖撕裂的临床疗效</td>
<td>Xin Tang</td>
</tr>
<tr>
<td>12:55-13:05</td>
<td>[B0166]: 骨性Bankart损伤合并肩袖损伤的病例特点和关节镜治疗策略</td>
<td>Rui Yang</td>
</tr>
<tr>
<td>13:05-13:15</td>
<td>[B0361]: 后交叉韧带两切口全内保残增强技术: 急性期 vs 慢性期</td>
<td>Wenhe Jin</td>
</tr>
</tbody>
</table>

### IFOSMA: Shoulder II - Rotator Cuff Injury (肩关节专场 II - 肩袖损伤）

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:26-13:35</td>
<td>[B0385]: 关节镜下补片技术修复不可修复性肩袖撕裂</td>
<td>Shaohua Ding</td>
</tr>
<tr>
<td>13:36-13:45</td>
<td>[B0513]: 三维仿生支架促进肩袖修复的研究</td>
<td>Weiliang Shen</td>
</tr>
<tr>
<td>13:46-13:55</td>
<td>[B0555]: 肩袖损伤合并肩锁关节炎行关节镜下肩袖修补伴或不伴锁骨切除疗效对比</td>
<td>Hengan Ge</td>
</tr>
<tr>
<td>13:56-14:05</td>
<td>[B0561]: 肩袖损伤序贯治疗的初步评价</td>
<td>Yijun Zhang</td>
</tr>
<tr>
<td>14:06-14:15</td>
<td>[B0695]: 关节镜下治疗肩胛下肌钙化性肌腱炎</td>
<td>Kejie Wang</td>
</tr>
<tr>
<td>14:16-14:25</td>
<td>[B0304]: Arthroscopic Treatment For Acute Calcific Tendinitis Of Rotator Cuff</td>
<td>Xuntong Su</td>
</tr>
<tr>
<td>14:26-14:35</td>
<td>[B0583]: 关节镜下治疗肩袖损伤中肱二头肌长头腱的处理策略</td>
<td>Zhijun Chen</td>
</tr>
<tr>
<td>14:36-14:45</td>
<td>[B0860]: Tenodesis By Single-Anchor And Double-Catch Technique For Lesions Of The Long Head Of The Biceps</td>
<td>Yushun Fang</td>
</tr>
<tr>
<td>14:46-14:55</td>
<td>[B0451]: Arthroscopic Decompression Of Suprascapular Nerve Entrapment By The Direct SpinoGlenoid Notch Portal</td>
<td>Ying Zhang</td>
</tr>
<tr>
<td>14:56-15:15</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

15:15 - 15:30  
**Tea Break**
### Date: 10 June 2016 (Fri)
### Venue: Seminar Room A (1/F)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30-15:35</td>
<td>[B0530]: Active Patellar Apprehension Test For Lateral Patentellar Instability</td>
<td>Hyungmook Lim</td>
</tr>
<tr>
<td>15:40-15:45</td>
<td>[B0539]: Research Of Prior-Localization Femoral Tunnel In Medial Patellofemoral Ligament Reconstruction</td>
<td>Mingming Lei</td>
</tr>
<tr>
<td>15:45-15:50</td>
<td>[B0321]: Graft Length Changes In Medial Patellofemoral Ligament Reconstruction With A Fluoroscopic-Guidance Method</td>
<td>Takehiko Matsushita</td>
</tr>
<tr>
<td>15:50-15:55</td>
<td>[B0155]: Combined Medial Patellofemoral Ligament Reconstruction And Sulcus-Deepening Trochleoplasty For Patellar Dislocations With Severe Trochlear Dysplasia</td>
<td>Yue Li</td>
</tr>
<tr>
<td>15:55-16:00</td>
<td>[B0241]: Morphological Changes In The Femoral Tunnel Aperture Following Anatomic MPFL Reconstruction</td>
<td>Keisuke Kita</td>
</tr>
<tr>
<td>16:00-16:05</td>
<td>[B0433]: Changes In Knee Extensor Strength After Medial Patellofemoral Ligament Reconstruction</td>
<td>Toshikazu Tanaka</td>
</tr>
<tr>
<td>16:05-16:10</td>
<td>[B0141]: Arthroscopic Reduction And Using Multi Suture Anchors To Fix Tibial Intercondylar Eminence Avulsion Fractures</td>
<td>Guanghua Lei</td>
</tr>
<tr>
<td>16:10-16:15</td>
<td>[B0501]: Arthroscopic Suture Bridge Fixation Technique For Anterior Cruciate Ligament Avulsion Fracture</td>
<td>Haifeng Gu</td>
</tr>
<tr>
<td>16:15-16:20</td>
<td>[B0618]: Arthroscopic Fixation Of Pediatric Tibial Eminence Fractures Using Suture Anchors</td>
<td>Xiaoyun Pan</td>
</tr>
<tr>
<td>16:20-16:30</td>
<td><strong>Q&amp;A Session</strong></td>
<td></td>
</tr>
</tbody>
</table>
### APKASS Free Paper: Knee - ACL (2)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:30-16:35</td>
<td>[B0778]: Clinical Comparison Of Physeal Sparing Double Bundle Anterior Cruciate Ligament Reconstruction And Delayed Reconstruction In Patients With Open Physes</td>
<td>Shutaro Fujimoto</td>
</tr>
<tr>
<td>16:35-16:40</td>
<td>[B0353]: Outcomes Of Anterior Cruciate Ligament Reconstruction In Adolescents</td>
<td>Shurong Zhang</td>
</tr>
<tr>
<td>16:40-16:45</td>
<td>[B0660]: Clinical Outcomes Of Anterior Cruciate Ligament Reconstruction In Patients Aged 60 Years And Older</td>
<td>Kentaro Miyamoto</td>
</tr>
<tr>
<td>16:45-16:50</td>
<td>[B0242]: Association Of Fibrosis In The Infrapatellar Fat Pad And Degenerative Cartilage Change Of Patellofemoral Joint After Anterior Cruciate Ligament Reconstruction</td>
<td>Sang Hak Lee</td>
</tr>
<tr>
<td>16:50-16:55</td>
<td>[B0515]: Dynamic Evaluation Of The Infrapatellar Fat Pad After Anterior Cruciate Ligament Reconstruction Using Ultrasonography</td>
<td>Takashi Kitagawa</td>
</tr>
<tr>
<td>16:55-17:00</td>
<td>[B0344]: Influence Of Surgery Timing And Meniscus Tear On The Recovery Of Muscle Torque After ACL Reconstruction</td>
<td>Naraoka Takuya</td>
</tr>
<tr>
<td>17:00-17:05</td>
<td>[B0043]: The Second-Look Arthroscopic Evaluation For Cartilage Damage Following Anterior Cruciate Ligament Reconstruction: A Systematic Review</td>
<td>Shaohua Liu</td>
</tr>
<tr>
<td>17:05-17:10</td>
<td>[B0760]: Notch Narrowing After ACL Reconstruction</td>
<td>Ryo Iuchi</td>
</tr>
<tr>
<td>17:10-17:15</td>
<td>[B0777]: Risk Factors Affecting The Outcome Of The Revision Anterior Cruciate Ligament Reconstruction</td>
<td>Takashi Matsumura</td>
</tr>
<tr>
<td>17:15-17:20</td>
<td>[B0661]: Analysis Of Anterior Tibial Subluxation To Femur At Maximum Extension In Anterior Cruciate Ligament-Deficient Knees</td>
<td>Kyohei Nishida</td>
</tr>
<tr>
<td>17:20-17:30</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
<tr>
<td>17:30 - 18:00</td>
<td>APKASS Best Poster Presentation (Foyer, G/F)</td>
<td></td>
</tr>
</tbody>
</table>

End of 10 June - Scientific Program at Seminar Room A (1/F)
### Date: 10 June 2016 (Fri)
### Venue: Seminar Room B (3/F)

**IFOSMA: Shoulder I - Rotator Cuff Injury (肩关节专场 I - 肩袖损伤)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairperson</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:10</td>
<td>[B0138]: Arthroscopic McLaughlin Suture In The Treatment Of Rotator Cuff Tear With Major Tubercle Osteoporosis</td>
<td>Wei Lu</td>
</tr>
<tr>
<td>08:11-08:20</td>
<td>[B0309]: 肩袖肱骨止点撕脱性骨折的关节镜治疗</td>
<td>Zhizeng Gao</td>
</tr>
<tr>
<td>08:21-08:30</td>
<td>[B0293]: 关节镜下肩袖修补1184例的感染率及新治疗策略：宁波李惠利医院的经验</td>
<td>Jin Li</td>
</tr>
<tr>
<td>08:31-08:40</td>
<td>[B0060]: “Tissue-Bridge” Technique To Repair Rotator Cuff Tear</td>
<td>Yaohua He</td>
</tr>
<tr>
<td>08:41-08:50</td>
<td>[B0064]: Comparison Of One-Stage Versus Two-Stage Procedure For Management Of Patients With Rotator Cuff Tear And Concomitant Stiffness</td>
<td>Hongwu Zhuo</td>
</tr>
<tr>
<td>08:51-09:00</td>
<td>[B0365]: 全麻下手法松解联合肩关节镜下清理治疗中晚期原发性冻结肩</td>
<td>Honghui Cao</td>
</tr>
<tr>
<td>09:01-09:10</td>
<td>[B0069]: 关节镜下喙肩韧带有限松解在微创治疗肩峰撞击征中的作用</td>
<td>Changqing Jiang</td>
</tr>
<tr>
<td>09:11-09:20</td>
<td>[B0245]: Cyclic Load Testing Of Two Knotless And Two Suture Anchors For Rotator Cuff Repair</td>
<td>Hongliang Li</td>
</tr>
<tr>
<td>09:21-09:30</td>
<td>[B0540]: 巨大肩袖损伤肩胛上神经功能评估与Goutallier分型、关节镜下修复预后的相关性分析</td>
<td>Jianyong Liu</td>
</tr>
<tr>
<td>09:31-09:40</td>
<td>[B0745]: 改良三排技术治疗巨大分层肩袖损伤</td>
<td>Haifeng Gu</td>
</tr>
<tr>
<td>09:41-10:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

10:00-10:15 **Tea Break**

10:15 - 12:15 **Opening Ceremony (Shaw Auditorium, 1/F)**
**Date: 10 June 2016 (Fri)**  
**Venue: Seminar Room B (3/F)**

### APKASS Free Paper: Knee - PCL, LCL, MCL, PLC, PMC

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15-12:20</td>
<td>[B0668]: Arthroscopic Wire Fixation Of Avulsion Fractures Of The Posterior Cruciate Ligament From The Tibia</td>
<td>Wen Wang</td>
</tr>
<tr>
<td>12:20-12:25</td>
<td>[B0085]: Which Position Of Femoral Tunnel Is Better In Single Bundle PCL Reconstruction? Higher Vs Lower In 3D-CT</td>
<td>Jung Suk Kim</td>
</tr>
<tr>
<td>12:25-12:30</td>
<td>[B0011]: A Study Of Tibial Osseous Tunnel Intersection When Reconstruct PCL And POL Simultaneously</td>
<td>Luning Sun</td>
</tr>
<tr>
<td>12:30-12:35</td>
<td>[B0546]: The Effect Study Of Arthroscopic Reconstruction Of Posterior Cruciate Ligament With Ligament Advanced Reinforcement System Y-Shape Double Bundles Artificial Ligament</td>
<td>Huayang Huang</td>
</tr>
<tr>
<td>12:35-12:40</td>
<td>[B0476]: Remnant Augmentation Technique With LARS Or Autologous Hamstring Graft To Early Reconstruct Posterior Cruciate Ligament</td>
<td>Guofeng Dai</td>
</tr>
<tr>
<td>12:40-12:45</td>
<td>[B0355]: The Discrepancy Between Clinical Signs And Subjective Symptoms In Patients With Posterior Cruciate Ligament Injury Examined Using Gait Analysis And Surface Electromyography</td>
<td>Masataka Deie</td>
</tr>
<tr>
<td>12:45-12:50</td>
<td>[B0649]: Arthroscopic-Assisted Posterolateral Corner Reconstruction Of The Knee: Our Technique, Classification, Surgical Algorithm, And Midterm Results</td>
<td>Mohammad Razi</td>
</tr>
<tr>
<td>12:50-12:55</td>
<td>[B0506]: Dual-Plane High Tibial Osteotomy To Treat The Posterolateral Corner Injuries Combined With Varus Deformity Of Knee Joint</td>
<td>Zhang Hui</td>
</tr>
<tr>
<td>12:55-13:00</td>
<td>[B0652]: Patient-Reported Outcomes Following Surgical Treatment For Multiligament Knee Injuries</td>
<td>Yuka Kimura</td>
</tr>
<tr>
<td>13:00-13:05</td>
<td>[B0701]: The Diagnosis And Treatment Of The Medial Rotatory With Button Locked Irreductive Knee Dislocation</td>
<td>Jian Li</td>
</tr>
<tr>
<td>13:05-13:15</td>
<td><strong>Q&amp;A Session</strong></td>
<td></td>
</tr>
</tbody>
</table>
### APKASS Free Paper: Knee - Basic Science & Others

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:25-13:30</td>
<td>[B0676]: The Study Of Interleukin-8 On Anterior Cruciate Ligament Reconstruction With Remnant Preservation</td>
<td>Beomkoo Lee</td>
</tr>
<tr>
<td>13:30-13:35</td>
<td>[B0408]: A Morphologic And Quantitative Study Of Mechanoreceptors In The Remnant Stump Of The Human Anterior Cruciate Ligament</td>
<td>Feng Gao</td>
</tr>
<tr>
<td>13:35-13:40</td>
<td>[B0213]: Use Of Estradiol Promotes Tendon Bone Healing In Rabbit Model Underwent Anterior Cruciate Ligament Reconstruction</td>
<td>Fang Chai</td>
</tr>
<tr>
<td>13:40-13:45</td>
<td>[B0179]: Effects Of Electrospun Silk Fibroin Mats On Tendon-Bone Healing</td>
<td>Yunlong Zhi</td>
</tr>
<tr>
<td>13:45-13:50</td>
<td>[B0509]: Long-Term Effects Of Knitted Silk-Collagen Sponge Scaffold On Anterior Cruciate Ligament Reconstruction And Osteoarthritis Prevention</td>
<td>Weiliang Shen</td>
</tr>
<tr>
<td>13:50-13:55</td>
<td>[B0015]: Research Of Biocompatibility Of PET Artificial Ligament Modified By Silk Fibroin Coating In Vitro And In Vivo</td>
<td>Jia Jiang</td>
</tr>
<tr>
<td>13:55-14:00</td>
<td>[B0655]: Injectable Simvastatin Thermogel Promote PET Artificial Graft-Bone Healing On Rabbit ACL Reconstruction Model</td>
<td>Fang Wan</td>
</tr>
<tr>
<td>14:00-14:05</td>
<td>[B0025]: Enhancement Of Polyethylene Terephthalate Artificial Ligament Graft Osseointegration Using A Periosteum Patch In A Goat Model</td>
<td>Hong Li</td>
</tr>
<tr>
<td>14:05-14:15</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>
Date: 10 June 2016 (Fri)
Venue: Seminar Room B (3/F)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:15-14:20</td>
<td>[B0651]: The Experiment Research Of Anatomic Anterior Cruciate Ligament Reconstruction Assisting By 3D Printing Technology Zhibin Shi</td>
</tr>
<tr>
<td>14:20-14:25</td>
<td>[B0432]: Dual-Energy CT Staining Technique: Detecting Knee Sports Injury-Feasibility Study Tao Zhang</td>
</tr>
<tr>
<td>14:25-14:30</td>
<td>[B0192]: Use Of Portable Motion Analysis System For Knee Stability Assessment In ACL Deficiency During Single-Leg-Hop Kam Ming Mok</td>
</tr>
<tr>
<td>14:30-14:35</td>
<td>[B0193]: Utilization Of Portable Motion Capture System For Knee Stability Assessment In ACL-Deficiency During Stair Descent Kam Ming Mok</td>
</tr>
<tr>
<td>14:35-14:40</td>
<td>[B0528]: Gait modification strategies of trunk over right stance phase in patients with right anterior cruciate ligament deficiency Wenhui Zhu</td>
</tr>
<tr>
<td>14:40-14:45</td>
<td>[B0847]: Reliability And Minimum Detectable Change Of Knee Kinematics And Kinetics During Sidestep Cut In Female Kam Ming Mok</td>
</tr>
<tr>
<td>14:45-14:50</td>
<td>[B0686]: A Clinical-Friendly Motion Capture System To Evaluate Knee Instability In ACL-Deficient Patients Tsz Cheung Wong</td>
</tr>
<tr>
<td>14:50-14:55</td>
<td>[B0194]: Quantitative Evaluation Of Three-Dimensional Dynamic Knee Laxity With Isolated Anteromedial- Or Posterolateral-Bundle Anterior Cruciate Ligament Deficient Knees Ryosuke Kuroda</td>
</tr>
<tr>
<td>14:55-15:00</td>
<td>[B0746]: Altered Three-Dimensional Knee Kinematics During Step And Turn Are Associated With Patient-Reported Outcomes Following Multiple-Ligament Knee Reconstruction Corey Scholes</td>
</tr>
<tr>
<td>15:00-15:05</td>
<td>[B0454]: Arthroscopic Suture Fixation Of Tibial Avulsion Fracture Of Posterior Cruciate Ligament Ning Liu</td>
</tr>
<tr>
<td>15:05-15:15</td>
<td>Q&amp;A Session</td>
</tr>
<tr>
<td>15:15 - 15:30</td>
<td>Tea Break</td>
</tr>
</tbody>
</table>
### IFOSSMA: Artificial Ligament (人工韧带专场)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30-15:45</td>
<td>Invited Lecture: 中国人工韧带多中心研究：回顾与展望</td>
<td>Shiyi Chen, Wei Huang, Peng Wen, Guofeng Dai</td>
</tr>
<tr>
<td>15:46-15:53</td>
<td>[B0406]: LARS人工韧带重建PCL的手术体会与病例随访</td>
<td>Peng Wen</td>
</tr>
<tr>
<td>15:54-16:01</td>
<td>[B0477]: Treatment Of Knee Multiple Ligament Injury With LARS Artificial Ligament</td>
<td>Guofeng Dai</td>
</tr>
<tr>
<td>16:02-16:09</td>
<td>[B0854]: Cruciate Ligament Reconstruction With LARS Artificial Ligament Results At A Mean Follow-Up Of Ten Years</td>
<td>Weidong Xu</td>
</tr>
<tr>
<td>16:10-16:17</td>
<td>[B0521]: LARS韧带重建PCL术后的翻修及疗效分析</td>
<td>Jingyi Hou</td>
</tr>
<tr>
<td>16:18-16:25</td>
<td>[B0562]: The Occurrence Of Osteoarthritis At A Mean Of Nine Years After The LARS-ACL Reconstruction</td>
<td>Tianwu Chen</td>
</tr>
<tr>
<td>16:34-16:41</td>
<td>[B0723]: Arthroscopic Reconstruction Of Medial Patellofemoral Ligament With LARS Artificial Ligment For The Treatment Of Recurrent Dislocation Of The Patella</td>
<td>Huang Wei</td>
</tr>
<tr>
<td>16:42-16:49</td>
<td>[IFOSMA Best Poster #B0272]: LARS人工韧带在后交叉韧带保留残端重建中的应用</td>
<td>Lunhao Bai</td>
</tr>
<tr>
<td>16:50-16:57</td>
<td>[IFOSMA Best Paper #B0855] 自体腘绳肌 Vs LARS 韧带重建ACL 对照性队列研究10年随访</td>
<td>Tianwu Chen</td>
</tr>
<tr>
<td>16:58-17:30</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

**Date:** 10 June 2016 (Fri)  
**Venue:** Seminar Room B (3/F)

17:30 - 18:00  
APKASS Best Poster Presentation (Foyer, G/F)

**End of 10 June - Scientific Program at Seminar Room B (3/F)**
**Date: 10 June 2016 (Fri)**
**Venue: Foyer, G/F**

**APKASS Best Poster Presentation (3 mins each + 2 mins Q&A)**

**Adjudicator: Bruce Reider, Christer Rolf, Takeshi Muneta, Seung-Ho Kim**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:30-17:35</td>
<td>[B0290]: The Use Of Silk Fibroin Coating To Enhance Intra-Articular Ligamentization Of Polyethylene Terephthalate Artificial Ligament</td>
<td>Chengchong Ai</td>
</tr>
<tr>
<td>17:35-17:40</td>
<td>[B0115]: Low-Dose Hydrogen Peroxide Impaired Tendon Healing And Induced Tendinopathic Changes</td>
<td>Bruma Sai-chuen Fu</td>
</tr>
<tr>
<td>17:40-17:45</td>
<td>[B0838]: Does Knot Matter For SLAP Repair? - Knotache In Symptomatic Recurrent SLAP Lesion</td>
<td>Ho Yun Joung</td>
</tr>
<tr>
<td>17:45-17:50</td>
<td>[B0568]: Analysis Of Graft Length In Anatomic Double-Bundle ACL Reconstruction</td>
<td>Akio Matsumoto</td>
</tr>
<tr>
<td>17:50-17:55</td>
<td>[B0083]: The Prevention And Early Detection For Osteochondritis Dissecans Of The Elbow Since 2006</td>
<td>Tomoharu Mochizuki</td>
</tr>
<tr>
<td>17:55-18:00</td>
<td>[B0505]: The Enhancement Of Tendon-Bone Healing Of ACL Reconstruction With hTGFβ1 Gene Transferring To Hamstring Tendon</td>
<td>Xiaoxu Wang</td>
</tr>
</tbody>
</table>
2016 International Combined Meeting of Orthopaedic Research Societies
21-25 September 2016 Xi’an, China

Organizer:
International Combined Orthopaedic Research Societies

Local Organizer:
Chinese Orthopaedic Research Society

Supporting Organizers:
The Xi’jing Orthopaedics Hospital, the Fourth Military Medical University
Journal of Orthopaedic Translation

Venue: Xi’an International Convention Center · Qujiang Hotel
Meeting website: http://www.2016icors.org/
Main Congress
11 June (Fri) | Hong Kong
**Date:** 11 June 2016 (Sat)  
**Venue:** Shaw Auditorium (1/F)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 08:10</td>
<td>1. Autograft Vs Allograft In ACL Reconstruction – The Evidence Over Past 30 Years! (10 Mins)</td>
<td>Craig Bottoni</td>
</tr>
<tr>
<td>08:10 - 08:20</td>
<td>2. Usage Of Artificial Ligament In ACL Reconstruction – The China Experience (10 Mins)</td>
<td>Shiyi Chen</td>
</tr>
<tr>
<td>08:20 - 08:30</td>
<td>3. Ribbon Concept Of ACL Anatomy – From Basic Science To Clinical Practice (10 Mins)</td>
<td>Robert Śmigielski</td>
</tr>
<tr>
<td>08:30 - 08:40</td>
<td>4. Flat Anatomy &amp; Exploring The Real Anatomy Of ACL – Implication In ACL Reconstruction! (10 Mins)</td>
<td>Rainer Siebold</td>
</tr>
<tr>
<td>08:40 - 09:00</td>
<td>5. Anatomical ACL Reconstruction – My Evolution &amp; Lessons Over The Past 30 Years (20 Mins)</td>
<td>Freddie Fu</td>
</tr>
<tr>
<td>09:00 - 09:15</td>
<td>6. ACL Reconstruction With Remnant Preservation – How I Do It? (15 Mins)</td>
<td>Jin-Hwan Ahn</td>
</tr>
<tr>
<td>09:15 - 09:30</td>
<td>7. ACL Reconstruction With Triple Bundle Graft– How I Do It? (15 Mins)</td>
<td>Konsei Shino</td>
</tr>
<tr>
<td>09:30 - 10:00</td>
<td>Debate: Return To Sports After ACL Reconstruction – My Guideline &amp; Rationale (30 Mins, @6 Mins)</td>
<td>Kazunori Yasuda vs Jin-Goo Kim vs Daine Lynn Danm vs Julian Feller</td>
</tr>
<tr>
<td>10:00 - 10:15</td>
<td>Tea Break</td>
<td></td>
</tr>
</tbody>
</table>
**Date:** 11 June 2016 (Sat)  
**Venue:** Shaw Auditorium (1/F)

**Cartilage**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:25 - 10:45</td>
<td>2. Fundamentals Of Cartilage Imaging 2016 (20 Mins)</td>
<td>James Griffith</td>
</tr>
<tr>
<td>11:25 - 11:45</td>
<td>5. Advances In MSC For Cartilage Repair &amp; Regeneration – From Bench To Bedside (20 Mins)</td>
<td>James Hui</td>
</tr>
<tr>
<td>11:45 - 12:05</td>
<td>6. Salvaging Failed Cartilage Surgery (20 Mins)</td>
<td>Karl Fredrik Almqvist</td>
</tr>
</tbody>
</table>

**12:05 - 12:15**  
**Discussions**

**Live Surgery Demonstration - Knee Surgery**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Moderator</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15 - 13:15</td>
<td>Individual Anatomical ACL Reconstruction</td>
<td>Freddie Fu</td>
</tr>
</tbody>
</table>
### Date: 11 June 2016 (Sat)
### Venue: Shaw Auditorium (1/F)

#### Meniscus

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15 - 13:30</td>
<td><strong>Debate: From Surgery To Rehabilitation</strong></td>
<td>Chairman: Chih-Hwa Chen, Yau-Bun Wong</td>
</tr>
<tr>
<td>13:30 - 13:45</td>
<td><strong>Longitudinal Tear: Longitudinal Tear Of The Posterior Horn Of Medial Meniscus: Inside Out Or All Inside?</strong></td>
<td>Jiakuo Yu vs Yi-Sheng Chan</td>
</tr>
<tr>
<td>13:45 - 14:00</td>
<td><strong>Difficult Cases: Repairing The Most Difficult “4R” Meniscus Tear ( Root, RAMP, Radial &amp; Revision): How I Do It</strong></td>
<td>Hua Feng vs Jin-Goo Kim</td>
</tr>
<tr>
<td>14:00 - 14:15</td>
<td><strong>Rehabilitation: Rehabilitation After Meniscus Repair – How I Do It &amp; What Are The Evidence?</strong></td>
<td>Kyoung-Ho Yoon vs Lingaraj Krishna</td>
</tr>
</tbody>
</table>

#### Managing Irrepairable Meniscus

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:15 - 14:30</td>
<td><strong>Meniscus Implant: Are We Ready?</strong></td>
<td>Rene Verdonk</td>
</tr>
<tr>
<td>14:30 - 14:45</td>
<td><strong>Meniscus Transplantation - Technical Tips &amp; Pitfalls</strong></td>
<td>Jin-Goo Kim</td>
</tr>
<tr>
<td>14:45 - 15:00</td>
<td><strong>Treatment Of Young Patients With Meniscal Allografts</strong></td>
<td>Rainer Siebold</td>
</tr>
<tr>
<td>15:00 - 15:15</td>
<td><strong>Meniscus Allograft Transplantation 2016 State Of The Art</strong></td>
<td>Rene Verdonk</td>
</tr>
</tbody>
</table>

**15:15- 15:30**

**Tea Break**
Date: 11 June 2016 (Sat)  
Venue: Shaw Auditorium (1/F)

Osteotomy & Arthroplasty  
Chairman: Parag Sancheti, Chester Lie

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30 - 15:50</td>
<td>1. Hyaluronic Acid Injection For OA Knee – Hope Or Hype? (20Mins)</td>
<td>Parag Sanchetti</td>
</tr>
<tr>
<td>15:50 - 16:10</td>
<td>2. Biology In Orthopaedics (20 Mins)</td>
<td>David Parker</td>
</tr>
<tr>
<td>16:10 - 16:30</td>
<td>3. Varus Knee In Young ACL Deficiency Patient, How To Manage? (20Mins)</td>
<td>Chanakarn Phornphutku</td>
</tr>
<tr>
<td>16:30 - 16:50</td>
<td>4. Uka Vs Osteotomy In Medial Compartment Arthritis Of Young Active Patient (20 Mins)</td>
<td>Myung-Chul Lee</td>
</tr>
<tr>
<td>16:50 - 17:10</td>
<td>5. Long Term Outcome Of UKA With Navigation Versus Conventional Techniques (20Mins)</td>
<td>Eun-Kyoo Song</td>
</tr>
<tr>
<td>17:10 - 17:30</td>
<td>6. Applications Of Computer Navigation In Sports Medicine Knee Surgery (20Mins)</td>
<td>Mark Clatworthy</td>
</tr>
</tbody>
</table>

17:30 - 18:00 IFOSMA Best Poster Presentation (Foyer, G/F)

End of 11 June - Scientific Program at Shaw Auditorium (1/F)
Date: 11 June 2016 (Sat)  
Venue: Kai Chong Tong (G/F)

**IFOSMA: Knee II - ACL**  
**（膝关节专场 II - 前交叉韧带）**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:15</td>
<td><strong>Invited Lecture:</strong> 膝关节软骨损伤与修复 Cartilage Defects and Repair</td>
<td>Yingfang Ao</td>
</tr>
<tr>
<td>08:16-08:30</td>
<td><strong>Invited Lecture:</strong> 前交叉韧带重建术后效果考量：组装不如原装</td>
<td>Baicheng Chen</td>
</tr>
<tr>
<td>08:31-08:36</td>
<td>[B0600]: Comparison Of Anatomic ACL Reconstruction Between Single And Double-Bundle Reconstruction With Different Methods</td>
<td>Yanlin Li</td>
</tr>
<tr>
<td>08:37-08:42</td>
<td>[B0333]: Individualized Anterior Cruciate Ligament Reconstruction With Remnant Preservation</td>
<td>Lei Zhang</td>
</tr>
<tr>
<td>08:43-08:48</td>
<td>[B0708]: 前交叉韧带翻修的治疗策略</td>
<td>Chun Zeng</td>
</tr>
<tr>
<td>08:49-08:54</td>
<td>[B0520]: 关节镜全内技术重建膝关节前交叉韧带的临床研究</td>
<td>Jian Sun</td>
</tr>
<tr>
<td>08:55-09:00</td>
<td>[B0688]: 骨生物挤压钉固定重建前交叉韧带的生物力学研究</td>
<td>Xuezhen Shen</td>
</tr>
<tr>
<td>09:01-09:06</td>
<td>[B0306]: 关节镜下Ethibood线结合Endobutton钢板对于治疗前交叉韧带胫骨止</td>
<td>Jun Tao</td>
</tr>
<tr>
<td>09:07-09:12</td>
<td>[B0567]: Effectiveness Comparison Of Anterior Cruciate Ligament Reconstruction By Ethibond Excel Polyester Sutures Combined With High-Strength Sutures Using Rigidfix For Autogenous Tendons Fixation</td>
<td>Lilei He</td>
</tr>
<tr>
<td>09:13-09:18</td>
<td>[B0252]: Evaluation Of Resident Ridge Detection Rate With 3D Reconstruction Of Knee CT Scan</td>
<td>Yang Zhang</td>
</tr>
<tr>
<td>09:19-09:24</td>
<td>[B0462]: 保留髌下皱襞的自体前交叉韧带重建的短期术后疗效分析</td>
<td>Chengwu Zhao</td>
</tr>
<tr>
<td>09:25-09:30</td>
<td>[B0516]: 关节镜下前交叉韧带胫骨双束股骨单束重建术与传统单束重建术的中期临床疗效对比</td>
<td>Bin Song</td>
</tr>
<tr>
<td>09:31-10:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

10:00 - 10:15  
**Tea Break**
**Date: 11 June 2016 (Sat)**
**Venue: Kai Chong Tong (G/F)**

**IFOSMA: Knee III - ACL (膝关节专场 III - 前交叉韧带)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15-10:30</td>
<td><strong>Invited Lecture:</strong> 好的ACL术式可在术后更好地保护关节软骨，但还不够！ Jiakuo Yu</td>
</tr>
<tr>
<td>10:31-10:36</td>
<td>[B0601]: Evaluation Of Computer-Assisted Preoperative Plan System For Anterior Ligament Reconstruction Yanlin Li</td>
</tr>
<tr>
<td>10:37-10:42</td>
<td>[B0199]: 前外侧韧带的解剖和功能 Songcen Lv</td>
</tr>
<tr>
<td>10:43-10:48</td>
<td>[B0666]: 前交叉韧带重建术中股骨隧道位置与移植物成熟度的相关性研究 Qiang Li</td>
</tr>
<tr>
<td>10:49-10:54</td>
<td>[B0697]: Arthroscopic Treatment Of Anterior Cruciate Ligament Tibial Eminence Avulsion Fracture Using Non-Absorbable Suture And Mini-Plate Yusheng Li</td>
</tr>
<tr>
<td>11:01-11:06</td>
<td>[B0850]: 移植物供区即刻缝合对前交叉韧带重建术后患肢肿胀的影响 Feng Gao</td>
</tr>
<tr>
<td>11:07-11:12</td>
<td>[B0858]: A Prospective Randomized Controlled Trial Of Early And Delayed Arthroscopic Anterior Cruciate Ligament Reconstruction Using Autograft Hamstrings Shuzhen Li</td>
</tr>
<tr>
<td>11:13-11:18</td>
<td>[B0569]: The Comparison Of The Acute Bone Bruise Of Femoral Condyle Between Anterior Cruciate Ligament Rupture And Patella Dislocation Yingchun Wang</td>
</tr>
<tr>
<td>11:19-11:24</td>
<td>[B0472]: A Comparison Of Early Versus Late Reconstruction For Acute Anterior Cruciate Ligament Rupture Shuzhen Li</td>
</tr>
<tr>
<td>11:25-11:30</td>
<td>[B0238]: 那些年，我们做松弛的那些前交叉韧带 Jiangtao Dong</td>
</tr>
<tr>
<td>11:31-11:36</td>
<td>[B0580]: 西南地区ACL断裂患者髌间窝和ACL止点个体化测量与ACL解剖重建 Ning Hu</td>
</tr>
<tr>
<td>11:37-11:42</td>
<td>[B0536]: Evaluation Of Femoral Tunnel Position Using 3-Dimensional Computed Tomography After Single Bundle Anterior Cruciate Ligament Reconstruction Suizhu Huang</td>
</tr>
<tr>
<td>11:43-12:15</td>
<td><strong>Q&amp;A Session</strong></td>
</tr>
</tbody>
</table>
### Date: 11 June 2016 (Sat)
### Venue: Kai Chong Tong (G/F)

**Live Surgery Demonstration - Shoulder Surgery**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15 - 13:15</td>
<td><strong>Arthroscopic Rotator Cuff Repair</strong></td>
<td>Hiroyuki Sugaya</td>
</tr>
</tbody>
</table>

#### Shoulder Instability

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15 - 13:30</td>
<td><strong>Surgical Innovations: Dealing With Bony Defects In Anterior Shoulder Instability</strong></td>
<td>Chairman: Bancha Chernchujit, Chun-Kwong Lo</td>
</tr>
<tr>
<td>13:45 - 14:00</td>
<td>3. Managing Big Bony Bankart Lesion (15 Mins)</td>
<td>Hiroyuki Sugaya</td>
</tr>
<tr>
<td>14:15 - 14:30</td>
<td>Discussions</td>
<td></td>
</tr>
</tbody>
</table>

#### Challenges!

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30 - 14:45</td>
<td>1. Handling Complications &amp; Revision Surgery In Shoulder Instability (15 Mins)</td>
<td>Jae-Chul Yoo</td>
</tr>
</tbody>
</table>

15:15- 15:30 **Tea Break**
## Date: 11 June 2016 (Sat)
## Venue: Kai Chong Tong (G/F)

### Miscellaneous & Shoulder Case Discussion Forum

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30 - 15:40</td>
<td>Calcified Tendinitis Of The Shoulder: How I Deal With That?</td>
<td>Yang-Soo Kim</td>
</tr>
<tr>
<td>15:40 - 15:50</td>
<td>My Treatment Algorithm In Adhesive Capsulitis</td>
<td>Sang-Jin Shin</td>
</tr>
<tr>
<td>15:50 - 16:00</td>
<td>Arthroscopic Glenoid Bone Grafting For Shoulder Instability- How I Do It?</td>
<td>Jin-Zhong Zhao</td>
</tr>
<tr>
<td>16:00 - 16:10</td>
<td>Arthroscopic Suprascapular Nerve Decompression - Technical Tips &amp; Pearls</td>
<td>Kotaro Yamakado</td>
</tr>
<tr>
<td>16:10 - 16:20</td>
<td>Subscapularis Repair –My Way To Fix It!</td>
<td>Dinshaw Pardiwala</td>
</tr>
<tr>
<td>16:20 - 16:30</td>
<td>Management Strategies In Acute Or Chronic ACJ Dislocation</td>
<td>Sang-Jin Shin</td>
</tr>
<tr>
<td>16:30 - 16:45</td>
<td><strong>Discussions</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Shoulder Case Discussion Forum**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:45 - 17:00</td>
<td>1. Concomittant Rotator Cuff Tear With Adhesive Capsulitis, How To Tackle?</td>
<td>Hsiao-Li Ma vs Chanakarn Phornphutkul</td>
</tr>
<tr>
<td>17:00 - 17:15</td>
<td>2. 1st Time Shoulder Dislocation</td>
<td>Kotaro Yamakado vs Denny Lie</td>
</tr>
<tr>
<td>17:15 - 17:30</td>
<td>3. Suture Anchors</td>
<td>Denny Lie vs Ashish Babhulkar</td>
</tr>
</tbody>
</table>

### IFOSMA Best Poster Presentation (Foyer, G/F)

### End of 11 June - Scientific Program at Kai Chong Tong (G/F)
## APKASS Free Paper: Shoulder - Instability, SLAP/Bicep Tendon

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:05</td>
<td>[B0410]: Evaluation Of Two Procedures In The Treatment Of Snyder Type 2 Superior Labrum Anterior To Posterior Lesion</td>
<td>Chen Zhao</td>
</tr>
<tr>
<td>08:05-08:10</td>
<td>[B0784]: Preoperative Evaluation Of Spinoglenoid Ganglion Cyst With MRI, EMG And Isokinetic Muscle Test - Does Size Matter? -</td>
<td>Ho Yun Joung</td>
</tr>
<tr>
<td>08:10-08:15</td>
<td>[B0091]: Paralabral Spinoglenoid Cysts With Suprascapular Nerve Palsy – A Comparison Of Two Arthroscopic Approaches</td>
<td>Nandan Rao</td>
</tr>
<tr>
<td>08:15-08:20</td>
<td>[B0754]: Long Head Of Biceps Tenotomy And Tenodesis Don’T Affect Elbow Flexion And Forearm Supination Strength</td>
<td>Hiroshi Negi</td>
</tr>
<tr>
<td>08:20-08:25</td>
<td>[B0347]: Accuracy Of Backward Traction Test For The Diagnosis Of Bicipital Sheath Lesions And Bicipital Tendonitis: Comparison With Arthroscopic Examination</td>
<td>Weiming Wang</td>
</tr>
<tr>
<td>08:25-08:30</td>
<td>[B0334]: The Comparative Study Of Arthroscopically And Open Subpectoral Tenodesis For The Treatment Of Bicep Tendonitis</td>
<td>Guangheng Li</td>
</tr>
<tr>
<td>08:35-08:40</td>
<td>[B0434]: Clinical Results After All Arthroscopic Reduction And Fixation With Suture Anchor Of Fresh Bony Bankart Lesion</td>
<td>Chuan Zhang</td>
</tr>
<tr>
<td>08:40-08:45</td>
<td>[B0288]: Short-Term Functional Outcome Of Arthroscopic-Assisted Treatment Of Glenoid Fractures</td>
<td>Ming Xiang</td>
</tr>
<tr>
<td>08:45-08:50</td>
<td>[B0552]: Arthroscopy Assisted Reduction And Fixation To Treat The Ideberg IA Type Glenoid Cavity Fracture Recent Clinical Curative Effect</td>
<td>Hang Chen</td>
</tr>
<tr>
<td>08:50-09:00</td>
<td><strong>Q&amp;A Session</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Date: 11 June 2016 (Sat)
### Venue: Seminar Room A (1/F)

#### APKASS Free Paper: Shoulder - Instability, SLAP/Bicep Tendon

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00-09:05</td>
<td><strong>[B0372]: Clinical Outcome Of Arthroscopic Fixation For Glenoid Fracture Using A Double Threaded Screw</strong></td>
<td>Takeshi Kokubu</td>
</tr>
<tr>
<td>09:05-09:10</td>
<td><strong>[B0612]: Surgical Management Of Chronic And Irreducible Anterior Shoulder Dislocation</strong></td>
<td>Jun Zhang</td>
</tr>
<tr>
<td>09:10-09:15</td>
<td><strong>[B0780]: Arthroscopic Treatment Of Multidirectional Shoulder Instability With Capsular Narrowing And Shortening Of The Anterior, Inferior And Posterior Ligaments: Minimum 2-Year Follow-Up</strong></td>
<td>Ibrahim Yanmis</td>
</tr>
<tr>
<td>09:15-09:20</td>
<td><strong>[B0037]: Effects Of Arthroscopic Versus Open Surgical Treatment On Multidirectional Instability Of The Shoulder – A Meta-Analysis</strong></td>
<td>Dong Chen</td>
</tr>
<tr>
<td>09:20-09:25</td>
<td><strong>[B0806]: Outcome Of Latarjet Procedure Using A Congruent Arc Technique</strong></td>
<td>Soong Chua</td>
</tr>
<tr>
<td>09:25-09:30</td>
<td><strong>[B0134]: Modified Arthroscopic Latarjet Procedure With Paired-Endobutton: A Safe, Rigid, And Reproducible Technique With Early Results</strong></td>
<td>Wei Lu</td>
</tr>
<tr>
<td>09:30-09:35</td>
<td><strong>[B0237]: Relationship Between Humeral Torsion And Career Of Pitcher In Elementary And Junior-High Schools</strong></td>
<td>Hiromichi Hirai</td>
</tr>
<tr>
<td>09:35-09:40</td>
<td><strong>[B0597]: Elbow Valgus Laxity After Ulnar Collateral Ligament Reconstruction In Competitive Athletes</strong></td>
<td>Teruhisa Mihata</td>
</tr>
<tr>
<td>09:40-09:45</td>
<td><strong>[B0018]: The Middle To Long Term Results Of Reconstruction Of Stiff Elbow Under Arthroscopy Technique</strong></td>
<td>Yi Lu</td>
</tr>
<tr>
<td>09:45-09:55</td>
<td><strong>Q&amp;A Session</strong></td>
<td></td>
</tr>
<tr>
<td>10:00-10:15</td>
<td><strong>Tea Break</strong></td>
<td></td>
</tr>
</tbody>
</table>
**Date:** 11 June 2016 (Sat)  
**Venue:** Seminar Room A (1/F)

### SLARD – ESSKA Travelling Fellowship Scientific Symposium

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15-10:27</td>
<td>Posterior Shoulder Instability</td>
<td>Mustafa Karahan</td>
</tr>
<tr>
<td>10:27-10:39</td>
<td>Mini-Open Latarjet: Video Technique And Results</td>
<td>Johannes Barth</td>
</tr>
<tr>
<td>10:39-10:51</td>
<td>Elbow R-LCL Arthroscopic Plication – Techniques And Preliminary Results</td>
<td>Paolo Arrigoni</td>
</tr>
<tr>
<td>10:51-11:03</td>
<td>“I am in Blood Stepp’d in so far..”: Ethical Dilemmas And The Sports Team Doctor</td>
<td>Brian Devitt</td>
</tr>
<tr>
<td>11:03-11:15</td>
<td><strong>Summary of the Travelling Fellowship (ESSKA to APKASS)</strong></td>
<td></td>
</tr>
</tbody>
</table>

### SLARD Travelling Fellow Presentation

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:15-11:27</td>
<td>Belt And Suspender Approach. Open Latarjet For All Revisions</td>
<td>Vicente Gutierrez</td>
</tr>
<tr>
<td>11:39-11:51</td>
<td>ACL Reconstruction + HT Osteotomies In Middle Age Population</td>
<td>Horacio Rivarola Etcheto</td>
</tr>
<tr>
<td>11:51-12:03</td>
<td>Return To Sports After Tibial Osteotomy</td>
<td>Alexandre Nicolini</td>
</tr>
<tr>
<td>12:03-12:15</td>
<td><strong>Summary of the Travelling Fellowship (SLARD to APKASS)</strong></td>
<td></td>
</tr>
</tbody>
</table>

### APKASS Best Free Paper Presentation (6 mins each + 4 mins Q&A)

**Adjudicator:** Konsei Shino, Kai-Ming Chan, Jin-Hwan Ahn, Rainer Siebold

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15-12:25</td>
<td>[B0795]: Comparison Of Coracoid Graft Positioning Between Arthroscopic And Open Latarjet Procedures: A 2D CT-Scan Analysis.</td>
<td>Johannes Barth</td>
</tr>
<tr>
<td>12:25-12:35</td>
<td>[B0557]: Early Anterior Cruciate Ligament Reconstruction Restored Dynamic Knee Function And Improved Clinical Outcomes</td>
<td>Yuichiro Nishizawa</td>
</tr>
<tr>
<td>12:35-12:45</td>
<td>[B0484]: Effects Of Releasing The Superficial Medial Collateral Ligament In Medial Open-Wedge High Tibial Osteotomy</td>
<td>Dai Sato</td>
</tr>
<tr>
<td>12:45-12:55</td>
<td>[B0404]: Increased Medial Meniscal Slope Is Associated With Greater Risk Of Ramp Lesion In Non-Contact Anterior Cruciate Ligament Injury</td>
<td>Guan-Yang Song</td>
</tr>
<tr>
<td>12:55-13:05</td>
<td>[B0615]: Staged Bilateral Arthroscopic Rotator Cuff Repair</td>
<td>Sung-Min Rhee</td>
</tr>
<tr>
<td>13:05-13:15</td>
<td>[B0635]: Hamstring Morphology And Strength Remain Altered Two Years Following A Hamstring Graft In ACL Reconstruction</td>
<td>Christopher Vertullo</td>
</tr>
</tbody>
</table>
# IFOSMA: Shoulder III - Shoulder Dislocation

**Date:** 11 June 2016 (Sat)<br>
**Venue:** Seminar Room A (1/F)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:46-14:00</td>
<td>Invited Lecture: Sling-effect在肩关节脱位治疗中的应用</td>
<td>Jinzhong Zhao</td>
</tr>
<tr>
<td>14:01-14:05</td>
<td>[B0381]: 微创改良Bristow-Latarjet手术治疗复发性肩关节前下脱位15年临床报告</td>
<td>Binghua Zhou</td>
</tr>
<tr>
<td>14:06-14:10</td>
<td>[B0483]: 习惯性肩关节脱位断崖式Bankart损伤关节镜下缝合疗效观察</td>
<td>Hong Wang</td>
</tr>
<tr>
<td>14:11-14:15</td>
<td>[B0136]: Arthroscopic Reconstruction Of Shoulder’s Labrum With Extensive Tears</td>
<td>Xiaofei Zheng</td>
</tr>
<tr>
<td>14:16-14:20</td>
<td>[B0442]: 肩关节镜下植骨结合裸式修补前下盂唇治疗复发性肩关节脱位</td>
<td>Xingguang Yang</td>
</tr>
<tr>
<td>14:21-14:25</td>
<td>[B0532]: Long-Term Clinical Outcomes Of Modified Arthroscopic Remplissage For Engaging Hill-Sachs Lesion</td>
<td>Honghu Xiao</td>
</tr>
<tr>
<td>14:26-14:30</td>
<td>[B0405]: 肩关节脱位合并肩袖损伤的镜下同期修复</td>
<td>Hui Kang</td>
</tr>
<tr>
<td>14:31-14:35</td>
<td>[B0286]: 40-55岁单纯SLAP损伤缝合修复术后临床结果</td>
<td>Sheng Zhang</td>
</tr>
<tr>
<td>14:36-14:40</td>
<td>[B0619]: 反向hill-sacks损伤关节镜下治疗</td>
<td>Xiaoyun Pan</td>
</tr>
<tr>
<td>14:41-14:45</td>
<td>[B0284]: 关节镜下喙锁韧带增强修复或重建联合肩锁韧带修复针对急性肩锁关节脱位的分型治疗</td>
<td>Jin Sun</td>
</tr>
<tr>
<td>14:46-14:50</td>
<td>[B0324]: 顽固性肩锁关节炎的诊断治疗</td>
<td>Jianzhong Xu</td>
</tr>
<tr>
<td>14:51-14:55</td>
<td>[B0527]: Treatment Of Acromioclavicular Joint Dislocation With C Arm Guide Double Endobutton Fixation Technique</td>
<td>Liang Hao</td>
</tr>
<tr>
<td>14:56-15:00</td>
<td>[B0556]: 关节镜下自体半腱肌肌腱重建喙锁韧带治疗 急性肩锁关节脱位</td>
<td>Hang Chen</td>
</tr>
<tr>
<td>15:01-15:15</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
<tr>
<td>15:15-15:30</td>
<td>Tea Break</td>
<td></td>
</tr>
</tbody>
</table>
**Date: 11 June 2016 (Sat)
Venue: Seminar Room A (1/F)**

**IFOSMA: Knee V - Meniscus Injury (膝关节专场 V - 半月板损伤)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30-15:45</td>
<td>Invited Lecture: 儿童盘状半月板的关节镜治疗</td>
<td>Xueren Teng</td>
</tr>
</tbody>
</table>
| 15:46-15:51| [B0519]: 边对边H型全内缝合法治疗外侧半月板后根部
Ferke & PetersenⅡ型损伤疗效分析   | Weiping Li               |
| 15:52-15:57| [B0095]: Diagnostic Significance Of Medial Meniscus Injury In Anterior Cruciate Ligament Reconstruction Failure
Wentao Zhang       | Wentao Zhang              |
| 15:58-16:03| [B0121]: 外侧盘状半月板成形术后——如何适应突然的改变
Hongtao Xu       | Hongtao Xu                |
| 16:04-16:09| [B0207]: The Nomenclature, Definition, Histological And
Clinical Study Of A New Type Of Meniscus Injury
Wentao Zhang       | Qiang Li                   |
| 16:10-16:15| [B0214]: Meniscus Subluxation In Hyaline Cartilage Injury Caused Osteoarthritis
Wentao Zhang       | Jiajun Zhao                |
| 16:16-16:21| [B0303]: 内侧半月板外突与半月板损伤及膝内翻的相关性研究
Jingmin Huang       | Jingmin Huang              |
| 16:22-16:27| [B0339]: A New Arthroscopic Sign For Occult Medial Meniscal Tears
Xintao Zhang       | Xintao Zhang               |
| 16:28-16:33| [B0511]: MeSC关节内注射促半月板修复的研究
Weiliang Shen       | Weiliang Shen             |
| 16:34-16:39| [B0518]: 全内缝合法技术治疗膝内侧半月板ramp损伤疗效分析
Zhongliang Shen     | Zhongliang Shen           |
| 16:40-16:45| [B0545]: 外侧半月板前角下方入路的应用
Dongyang Chen       | Dongyang Chen             |
| 16:45-16:51| [B0798]: 10岁以下的儿童盘状半月板损伤的手术疗效短期随访
Hai Li              | Hai Li                     |
| 16:52-16:57| [B0573]: 症状性外侧盘状半月板——临床及关节镜研究
Gang Chen           | Gang Chen                 |
| 16:58-17:03| [B0394]: Clinical Observation Of 48 Cases Of Meniscus Injury Treated With The Arthroscopic OMNISPAN Repair System
Wei Cui             | Wei Cui                   |
| 17:04-17:09| [B0092]: Early Clinical Effect Of Unicompartment Arthroplasty In The Treatment Of Anterior Medial Compartment Osteoarthritis
Chen Yao            | Chen Yao                  |
| 17:10-17:30| Q&A Session                                                            |                          |

17:30 - 18:00  **IFOSMA Best Poster Presentation (Foyer, G/F)**

End of 11 June - Scientific Program at Seminar Room A (1/F)
### Date: 11 June 2016 (Sat)
**Venue:** Seminar Room B (3/F)

**IFOSMA: Hip & Ankle (髋、踝关节专场)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:15</td>
<td><strong>Invited Lecture:</strong> 髋关节盂唇重建的实验研究</td>
<td>Jianquan Wang</td>
</tr>
<tr>
<td>08:16-08:21</td>
<td>[B0028]: An Ultrasound Classification Of Anterior Talofibular Ligament (ATFL) Injury</td>
<td>Yinghui Hua</td>
</tr>
<tr>
<td>08:22-08:27</td>
<td>[B0351]: 关节镜清理联合距腓前韧带重建 治疗陈旧性外侧踝关节不稳的疗效观察</td>
<td>Weiming Wang</td>
</tr>
<tr>
<td>08:28-08:33</td>
<td>[B0328]: Healing Of Achilles Tendon In A Child: Our Experience From The Management Of Relapsed Clubfoot</td>
<td>Li Zhao</td>
</tr>
<tr>
<td>08:34-08:39</td>
<td>[B0093]: The Value Of Ankle Arthroscopy In The Treatment Of Ankle Complex Fracture And Dislocation.</td>
<td>Tao Jiang</td>
</tr>
<tr>
<td>08:40-08:45</td>
<td>[B0332]: Arthroscopic Reconstruction Of Lateral Ligaments For Chronic Ankle Instability</td>
<td>Zhiyao Li</td>
</tr>
<tr>
<td>08:46-08:51</td>
<td>[B0098]: The Role Of Lateral Ankle Ligaments Repair In Improving Postural Control In Patients With Mechanical Ankle Instability</td>
<td>Hongyun Li</td>
</tr>
<tr>
<td>08:52-08:57</td>
<td>[B0336]: 全关节镜下重建踝关节外侧韧带复合体</td>
<td>Zhiyao Li</td>
</tr>
<tr>
<td>08:58-09:03</td>
<td>[B0122]: 踝关节复杂骨折脱位能用关节镜治疗吗？</td>
<td>Tao Jiang</td>
</tr>
<tr>
<td>09:04-09:09</td>
<td>[B0110]: 关节镜下微创治疗顽固性跟痛症的临床疗效分析</td>
<td>Wei Huang</td>
</tr>
<tr>
<td>09:10-09:15</td>
<td>[B0547]: 踝关节镜评估旋后外旋型踝关节骨折伴下胫腓韧带损伤的临床价值</td>
<td>Qiang Huang</td>
</tr>
<tr>
<td>09:16-09:21</td>
<td>[B0468]: Clinical Outcome Of Arthroscopic Minimally Invasive Treatment Of Haglund</td>
<td>Rui He</td>
</tr>
<tr>
<td>09:22-09:27</td>
<td>[B0244]: 关节镜辅助微创治疗髋囊炎的疗效分析</td>
<td>Hongliang Li</td>
</tr>
<tr>
<td>09:28-09:33</td>
<td>[B0300]: 关节镜下线锯钉缝合修复髋臼盂唇损伤</td>
<td>Xiaohua Liu</td>
</tr>
<tr>
<td>09:34-09:39</td>
<td>[B0341]: Accurate Core Decompression For Femoral Head Necrosis Guided By Hip Guide System</td>
<td>Zhiguo Li</td>
</tr>
<tr>
<td>09:40-09:45</td>
<td>[B0401]: 应用髋关节镜髋芯减压术治疗外周血单核细胞移植治疗早期股骨头缺血性坏死</td>
<td>Jifeng Xu</td>
</tr>
<tr>
<td>09:46-09:51</td>
<td>[B0435]: 髋关节撞击综合症髋关节镜下治疗的临床研究</td>
<td>Xupeng Wang</td>
</tr>
<tr>
<td>09:52-10:00</td>
<td><strong>Q&amp;A Session</strong></td>
<td></td>
</tr>
<tr>
<td>10:00-10:15</td>
<td><strong>Tea Break</strong></td>
<td></td>
</tr>
</tbody>
</table>
### June 11, 2016 (Sat)
**Venue:** Seminar Room B (3/F)

**IFOSMA: Knee IV - Patella Instability**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15-10:30</td>
<td>Invited Lecture: Recurrent patellar dislocation: the implication of J sign</td>
<td>Hua Feng, Yayi Xia</td>
</tr>
<tr>
<td>10:41-10:46</td>
<td>[B0054]: Treatment Of Recurrent Patellar Dislocation With Old Osteochondral Fracture</td>
<td>Zhu Dai</td>
</tr>
<tr>
<td>10:47-10:52</td>
<td>[B0298]: 习惯性髌骨脱位的诊断和治疗策略</td>
<td>Shoubin Gu</td>
</tr>
<tr>
<td>10:59-11:04</td>
<td>[B0370]: 内侧髌胫韧带重建联合胫骨结节移位在习惯性髌骨脱位治疗中的应用</td>
<td>Liang Zhang</td>
</tr>
<tr>
<td>11:05-11:10</td>
<td>[B0480]: 青少年膝关节游离体及髌骨脱位诊断的相关性研究</td>
<td>Lihu Xu</td>
</tr>
<tr>
<td>11:11-11:16</td>
<td>[B0687]: 47例复发性髌骨脱位的诊治疗效分析</td>
<td>Linxin Yu</td>
</tr>
<tr>
<td>11:17-11:22</td>
<td>[B0781]: 个性化内外侧软组织张力调整在复发性髌骨脱位治疗中的应用</td>
<td>Shiguo Gong</td>
</tr>
<tr>
<td>11:29-11:34</td>
<td>[B0832]: 内侧髌胫韧带异体肌腱双束重建治疗骸板未闭青少年髌骨脱位临床疗效分析</td>
<td>Bin Yuan</td>
</tr>
<tr>
<td>11:35-11:40</td>
<td>[B0787]: 双排技术修复髌骨下极撕脱骨折</td>
<td>Qingsong Zhang</td>
</tr>
<tr>
<td>11:41-12:15</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>
### APKASS Free Paper: Shoulder - Basic Science, ACJ & Others

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairmen</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:15-12:20</td>
<td>[B0730]: Anatomic Considerations In Arthroscopic Reconstruction Of The Coraco-Clavicular Ligament In Patients With Acromio-Clavicular Joint Dislocation</td>
<td>Kenichi Matsumura</td>
</tr>
<tr>
<td>12:20-12:25</td>
<td>[B0605]: Prognostic Factors To Succeed In Surgical Treatment Of Chronic Acromioclavicular Dislocations</td>
<td>Johannes Barth</td>
</tr>
<tr>
<td>12:25-12:30</td>
<td>[B0449]: Treatment Of Acromioclavicular Dislocation With Suture Anchor On</td>
<td>Chung-Hsun Chang</td>
</tr>
<tr>
<td>12:30-12:35</td>
<td>[B0594]: Comparison Of Shoulder Range Of Motion Between Nonsurgical And Surgical Treatments For Shoulder Stiffness</td>
<td>Akihiko Hasegawa</td>
</tr>
<tr>
<td>12:35-12:40</td>
<td>[B0393]: Arthroscopic Treatment Of Greater Tuberosity Avulsion Fracture Using A Double-Row Technique In Elderly</td>
<td>Binsong Qiu</td>
</tr>
<tr>
<td>12:40-12:45</td>
<td>[B0836]: Gelatin-Grafted Poly(L-Lactide) Electrospun Fibrous Membranes For Healing Improvement After Rotator Cuff Repair</td>
<td>Song Zhao</td>
</tr>
<tr>
<td>12:45-12:50</td>
<td>[B0034]: Effect Of Hypercholesterolemia On Fatty Infiltration And The Quality Of Tendon-To-Bone Healing In A Rabbit Model Of A Chronic Rotator Cuff Tear: Electrophysiological, Biomechanical, And Histological Analyses</td>
<td>Hyeonjang Jeong</td>
</tr>
<tr>
<td>12:50-13:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>
**APKASS Free Paper: Knee - Joint replacement, Cartilage & Ostetomy**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:15-13:20</td>
<td>[B0664]: Anteromedial Opening Wedge HTO For The PCL Deficient Varus Arthritic Knee A Prospective Ten - Fifteen Year Study</td>
<td>Nicolaas Budhiparama, Albert Hsu</td>
</tr>
<tr>
<td>13:20-13:25</td>
<td>[B0022]: The Validity Of The Classification For Lateral Hinge Fractures In Open Wedge High Tibial Osteotomy</td>
<td>Ryuichi Nakamura</td>
</tr>
<tr>
<td>13:25-13:30</td>
<td>[B0491]: Clinical Outcome Of A Novel Fixation System For Open-Wedge High Tibial Osteotomy: Comparison With Tomofix</td>
<td>Koji Yabuuchi</td>
</tr>
<tr>
<td>13:40-13:45</td>
<td>[B0728]: Survival And Clinical Outcomes Of High Tibial Osteotomy For Medial Knee Osteoarthritis</td>
<td>David Parker</td>
</tr>
<tr>
<td>13:50-13:55</td>
<td>[B0099]: Clinical And Radiological Results Of Double Level Osteotomy For Varus Knee Osteoarthritis. Review Of Our Experiences</td>
<td>Hiroshi Nakayama</td>
</tr>
<tr>
<td>13:55-14:00</td>
<td>[B0357]: Outcomes Of Distal Femoral Varus Osteotomy In Patients With Valgus Knee Osteoarthritis</td>
<td>Takao Inokuchi</td>
</tr>
<tr>
<td>14:00-14:05</td>
<td>[B0831]: An Open-Wedge Osteotomy Of The Proximal Tibia With Hemicallotasis – Technique And Outcome –</td>
<td>Eiichi Nakamura</td>
</tr>
<tr>
<td>14:05-14:15</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>
# APKASS Free Paper: Knee - Joint replacement, Cartilage & Osteotomy

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:15-14:20</td>
<td>Are Factors Considered For Deciding Whether To Perform High Tibial Osteotomy Or Unicompartmental Knee Arthroplasty Same?</td>
<td>In Jun Koh</td>
</tr>
<tr>
<td>14:20-14:25</td>
<td>Analysis Of The Tibial Osteotomy Thickness Of Unicompartmental Knee Arthroplasty</td>
<td>Shuijun Zhang</td>
</tr>
<tr>
<td>14:25-14:30</td>
<td>Postoperative Flexion Balance Is Improved After TKA By Modified Gap Technique With Imageless Navigation</td>
<td>Seikai Toyooka</td>
</tr>
<tr>
<td>14:30-14:35</td>
<td>The Effect Of Total Knee Arthroplasty On Active Knee Extension During Treadmill Walking</td>
<td>Aaron Beach</td>
</tr>
<tr>
<td>14:35-14:40</td>
<td>Subchondral Drilling With/Without Collagen Augmentation In Patients Undergoing High Tibial Osteotomy</td>
<td>Man Soo Kim</td>
</tr>
<tr>
<td>14:40-14:45</td>
<td>Osteochondral Autograft Transfer(OAT) Combined With OWHTO For Spontaneous Osteonecrosis Of The Knee (SONK)</td>
<td>Shogo Mukai</td>
</tr>
<tr>
<td>14:45-14:50</td>
<td>Results Of Arthroscopic Fixation Of Osteochondritis Dissecans Lesions Of The Knee With Cylindrical Autogenous Osteochondral Plugs (Case Series)</td>
<td>Sohrab Keyhani</td>
</tr>
<tr>
<td>14:50-14:55</td>
<td>Arthroscopic Results Of The Cartilage Repair Using Fusion Technique Of Island Osteochondral Autograft Transfer(OAT) And Microfracture For Severe Osteoarthritis In Younger Patients</td>
<td>Jaehoon Chung</td>
</tr>
<tr>
<td>14:55-15:00</td>
<td>Short-Term Clinical Outcome Of Atellocollagen-Associated Autologous Chondrocyte Implantation For The Repair Of Chondral Defects</td>
<td>Takuma Kaibara</td>
</tr>
<tr>
<td>15:00-15:05</td>
<td>Chondral Defects In The Knee: Are Autologous Bone Marrow Derived Mesenchymal Stem Cells Suitable To Replace Autologous Chondrocyte Implantation Techniques? Results From A Mid-Term Observational Cohort Study</td>
<td>Francis Keng Lin Wong</td>
</tr>
</tbody>
</table>

**Q&A Session**

**15:15-15:30**

**Tea Break**
**Date: 11 June 2016 (Sat)**  
**Venue: Seminar Room B (3/F)**

### APKASS Free Paper: Knee - Cartilage & Meniscus

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>15:30-15:35</td>
<td>[B0861]: Human Mesenchymal Stem Cell-Derived Exosomes Promote Orderly Cartilage Regeneration In An Immunocompetent Rat Osteochondral Defect Model</td>
<td>Francis Keng Lin Wong</td>
</tr>
<tr>
<td>15:35-15:40</td>
<td>[B0063]: Cartilage Storage At 4°C With Regular Culture Medium Replacement Benefits Chondrocyte Viability Of Osteochondral Grafts In Vitro</td>
<td>Jianhong Qi</td>
</tr>
<tr>
<td>15:40-15:45</td>
<td>[B0848]: 3D Printing And Characterization Of Bioactive Scaffold Potential For Reconstructing Calcified Cartilage Zone</td>
<td>Xinning Yu</td>
</tr>
<tr>
<td>15:45-15:50</td>
<td>[B0314]: Postoperative 2 Years Follow-Up Of Matrix Induced Autologous Chondrocyte Implantation In 24 Cases</td>
<td>Weimin Zhu</td>
</tr>
<tr>
<td>15:50-15:55</td>
<td>[B0578]: Arthroscopic Antegrade Drilling For Unstable Juvenile Osteochondritis Dissecans Of The Knee: Mid-Term Results</td>
<td>Hong Chen</td>
</tr>
<tr>
<td>15:55-16:00</td>
<td>[B0574]: Biomechanical Comparison Of Cross-Suture And Vertical Suture Technique In Meniscal Repair Of Radial Tear</td>
<td>Tae Woo Kim</td>
</tr>
<tr>
<td>16:00-16:05</td>
<td>[B0788]: Safe Needle Insertion Points Of FAST-FIX 360</td>
<td>Shigeo Takahashi</td>
</tr>
<tr>
<td>16:05-16:10</td>
<td>[B0397]: Arthroscopic Repair For The Hypermobile Lateral Meniscus</td>
<td>Tomoaki Kamiya</td>
</tr>
<tr>
<td>16:10-16:15</td>
<td>[B0866]: Arthroscopic Meniscoplasty For Disoid Lateral Meniscus In Children And Adolescents – Long Term Results</td>
<td>Yau Hong Ng</td>
</tr>
<tr>
<td>16:15-16:20</td>
<td>[B0712]: Arthroscopic Repair Of Meniscus Tear In Patients 40 Years Age And Over</td>
<td>Harehiko Tsukada</td>
</tr>
<tr>
<td>16:20-16:30</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>
### APKASS Free Paper: Knee - Cartilage & Meniscus

<table>
<thead>
<tr>
<th>Time</th>
<th>Code</th>
<th>Title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:30-16:35</td>
<td>[B0776]</td>
<td>Isolated Anterior Horn Tears Of Medial Menisci In Soccer Players.</td>
<td>Hiroshi Amano</td>
</tr>
<tr>
<td>16:35-16:40</td>
<td>[B0228]</td>
<td>Chondral Lesions With Medial Meniscal Posterior Root Tear Are Located More Medially And More Progressive Than Those With Other Meniscal Tears</td>
<td>Hyuk Soo Han</td>
</tr>
<tr>
<td>16:40-16:45</td>
<td>[B0013]</td>
<td>Effectiveness Of Full-Length Laterally Wedged Insoles For Posterior Medial Meniscus Root Tears</td>
<td>Yusuke Tsuyuguchi</td>
</tr>
<tr>
<td>16:50-16:55</td>
<td>[B0525]</td>
<td>Minimum 1 Year Results Of Pull-Out Suture Repair With Modified Mason-Allen Stitch In Medial Meniscus Root Tear</td>
<td>Youkeun Kim</td>
</tr>
<tr>
<td>16:55-17:00</td>
<td>[B0467]</td>
<td>A Meta-Analysis Of Clinical And Radiographic Outcomes Of Posterior Horn Medial Meniscus Root Repairs</td>
<td>Hanho Choo</td>
</tr>
<tr>
<td>17:00-17:05</td>
<td>[B0727]</td>
<td>Meniscal Translation In Healthy And Repaired Menisci: A Three-Dimensional In-Vivo Magnetic Resonance Imaging Study</td>
<td>Corey Scholes</td>
</tr>
<tr>
<td>17:05-17:10</td>
<td>[B0062]</td>
<td>Outcomes After Implantation Of Polyurethane Meniscal Scaffold For Medial Or Lateral Meniscal Deficiency</td>
<td>Chi Chung Kong</td>
</tr>
<tr>
<td>17:10-17:15</td>
<td>[B0143]</td>
<td>Comparison Of The Bone Plug And Bone Bridge Technique For Lateral Meniscus Allograft Transplantation</td>
<td>Liangquan Peng</td>
</tr>
<tr>
<td>17:15-17:20</td>
<td>[B0029]</td>
<td>A Polyurethane Meniscal Implant For Painful Meniscectomy: 5 Year Results</td>
<td>Rene Verdonk</td>
</tr>
<tr>
<td>17:20-17:30</td>
<td></td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

**End of 11 June - Scientific Program at Seminar Room B (3/F)**
Date: 11 June 2016 (Sat)
Venue: Foyer, G/F

**IFOSMA Best Poster Presentation (3 mins each + 2 mins Q&A)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:30-17:35</td>
<td>[B0851]: Arthroscopic Posterior Cruciate Ligament Reconstruction Using LARS Artificial Ligament: A Retrospective Study With A Mean Follow-Up Of Five Years</td>
<td>Xuan Huang</td>
</tr>
<tr>
<td>17:35-17:40</td>
<td>[B0868]: 超声检查与MRI成像诊断冈上肌脂肪性变的对比研究</td>
<td>Tianwu Chen</td>
</tr>
<tr>
<td>17:40-17:45</td>
<td>[B0383]: 关节镜下边对边缝合修复肩关节Bankart损伤的15年随访</td>
<td>You Zhou</td>
</tr>
<tr>
<td>17:45-17:50</td>
<td>[B0202]: 双侧自体1/2腓骨长肌腱与腘绳肌腱重建前交叉韧带的临床对比研究</td>
<td>Qiang Li</td>
</tr>
<tr>
<td>17:50-17:55</td>
<td>[B0272]: LARS人工韧带在后交叉韧带保留残端重建中的应用</td>
<td>Lunhao Bai</td>
</tr>
<tr>
<td>17:55-18:00</td>
<td>[B0620]: 肩关节关键角（CSA）与肩袖损伤的相关性研究</td>
<td>Zhijun Chen</td>
</tr>
</tbody>
</table>
Main Congress
12 June (Sun) | Hong Kong
Date: 12 June 2016 (Sun)
Venue: Shaw Auditorium (1/F)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 08:03</td>
<td>Introduction (3 Min)</td>
<td></td>
</tr>
<tr>
<td>08:03 - 08:13</td>
<td>1. Biological Augmentation Of Tendon To Bone Healing In Rotator Cuff Repair (10 Mins)</td>
<td>Joo-Han Oh</td>
</tr>
<tr>
<td>08:13 - 08:43</td>
<td>2. Enhancement Of Tendon To Bone Healing In ACL Reconstruction – My Personal Experience (30Mins, 10Mins@)</td>
<td>Patrick Yung, Chih-Hua Chen, Joon-Ho Wang</td>
</tr>
<tr>
<td>08:43 - 08:53</td>
<td>3. Mesenchymal Stem Cell (MSC)-based Cartilage Repair (10mins)</td>
<td>Barbara Chan</td>
</tr>
<tr>
<td>08:53 - 09:03</td>
<td>4. MSC In Cartilage Repair – Hope Or Hype? Enhancement of Culture of MSCs for Cartilage Repair by Heparin Sulphate (HS8) (10 Mins)</td>
<td>James Hui</td>
</tr>
<tr>
<td>09:03 - 10:00</td>
<td>Forum on Future of Translational Research in Orthopaedic Sports Medicine - Panel Discussion</td>
<td>All speakers+Panelist: Huan-Cheng Chang, Kevin Ho, Takeshi Muneta, Bruce Reider, Christer Rolf, Yu-Shu Lai, Gang Li, Ling Qin, Chun-Hao Wu</td>
</tr>
</tbody>
</table>

Specific Sharing On The Following:
1. What Are The Obstacles In Translation?
2. How To Handle The Regulatory Process?
3. How To Assess The Market And Inspire Industry Investment?
4. How To Balance Safety And Cost Effectiveness?
Summary (2 Mins)

10:00 - 10:15 | Tea Break |
Date: 12 June 2016 (Sun)
Venue: Shaw Auditorium (1/F)

Ankle & Hip Injuries

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15 - 10:30</td>
<td>Hindfoot Endoscopic Surgery For Athletes</td>
<td>Yasuhito Tanaka</td>
</tr>
<tr>
<td>10:30 - 10:45</td>
<td>Role Of Ankle Arthroscopy In Treatment Of Chronic Ankle Instability</td>
<td>Pieter D’Hooghe</td>
</tr>
<tr>
<td>10:45 - 11:00</td>
<td>Managing Cartilage Injuries Of The Ankle Joint - 2016 Update</td>
<td>Ying-Hui Hua</td>
</tr>
<tr>
<td>11:00 - 11:15</td>
<td>Tackling Anterior Ankle Impingement In Football Players</td>
<td>Mohammad Razi</td>
</tr>
<tr>
<td>11:15 - 11:30</td>
<td>Tackling Posterior Ankle Pain In Football Players</td>
<td>Pieter D’Hooghe</td>
</tr>
<tr>
<td>11:30 - 11:45</td>
<td>Endoscopy Of Posterior Ankle With Patient In Supine Patient.</td>
<td>Tun-Hing Lui</td>
</tr>
</tbody>
</table>

Revisit Of Hip Arthroscopy

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:45 - 12:00</td>
<td>Application Of Hip Arthroscopy In Treatment Of Different Sports Injuries - My Evolution Of Knowledge &amp; Skills</td>
<td>Jianquan Wang</td>
</tr>
<tr>
<td>12:00 - 12:15</td>
<td>Hip Impingement &amp; Labral Tear: When To Scope &amp; When To Hold Our Hands?</td>
<td>Hang-Cheong Cheng</td>
</tr>
</tbody>
</table>

Closing Ceremony

End of Congress at Shaw Auditorium (1/F)
## IFOSMA: Science & Rehabilitation (基础及康复专场)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:15</td>
<td><strong>Invited Lecture:</strong> 再生医学——未来的出路吗？</td>
<td>Xuesong Dai</td>
</tr>
<tr>
<td>08:16-08:30</td>
<td>[B0802]: 体外冲击波有效改善早中期膝关节骨性关节炎</td>
<td>Yunxia Li</td>
</tr>
<tr>
<td>08:31-08:36</td>
<td>[B0112]: 本体感觉训练在臀肌筋膜挛缩松解术后康复中的应用</td>
<td>Shuang Wang</td>
</tr>
<tr>
<td>08:37-08:42</td>
<td>[B0123]: 胫腓损伤病人本体感觉机能:术前预测机能报告</td>
<td>Zhongzheng Li</td>
</tr>
<tr>
<td>08:49-08:54</td>
<td>[B0197]: Kinematic Evaluation Of The Proximal Fibular Osteotomy During Walking: A Case Report</td>
<td>Wenhan Huang</td>
</tr>
<tr>
<td>08:55-09:00</td>
<td>[B0147]: 关节镜在四肢皮下或肌间血管瘤切除术中的应用</td>
<td>Wei Li</td>
</tr>
<tr>
<td>09:01-09:06</td>
<td>[B0812]: 老年髋部骨折患者术后深静脉血栓形成的特征及危险因素分析</td>
<td>Wei Li</td>
</tr>
<tr>
<td>09:07-09:12</td>
<td>[B0077]: PLGA Modified Fe3O4 Nanoclusters For siRNA Delivery In Joint Surgery</td>
<td>Xiaochun Peng</td>
</tr>
<tr>
<td>09:13-09:18</td>
<td>[B0089]: 低浓度聚维酮碘 (PVP-I) 促进兔前交叉韧带重建中膝骨愈合的相关实验研究</td>
<td>Peng Zhang</td>
</tr>
<tr>
<td>09:19-09:24</td>
<td>[B0150]: A Mouse Model To Measure The Localization And Migration Of Mscs Post Transplantation</td>
<td>Yu Chen</td>
</tr>
<tr>
<td>09:25-09:30</td>
<td>[B0384]: 肌腱病P物质表达与病理学特征观察</td>
<td>You Zhou</td>
</tr>
<tr>
<td>09:31-09:36</td>
<td>[B0584]: 富血小板血浆对膝骨愈合影响的实验研究</td>
<td>Mingyu Zhang</td>
</tr>
<tr>
<td>09:37-09:42</td>
<td>[B0752]: Effect Of TGF-β1/Smad Signal Path Inhibition Using Lentivirus Mediated RNA Interference Technique For The Enhancement Of Rotator Cuff Healing In SD Rat Model</td>
<td>Xuan Huang</td>
</tr>
<tr>
<td>09:43-09:48</td>
<td>[B0820]: Medial Collateral Ligament Healing Acceleration With The Injection MicroRNA-210</td>
<td>Muhammad Sakti</td>
</tr>
<tr>
<td>09:49-10:00</td>
<td><strong>Q&amp;A Session</strong></td>
<td></td>
</tr>
</tbody>
</table>

### 10:00 - 10:15

**Tea Break**
**Date: 12 June 2016 (Sun)**
**Venue: Kai Chong Tong (G/F)**

### IFOSSMA: Trauma & Elbow (创伤及肘关节会场)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman: You Wang, Wei Lv, Kun Mi</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15-10:23</td>
<td>[B0863]: 关节镜下球囊复位治疗胫骨平台后外侧骨折</td>
<td>Junbo Liang</td>
</tr>
<tr>
<td>10:24-10:31</td>
<td>[B0315]: 基质诱导的自体软骨细胞移植术修复膝关节软骨损伤 24例术后2年的随访</td>
<td>Weimin Zhu</td>
</tr>
<tr>
<td>10:32-10:39</td>
<td>[B0621]: 自体软骨移植、I 型胶原填充与微骨折治疗软骨损伤的临床对照研究</td>
<td>Jianyang Luo</td>
</tr>
<tr>
<td>10:40-10:47</td>
<td>[B0714]: Osteochondral Repair With Synovial Membrane-Derived Mesenchymal Stem Cells: Evaluation With 9.4T High-Field Magnetic Resonance Imaging</td>
<td>Hong Li</td>
</tr>
<tr>
<td>10:48-10:55</td>
<td>[B0827]: Diagnostic Value Of Ultrasound To Detect Cartilage Lesion Of Knee Osteoarthritis</td>
<td>Gang Dai</td>
</tr>
<tr>
<td>10:56-11:03</td>
<td>[B0318]: 带线锚钉治疗顽固性网球肘的早期临床疗效观察</td>
<td>Binghua Zhou</td>
</tr>
<tr>
<td>11:04-11:11</td>
<td>[B0496]: 肘关节镜术的临床初步疗效报告</td>
<td>Xiaoxu Wang</td>
</tr>
<tr>
<td>11:12-11:19</td>
<td>[B0570]: Curative Effect Of Intractable Tennis Elbow By Microneurovascular Bundle Excision</td>
<td>Guofeng Cai</td>
</tr>
<tr>
<td>11:20-11:27</td>
<td>[B0101]: Arthroscopic Treatment Of Different Stages Of Kienbock’S Disease</td>
<td>Xin Wang</td>
</tr>
<tr>
<td>11:28-11:35</td>
<td>[B0181]: 青少年股骨前上棘撕脱骨折保守治疗与手术治疗疗效的临床对比研究</td>
<td>Lin Sha</td>
</tr>
<tr>
<td>11:36-11:43</td>
<td>[B0585]: 关节镜下空心螺钉与带线锚钉联合固定粉碎性肩胛盂骨折</td>
<td>Feng Qu</td>
</tr>
<tr>
<td>11:44-12:15</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
<tr>
<td>12:15-13:15</td>
<td>Closing Ceremony (Shaw Auditorium, 1/F)</td>
<td></td>
</tr>
</tbody>
</table>

**End of Congress at Kai Chong Tong (G/F)**
## APKASS Free Paper: Knee - ACL (3)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:05</td>
<td>[B0183]: The Cross-Sectional Shape Of The Four-Fold Semitendinosus Tendon Graft Is Not Round</td>
<td>Takeshi Oshima</td>
</tr>
<tr>
<td>08:05-08:10</td>
<td>[B0493]: Does Triple Semitendinosus Autograft Tendon Have The Same Thickness As Quadrupled Semitendinosus And Gracilis Autograft Tendons In ACL Reconstruction</td>
<td>Hamidreza Yazdi</td>
</tr>
<tr>
<td>08:10-08:15</td>
<td>[B0292]: Prediction Of Hamstring Tendon Graft Size For ACL Reconstruction From Preoperative MRI And Patient Height</td>
<td>Justin Roe</td>
</tr>
<tr>
<td>08:15-08:20</td>
<td>[B0663]: Graft Diameter Matters In Hamstring ACL Reconstruction</td>
<td>Mark Clatworthy</td>
</tr>
<tr>
<td>08:20-08:25</td>
<td>[B0729]: Regression Modelling Combining MRI Measurements And Patient Anthropometry To Predict Graft Diameter In ACL Reconstruction</td>
<td>Brett Fritsch</td>
</tr>
<tr>
<td>08:25-08:30</td>
<td>[B0045]: ACL Reconstruction Using Bone-Patella Tendon-Bone Autograft: Press-Fit Technique Vs. Interference Screw Fixation.</td>
<td>Mohammad Razi</td>
</tr>
<tr>
<td>08:30-08:35</td>
<td>[B0631]: Biomechanical Comparison Of Two ACL Reconstruction Methods: Semitendinosus And Gracilis Construct Versus Quadrupled Semitendinosus And Tape Construct.</td>
<td>Christopher Vertullo</td>
</tr>
<tr>
<td>08:35-08:40</td>
<td>[B0638]: Comparison Of Clinical Outcomes And Second-Look Arthroscopic Findings After ACL Reconstruction Using A Hamstring Autograft Or A Tibialis Allograft</td>
<td>Young-Joo Shin</td>
</tr>
<tr>
<td>08:40-08:45</td>
<td>[B0579]: Preoperative Measure Of Individualized Anatomic ACL Reconstruction In West Chinese Patients: Correlation Between Preoperative MRI And Intra-Operative Measurements</td>
<td>Ning Hu</td>
</tr>
<tr>
<td>08:45-08:50</td>
<td>[B0845]: LARS Reconstruction Of Anterior Cruciate Ligament With Remnant Preservation: A Prospective Randomized Control Study</td>
<td>Huang Xuan</td>
</tr>
</tbody>
</table>

08:50-09:00 Q&A Session
### APKASS Free Paper: Knee - ACL (3)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00-09:05</td>
<td>Local Delivery Of Controlled-Release Simvastatin To Improve The Biocompatibility Of Polyethylene Terephthalate Artificial Ligaments For Reconstruction Of The Anterior Cruciate Ligament</td>
<td>Peng Zhang</td>
</tr>
<tr>
<td>09:05-09:10</td>
<td>Effects Of Remnant Tissue Preservation On The Tendon Autograft In Anterior Cruciate Ligament Reconstruction: Biomechanical And Histological Study With A Sheep Model</td>
<td>Eiji Kondo</td>
</tr>
<tr>
<td>09:10-09:15</td>
<td>Effects Of Remnant Tissue Preservation On Tunnel Enlargement After Anatomic Double-Bundle Anterior Cruciate Ligament Reconstruction</td>
<td>Testuro Masuda</td>
</tr>
<tr>
<td>09:15-09:20</td>
<td>Double Bundle Anterior Cruciate Ligament Reconstruction Preserving Antero-Medial Aspect Of Remnant Tissue</td>
<td>Izumi Kanisawa</td>
</tr>
<tr>
<td>09:20-09:25</td>
<td>Comparison Of Tunnel Positions And Clinical Outcomes Between Splitting And Non-Splitting Remnant Preservation Techniques</td>
<td>Osung Lee</td>
</tr>
<tr>
<td>09:25-09:30</td>
<td>Augmentation Of Tendon Graft Anterior Cruciate Ligament Reconstruction Outcome Using A Silk Based Osteoconductive Sheath</td>
<td>Barry Wei Loong Tan</td>
</tr>
<tr>
<td>09:30-09:35</td>
<td>Applied Anatomy Of Anterior Cruciate Ligament With Direct Tibial Arc-Shaped Insertion Site</td>
<td>Tian You</td>
</tr>
<tr>
<td>09:35-09:40</td>
<td>Repair Of Anterior Cruciate Ligament With Internal Brace Technique - Early Results</td>
<td>Andrzej Mioduszewski</td>
</tr>
<tr>
<td>09:40-09:45</td>
<td>Serial Evaluation Of The Graft Maturity After Anterior Cruciate Ligament Reconstruction Using Autologous Quadriceps Tendon By Contrast Enhanced Magnetic Resonance Imaging: Comparison Between Remnant Bundle Preservation Vs. Non-Preservation</td>
<td>Bo Hyun Kim</td>
</tr>
<tr>
<td>09:45-09:50</td>
<td>Influence Of Initial Tension On The Postoperative Tibiofemoral Relationship After Anatomic Anterior Cruciate Ligament Reconstruction</td>
<td>Yuta Tachibana</td>
</tr>
<tr>
<td>09:50-10:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

10:00 - 10:15  **Tea Break**
**Date: 12 June 2016 (Sun)**  
**Venue: Seminar Room A (1/F)**

### APKASS Free Paper: Shoulder - Cuff

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15-10:20</td>
<td>[B0149]: Subacromial Steroid Injection Is Safe And Effective To Improve Painful Lom After Rotator Cuff Repair</td>
<td>Hoon Yang Seok</td>
</tr>
<tr>
<td>10:20-10:25</td>
<td>[B0190]: Does Anchor Type, Anchor Material Or Suture Configuration Affect The Outcome Of Rotator Cuff Repair – Analysis From The New Zealand Rotator Cuff Registry</td>
<td>Warren Leigh</td>
</tr>
<tr>
<td>10:30-10:35</td>
<td>[B0456]: Clinical Analysis Of Surgical Techniques Of Approach Of Arthroscopic Approach Of Rotator Cuff Repair In 46 Cases</td>
<td>Baorong Liu</td>
</tr>
<tr>
<td>10:35-10:40</td>
<td>[B0090]: Rotator Cuff Tears Combined With Long Head Of The Biceps Tendon Lesions: Tenotomy Versus Tenodesis</td>
<td>Xiliang Shang</td>
</tr>
<tr>
<td>10:40-10:45</td>
<td>[B0360]: Delaminated Rotator Cuff Tear: Characteristics And Anatomical Healing After Arthroscopic Rotator Cuff Repair</td>
<td>Yehyun Lee</td>
</tr>
<tr>
<td>10:45-10:50</td>
<td>[B0057]: Outcomes Of Arthroscopic Rotator Cuff Repair With Less Tension</td>
<td>Shin Yokoya</td>
</tr>
<tr>
<td>10:50-10:55</td>
<td>[B0087]: Biomechanical Comparison Of 3 Different Suture-Bridge Techniques For Rotator Cuff Tear Repair</td>
<td>Ziying Wu</td>
</tr>
<tr>
<td>10:55-11:00</td>
<td>[B0038]: A Meta-Analysis Comparing Single-Row And Double-Row Repair Techniques In The Treatment Of Rotator Cuff Tears</td>
<td>Caiqi Xu</td>
</tr>
<tr>
<td>11:00-11:05</td>
<td>[B0599]: A Survival Curve For Arthroscopic Double-Row Repair Of The Rotator Cuff: Critical Period Analysis</td>
<td>Johannes Barth</td>
</tr>
<tr>
<td>11:05-11:15</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>
### APKASS Free Paper: Shoulder - Cuff

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:15-11:20</td>
<td>[B0648]: Partial-Thickness Rotator Cuff Tears In University Baseball Players</td>
<td>Rei Morikura</td>
</tr>
<tr>
<td>11:20-11:25</td>
<td>[B0208]: Characteristics And Clinical Outcomes Of The Patients With Articular Side And Bursal Side Rotator Cuff Tears</td>
<td>Satoshi Iwashita</td>
</tr>
<tr>
<td>11:25-11:30</td>
<td>[B0743]: Prognostic Factors Of Retear After Arthroscopic Repair Of Massive Rotator Cuff Tear</td>
<td>Michael Tim-Yun Ong</td>
</tr>
<tr>
<td>11:30-11:35</td>
<td>[B0266]: Arthroscopic Incomplete Repair Of Irreparable Rotator Cuff Tears: Pre-Operative Factors And Outcomes</td>
<td>Kun-Hui Chen</td>
</tr>
<tr>
<td>11:35-11:40</td>
<td>[B0431]: Arthroscopic Medial Reattachment Of The Torn Cuff Tendon For Massive Rotator Cuff Tears</td>
<td>Hui Kang</td>
</tr>
<tr>
<td>11:40-11:45</td>
<td>[B0658]: Association Between Pre-Operative MRI Of The Supraspinatus Muscle And Reparability Of Rotator Cuff Tears</td>
<td>Jeung Yeol Jeong</td>
</tr>
<tr>
<td>11:45-11:50</td>
<td>[B0680]: Curative Effect Comparison Of Two Kinds Of Grafts Suture For Massive Rotator Cuff Tear</td>
<td>Hong Chen</td>
</tr>
<tr>
<td>11:50-11:55</td>
<td>[B0659]: Clinical And Radiologic Outcomes Of Arthroscopic &quot;Hybrid&quot; Repair In Large To Massive Rotator Cuff Tear</td>
<td>Jeung Yeol Jeong</td>
</tr>
<tr>
<td>11:55-12:00</td>
<td>[B0821]: Reversal Of Suprascapular Neuropathy Following Arthroscopic Repair Of Massive Rotator Cuff Tear With Routine Nerve Release</td>
<td>Huang Xuan</td>
</tr>
<tr>
<td>12:00-12:05</td>
<td>[B0773]: Effect Of Prior Rotator Cuff Repair On Clinical Outcomes Following Reverse Shoulder Arthroplasty</td>
<td>Taku Hatta</td>
</tr>
<tr>
<td>12:05-12:15</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

### Closing Ceremony (Shaw Auditorium, 1/F)

End of Congress at Seminar Room A (1/F)
<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Chairman: Yinghui Hua, Bruma Fu</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:05</td>
<td>[B0575]: Analgesic Effect And Safety Of Single-Dose Intra-Articular Magnesium After Arthroscopic Surgery: A Systematic Review And Meta-Analysis</td>
<td>Guang-Hua Lei</td>
</tr>
<tr>
<td>08:05-08:10</td>
<td>[B0174]: Autophagy Plays A Protective Role In Tumor Necrosis Factor-α-induced Apoptosis Of Bone Marrow-Derived Mesenchymal Stem Cells</td>
<td>Rui Yang</td>
</tr>
<tr>
<td>08:10-08:15</td>
<td>[B0616]: In Vitro Rabbit Periosteal Cell Proliferation And Response To Stimulus In Microfluidic Culture System</td>
<td>Alvin Chao-Yu Chen</td>
</tr>
<tr>
<td>08:15-08:20</td>
<td>[B0330]: The Detrimental Gelling Effect Of Plate-Rich Plasma When Exposed To Human Tenocytes In Small Diameter Culture Well</td>
<td>Chih-Hao Chiu</td>
</tr>
<tr>
<td>08:20-08:25</td>
<td>[B0114]: Confirmed Presence Of Bacterial 16S rRNA In Achilles’ Tendon Rupture Samples</td>
<td>Chelsea Hopkins</td>
</tr>
<tr>
<td>08:25-08:30</td>
<td>[B0482]: Arthroscopic Debridement Of Talar Cyst And Bone Grafting By Using OATS: A Case Report</td>
<td>Noriyuki Kanzaki</td>
</tr>
<tr>
<td>08:30-08:35</td>
<td>[B0526]: Endoscopic Excision Of Os Trigonum And Flexor Hallucis Longus Decompression In Dancers And Athletes</td>
<td>Albert Lesmana</td>
</tr>
<tr>
<td>08:35-08:40</td>
<td>[B0250]: Modified Posterior Portals For Hindfoot Arthroscopy</td>
<td>Jianchao Gui</td>
</tr>
<tr>
<td>08:40-08:45</td>
<td>[B0466]: Arthroscopic Arthrodesis For Ankle Arthritis Without Bone Graft</td>
<td>Rui He</td>
</tr>
<tr>
<td>08:45-08:50</td>
<td>[B0424]: Combined Posterior And Anterior Ankle Arthroscopy For Treating Posterior And Anterior Ankle Impingement Syndrome - A Non-Distraction Technique With Rapid Switching Position</td>
<td>Xuesong Wang</td>
</tr>
<tr>
<td>08:50-09:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>
**APKASS Free Paper: Others**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00-09:05</td>
<td>[B0107]: Simultaneous Ankle Arthroscopy And Hindfoot Endoscopy For Combined Anterior And Posterior Ankle Impingement Syndrome In Professional Athletes</td>
<td>Shinya Miki</td>
</tr>
<tr>
<td>09:05-09:10</td>
<td>[B0416]: Anatomic Reconstruction Of Anterior Talofibular Ligament With Tibial Tuberosity-Patellar Tendon Autograft For Chronic Lateral Ankle Instability</td>
<td>Can Chen</td>
</tr>
<tr>
<td>09:10-09:15</td>
<td>[B0030]: All-Arthroscopic Anatomical Reconstruction Of Anterior Talofibular Ligament Using Semitendinosus Autografts</td>
<td>Bin Song</td>
</tr>
<tr>
<td>09:15-09:20</td>
<td>[B0218]: Percutaneus Repair Of Achilles Tendon Rupture Under Ultrasound Surveillance As Effective Method Of Treatment In Patients With Other Diseases</td>
<td>Mikolaj Wrobel</td>
</tr>
<tr>
<td>09:20-09:25</td>
<td>[B0010]: Arthroscopic Treatment For Chronic Achilles Tendon Rupture On High Demand Patients</td>
<td>Nuno Corte-Real</td>
</tr>
<tr>
<td>09:25-09:30</td>
<td>[B0770]: The X-Ray Changes After Ankle Sprain In Juvenile Patients</td>
<td>Tatsuya Takahashi</td>
</tr>
<tr>
<td>09:30-09:35</td>
<td>[B0184]: Development And Validation Of A Computational Foot And Ankle Model To Investigate Lateral Ligamentous Strain</td>
<td>Sophia Chui-Wai Ha</td>
</tr>
<tr>
<td>09:35-09:40</td>
<td>[B0082]: Inferior Balance Strategy Is Associated With Insufficient Training Experience But Not With Injury History In Rugby Players</td>
<td>Gary Chi Ching Chow</td>
</tr>
<tr>
<td>09:40-09:45</td>
<td>[B0803]: Precise Patient Selection For Hip Arthroscopy Using Ultrasound-Guided Hip Injection</td>
<td>Takuma Yamasaki</td>
</tr>
<tr>
<td>09:45-09:50</td>
<td>[B0420]: Arthroscopic Management For Hip Acetabular Labral Tears - A Retrospective Study For 300 Hip Arthroscopy Surgery Cases</td>
<td>Xuesong Wang</td>
</tr>
<tr>
<td>09:50-10:00</td>
<td>Q&amp;A Session</td>
<td></td>
</tr>
</tbody>
</table>

**10:00-10:15**

**Tea Break**

**End of Congress at Seminar Room B (3/F)**

**12:15-13:15**

**Closing Ceremony (Shaw Auditorium, 1/F)**
Master of Science & Postgraduate Diploma in
Sports Medicine & Health Science
運動醫學及健康科學 理學碩士及深造文憑

On the Equivalent List I for Recruitment of Consultant Physiotherapist (Musculoskeletal)
On the List of Quotable Qualifications of the Medical Council of Hong Kong
On the List of Quotable Qualifications of the Physiotherapists Board

Programme Focus
- Managing sports Injuries - From Treatment, Rehabilitation to Injury Prevention
- Emergency Sports Medicine
- Medical Problems Encountered During Exercise and Sports Participation
- Strategies in Sports Performance Enhancement
- Sports Medicine and Training in Elite Athletes

Target Students
- Medical Doctors, Physiotherapists, Sports Scientists, Coaches and Allied Health & Fitness Professionals

Application Procedures
- Students are admitted only in September of each year.
- Please visit the programme website for application procedures: www.ort.cuhk.edu.hk/smhs

Study Mode
- MSc programme: Students are required to complete 30 credits in one year (full-time) or two years (part-time)
- Postgraduate Diploma: Students are required to complete 15 credits in one year (part-time)

Programme Office:
Department of Orthopaedics and Traumatology, Faculty of Medicine, The Chinese University of Hong Kong
Rm 74029, S/F, Lui Che Woo Clinical Sciences Building, Prince of Wales Hospital, Shatin, N.T., Hong Kong
Tel: (852) 2632 2732  Fax: (852) 2646 3020  Email: smhs_enquiry@ort.cuhk.edu.hk  Website: www.ort.cuhk.edu.hk/smhs
Abstracts

Invited Lectures
Best Paper & Best Poster Presentations
Free Paper Presentations
E-posters
Invited Lectures
10 June (Fri) | Hong Kong
Case Presentation: Assessment Of Patello-Femoral Joint Instability

Wai-Lam Chan
Kwong Wah Hospital, Hong Kong

(Abstract is not available)

Patello-Femoral Pain Syndrome – Assessment & Principles Of Non-Surgical Treatment

How To Treat Patellar Dislocation: Indications And Critical Points For Conservative Therapy

Masataka Deie
Department of Orthopaedic Surgery, Aichi Medical University

Patellar dislocations are generally divided into congenital, habitual, recurrent, or traumatic dislocations based on the clinical assessment. While a patient can rarely appeal to congenital dislocation and habitual dislocation for sharp pain, the abnormality of the patellofemoral joint is obvious and early surgical treatment is recommended. Recurrent dislocations might involve many factors, commonly including a congenital bone or soft tissue abnormality, and surgery is often the chosen treatment. Traumatic patellar dislocations involving any bony or cartilage fragments and an avulsion fracture at the medial patellar site assessed by imaging are the indication for early surgical treatment. However, we recommend non-surgical treatment as the first choice in traumatic patellar dislocation without osteochondral pieces. Due to the associated severe pain, we initially perform a repositioning and, for the acute period of the traumatic dislocation, let the patients rest. After fixation with a soft knee brace for approximately two weeks, patients allow range of motion excise and muscle training. In particular, we aim to strengthen the vastus medialis muscle by training of the quadriceps femoris muscle. In addition, patients may suffer a condition called patella instability, wherein although the patella is not dislocated, the patient experiences pain during gait and activity, a positive apprehension sign that feels like patellar instability. This conditioning of a patient also strengthens the training of the vastus medialis muscle in particular by the training of the quadriceps femoris muscle. The joint and muscle training continues for 2-3 months followed by a return to usual sporting activity.

However, in the case that a feeling of patellar instability remains in after having provided such a treatment, it becomes the indication of medial patellofemoral ligament reconstruction.

Our gait analysis in patellar dislocation patients, in particular, indicates that many patients have abnormal gait posture, which is manifested by insufficient knee extension and increased external rotation of the lower legs during walking. This abnormal posture can progress to patellar femoral arthritis, which can induce tibial femoral joint arthritis leading to meniscal damage. We thus also recommend conservative treatment to improve and maintain gait posture in addition to the muscular strength training after patellar dislocation.

Lateral Release: When Is Needed?

Chanin Lamsam
Bangkok Hospital, Thailand

(Abstract is not available)

MPFL Reconstruction – How I Do It?

Ryosuke Kuroda, Takehiko Matsuishi, Tomoyuki Matsumoto, Daisuke Araki, Koji Takayama, Shinya Oka, Masahiro Kurosaka

1Department of Orthopedic Surgery, Kobe University Graduate School of Medicine, Kobe, JAPAN
2Kobe Kaisei Hospital, Kobe, JAPAN

Patellar instability
The patellofemoral joint, as a part of the knee joint, is a very complex articulation with high functional and biomechanical requirements. The osseous and soft tissue structures maintain the balance between knee mobility and stability. In order to treat all different pathologies appropriately, a knowledge base of the anatomy and function is essential. Patellar instability is a common problem. Various predisposing factors for patellar instability have been reported, including trochlear dysplasia, patella alta, patellar tilt, mal-rotation of the femur, genu valgum, and abnormally lateralis medialis tibialis.

Medial patellofemoral ligament (MPFL)
The medial patellofemoral ligament (MPFL) is a primary restraint against lateralisation of the patella. The MPFL is torn in most clinical cases of initial traumatic patellar dislocation. Therefore, it has been indicated that MPFL deficiency is a cause of patellar instability in a majority of cases of recurrent patellar dislocation; thus, MPFL reconstruction has been widely performed to treat recurrent patellar dislocation. There are some arguments among surgeons regarding the surgical indication for patients with predisposing factors. The effectiveness of MPFL reconstruction
in patients with a severely lateralled tibial tuberosity has not been well examined. Some surgeons advocate MPFL reconstruction combined with medialization of the tibial tubercle if the patient’s Tibial tuberosity to trochlear groove (TT–TG) distance distance is 15–20 mm. However, to date, there has been no clear evidence whether distal realignment, such as tibial tubercle transfer, is necessary when performing MPFL reconstruction in patients with recurrent patellar dislocation.

Surgical technique
First, the semitendinosus tendon is harvested. Next, arthroscopy is performed to check the intra-articular conditions. A lateral soft tissue release is extensively performed to release the extensor mechanism from the lateral soft tissues. If needed, a lateral release was performed intra-articularly with a radiofrequency device. Two suture anchors are inserted into the patella. One of the suture anchors is inserted into the near proximal margin of the patella and the other suture anchor is inserted into the center of the medial side of the patella. A 2.0-mm guide-wire is placed between the medial epicondyle and adductor tubercle. No. 2 Ethibond sutures attached to the anchors are passed between the second and the third layer and wrapped around the guide-wire. Then, the knee is moved from the maximum extension to maximum flexion to check the length change pattern. When the length change pattern shows an isometric pattern, during 0–90 deg. of knee flexion and a slightly longer pattern in further deep flexion, a drill hole is created over the guide-wire. The doubled semitendinosus tendon was placed in the drill hole and fixed with an interference screw. The free ends of the graft were fixed to the patella with the Ethibond attached to the suture anchors. The graft was fixed at 20–30 deg. of knee flexion. The periosteum of the patella and the surrounding soft tissue were further sutured over the graft.

In this lecture, MPFL function and outcome of MPFL reconstruction surgery will be reviewed and we can also share our basic and clinical data of MPFL.

References:


Revision Of Patellofemoral Surgery Analysis And Treatment

Albert Trillat Center, University Hospital Lyon, France
Ph Neyret, E Servien, S Lustig, C Batailler

Causes of failures are due to Misunderstanding, Misdiagnosis, Incomplete treatment, Complications of treatment.

Diagnosis
The following procedures are generally easy, but can be lead to significant complications if not carried out with prudence and for the correct indications. These techniques are not indicated for painful patella syndrome, which can be worsened by these procedures. Diagnosis include: Anamnesis (Chief complain, Current Symptoms) Physical examination (systematic/ comparative), Recent New complete radiological check-up, Previous operative report (s).

Complications MPFL R 25% +/- 21*

Improper technique
• Overtension: Checkrein/ Strengthen the graft in flexion
• Poorly positionned: Visual inspection of adduction tubercle-epicondyle. Fluoroscopic control.
  Anatomometric perop control
  Leads to Loss of motion, Overpressure medial PF joint (Pain, OA), Recurrence of lateral patella Instability ( 8%), Painful hardware requiring hardware removal, Patella fractures
  • A systematic review of complications and failures associated with MPFLR for recurrent patellar dislocation. 25 articles

A total of 164 complications occurred in 629 knees ( 26.1,%) (Am J Sports Med, 2012. Shah JN, Lattermann C). These adverse events includes patellar fracture, failures, clinical instability on postoperative examination, loss of knee flexion, wound complications, and pain. 26 patients returned to the operating room for additional procedures. Nevertheless MPFLR has a high rate of success
  • Analysis of failure and clinical outcome after un-

successful MPFLR in young patients

19 patients. Identifying the potential causes of failure can help to treat and possibly prevent future complications. 3 main reasons for failed MPFLR:
1. neglected additional risk factors,(5 severe trochlear dysplasia, 2 excessive femoral anteversion)
2. intra-operative technical errors (7 experienced pain with limited flexion: 3 anterior femoral tunnel and 4MPFL graft overtensioning
3. inappropriate patient selection
  • Patella fracture after MPFL R. using suture anchors. (Knee, 2013 Dhinsa BS) important learning point when initially using this technique (suture anchors), and should be disseminated to other surgeons who undertake this surgery.

MPFL reconstruction, alone or in combination, seems to be an effective treatment for recurrent patellar dislocations after a failed previous surgery, leading to significant increases in stability and functionality as well as a reduction in pain.

Complications of Trochleoplasty
Complications are Arthrofibrosis ( 33% -Donell- to 0), ROM deficit, Subchondral bone and cartilage damages, Progression of PF OA due to PF incongruency? PF arthroplasty for symptomatic nonunion after trochlear osteotomy for patellar instability: a case report (Cases J. 2009 van Jonbergen HP, van Egmond K). One patient 33Y Elevation of the lateral facet of the trochlea. Patellofemoral arthroplasty may be considered a salvage procedure for failed surgical treatment for trochlear dysplasia

In our department a deepening trochleoplasty is only indicated in severe trochlear dysplasia (with a bump of >6 mm, abnormal patellar tracking or failure of previous surgery), particularly in case of recurrence. The Lyon’s sulcus-deepening trochleoplasty (Int Or-thop, 2013 Dejour D, Byn P, Nitagiopoulos PG. 24 knees @ 66mths FU (24-191). In all: Additional soft-tissue and bony operations. No patellar re-dislocation. Pain decreased in 72%. Negative apprehension in 75% (p<0.01). No PFOA and an acceptable revision option if persistent patellar dislocation and high-grade trochlear dysplasia.

• Complications Tibial Tuberosity Osteotomy
Including Neurovascular damages (8 to 9 mm), compartmental syndrome, Tibial fractures (Fullkerton, 0 to 8%); ATT fractures, ATT avulsion, ATT nonunion, Painful hardware, DVT, Arthrofibrosis, patella infera.

Avoidance of periosteal stripping, and secondary cortical devascularization at the caudal aspect of the TTO appears to optimize bony consolidation, thereby
Fixing Habitual Patella Dislocation - How I Do It?

James Hui
National University of Singapore

(Abstract is not available)
Based on the systemic papers review and our studies, a modification of synthetic graft has been done successfully in experiment and clinic, especially in graft fixation, modified synthetics materials of Polyethylene Terephthalate (PET) has facilitated the biocompatibility. Our clinical investigation has also shown that an isometric-like ACL reconstruction would decrease the bone tunnel motion which facilitate artificial graft successful. Non-isometric input will predispose the grafts easy failure because of over tension on the graft and effect on early ROM recovery. I agree with the opinion of Prof. Cerulli that carefully selected patients, proper surgical technique, and standard rehabilitation program were indispensable to ensure artificial ligament successful. Otherwise, surgical failure would soon knock on the door.

An innovated artificial ligaments has been developed. Tissue engineering, bio-mimics design, advanced fixation, and more precise Isometric-like surgical technique were our focusing points. Searching road is arduous, but we do embrace the wisdom that accumulating sand can eventually form a pagoda. Never trying to forget our very beginning mind, the artificial ligaments will open a new epoch in the history of ACL reconstruction.

Disclosure: This work has been supported by the National 863 Hi-tech Project (2015AA033703), National Natural Science Foundation of China (NO.81271958, NO. 81572108).

Takagi & Watanabe Award Lecture 1:

Arthroscopic Surgery: Present Status And Future

Masahiro Kurosaka, MD
Department of Orthopaedic Surgery, Kobe Kaisei Hospital, Kobe, Japan

Primary repair of the anterior cruciate ligament used to be the standard treatment for the torn anterior cruciate ligament. However subsequent follow up of these patients have shown poor healing potential of the anterior cruciate ligament. Biomechanical studies have shown that the anterior cruciate ligament is the primary anterior stabilizer of the knee. Also different bundles of the anterior cruciate ligament have been shown to play different roles in different knee flexion angle against anterior and rotational load. From 1980’s anterior cruciate ligament reconstruction with some type of the graft became standard treatment technique. Among the factors that influence the results of ACL reconstruction, selection of graft materials, tibial and femoral graft position placement, orientation of the drill holes, fixation and tensioning of a graft are known to be important intra-operative factors when performing ACL reconstruction surgery. Reconstructed anterior cruciate ligament grafts with an autogenous bone-patellar tendon-bone graft and a hamstrings graft have been shown to be revascularized and remodeling after the implantation and are therefore thought to be biologically suitable materials. Thus, the use of one of these graft materials has become a common procedure. The graft material, fixation technique, preconditioning, and tensioning will influence the early postoperative graft load. We have shown that interference fit type fixation provides better stability and advantageous mechanical property of the reconstructed graft.

Regarding graft positioning, the recommended placement of the tibial graft placement has changed from posterior position to more anatomic anterior medial positioning. Theoretically more anatomically placed femoral graft positioning will also provide better biomechanical function and clinical result. Currently we are trying to do two bundle ACL reconstruction through two femoral and tibial tunnels. Femoral positioning of the posterolateral bundle should be more posterior and distal than conventional femoral drill hole placement. Biomechanical and clinical current issues and future possibility regarding ACL deficient knees will be discussed in this lecture.

Takagi & Watanabe Award Lecture 2:

Clinical Application Of Arthroscopic Approaches In Posterior Compartment Of The Knee Joint

1Jin Hwan Ahn, MD, 2Sang Hak Lee
1Department of Orthopaedic Surgery, Kangbuk Samsung Hospital, Sungkyunkwan University.
Seoul, Korea
2Gangdong Kyunghee University Hospital, Seoul, Korea

Arthroscopic surgery for the posterior compartment of the knee can be a difficult procedure because several areas in the posterior compartment cannot be visualized even using the combination of conventional anterior and posterior portals with trans-notch views. We introduce a safe arthroscopic technique creating a portal, which is designated as the posterior trans-septal portal, through the posterior septum from the posteromedial compartment to the posterolateral compartment, or vice versa, without damaging the PCL capsule, and/or neurovascular structures. The posterior trans-septal portal provides excellent visualization of the posterior compartment and facilitates many arthroscopic procedures of the posterior compartment.

Surgical Technique

Patients are placed in the supine position and the affected knee joint is flexed 90° under general anesthesia. The anterolateral and anteromedial portals are placed immediately adjacent to the lateral and medial border of patellar tendon, and 1cm above the joint line. This placement allows relative ease of passage of the arthroscopic to the posterior compartment via intercondylar notch. The posterior trans-septal portal is established in the following manner. The first step is to establish a posterolateral portal under direct arthroscopic visualization. We have always used trans-illumination to make a posteromedial portal at proper position with the knee flexed 90° to avoid the neurovascular injuries. The second step is to establish a posterolateral portal as the same manner with making of posteromedial
portal. The third step is to make an aperture at the posterior septum, which is designated as the posterior trans-septal portal. An arthroscope is placed through the posteromedial portal, viewing the PCL and the posterior septum. The posterior septum is pushed medially by the switching stick which is placed through the posterolateral portal. A motorized shaver is inserted through the anteromedial portal and advanced through the intercondylar notch to the posteromedial compartment to excise the septum behind the PCL in a piecemeal fashion. Once the posterior trans-septal portal is established, the arthroscope can be easily introduced into the posterolateral compartment from the posteromedial compartment through the posterior trans-septal portal. The fourth step is to examine the posterior compartment from the posterolateral portal. The entire posterior compartment can be widely visualized by posterior trans-septal portal.

**Clinical Application**

**Posteromedial Portal**

We previously reported an arthroscopic modified all-inside suture technique for posterior horn peripheral tear of the meniscus through a posteromedial portal. A 70° arthroscope is placed through the anterolateral portal and passed through the intercondylar notch to the posteromedial compartment with the knee flexed 90°. A suture hook is inserted through the posteromedial portal without using a cannula. This technique allows excellent visualization of the posterior compartment, anatomic coaptation of the torn meniscus. The indication for this repair technique is both longitudinal tears being within 5 mm of peripheral rim and greater than 1 cm in size at posterior horn of both menisci. Also the posteromedial portal helps to make the pull-out suture for the medial meniscus root tear. The two guide pins can be introduced from proximal lateral tibial condyle to the anatomic insertion of the posterior horn of the meniscus, while keeping the arthroscope at the posteromedial portal.

We have been decompressing the popliteal cyst arthroscopically through posteromedial portal and an additional portal, the so-called posteromedial cystic portal, which is located directly above the popliteal cyst.

**Posterolateral Portal**

The posterior horn peripheral tear of lateral meniscus is repaired with the same technique with medial meniscus all-inside suture repair. A 70° arthroscope is placed through the posteromedial portal and passed through the intercondylar notch to the posterolateral compartment. A suture hook is inserted through posterolateral portal.

**Posterior Trans-septal Portal**

The posterior trans-septal portal provides excellent visualization of the posterior compartment and facilitates many arthroscopic procedures of the posterior compartment. The posterior trans-septal portal helps greatly to clearly visualize the accurate placement of the tibial tunnel for arthroscopic PCL reconstructions with remnant preservation. The posterior trans-septal portal is very helpful for removing the loose bodies located behind the PCL including synovial chondromatosis, excising the intra-articular tumors located at the posterior compartment of the knee joint including the diffuse pigmented villonodular synovitis, and performing arthroscopic total synovectomy and posterolateral corner reconstruction arthroscopically. While performing posterior trans-septal portal, no complications, such as injuries to the popliteal neurovascular structures, have occurred in our experience.

---

**A Look Into The Future Of Our Profession - What Is My Prediction Of The Top Story In 2021**

**Future Of Arthroscopic Trochleoplasty**

P Neyret, S Lustig, E Servien, C Batailler
Albert Trillat Center, University Hospital Lyon, France

Since 1987 The Lyon’s sulcus-deepening trochleoplasty was described by Henri Dejour. The result of this technique was assessed biomechanically (A Amis) and clinically (D Dejour). The indications have been clarified over the past years. This operation is logical but still technically difficult and invasive.

There are two main steps during the surgery. First the target to reach, it means the shape we want to give to the trochlea and second how to achieve this goal. The CAO may help us to virtually design the new trochlea. Then the robotic technology (for example Navio, blue belt technology), could help us to remove the subchondral bone in order to deepen the sulcus of the trochlea. Due to the shape of the tool, it will be possible to perform this surgery by two or three small arthroscopic portals.

If the industry wants to invest in this field undoubtedly and collaborate with knee surgeons we will be able to perform arthroscopic trochleoplasty in a simple and reliable way.

---

**Outcome Measurement That Prevent The Over Treatment In Sports Medicine**

Freddie Fu
Department of Orthopaedic Surgery, University of Pittsburgh

(Abstract is not available)

---

**Meniscal Replacement**

Rene Verdonk
Department of Orthopaedic Surgery and Traumatology, Gent State University, Belgium

(Abstract is not available)
Continued Progress in Biologic Healing Enhancement and Tissue Engineering

Bruce Reider MD

I predict that 5 years from now, biologic enhancement of healing and tissue engineering will be an even bigger story than they are today. Improvements in mechanical fixation techniques are reaching their limits; so if we wish to improve our rates of success in areas such as rotator cuff repair, we will have to learn to overcome biologic healing limitations. In areas of soft tissue reconstruction, including ligaments, menisci and articular cartilage, we will continue to develop engineered tissues to take the place of allografts and autografts.

Less Invasive Treatment For Cartilage Defects Using Magnet

Mitsuo Ochi MD, PhD
Hiroshima University, Japan

a) Background Several surgical approaches to repair cartilage defects have been reported such as reattachment of a detached osteochondral fragment to the lesion, microfracture, mosaicplasty and ACI. We started to perform transplantation of tissue-engineered cartilage made ex vivo for the treatment of osteochondral defects of the joints (130 cases) as the second generation of chondrocyte transplantation from 1996. Although the clinical results were satisfactory, this is only a surgical procedure to treat a relatively large cartilage defect with a large skin incision. So the surgical approaches to treat large cartilage defects or osteoarthritic knees with minimally invasive technique are needed. At present one of the less invasive surgical procedures to treat large cartilage defects or osteoarthritic knees is bone marrow stimulating technique such as microfracture, drilling or abrasion arthroplasty. However, these techniques under arthroscopy are not sufficient to induce cartilage repair with hyaline cartilage. I thought that there were several weak points for the sete techniques.

One weak point is that a number of mesenchymal stem cells obtained in the knee with such a procedure is limited. The simplest strategy to increase the number of the cells is the intra-articular injection of mesenchymal stem cells (MSCs) after increase of autologous MSCs by cultivation. MSCs are the cell population of undifferentiated cells isolated from adult tissue that have the capacity to differentiate into mesodermal lineages, such as bone, cartilage, fat, muscle or other tissues. MSCs from bone marrow can be cultured and differentiated into the desired lineage in vitro with the application of specific growth factors or bioactive molecules.

b) Material, methods and results Intra-articular injection of too many MSCs, however, generated free bodies of scar tissue (Agung, Ochi et al KSSTA 2006). We therefore developed a novel stem cell delivery system for cartilage repair using magnetically labeled MSCs and an external magnetic device to accumulate a relatively small number of MSCs to a desired portion. Ferumoxides are dextran-coated superparamagnetic iron oxide nanoparticles approved by the US Food and Drug Administration as a magnetic resonance contrast agent by intravenous injection for hepatic imaging of humans. By use of this ferumoxides, it is easy to make magnetically labeled MSCs. We demonstrated the ability to deliver magnetically labeled MSCs to a cartilage defect that is a desired place under arthroscopy in rabbit and swine knee joints using external magnetic device (0.6T) (Kobayashi, Ochi et al. Arthroscopy 2008). This result indicates that this minimally invasive system under arthroscopy can be applicable for a focal osteochondral defect in the knee joint. The next step is to examine if this external magnetic system is effective for osteoarthritis. We investigated if we could successfully regenerate a cartilage layer on degenerated human cartilage in vitro using this external magnetic system (Kobayashi, Ochi et al. Arthroscopy 2009). MSCs from human bone marrow were cultured and magnetically labeled. Degenerated human cartilage was obtained during total knee arthroplasty. The osteochondral fragments were attached to the sidewall of tissue culture flasks, and magnetically labeled MSCs were injected into the flasks. Using an external magnetic device, a magnetic force was applied for 6 hours to the direction of the cartilage, and then the degenerated osteochondral fragment was cultured in chondrogenic differentiation medium for 3 weeks. In the control group, a magnetic force was not applied. The specimens were evaluated histologically. A cell layer was formed on the degenerated cartilage as revealed by hematoxylin and eosin staining. The cell layer was also stained in Toluidine blue and Safranin O, and with anti-collagen type II immunostaining, indicating that the cell layer contained an abundant extracellular matrix. In the control group, a cell layer was not observed on the degenerated cartilage. We demonstrated that our system could deliver MSC onto degenerated human cartilage, and then form an abundant extracellular matrix on the degenerated cartilage in vitro. We have conducted another experimental study using mini pigs to demonstrate the effectiveness of this system (Kamei, Ochi et al, Am J Sports Med 2013). This experimental study clearly demonstrated its effectiveness for cartilage repair. We also investigated the safety of the cells and the capability of the cell proliferation and confirmed them.

c) Conclusion The first-in-men to apply this procedure to human with a cartilage defect has started since last year and the preliminary results will be presented.
Anatomic ACL Grafting With A BTB Or Hamstring Tendons

K.Shino, MD
Sports Orthopaedic Center, Yukioka Hospital, Osaka, Japan

To accomplish anatomic ACL reconstruction (ACLR), we should mimic the native ACL as closely as possible at the time of ACL reconstruction. As the native ACL is not round but oblong / flat in its cross section around its femoral attachment or mid-substance and C-shaped in that at its tibial insertion, my preferred ACLRs are not single bundle one, but the rectangular tunnel procedure with a BTB graft or the triple bundle technique with hamstring tendon grafts.

To arthroscopically identify the femoral attachment area, the proximal cartilage margin, the posterior cartilage margin and the resident’s ridge are used as landmarks. To clarify C-shaped tibial attachment area, the following 3 arthroscopic landmarks are used: ACL tibial stump, medial intercondylar ridge, anterior horn of the lateral meniscus.

A bone-patellar tendon-bone (BTB) graft or two double-looped hamstring grafts are placed through rectangular tunnels or 2 femoral and 3 tibial tunnels created in the attachment areas. These reconstruction techniques make it possible for the grafts to run as the native ACL without impingement to the notch or PCL.

At Last – No Long Term Disability From Knee Injury

John Bartlett
Austin Hospital, Melbourne, Australia

Five and ten years ago the saddest sight from a surgeon’s point of view was to see a 45yo former elite athlete who had 20 years earlier suffered a career threatening knee injury and now could not even walk 9 holes of golf.

Today – in 2021 – we can at last state that the young sportsman who sustains a knee injury will no longer be condemned to premature osteoarthritis.

Our ability to enhance repair plus techniques of ligament growth and substitution, cartilage reconstruction and alignment correction have allowed us to restore damaged tissues to near normality.

Use Of Virtual Reality Technology To Assist With Rehabilitation Of Injured Athletes

Diane Dahm, MD
Mayo Clinic, USA

Virtual reality (VR) is a technology that allows a user to interact with a computer-simulated environment. Head-mounted displays create an illusion of being immersed in a virtual 3-dimensional world.

VR will be widely utilized to create virtual training rooms where athletes can be instructed in proper exercises for rehabilitation of sports injuries and surgery. These athletes will receive immediate feedback regarding safe and effective exercise technique from virtual trainers and therapists.

Additionally, injured athletes will utilize VR technology to simulate participation in sport-specific training exercises and actual in-game sequences much earlier in the rehabilitation process than previously possible.

A Scarless Surgery For Trochleoplasty

James Hui
Department of Orthopaedic Surgery, National University of Singapore

Sports Medicine, The Pioneer Of Value Based Care

 Christer G Rolf MD, PhD
Department of Orthopedics, Karolinska University Hospital, Stockholm, Sweden

"Value Based Care" has been introduced as the Health Care Model of the future by Michael Porter et al from Harvard Business School, and has already led to a major shift towards a new era of health care in many western countries, including Karolinska University Hospitals, Stockholm, Sweden. In these hospitals, with spiralling costs for Public Health Care, financial priorities are made for what we treat and care for; a new organisational structure is set to serve groups of patients through the Hospitals via multidisciplinary Themes in a more efficient and less costly way, whilst traditional Clinical Departments are dissolved. Simultaneously, major scrutiny of ongoing surgery from perspectives of evidence based care and best praxis threatens all type of procedures that cannot demonstrate evidence of clear gains and outcomes of relevance to patients and society. At the same time, we as clinicians are scrutinizing ourselves with the publications of an increasing number of scientific studies and critical reports of potentially “unnecessary” procedures within the field of Sports Surgery, ranging from Anterior Cruciate ligament reconstructions and meniscal surgery to Rotator cuff repairs. Despite years
of studies, and the presence of a national ACL register in Sweden, a range of recent publications conclude that we still cannot provide convincing short and long term patient outcome data to claim that such surgery should be routine procedures, at least not in our public hospitals.

From the patient’s view, Sports Medicine has pioneered “value based care” for a very long time. Procedures such as mini-invasive arthroscopic surgery, indications and short term outcomes after surgery on athletes have usually been easy to define from a sports performance perspective. However, the challenges ahead are huge, in particular for us to demonstrate a convincing evidence base on each and every surgical procedure we undertake and provide arguments for Health authorities, who looks at these matters from a financial and cost effective “value based” perspective.

Articular Cartilage Repair: Current Trends And Future Prospects

Yingfang Ao
Institute of Sports Medicine, Peking University
Third Hospital

(Abstract is not available)

Future Treatment Of Stress Fracture

Guoping Li
Asian Federation of Sports Medicine

(Abstract is not available)

Intriguing Tendinopathies

Christer G. Rolf1,2, Kai-Ming Chan1,3, Sai-Chuen Fu2,3, Chelsea Hopkins2,3, Jonas Blomberg4, Patrick Yung4,5, Göran Friman2, Ling Qin3,5,6

1Lui Che Woo Institute of Innovative Medicine, Faculty of Medicine, CUHK, Hong Kong SAR, China
2Division of Orthopaedics and Biotechnology, Department of Clinical Science, Intervention and Technology, Karolinska Institute, Stockholm, Sweden
3Department of Orthopaedics and Traumatology, Faculty of Medicine, CUHK, Hong Kong SAR, China
4Department of Medical Sciences, Uppsala University, Sweden
5Musculoskeletal Research Laboratory, Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong, Shatin, N.T. Hong Kong
6Translational Medicine Research and Develop-ment Center, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Tendinopathy commonly results in pain and possibly rupture, in a variety of anatomical locations in a wide range of demographics. There are no evidence-based treatments to halt the progressive degeneration or reverse the structural pathology. The CUHK-KI research team, along with our collaborators, aims to determine the pathogenesis of tendinopathy. In addition to the research racks of erroneous differentiation in tendinopathy and the role of oxidative stress on failed tendon healing, we proposed to investigate the microbial influence on the development of tendinopathy.

Given the insidious nature of pathogenesis of tendinopathy, failed tendon healing may be resulted from continual exposure to risk factors like overuse or risk factors with long incubation period such as microbes. There are a few examples of microbes-induced matrix degeneration, for example, myocarditis is recently identified to be caused by viruses and bacteria, which lead to activation of nucleotide oligomerisation domain (NOD) proteins and results in cell apoptosis and matrix disturbance similar to that in tendinopathy.

As a first step, we detected the presence of microbes in Achilles’ tendon rupture samples with tendinopathic features and compared to healthy hamstring tendons, by determining bacterial DNA coding for 16S rRNA. Four of the 20 Achilles tendinopathy samples were positive for 16S rRNA (20%), while all healthy hamstring tendon samples (n=20) were negative for 16S rRNA. Sequencing of the 16S rRNA gene demonstrated that Staphylococcus, Brevundimonas, Aerococcus and Pelomonas spp. were present. Serological findings also suggested that showed that Propionibacterium acnes antibodies and Torque Tenovirus antibodies were significantly higher in Achilles’ tendon rupture patients than in healthy patients. As expression of NOD1 is more prevalent in tendinopathy samples but not in healthy tendon samples, it is possible that microbial products had activated NOD pathways in tendon cells and hence contributed to pathological changes associated with failed tendon healing. We treated cultured tendon cells with diaminopimelic acid (DAP; an agonist of NOD1) and demonstrated a significant up-regulation in NOD1 and interleukin-1 beta (IL1b). The current evidences suggest that microbes may play a role in pathogenesis of tendinopathy. Although the causal relationship between microbes and tendinopathic changes has not been established, further studies along this track may lead to novel, evidence-based treatment for tendinopathy.
The posterolateral corner of the knee has been referred to as the “dark” side of the knee. While isolated PLC or PMC knee injuries are uncommon, both instability with concomitant injury to the anterior or posterior cruciate ligament are more commonly encountered. It has now been recognized that failure of reconstructions of the cruciate ligament may be due to associated damage to the posterior corner. Multiple techniques to reconstruct the posterolateral corner or medial side have been described. However, none has emerged as a gold standard in either chronic or acute situations.

Operative procedures for the treatment of lesions of the posterolateral or medial corner of the knee can be broadly categorized as primary repair, augmentation, and advancement and reconstruction. All grade-I and most moderate grade-II injuries of the posterolateral structures can be treated non-operatively, but residual laxity may remain, especially in knees with grade-II injury. Acute grade-III isolated or combined injury of the posterolateral corner is best treated early, by direct repair, if possible, or else by augmentation or reconstruction of all injured ligaments. Chronic injury of the posterolateral corner, whether isolated or combined, is probably best treated by reconstruction of the posterolateral corner along with reconstruction of any coexisting cruciate ligament injury. Our innovation surgical technique is using arthroscopic technique. This arthroscopic technique is a reproducible, dependable technique for stabilization of the posterolateral corner of the knee. It can be performed with a single autograft hamstring tendon, avoiding the use of allograft. The posterior medial side always we adopted more conservative treatment, in acute used repair and chronic with augmentation or plication.

During the early postoperative period, extra stress should not be placed on the reconstructed graft or repaired side. Patients are kept non-weight bearing for four weeks. ROM exercise was started from second week postoperatively. Patients were allowed to initiate low-impact, close-chained quadriceps strengthening exercise starting 6 weeks postoperatively and partial weight bearing was also recommended during this period. The main goal of rehabilitation, four to six months postoperatively, is to work on building up quadriceps strength and function. In general, patients are allowed to return to full activities 7 to 9 months after a PLC stabilization procedure if they do not have underlying arthritis or other limiting conditions to knee function.

A number of operative techniques have been devised to treat posterolateral or medial side injuries, but most have achieved only modest success. With use of modern techniques that restore normal tibiofemoral stability and kinematics, offers the best potential for long-term excellent results.

Arthroscopic Fixation Of PCL Avulsion Fracture & Rehabilitation Plan

Yi-Sheng Chan M.D.
Division of Sports Medicine Department of Orthopedic Surgery
Chang Gung Memorial Hospital at Linkou, Chang Gung University College of Medicine, Taoyuan, Taiwan

Purpose: The clinical results of a procedure for 36 patients with posterior cruciate ligament (PCL) avulsion fracture with various tibial fragmentation size treated with arthroscopically assisted reduction and suture fixation with multiple No. 5 Ethibond sutures (Ethicon, Somerville, NJ), were presented in this study.

Methods: This prospective study analyzed 36 patients (24 male, and 12 female) who underwent arthroscopic reduction and suture fixation for image-proven PCL avulsion fractures from tibia. The mean follow-up period was 72 months (range, 60 to 81). Follow-up assessment included Lysholm knee score, Tegner activity score, International Knee Documentation Committee (IKDC) score, and KT-1000 arthrometer and radiographic evaluations.

Surgical Procedure: Patients were positioned supine on the operating table. The 2 anterior and 2 posterior arthroscopic portals used were as follows: anteromedial (AM), anterolateral (AL), posteromedial (PM), and posterolateral (PL) portals. The parapatellar AM and AL portals are located about 1 cm medial and lateral to the medial and lateral borders of the patellar tendon at the approximate level of the patellar apex. Infrapatellar fat pad, fracture debris, and blood clots were all removed with a shaver or a punch to create visual access to the ACL and PCL. Then, a guide needle was introduced percutaneously via the site of the proposed PM portal to the posteromedial recess, where the arthroscope was inserted. Partial synovectomy was performed with a shaver via the PM portal to open the posterior capsule to expose avulsed bone fragments and the fracture site. The PL portal was created by direct viewing along the posterolateral edge of the femoral condyle and 1–2 cm above the joint line, after perforation of the posterior or septum behind the PCL. The PCL tibial angled drill guide (Smith & Nephew Endoscopy, Andover, MA) was used to manipulate and anatomically reduce the displaced fracture fragment by direct visualization. A 2-inch longitudinal incision was made just medial and inferior to the tibial tuberosity and then deepened until the tibial metaphysis was exposed subperiosteally. The size of the fracture fragment was measured by comparison with the 5-mm vertical tip of a probe. The PCL tibial angled drill guide was inserted into the AM portal to reach the fracture site of the PCL attachment via the posterior synovial opening; anatomical reduction of the avulsed fragment with the arthroscope placed in the PM portal was performed. One 2.4-mm Kirschner pin was inserted through the guide from the anterior tibial cortex into the avulsed fragment for temporary fixation. The...
PCL tibial drill guide with another two 3.0-mm Kirschner pins were used to establish 2 bone tunnels from the anterior tibial cortex to the medial border and the lateral border of the PCL avulsion site. Holes were considered correctly drilled upon observing a 1-cm bridge of the metaphyseal cortex. The posterior openings of tibial tunnels should be created bilaterally and inferiorly to the PCL insertion site to achieve anatomic reduction of the fracture bone. Then, two 26-gauge wire loops were inserted into the knee joint via the medial and lateral tibial bone tunnels. The suture hook (Livatec Largo, FL) loaded with No. 2 polydioxanone (PDS) (Ethicon, Somerville, NJ) was used as a guide suture by passing it through the knee joint via the anteromedial portal and then through the lateral wire loop, the posterior part of the PCL, and the medial wire loop. The second guide suture was then passed through the lateral wire loop, the anterior part of the PCL, and the medial wire loop (Fig. 2). The medial and lateral wire loops were used to shuttle the No. 2 PDS through the medial and lateral bone tunnels, respectively. The actually shuttling of the Ethibond was via the PDS. The medial ends of the each No 2 PDS were tied with No. 5 Ethibond loops and retrieved through the medial and lateral bone tunnels. The actually shuttling of the Ethibond was via the PDS. The medial ends of the each No 2 PDS were tied with No. 5 Ethibond loops and retrieved through the medial tibial bone tunnel. The actually shuttling of the Ethibond was via the PDS. The medial ends of the each No 2 PDS were tied with No. 5 Ethibond loops and retrieved through the medial tibial bone tunnel. The actually shuttling of the Ethibond was via the PDS. The medial ends of the each No 2 PDS were tied with No. 5 Ethibond loops and retrieved through the medial tibial bone tunnel. 

Rehabilitation Protocol: During the first postoperative week, each patient was immobilized using a full-extension knee brace. The patients performed full weight-bearing, quadiceps-strengthening, and isometric exercises, along with straight-leg raises. During weeks 2–4, the range of motion (ROM) for the 36 patients was 0° to 60° in flexion. At week 8, ROM was 0° to 120° in flexion, and patients performed closed-chain kinetic exercise. During weeks 10–12, stationary bicycling and straight-leg stance were encouraged. At 6 months, all the patients could fully resume sports activities.

Results: The mean preoperative Lysholm score in the 36 knees was 8.4 (range, 0 to 17); the mean postoperative Lysholm score was 87.5 (range, 43 to 100). The mean preoperative and postoperative Tegner scores in the 36 knees were 0.5 (range, 0 to 2) and 4.8 (range, 2 to 7), respectively. According to our modified Meyers and McKeever classification, completely displaced fragmentation (Type III) is the most common type. Four (11.7%) of seventeen patients were diagnosed to have type I fractures in this study, 25 (70.6%) were type III fractures, and 7 (17.6%) were type IV fractures. At final follow-up, 33 patients (91.6%) were classified by IKDC score as normal or nearly normal (grade A or B). The IKDC classification was abnormal (grade C) in 3 patients (8.3%). All 36 fractures achieved osseous union or stable fibrous union at final follow-up visits. No significant complications, such as arthrofibrosis, loss of initial fixation, or wound infection, were noted in this series.

Conclusions: Treating PCL avulsion fracture with different tibial fragmentation size by arthroscopic reduction and suture fixation by use of multiple No. 5 Ethibon sutures can reduce osseous fragments, restore joint stability, promote early motion, and minimize morbidity.

[Keynote Lecture]

Management Principle of Multiple Ligament Injuries of the Knee Evidence Based Practice in 2016

P Neyret, S Lustig, E Servien, C Batailler
Albert Trillat Center, University Hospital Lyon, France

Bicruciate lesions are rare but serious. There is no internationally accepted management plan.

In the published series, either the number of cases was limited or the follow-up was not long enough. In retrospective multi-center series, management is not homogenous. To propose a multicentric study will not solve the problem. We need to clearly identify the questions that must be answered.

The classical terminology “multiple ligament injury” is very confusing. It doesn’t mean that the central pivot (ACL and PCL) is torn. In Europe, several authors, differentiate between pentade and dislocation. In pentade either the medial or lateral ligamentous structures are preserved, and complications are less frequent than in dislocation. Most reports in the literature of complete dislocations are with respect to lesions of either the ACL or PCL. It is important to differentiate two types of peripheral lesions, those resulting from an opening forces which produces rupture of ligaments and those following an osteoperiosteal detachment (or stripping in the manner of a peeled banana) that demonstrate little true ligamentous ruptures. However in these cases of osteoperiosteal stripping, there may be detachment of the capsule, which can start at the level of the epiphysis and extend to the metaphysis.

It is crucial to recognise every elementary ligamentous lesion. The difficulty is not only to make the diagnosis of dislocation that is obvious when the knee is dislocated (the position of the tibia reveals the direction of the dislocation), but also to make the diagnosis after spontaneous reduction. After reduction, movement of the joint can be remarkably free of pain. There will always be considerable instability, which on occasion may allow movement in all directions (a true “flail knee”). Anteroposterior, lateral and axial radiographs are required. A lateral view taken at 20° flexion with the patient lying supine when compared to a film of the contralateral knee taken in the same position may reveal posterior translation. In severe knee injuries dynamic radiographs are essential. They can be taken either with the patient awake, under anaesthesia at the time of reduction or at the start of an operation. It is necessary to perform radiographs with the knee stressed in varus and valgus, as well as with the tibia moved inferiorly and posteriorly. Additional stress views may include medial and lateral translation of the tibia in relation to the femur. Care must be taken not to redislocate the joint. These examinations can
help to distinguish between opening lesions and capsular perioseal detachments. Information gained from a MRI taken soon after injury can influence the treatment plan. The site of the rupture of an anterior cruciate ligament will be revealed. MRI is even a greater value with lesions of the posterior cruciate ligament. A MRI can also demonstrate damage of the extensor apparatus, the peripheral capsular ligamentous structures, the menisci, as well as relatively minor osteochondral fractures.

Arthroscopy may be dangerous because of extravasation of fluid from the knee, which can result in a compartment syndrome. However, some surgeons to assess posterolateral lesions use a limited arthroscopic examination.

If we wish to establish a classification, compare results of ligamentous management and make recommendations, identification of every ligamentous lesions is the keystone. However, the management plan (still being debated) of bicruciate lesions will depend not only on the ligamentous damage but also on the real or potential complications. Bicruciate lesions of the knee are ever shadowed by the importance of vascular complications. Since arterial lesions are frequent (15%-32% in literature) and are often difficult to diagnose, arteriography with or without MRI is strongly recommended.

The others complications that may influence the management plan include: Irreducibility, Cutaneous complications, Osseous and osteochondral lesions, Lesions of the extensor apparatus, Neurological complications, Veinous complications.

Of course, it is also very important to consider the age and the motivation of the patient. We have several options for management of peripheral ligamentous lesions, non-operative (plaster, external fixation, and patellar tibial fixation) or operative: suture +/- augmentation, reconstruction, and fixation of bone block. In the selection of a management plan, it is important to consider separately ligamentous lesions produced by opening and those produced by stripping. With stripping and reduction, there is no complete rupture allowing the return of good stability. A different situation occurs with lesions resulting from opening. Every time that a ligament is avulsed with a fragment of bone, this fragment must be replaced and fixed in its original position. If the rupture is in the body of the ligament, an attempt must be made to repair the fibres, which have been torn. When the collateral ligament (particularly the lateral collateral ligament) has been completely torn apart, a graft will be required for replacement.

When there are bicruciate lesions, priority is given to reconstruction of the posterior cruciate ligament. Reconstruction of the anterior cruciate does not take priority when there is also a torn posterior ligament, as simultaneous reconstruction of both ligaments increases the risk of fixing the knee with the tibia in a posteriorly subluxated position. Therefore, there are two options: 1) reconstruction of both ligaments at the earliest possible time or 2) initial reconstruction of only the posterior ligament, with a delayed reconstruction of the anterior cruciate ligament in the future. Some recommendations concerning the timing of reconstruction were established more recently

1/ As soon as possible reduce the dislocation and treat the arterial complications and open wounds.

2/ Between the first and twenty first days, ligament surgery can be undertaken: however this should be done earlier if there is an articular fracture or rupture of the extensor apparatus. If an operation is done too early the tissues are very oedematous and difficult to dissect.

3/ Non-operative treatment can be considered in an elderly patient or a patient who has low demands for his knee. However, it is important not to leave interposed soft tissues and to obtain a perfect anatomical reduction of the knee.

Conclusion : These lesions are rare, severe and there management still controversial.

References:
Neyret Ph., Lobenhoffer Ph, ESSKA symposium on pendade and knee dislocation. 8th Congress of the European Society of Sports Traumatology, Knee Surgery and Arthroscopy, Nice, April 29-May 2, 1998.
P.Boisrenoult... Ph.NEYRET, P ;ROSSET, D.SARAGAGLIA and SoFCOT Vascular lesions associated with bicruciate knee ligamentous injury OTSR Vol 95 N°8 (2009) 751-757
S.Boisgard, … D.Saragaglia, Ph.NEYRET and SoFCOT Bicruciate ligament lesions and dislocation of the knee : Mechanisms and classification OTSR Vol 95 N°8 (2009) 758-763
S.Lustig, ...Ph.NEYRET and SoFCOT Dislocation and bicruciate lesions of the knee : Epidemiology and acute stage assessment in a prospective series OTSR Vol 95 N°8 (2009) 743-750
P Bonneviale,… Ph Neyret, P Rosset, D saragaglia and SoFCOTCommon peroneal nerve palsy complicating knee dislocation and bicruciate ligament tears OTSR Vol 96, Issue 1 (2010) 64-70
G. Rochecongar, S. Plaweski... P. Boisrenoult... and the SFA Management of combined anterior or posterior cruciate ligament and posterolateral corner injuries: A systematic review OTSR 100S (2014) S371–S378
Malalignment And Osteotomy In Management Of Multiple Ligament Injuries Of The Knee

Hua Feng M.D.
Sports Medicine Service, Beijing Jishuitan Hospital, Beijing, China

Historically, osteotomies were ranked among the most important surgical procedures in the treatment of unicompartamental osteoarthritis of the knee. However, an increasing interest regarding knee malalignment issue has been noted over the past decade. This revival started with the development in basic research and clinical study. Malalignment after knee multiple ligament injuries does not always happen in coronary plane only (e.g. varus and valgus), but also in sagittal plane (e.g. increased or decreased posterior tibial slope), and compound planes (e.g. triple varus and valgus) as well. Variable patterns of inadequate alignment of knee are frequently encountered in association with ligamentous instability, such as recurvatum, double varus and valgus, triple varus and valgus. Surgical techniques of realignment procedures could be outlined in three planes: 1) coronary plane (high tibial osteotomy, distal femur osteotomy) 2) sagittal plane (HTO for adjustment of slope) 3) bi-plane. The corresponding treatment should be based on appropriate judgement of both biomechanical environment (e.g. alignment) and primary disorder (e.g. ACL/PCL or posterolateral corner). It is noteworthy that surgeons should bear in mind the following principles: 1) addressing soft tissue structures isolately could predispose those reconstructed grafts to high laxity/failure rate; 2) determination of patterns and severity of malalignment is mandatory; 3) restoration of bony alignment by means of osteotomy, a number of soft tissue procedures could be saved.
Kai Chong Tong (G/F)

**IFOSMA: Knee I - Multiligaments & PCL Injuries**

Kai Chong Tong (G/F), 08:00-08:15

---

**Rotator Cuff Injuries**

Kai Chong Tong (G/F), 13:15-15:15

---

Where Is The Real Anatomical Footprint Of The Rotator Cuff?

Tomoyuki Mochizuki MD 1), Akimoto Nimura MD 2), Keiichi Akita MD 3)
1) Department of Joint Reconstruction, Tokyo Medical and Dental University
2) Department of Functional Joint Anatomy, Tokyo Medical and Dental University
3) Department of Clinical Anatomy, Tokyo Medical and Dental University

It is generally believed that the supraspinatus is the most commonly involved tendon in rotator cuff tears. Clinically, however, atrophy of the infraspinatus muscle is frequently observed in patients with even small to medium-size rotator cuff tears. This fact cannot be fully explained by our current understanding of the anatomical insertions of the supraspinatus and infraspinatus.

We investigated the footprint of the supraspinatus and infraspinatus in 113 shoulders from sixty-four cadavers and reported that the footprint of the supraspinatus was triangular in shape, with an average maximum medial-to-lateral length of 6.9 mm and an average maximum anteroposterior width of 12.6 mm. The footprint of the infraspinatus was trapezoidal in shape, with an average maximum medial-to-lateral length of 10.2 mm and an average maximum anteroposterior width of 32.7 mm. \(^1,^2\)

We also investigated the attachment of articular capsule. The maximum capsular width was located at the border between the infraspinatus and the teres minor, and measured 9.1 mm. The minimum capsular width was 3.5 mm, and it was located at 10.9 mm posterior to the anterior margin of the greater tuberosity and 1.5 mm anterior to the posterior margin of the supraspinatus. \(^3\)

The footprint of the supraspinatus on the greater tuberosity is much smaller than previously believed, and this area of the greater tuberosity is actually occupied by a substantial amount of the infraspinatus. Prior studies have overestimated the rotator cuff footprint width due to the lack of discrimination between the actual cuff insertion and capsule. The attachment of the articular capsule of the shoulder joint occupied a substantial area of the greater tuberosity.

1. Mochizuki T, Sugaya H, Uomizu M, et al. Humeral insertion of the supraspinatus and infraspinatus. New anatomical findings regarding the footprint of the rotator...

Clinical Biomechanics In Rotator Cuff Tear
Nobuyuki Yamamoto
Department of Orthopaedic Surgery, Tohoku University School of Medicine

Arthroscopic rotator cuff repair has been developed from single row repair to dual row or trans-equivalent osseous repair. The initial fixation strength was improved with these technique development. Many biomechanical studies have demonstrated the increase of contact area and pressure between the footprint and cuff tendon. On the other hand, there are some reports describing no clinical difference between single and dual row repairs or the usefulness of trans-equivalent osseous repair only in large to massive cuff tears. Thus, we need to clarify the demand or effectiveness of these surgical techniques. Although the strong initial fixation is necessary until the tendon is healed, it is ideal for the tendon to recover to the inherent softness. There are some reports describing the re-tear medial to the repair site after trans-equivalent osseous repair. This may be because too much force was applied to the medial side by the strong fixation. In fact, our Finite element model study demonstrated the increase of stress concentration medial to the repair site and our biomechanical study using cadavers showed the strain of the tendon repaired with trans-osseous equivalent technique was significantly smaller than that of the intact tendon at the footprint, although it was significantly greater than that of the intact tendon at the medial row suture level.

Acromioplasty: Do It Or Not?
Chanakarn Phornphutkul MD
Chiang Mai University Thailand

There is an increasing number of acromioplasty performed for shoulder arthroscopic surgery. With the extrinsic theory that believes the acromion morphology is an initiating factor leading to the dysfunction of the rotator cuff and eventually tearing. So the procedure called subacromial decompression was described. The procedure will include bursal debridement, coracoacromial ligament resection and acromioplasty by aim to remove all the possible compression factors against the rotator cuff. In contrast to the extrinsic theory, the intrinsic theory proposes the pathology of the rotator cuff causes by the intratendinous change of the tendon, which in turn results when the eccentric tensile overload occurs at the rate more than the tendon ability to repair itself. According to this perspective, acromioplasty procedure will not be a beneficial treatment for the patient. So there are some controversies for an indication for this procedure. Two common indications for the procedure are subacromial impingement that fail conservative treatment and during rotator cuff repair. Impingement condition, so far no strong evidences to support the acromioplasty procedure. Acromioplasty is recommended in the patient who have clinical of impingement during elevation with positive Hawkins test who demonstrates sclerosis of acromion and greater tuberosity. In rotator repair group, according to the data available no evidence to demonstrate the acromioplasty over non-acromioplasty group.
the repaired tendon and alter biomechanics.  

6) Sugaya et al. introduced a new surgical technique that demonstrates separate repair of delaminated cuff tear. (Fig. 1) 8) Furthermore, Hepp et al. introduced the other surgical technique; double-layer double-row repair technique that use knotless suture anchor at medial row of footprint, because they thought that a knot of medially placed anchor may interfere tendon healing. 9) It is believed that the double-layer double-row repair technique can restore the footprint anatomically at delaminated cuff tear and prevent impingement with acromion-coracoacromial ligament arch. Various surgical techniques have been introduced to overcome the complexity of repairing delaminated cuff tear, but no study has compared the results of each treatment.

(Fig. 1) Schematic drawings showing double-row fixation in shoulder with delaminated cuff tear. The superficial bursal-side layer and deep articular-side layer were repaired separately using simple sutures.

1. En-masse repair
Conventional suture bridge (transosseous-equivalent) repair, described as En-Masse repair, showed successful results from the treatment of delaminated cuff tear. In this technique, suture is passed through the rotator cuff layers at the same time. (Fig. 2) 6) Advocates of this technique argue that 40% re-tear among the large and massive tear repaired by articular-side layer with the medial row and bursal-side layer with the lateral row insisted by Sugaya et al. is caused by the shear force between the two layer. 8) So that this technique may diminish the shear force between the two layers

(Fig. 2) Arthroscopic En-Masse Suture Bridge repair.

Park et al. revealed that the massive cuff tear group treated by En-Masse suture bridge technique 75% showed complete repaired state under ultrasonography and fine clinical results. 6) However, in the case of massive cuff tear with delamination En-Masse repair is insufficient to solve the tension and length mismatch between two layers so that it may interrupt the natural biomechanic characteristic after repair.

2. Separate repair
Double-layer double-row repair technique involves creating two intra-tendinous stitches at different levels of the tom tendon; medially placed anchor suture for the articular-side layer and laterally placed anchor suture for the bursal-side layer. And a knotless suture anchor was used to prevent

knot of anchor being placed inside the repaired tendon.

1) Indication
The double-layer double-row technique for delaminated cuff tear is indicated if there is sufficient rotator cuff mobility enough to cover the entire footprint. Also, if there is enough tendon substance to perform double-layer repair, this technique also can be attempted. 10)

2) Surgical technique
The first suture was passed through the articular layer. The suture was shuttled again to form an inverted mattress configuration. The anchor was inserted into the medial aspect of the footprint of the greater tubercle while holding both limbs for sutures, which were passed through the articular layer. To avoid knots within the tendon, a knotless anchor was used as medial anchor. (Fig. 3. A, B, C) Regarding the tear configuration, one or two suture anchors were inserted into the lateral aspect of the footprint of the greater tubercle for repair of the bursal layer to close the residual defect of footprint. Conventional single row repair using Mason-Allen suture were performed for the residual bursal layer cuff tendon. (Fig. 3. D, E) 6,11)


We compared clinical results between conventional en masse repair and separate double-layer-double-row repair for the treatment of delaminated cuff tear. The functional scores at the last follow-up showed significant improvement in both groups compared with those at the initial period. No significant differences in ROM and functional scores were found between the groups at each time point, except for the VAS pain score. Separate repair group had lower VAS pain scores than En-Masse repair group at 3, 6 and 12 months postoperatively. Final pain scores showed no significant difference. Based on the result, Both En-Masse repair and separate repair were considered the excellent treatment methods. However, the separate double-layer double-row repair seems to be more effective in pain control than En-Masse repair after arthroscopic rotator cuff repair. 11)

Conclusion
The rotator cuff tendon is known to be composed of two different layers with different motion and strain. Both conventional en masse repair and separate double-layer double-row repair were effective in improving clinical outcomes in the treatment of delaminated cuff tear. The separate double-layer double-row repair showed rapid recovery in postoperative pain.

References
2. Flurin PH, Landreau P, Gregory T, et al. [Arthroscopic repair of full-thickness cuff tears: a multicentric...
An arthroscopic superior capsule reconstruction (Figure 1) restores shoulder stability and muscle balance in patients with irreparable rotator cuff tears; consequently, it improves shoulder function—specifically deltoid muscle function—and relieves pain. In this lecture, I will introduce history, safety, and clinical outcome of arthroscopic superior capsule reconstruction.

In 2007 we developed superior capsule reconstruction for the treatment of irreparable rotator cuff tears. The number of these procedures has been increasing in our hospitals between 2007 and 2015, because superior capsule reconstruction can restore shoulder function with pain relief and a low rate of complications (graft tear 7/234, 3%; Repaired ISP tear 3/234, 1.3%; infection 2/234, 0.9%; severe synovitis due to bioabsorbable sutures 3/234, 1.3%; severe stiffness 3/234, 1.3%; anchor pull-out 4/234, 1.7%).

The clinical outcomes of the first 24 shoulders in 23 consecutive patients with irreparable rotator cuff tears (11 large tears, 13 massive tears) that underwent arthroscopic superior capsule reconstruction (ASCR) were first reported in 2013. Mean active elevation increased significantly from 84° to 149° (P < 0.001) and external rotation increased from 84° to 149° (P < 0.001). Acromiohumeral distance increased from 4.6 mm preoperatively to 8.7 mm postoperatively (P < 0.0001). Twenty patients (83.3%) had no graft tear or no tendon re-tear during follow-up (24 to 51 months) (Figure 2). The mean American Shoulder and Elbow Surgeons score improved from 23.5 to 92.9 points (P < 0.0001).

The biomechanical role of superior capsule reconstruction has been confirmed by a cadaveric study. In that study, superior capsule reconstruction using a fascia lata allograft, superior translation and subacromial contact pressure were completely normalized to the intact level. Side-to-side sutures between the graft and residual rotator cuff tendons may improve force coupling in the shoulder joint. Restoration of shoulder stability after superior capsule reconstruction improves deltoid function, resulting in increased active shoulder range of motion (especially elevation).

Figure 1: Superior capsule reconstruction

Figure 2: MRI findings before and after superior capsule reconstruction. The graft thickness at 5 years after ASCR was greater than that at 1 year postoperatively.

Before ASCR

---

**Prognostic Factors Of Rotator Cuff Repair**

Jae-Chul Yoo
Department of Orthopedic Surgery,
Sungkyunkwan University School of Medicine,
Korea

(Abstract is not available)

---

**Surgical Innovations: Dealing With The Irreparable Cuff**

**Superior Capsule Reconstruction For Irreparable Rotator Cuff Tears: History And Safety Of Procedure**

Teruhisa Mihata MD, PhD
Department of Orthopedic Surgery, Osaka Medical College, Japan
With advances in the technique of rotator cuff repair, numerous articles have reported good results even for the patients with massive rotator cuff tears.[1, 2] However, re-tear rates ranging from 41% to 94% have been also reported, which give problems to be solved for the surgeons.[3-6] In massive rotator cuff tear, the most serious problem which surgeons confront is the failure of mobilization and reattachment to their anatomical insertion site. And since re-tears are believed to result primarily from excessive tension, surgeons should consider the mechanical properties to sustain the initial tension until tendon healing occurs.[7, 8] Recently, numerous patch grafts have been introduced to bridge or augment the massive tear and to minimize the tension to the repaired cuff.

There are three kinds of patch graft which are commonly used: non-degradable synthetic scaffolds, extracellular matrix (ECM)-based patches and degradable synthetic scaffolds. [9-12] We preferred rotator cuff repair with single row technique, additionally using allograft or porcine dermal patch for the irreparable massive rotator cuff tear. Eight patients with irreparable massive rotator cuff tear underwent rotator cuff repair using allo- or xeno patch bridging. Among them, 6 patients were repaired by using allograft dermal patch, while 2 patients were repaired by using porcine dermal patch. Structural integrity was evaluated by MRI at 6 months postoperatively. Visual analog scale (VAS) for pain, the American shoulder and elbow surgeons (ASES) score, and Quick-disabilities of arm, shoulder & hand (DASH) were evaluated.

The patients’ average age was 63.3 years (range, 53 to 77 years), and the average duration of follow-up was 17.6 months (range, 7 to 60 months). Although, 6 patients (75%) showed re-tear at 6 months after surgery, the average VAS pain score, ASES score, and Quick DASH showed improvement from 5.9, 59.5 and 43.9 preoperatively to 2.0, 61.2 and 20.9 postoperatively (p= 0.025, 0.180, and 0.109, respectively).

The patch graft can be one of the choices for the massive rotator cuff tear with poor tissue quality, failure of primary repair or revision rotator cuff surgery. However the re-tear rates after patch insertion showed still different results from 8.3% to 73.4%.[7] In addition, compared to the numerous animal studies which demonstrated that these various patch grafts may improve rotator cuff healing, there are few clinical trials on humans to prove their effect.[8, 13, 14] Therefore, further human subject research should be made to validate such patch grafts to a standard treatment of massive rotator cuff tear. Furthermore, biological approach to enhance cuff healing would be mandatory.

References
Arthroscopic Lat Dorsi Transfer

Dr Ashish Babhulkar
Deenanath Mangeshkar Hospital, Pune, India

Introduction

The functional deficit after an irreparable rotator cuff tear can be difficult to overcome and alternative treatments may improve function but it is unlikely to reach its original level. The functional loss of supraspinatus & infraspinatus in irreparable cuff tears is impossible to substitute.

The primary deficit is in combined abduction & external rotation. In the elderly age group above 70yrs age a reverse shoulder arthroplasty 3 is a viable, reliable & replicable procedure. Gerber 4 described the use of Latissimus Dorsi (Lat dorsi) as viable muscle transfer for irreparable rotator cuff tears. Several authors 5-10 later endorsed the use of Lat Dorsi as a primary treatment for irreparable rotator cuff tear in the younger age group patient.

Ideal patient for a Lat dorsi transfer is a patient with irreparable cuff tear, age below 60 years with intact Subscapularis and without stiff shoulder. Contra indication for a lat dorsi transfer is a irreparable subscap tear, pseudo paralytic shoulder, arthritis changes, Axillary nerve injury and steep proximal migration. Maximum benefit from lat dorsi transfer is likely to take almost nine months for adequate restoration of function and resolution of symptoms. Although progression of arthritis or proximal migration may not be avoided, clinically patients show a good to satisfactory result.

Conclusion

The arthroscopic Lat Dorsi technique preserves the Deltoid function which is critical in assisting the transferred tendon in active shoulder range of movement. It can take in excess of nine months for adequate restoration of function and resolution of symptoms. The functional deficit after an irreparable rotator cuff tear is impossible to substitute.

The arthroscopic Lat Dorsi transfer provided sufficient mobilisation is performed. 12-14 The results of Lat Dorsi transfer are inferior in revision cases and in those that had Subscapularis atrophy. In our experience the male patients have done significantly better than the female patients.

Performing a Lat Dorsi transfer did not significantly alter the progression of arthritis or proximal migration. The progression was limited usually to one grade of Hamada. This progression did not corroborate with the clinical improvement 16,17.

Arthroscopic Treatment of Irreparable Massive Cuff Tear with a Novel Biodegradable Spacer

Leslie Naggar
Bois-Cerf Clinic, Lausanne, Switzerland

a) Background: Massive irreparable rotator cuff tears (MIRCTs) represent a challenging issue, especially in painful and pseudoparalytic patients. In this setting, a new technique has been introduced recently consisting of an inflatable biodegradable “balloon” shape implantable device, serving as a temporary subacromial spacer. The purpose of this paper is threefold: 1) to present the safety and efficacy results following device implantation; 2) to show that these results are maintained over time, beyond device degradation; 3) to compare the results of the balloon to other treatment options available for MIRCTs (such as debridement, biceps tenotomy/biceps tenodesis, partial rotator cuff repair, tuberoplasty, latissimus dorsi transfer, reverse shoulder prosthesis).

b) Material: Since September 2010, 119 patients were operated with the balloon, in a singlesurgeon, prospective and on-going series. The first 22 patients (females/males 13/8 & one bilateral), with one patient missing and one excluded at review, are presented, in this paper. The mean age of this 20 patients group is 69.3 (range 52-86) and the average follow-up is 56.7 months.

c) Method: The system is composed of a biodegradable implantable, and inflatable balloon shaped spacer, made of a well-known copolymer (PLA and poly-c-caprolactone) along with a spacer deployer, designed to ease the implant introduction in the subacromial space. The implantable part of the device is designed to create a physical barrier between tissues in the subacromial space and is inserted arthroscopically in a very short operative procedure (10-20min.). Prior to device use, the rotator cuff tear (RCT) tissue quality is checked, then the distance from the lateral border...
of the greater tuberosity to approximately 1cm medial to the glenoid apex is measured, to select the proper device, among 3 available sizes. After a minimal bursectomy, to liberate space for the balloon, an acromial roughening is done, taking care not to section the coraco-acromial ligament. The balloon is introduced arthroscopically and inflated with a saline solution, thus lowering the humeral head. Stability of the balloon is checked with humeral head mobilization. The balloon technique can also be performed in combination with a partial repair of the rotator cuff, especially of the subscapularis, as well as for reparable massive tears with bad quality tissue. The balloon is not used in case of cuff tear arthropathy or complete insufficiency of the external rotators (positive hornblower and external rotation lag signs). Final outcome scores. Constant (CS) and UCLA scores are obtained at least three years after complete balloon degradation (which occurs about 12 months after implantation). The balloon results are also compared to those of a literature review of the other surgical treatment options available for MIRCTs.

Reverses Shoulder Arthroplasty For Massive Cuff Tear

Chunyan Jiang
The Sports Medicine Department, Beijing Jishuitian Hospital

(Abstract is not available)

Bicep Tendon/SLAP lesion & Upper Limb Sports Injuries
Kai Chong Tong (G/F), 15:30-17:30

[Problems Of Throwing Sports Athletes]

Influence Of Posterior Shoulder Tightness On Throwing Shoulder Injury

Minoru Yoneda, MD, Shigeto Nakagawa, MD, and Naoko Mizuno, MD
Department of Orthopedic Surgery, Nippon Medical School, Tokyo, Japan

Purpose
The role of posterior shoulder tightness in throwing shoulder injury has not yet been clarified. Accordingly, the influence of posterior tightness on the occurrence of throwing shoulder injury was investigated.

Materials & Methods
Sixty-one shoulders with throwing injury were retrospectively reviewed, including 50 tight shoulders and 11 non-tight shoulders. Occurrence of long head of biceps (LHB) lesions including tears and instability, superior glenohumeral ligament (SGHL) and middle glenohumeral ligament (MGHL) injuries including tears and elongation, type 2 SLAP lesions, and supraspinatus and subscapularis tendon injuries was compared between the tight and non-tight groups. Statistical analysis was done with the chi-square test, and statistical significance was accepted at p<0.05.

Results
There were LHB lesions in 8 tight shoulders (16%) and 6 non-tight shoulders (55%), SGHL injury in 14 (22%) and 8 shoulders (73%), and subscapularis tendon injury in 6 (12%) and 5 shoulders (45%), respectively, showing significant differences between tight and non-tight shoulders. In contrast, MGHL injury, type 2 SLAP lesions, and supraspinatus tendon injury showed no significant differences. The SLAP lesion was located anteriorly in 6 tight shoulders, posteriorly in 5, and combined in 4 versus 0, 3, and 0 for the non-tight shoulders, respectively, so anterior SLAP lesions only occurred in tight shoulders. Similarly, anterior supraspinatus tendon injuries (articular-side partial rotator cuff tear) had a higher incidence in tight shoulders than in non-tight shoulders (19 vs 3).

Conclusions
Anterior SLAP lesions and injuries to the anterior aspect of supraspinatus tendon were predominant in throwing athletes with posterior shoulder tightness. On the other hand, rotator interval lesions (especially LHB lesions) were frequent in athletes without posterior tightness and were often accompanied by injuries to the SGHL and subscapularis tendon. The importance of posterior shoulder tightness in relation to throwing shoulder injuries should be reconsidered.
PASTA Lesion Of The Rotator Cuff

Seung-Ho Kim
Madi Hospital, Seoul, Korea

Whether to repair or debride the torn edge of the articular surface tear of the rotator cuff tendon really depends on the severity of the tear which include depth of the footprint exposure, degree of the tendinopathy of the remaining bursal surface of the tendon, and less importantly the age of the patient. Disability of patients with partial-thickness tears are pain and stiffness. The pain in patients with PASTA lesion are more likely resting pain including night pain and the degree of pain generally correlate with degree of stiffness. Also, severity of the pain and stiffness are not related with the size of the tear. Rather they are parallel to the degree of inflammatory changes in the joint. We believe that the synovitis develops from inflammatory cytokines released from the tendinopathic rotator cuff tendon. The inflammatory cytokines develop initially synovitis or bursitis and then gradually develop thickening of the joint capsule which result in glenohumeral stiffness. Therefore, when evaluating patients with partial-thickness tears, not only severity of the tear but also degree of inflammatory process are important in planning the treatment protocols. The goal of treatment is elimination of the tendinopathic tendon and restoration of range of glenohumeral motion. Repair of the tear may not be the first priority. When repairing the torn rotator cuff tendon, appropriate debridement of the margin of the tear is often crucial for complete elimination of postoperative pain. Trans-tendon PASTA repair has been said to lead higher incidence of postoperative stiffness. I believe that this is due partly to the timing of the operation, i.e. the operation is done at the beginning of on-going stiffness, and to inevitable tightening of the superior and posterior joint capsule during the operation. To minimize the potential stiffness, I recommend superior and posterior capsular release during the operation. The first priority of postoperative management is to encourage the patient to continue the range-of-motion exercise immediately after surgery which include active and passive motion for those with tendon debridement and passive motion exercises by physiotherapist for those with tendon repair. To allow early passive range-of-motion exercise, I prefer to fix the tendon with minimal suture migration while in motion exercise.

Surgical Treatment of the Painful Bennett Lesion Of Shoulder in Throwing Athletes

Minoru Yoneda, MD, Shigeto Nakagawa, MD, and Naoko Mizuno, MD
Dept. of Orthopedic Surgery, Nippon Medical School, Tokyo, Japan

A Bennett lesion of shoulder is a bony spur of the posterior-inferior border of the glenoid fossa that is often observed in throwing athletes and usually asymptomatic. However it sometimes becomes painful and interferes with throwing ability. Moreover it is clinically difficult to determine whether a Bennett lesion is symptomatic or whether pain is from another lesion. So the outcome of surgical treatment was variable.

On the 1980s, we had proposed 4 diagnostic criteria for a symptomatic Bennett lesion as follows: (1) detection of a bony spur at the posterior glenoid rim on plain x-ray films; (2) posterior shoulder pain while throwing, especially during the follow-through phase; (3) tenderness at the posteroinferior aspect of the glenohumeral joint; and (4) improvement of throwing pain by injection of Xylocaaine to the bony spur. In the cases that fulfilled all of these criteria, such a bony spur was diagnosed as a painful Bennett lesion causing throwing pain. From 1989 to 1999, according to our criteria we had prospectively performed arthroscopic removal of painful Bennett lesions in 18 baseball players; 16 of them were followed up for more than 1 year and reviewed. At follow-up, there was no tenderness at the postero inferior aspect of the glenohumeral joint in any of the patients. Throwing pain disappeared in 10 shoulders and was mitigated in 6 shoulders. Eleven patients returned to baseball at their previous level of competition (Yoneda M et al: Arthroscopic removal of symptomatic Bennett lesions in the shoulders of baseball players: arthroscopic Bennett-plasty. Am J Sports Med 2002; 30: 728-36).

Thus the diagnosis and treatment of a painful Bennett lesion (arthroscopic removal of painful Bennett lesions according to our criteria) appeared to be relatively well established. However the actual mechanism of the development of a bony spur and the reason for the onset of throwing pain have not been clarified thus far. Several hypotheses have been proposed regarding the mechanisms of this lesion, such as traction on the posterior joint capsule or triceps tendon during the follow-through phase of throwing, posterior impingement of the humeral head on the glenoid in the late-cocking phase, or a wringing action during the acceleration phase. In addition, local irritation of the joint capsule and axillary nerve by the bony spur and internal impingement have been suggested as possible causes for how the bony spur induces posterior shoulder pain in throwing. Therefore, the pathologic significance of the Bennett lesion was still controversial, and which type of Bennett lesion induces throwing pain was not clear.

Accordingly we investigated several clinical factors in 51 consecutive baseball players who underwent arthroscopic surgery from 1995 to1999 to identify clinical characteristics associated with the Bennett lesion causing shoulder pain (painful Bennett lesion) and to try to predict which type of Bennett lesion might become painful. Of these baseball players, 24 had a bony spur; 13 were diagnosed as having a painful Bennett lesion and 11 were diagnosed as having an asymptomatic Bennett lesion, according to our previously reported criteria. The other 27 players did not have a bony spur. As a result, posterior joint laxity, no deficit of internal rotation, and an avulsed fragment on computed tomography scan were determined to be the characteristic clinical features in the shoulders with a painful Bennett lesion (Nakagawa S et al: Posterior shoulder pain in throwing athletes with a Bennett lesion: Factors that influence throwing pain. J Shoulder Elbow Surg 2006;15:72-77).

The Bennett lesion could be a reactive change in response to the repetitive stress of throwing. An internal rotation deficit and posterior joint tightness are commonly
recognized in baseball players, especially those playing for a longer period of time. Although the etiology of this has been not elucidated well, repetitive stress or injury on the posterior capsule and muscle/fascia could induce posterior joint tightness and an internal rotation deficit. Almost all of the shoulders in the asymptomatic Bennett group showed posterior joint tightness and internal rotation deficit. The formation process of a bony spur might relate to the etiology of posterior capsular tightness. However, the shoulders in the no Bennett group also showed posterior joint tightness and an internal rotation deficit; further investigation is necessary to clarify the etiologic mechanism of the Bennett lesion.

Currently, for the patients both with Bennett lesion and with posterior joint tightness shown under anaesthesia, we perform arthroscopic removal of the bony spur without repair of posterior capsule/IGHL.

Painful Bicep Tendinosis – The Hidden Lesion: Painful LHB: Tentomy Vs Tenodesis?

Jiwu Chen, M.D. & Ph.D.
Sports Medicine Center, Huashan Hospital, Fudan University, Shanghai, China

Biceps tendinosis was overdiagnosed and used to explain the cause of shoulder pain when we could not find other lesions before surgery. Usually, the painful biceps is not an isolated lesion, but a concomitant disorder with rotator cuff tear, instability, labrum lesion.

The lesions related to long head of biceps tendon (LHBT) are SLAP lesion, LHBT tendinosis, LHBT tear, and LHBT instability, which can be confirmed under arthroscopic observation. Sometimes, the LHBT tear is incomplete and hide in or under the groove, which need the surgeons examine the LHBT through the intraarticular part to the groove. Regarding the LHBT instability, beside the uncommon LHBT dislocation, we should pay attention to the cases of massive rotator cuff tear, if the LHBT groove was exposed.

To manage the LHBT lesion, it is controversial for tenotomy or tenodesis, location of tenodesis, fixation methods for tenodesis.

Tenotomy is easily for surgeons, and is indicated for the patients elder than 65 years, who have lower demands for strength of elbow flexion and forearm supination. However, the probably pop-eye deformity and cramps of muscle still be the concern. Tenodesis will restore the LHBT function, but with increase the operation time and the cost of operation.

There are several options for the location of tendon fixation, including soft tissue fixation, intraarticular fixation, groove fixation, supraperic fixation, or subperic fixation. Although many studies indicated the subperic fixation had lower complication and higher satisfaction postop, there have no consensus about it.

To fix the tendon on bone, besides the suture anchors, the interference screws were also suggested, for which many systems were developed by different companies.

Treatment Of Isolated Type II SLAP Lesion In Throwing Sports Athletes?

Nobuyuki Yamamoto MD, PhD
Department of Orthopaedic Surgery, Tohoku University School of Medicine, Japan

In most cases, conservative treatment is effective in baseball players with isolated Type II SLAP lesion. But if the conservative treatment fails, we need to treat surgically. According to the anatomical and biomechanical studies, the fibers of the long head of biceps tendon which has depressor function are attached to the posterior labrum, and the SGHL and MGHL which contribute to stability in the mid-range originate from the antero-superior labrum. Thus, we believe it is important to reconstruct the labrum for shoulder function especially in young athletes. If we choose the tenodesis for these patients, we are concerned about sacrifice of these labrum and ligament function. There are some reports describing the good clinical results of the tenodesis in young athletes, We need more clinical or basic research data to clarify the effect of tenodesis on shoulder motion. Also, we need to improve the way how to repair the SLAP lesion because restriction of range of external rotation often occurs after SLAP repair resulting in difficulty for pitchers to return to their previous level. These days, in order to make players return to previous level, some surgeons repair only anterior labrum. We need further clinical data to conclude the best repair way.

Scapular Dyskinesis
What Is The Importance And How Shall We Approach It?

Park Jin-Young, Kee serine
NEON Orthopaedic Clinic
Center for Shoulder, Elbow & Sports medicine

Introduction
Dynamic upper extremity-dominant tasks such as throwing, hitting, and serving occur as the result of integrated, multi-segmented, sequential joint motion and muscle activation. In order for the tasks to be effective and efficient, optimal muscle flexibility, strength, proprioception, and endurance must exist as well as the ability to perform the task consistently on a repetitive basis.

Pathoanatomy/ Biomechanics of scapular dyskinesis
The scapula serves as a critical link in kinetic chain function because it serves as the bridge between the energy-producing muscles of the legs and trunk and the energy delivery muscles of the arm. Thus, scapular stability and optimized kinematics are an essential part of proper kinetic chain function.
However, loss of control of specific motions seems to alter glenohumeral kinematics and function more than others. Loss of control of posterior tilting, allowing more anterior tilt, and loss of control of external rotation, allowing more internal rotation, appear to be most commonly associated with altered function or injury. Normal scapular resting position and active motion can be altered in overhead athletes due to the repetitive motions, with increases in posterior tilt and upward rotation being common alterations. These alterations can be collectively termed scapular dyskinesis (dys = alteration of, kinesis = motion). Scapular dyskinesis refers to altered scapular motion and position that can be associated with shoulder symptoms.

Clinical Presentation and Essential P/E
Most scapular-related problems in throwing athletes can be traced to loss of control of normal resting scapular position and dynamic scapular motion, resulting in alterations in the position or motion that produce a position and motion of excessive protraction.

Dynamic examination of scapular motion can be reliably performed by clinical observation of the motion as the arm elevates and descends. Clinical observation of medial border prominence in symptomatic patients has been correlated with biomechanically determined dyskinesis, and this method is clinically reliable enough to be used as the basis for determination of the presence or absence of dyskinesis. The examination is conducted by having the patients raise the arms in forward flexion to maximum elevation and then lower them three to five times with a 3–5 lb weight in each hand. Prominence of any aspect of the medial scapular border on the symptomatic side is recorded.

The scapular assistance test (SAT) and scapular retraction test (SRT) are corrective maneuvers that can alter the injury symptoms and provide information about the role of scapular dyskinesis in the total picture of dysfunction that accompanies shoulder injury and needs to be restored.

Disease-Specific Clinical and Arthroscopic Pathology
Scapular alterations are due to inhibition of activation driven by pain from glenohumeral joint injury, strength imbalance among the scapular stabilizers, fatigue of muscle activation, or change in activation pattern. The serratus anterior and lower trapezius are often weak and display less activation intensity and increased latency, while the upper trapezius displays increased activation and decreased latency. This results in kinematic alterations of less posterior tilt, less external rotation, and less upward rotation motions, but increased elevation translation. These results have been found in athletes with impingement, instability, and labral tears.

Treatment Options
Since it is most frequently an alteration of muscle activation, scapular dyskinesis is traditionally treated with conservative efforts focusing primarily on restoration of muscle flexibility, strength, and restoration of activation patterns. Any surgically treatable conditions must be fixed as a precondition for scapular rehabilitation.

Rehabilitation
Functional tasks involving the scapula and shoulder most frequently are dependent upon appropriate functioning of the kinetic chain as a unit. This requires optimization of the individual kinetic chain segments and appropriate coordination of the individual segments. A typical progression to follow in order to assure each segment is optimized is (1) acquire flexibility of all segments involved, (2) establish core strength and stability, (3) facilitate critical kinetic chain links via sequential activation, (4) utilize a closed- to open-chain sequence of exercise, and (5) work in multiple planes.

References
Rationale Of Rehabilitation For Throwing Sports Athletes With Shoulder Injuries

Teruhisa Mihata MD, PhD
Department of Orthopedic Surgery, Osaka Medical College, Japan

Shoulder and elbow symptoms in overhead athletes are related mainly to failure of the kinetic chain, specifically at the hip joint, trunk, and scapula, as well as to anatomical failure at the shoulder or elbow joint. Once the kinetic chain fails, the shoulder or elbow biomechanics can change, resulting in overstress in specific soft tissues, including tendons, ligaments, and muscles, or at the joint surface (cartilage or subchondral bone), along with reduced throwing performance. In the early stage of the pathologic kinetic chain, shoulder or elbow pain is generated without anatomical failure in the shoulder or elbow joint. Most early-stage symptoms can be effectively treated non-operatively. When the pathologic kinematic chain, including scapular dyskinesis, muscle imbalance, posterior tightness, and increased anterior laxity, is ameliorated with physical therapy, shoulder or elbow pain during throwing decreases or disappears in most cases. An understanding of the interactions in the upper extremity kinetic chain, together with determination of the precise pathologic condition in each athlete, is necessary for successful physical therapy. The Hara test is useful for assessing the upper-extremity kinetic chain for abnormalities leading to shoulder pain. Moreover, function of the trunk and lower extremity should be evaluated very carefully and then treated.

Twenty-five competitive baseball players (average 19.4 years, 14-36 years; 15 pitchers, 3 catchers, and 7 fielders; 6 professional, 8 university, 9 high school, 2 Junior high school) with shoulder pain underwent physical therapy. MRI findings were 11 SLAP lesion, 3 SLAP + PASTA, 11 shoulder arthritis. At the final follow up (average 47days), posterior shoulder tightness, which was evaluated with glenohumeral abduction test, horizontal abduction test, and shoulder internal rotation, scapula malposition (scapula-spine distance), scapula stability (elbow extension test and external rotation, internal rotation), and hip ROM were significantly improved. Twenty-three baseball players (92%) could return to previous level. Accurate evaluation and treatment of pathological condition, especially posterior tightness, scapula dysfunction, tightness of hip joint, decreases shoulder symptom, increases muscle strength, and resulted in high rate of return to baseball.

The mean flexion range improved from 105° to 131.5°, extension from -35.4° to -4.0°, motion arc from 71.4° to 127.7°, and elbow function score from 59.6 to 92.9. Pain score improved from 5.6/10 to 0.88S/10. Only one patient had the motion returned to pre-operative level 16 months post-operatively, although pain score was zero. None had pain worsen, range deteriorated, diminished elbow function score, or neurological complication. One patient had deep infection and was effectively cured by arthroscopic lavage and antibiotics. One had cubital tunnel syndrome 1 month after the surgery as the elbow flexion range was gained, which was effectively cured by medial epicondylectomy. Our clinical results reviewed that arthroscopic osteocapsular arthroplasty provided effective and rewarding outcomes with high patient satisfaction. The development of computer aided surgical modelling and navigation assisted surgery helped to provide a better preoperative planning and increase the accuracy of arthroscopic surgery and probably give a light to the advancement of elbow arthroscopy in elbow osteoarthritis.

Treatment Strategies In Elbow Medial Collateral Ligament Pain/Insufficiency In Elite Throwing Sports Athlete

Park Jin-Young, Kee serine
NEON Orthopaedic Clinic
Center for Shoulder, Elbow & Sports medicine

Medial ulnar collateral ligament (MUCL) tear among baseball players is common injury and result of tremendous valgus torque. Especially baseball pitcher’s elbow is injured from late cocking to early acceleration phases of throwing motion. MUCL is composed of anterior, posterior, and transverse bundles. These serves as the stabilizer to excessive valgus force from 20° to 120° of elbow flexion. Especially the anterior bundle is primary static stabilizer and posterior bundle is secondary stabilizer at high degrees. The anatomy of MUCL is very important to make the adequate tunnel. The anterior bundle originates from the antero-inferior edge of the medial humeral epicondyle and inserts onto the sublime tubercle of the ulna. Jeffrey et al provided quantitative data describing the anatomy of the anterior bundle of the ulnar collateral ligament.

The reconstruction of UCL tear in the baseball pitcher was described by Frank Jobe on Tommy John, in 1986. His original report described transection of the common flexor-
pronator mass to expose the origin and insertion of UCL. And submuscular ulnar nerve transposition was done and tunnels of ulna and humerus was created for passage in a figure of eight configuration. The exit of humeral tunnel was toward posterior cortex.

In 2002, Rohrbough and Altchek described the docking technique, improve the graft fixation and tensioning. The procedure decreased the number of drill holes of the medial epicondyle provide firm fixation. We believe the docking technique is excellent method to provide the good clinical outcomes and safe techniques.

Wrist Arthroscopy: State Of The Art
Surgical Technique In Handling Sports Injuries

Clara Wong
Department of Orthopaedics & Traumatology,
Prince of Wales Hospital, Hong Kong

(Abstract is not available)
Invited Lectures
11 June (Sat) | Hong Kong
The anterior cruciate ligament (ACL) is essential for functional stability of the knee; the anatomy and function of the ACL have been well described in the medical literature. The surgical reconstruction of a torn ACL is one of the most common knee surgeries performed. The rationale for surgical reconstruction of the ACL is to return athletes to their pre-injury level of function and sports performance by restoring functional stability to the knee. ACL reconstruction may also decrease the risk of a secondary meniscal injury and articular cartilage injury; it also may reduce the risk of developing degenerative joint disease in the injured knee. An estimated 250,000 new ACL ruptures occur in the United States each year.

There are a variety of graft choices for reconstruction of the ACL, and the selection of a specific graft source for a patient often depends on the preference of the surgeon. Some surgeons seem to have a strong preference regarding the use of autograft versus allograft; in fact, just the use of autograft patellar tendon grafts versus autograft hamstring tendon grafts remains a controversial subject in sports medicine. The selection of graft tissue for an individual patient may be based on subjective parameters such as preference of the surgeon, age or sex of the patient, the perception of the patient’s athletic ability, availability or cost of allografts and the specific sport of the athlete. There has been considerable controversy regarding the use of autograft versus allograft tissue in ACL reconstruction, and there is no uniform agreement regarding the effect of graft source on the functional outcome of surgery. There has been an increase in the use of allografts (bone containing and soft tissue) for ACL reconstructions over the past decade.

The majority of surgeons prefer autografts to allografts, the two most common choices being bone–patellar tendon–bone (BPTB) and hamstring tendon. Allograft tissue provides the advantage of no donor-site morbidity; however, there has been concern regarding potential complications from the allograft tissue and the potential for the graft to elongate and fail over time.

### Allograft Options:
1. BPTB
2. Achilles
3. Quadriceps tendon
4. Anterior Tibialis
5. Posterior Tibialis
6. Semitendinosus
7. Gracilis

### Autograft Options:
1. BPTB
2. Hamstring (quad ST, DLSTG)
3. Quadriceps tendon

Why use autografts?
- Reduced cost, no disease transmission
- Lower failure rate in young patients
- No issues with availability

What about the literature?

**Bone–Patellar Tendon–Bone Autograft Versus Allograft in Outcomes of Anterior Cruciate Ligament Reconstruction: A Meta-analysis of 5182 Patients**
Matthew J. Kraeutler, BS, Jonathan T. Bravman, MD, and Eric C. McCarty, MD

**Methods**: A total of 76 studies published between 1998 and 2012, including a total of 5182 patients, were reviewed.

**Conclusion**: Outcomes on subjective IKDC, Lysholm, Tegner, single-legged hop, and KT-1000 arthrometer were statistically significantly in favor of autografts. Return to preinjury activity level, overall IKDC, pivot shift, and anterior knee pain were significantly in favor of allografts, although allograft BPTB demonstrated a 3-fold increase in rerupture rates compared with autograft (12.7% vs. 4.3%). There was no significant difference between the 2 groups for Cincinnati Knee scores.

**Outcomes and Revision Rate after Bone–Patellar Tendon–Bone Allograft Versus Autograft Anterior Cruciate Ligament Reconstruction in Patients Aged 18 Years or Younger with Closed Physes**
H B Ellis, MD, L M Matheny, BA, KK Briggs, M.P.H., AT Pennock, MD, JR Steadman, MD

**Methods**: This study included 90 consecutive patients aged 18 years or younger with closed physes who underwent primary ACL reconstruction by a single surgeon between 1998 and 2009, with either BPTB autograft (n = 70) or BPTB allograft (n = 20).

**Conclusions**: No significant differences in function, activity, or satisfaction were found between allograft and autograft reconstructions in this patient population. The allograft group had a failure rate 15 times greater than that in the autograft group, with all failures occurring within the first year after reconstruction.

**Autograft vs Allograft ACL Reconstructions: A Prospective, Randomized Clinical Study with Minimum 10 Year Follow-up (AJSM, 2015)**
Bottoni CR, Raybin S, Shaha JS, Smith E, Shaha SH, Tokish JT, Rowles DJ
Usage Of Artificial Ligament In ACL Reconstruction – The China Experience

Shiyi Chen, M.D., Ph.D
Dept. of Sports Medicine, Huashan Hospital, Fudan University

(Abstract is not available)

Keynote Lecture: Revisit Of The Anatomy Of ACL - Swinging Of The Pendulum!

“Ribbon” Concept Of ACL Anatomy - From Basic Science To Clinical Practice

Robert Śmigielski 1, Urszula Zdanowicz 1, Michał Drwięga 1, Beata Ciszkowska-Lysonś 1, Bogdan Ciszek 2

1 Carolina Medical Center, Warsaw, Poland
2 Department of Descriptive and Clinical Anatomy, Medical University of Warsaw, Poland

All those findings might change the way of reconstructing ACL in terms of tunnel placement, graft choice and fixation technique. Ground-breaking discovery of “ribbon-like” appearance of ACL is changing approach to its reconstruction. A new reconstruction technique, allowing for mimicking this flat structure is presented

Flat Anatomy & Exploring The Real Anatomy Of ACL – Implication In ACL Reconstruction!

Rainer Siebold
ATOS Hospital Heidelberg, Germany

(Abstract is not available)

Anatomical ACL Reconstruction – My Evolution & Lessons Over The Past 30 Years

Freddie Fu
Department of Orthopaedic Surgery, University of Pittsburgh, USA

(Abstract is not available)
Surgical Innovation: Lecture With Video Demonstrating The Important Surgical Tips & Pearls

Anterior Cruciate Ligament Reconstruction With Remnant Preservation – How I Do It

Jin Hwan Ahn, MD, Yong Seuk Lee, MD, Department of Orthopaedic Surgery, Kangbuk Samsung Hospital, Sungkyunkwan University, Seoul, Korea

For treatment of a torn anterior cruciate ligament (ACL), reconstruction is supposed to be the best option; however, controversy persists with regard to the best reconstructive procedures. Recently, attention has been brought to anatomic ACL reconstruction and the importance of anatomic tunnel placement. It has been reported that anatomic single bundle ACL reconstruction could provide nearly normal knee kinematics and this procedure was comparable with double bundle procedures.

During ACL reconstruction, relatively thick and abundant ACL remnant could be observed in most cases. However, the ACL remnant is usually debrided in order to create the correct femoral and tibial tunnels in traditional ACL reconstruction. Recently, there has been growing interest in the potential role of the remnant bundle during ACL reconstruction. It has been reported that preservation of the remnant ACL original bundle might provide stability of the knee joint, promote graft healing and be helpful in preserving the proprioception. Authors reported good results after remnant preserving ACL reconstruction using a trans-tibial technique (Ahn et al 2011). Recently, it has been proven that the transtibial approach may contribute to nonanatomic placement of the femoral tunnel. Therefore trans-portal technique is recently becoming popular for making the femoral tunnel at the anatomic position. However, this technique is difficult to preserve the proximal portion of the remnant bundle. The outside-in femoral tunnel procedure seems to be a more reliable and precise way to achieve an anatomic ACL reconstruction as well as helpful preserving the remnant bundle. It is very difficult to observe the posterior portion of ACL femoral attachment using an anteromedial (AM) or anterolateral (AL) portal due to preservation of the remnant bundle. The posterior portion of direct insertion of femoral ACL footprint is clearly identified by direct arthroscopic visualization through the postero-lateral (PL) portal with 70° arthroscope. The femoral tunnel is drilled at the anatomic position of AM bundle with FlipCutter reamer (Arthrex). Autogenous hamstring 4-stranded graft is fixed at femoral tunnel with TightRope (Arthrex).

The purpose of this presentation is to demonstrate the surgical technique of single bundle ACL reconstruction with preservation of the remnant bundle using PL portal with 70° arthroscope to make a femoral tunnel at the anatomic position with minimal damage to the remnant bundle.

Surgical Technique

Under general anesthesia, the patient is positioned supine. The affected knee hangs free at the edge of the operating table in a 90° flexion position. Outflow cannula is inserted through skin incision that is made at superior-lateral portion of distented knee joint. This skin incision is also used for inserting of femoral guide sleeve to make the femoral tunnel.

A routine arthroscopic examination of the knee joint was performed using the standard anterolateral (AL) and anteromedial (AM) portals with a distended knee joint at the arthroscopic infusion pump. The semitendinosus and gracilis tendons were harvested and a four strands graft was made and assembled with TightRope (Arthrex).

For formation of the tibial tunnel, tibial stump of the remnant ACL insertion was carefully palpated with a probe, and small incision is made at the center of tibial stump with scissors and guide pin was inserted from proximal medial tibial condyle to the center of ACL tibial insertion using ACL tibial guider with a 50° angle. Reaming of the tibial tunnel was also adjusted according to the graft diameter after making femoral tunnel in order to keep the distended knee joint.

After the PL portal had been made, the 70° arthroscope was inserted via the PL portal. Using this approach, the posterior margin of the ACL femoral direct insertion could be clearly observed. Under visualization through the PL portal, the ACL femoral guide was introduced through the AL portal or AM portal. The passing pin with drill bit is drilled through ACL femoral guide to AM femoral ACL insertion. The stepped drill sleeve (Arthrex) is fixed to the femoral cortex through the guide pin and the femoral tunnel is reamed with cannulated reamer with a diameter 4mm. And then a Flipcutter is inserted into the anatomic position of femoral ACL insertion. Retro-reaming was then performed to about 30 mm tunnel length. The passing suture was inserted through the femoral tunnel for the graft passing. The 70° arthroscope is inserted through AL portal and reached to the supero-lateral portion of the knee joint. The supero-lateral joint capsule is shaved with the shaver inserted through supero-lateral skin incision, and then the stepped drill sleeve and the out orifice of femoral tunnel are visualized arthroscopically. Tibial tunnel is reamed along the tibial guide pin under the 70° arthroscopic visualization from AL portal.

The graft and TightRope are passed through the tibial and femoral tunnel with the passing suture. Pull the button through the femur until it exits the lateral cortex and the button is fixed to femoral cortex under the arthroscopic visualization. Finally, the graft is fixed at the tibial tunnel with a bioscrew and a post tie.
ACL Reconstruction With Triple Bundle Graft – How I Do It

Konsei Shino, MD
Head of Sports Orthopaedic Center at Yukioka Hospital, Osaka, Japan

Anatomic ACL reconstruction is one of the reasonable approaches to treat instability of the knee due to ACL tear without loss of motion. Thus, we have been trying to mimic the native ACL as closely as possible at the time of ACL reconstruction. As the native ACL has oblong/flat cross section around its femoral attachment or mid-substance, and that of C-shape at its tibial insertion, my preferred ACLR with hamstring tendon grafts is the triple bundle ACLR.

Two femoral tunnels in the femoral footprint are created in outside-in fashion with the anterolateral entry femoral drill guide while scoping via the anteromedial portal. Three tibial tunnels are created to mimic C-shaped attachment without damage to the anterior horn of the lateral meniscus.

Two double-looped hamstring grafts are placed inside the joint, followed by femoral fixation with cortical fixation devices. After the graft is pretensioned on the tibial side for a few minutes by a tensioning boot system, tibial fixation is achieved with pullout sutures using two DSP (double spike plate)s and screws under the tension of 10 -20 N.

Case Presentation – Biological Enhancement In Cartilage Repair

Wilson Li (1), Barbara Chan(2)

1. Department of Orthopaedics & Traumatology, Queen Elizabeth Hospital, Hong Kong
2. Department of Mechanical Engineering, The University of Hong Kong, Hong Kong

Articular cartilage lesions are common and treatment is difficult because of its limited healing potential. Marrow stimulation, substitution, and regenerative techniques are the most widely used options. For symptomatic full thickness defects, we would take into account the area and location of defect, degree of bone containment, concomitant correction of the cause of the defect, such as ligamentous reconstruction, patellar realignment, and corrective osteotomy. Low demand patients will receive marrow stimulation technique in the form of microfracture, while high demand patients will receive substitution therapy with autologous osteochondral transfer (OAT) if the lesion is small, and Matrix Induced Autologous Chondrocyte Implantation (MACI) for those larger than 2.5cm². For biological enhancement, we augment microfracture cases by providing a bioScaffold, in the form of either a chitosan gel mixed with autologous whole blood (CarGel), or a type I/III collagen membrane in a process known as Autologous Matrix Induced Chondrogenesis (AMIC), which can be done either arthroscopically or with a mini-arthrotomy. Our OAT and MACI repairs are also enhanced biologically by Platelet Rich Plasma (PRP) injection before the transplant. We perform d-GEMRIC study for preoperative planning & postoperative monitoring of cartilage repair procedures, as they are shown to be accurate, reproducible, non-invasive, and correlate well with function. When a second look biopsy is possible, we also perform histological and histomorphometrical examination. Correlation with functional scores and the ability to return to play are also noted. We are planning to start human trial on using Mesenchymal Stem Cells (MSC) for cartilage repair. A microencapsulation technique was established at our university laboratory to entrap in collagen microspheres, and the collagen fibrous meshwork was found to be an excellent scaffold for supporting MSC survival, growth and differentiation, enhanced by photochemical crosslinking. Rotating bioreactors and several growth factors were shown to induce in vitro chondrogenic differentiation of MSCs. MSCs were isolated from bone marrow and encapsulated in collagen microspheres. The effects of pre-differentiating the encapsulated MSC into chondrogenic lineages and different cell densities on cartilage regeneration were investigated. Our preliminary findings suggested that a higher local cell density favors cartilage regeneration, regardless of the differentiation status of MSC, while the
The more severe degree of joint inflammation, the greater diffusing into the joint is also greater when there is joint loss of GAG from articular cartilage. The amount of contrast diffusion into this articular cartilage. One can appreciate from articular cartilage, the greater degree of contrast agent entering the articular cartilage. The greater of the loss of GAG charge, the gadolinium contrast agent can more freely decline and as a result, due to loss of cartilage negative charge, with cartilage degeneration, the GAG content of cartilage diffusely into the inflamed joint are negatively charged. and the gadolinium contrast agent molecule injected which before MR imaging is undertaken. Both the proteoglycan and collagen lattice structure and orientation. These factors all combine to influence relaxation times. Their individual influences on relaxation time cannot be separated. T2 mapping and T1 rho mapping provide different values but essentially are thought to measure the same intrinsic components of articular cartilage.

The second aspect of cartilage imaging is experimental cartilage imaging. This serves to reveal and quantify changes in articular cartilage architecture before these changes become structurally manifest. The most common techniques used to experimentally image articular cartilage are (a) T2-mapping, (b) T1-rho mapping. T2 mapping and T1 rho mapping measure the relaxation times of articular cartilage which in turn provides an indication of water content, proteoglycan content, as well as collagen lattice structure and orientation. These factors all combine to influence relaxation times. Their individual influences on relaxation time cannot be separated. T2 mapping and T1 rho mapping provide different values but essentially are thought to measure the same intrinsic components of articular cartilage.

A less commonly applied technique is delayed gadolinium enhanced MRI of cartilage (dGEMRIC) imaging. This involves uptake of contrast into articular cartilage, dGEMRIC imaging involves giving an intravenous injection of gadolinium contrast agent, followed by a period of 10-20 minutes of intense exercise followed by a 90-minute delay before MR imaging is undertaken. Both the proteoglycan molecule, glycosaminoglycan (GAG) of articular cartilage and the gadolinium contrast agent molecule injected which diffusely into the inflamed joint are negatively charged. With cartilage degeneration, the GAG content of cartilage declines and as a result, due to loss of cartilage negative charge, the gadolinium contrast agent can more freely enter the articular cartilage. The greater of the loss of GAG from articular cartilage, the greater degree of contrast agent diffusion into this articular cartilage. One can appreciate that this technique is dependent not just on the loss of GAG from articular cartilage. The amount of contrast diffusing into the joint is also greater when there is joint inflammation present as in osteoarthritis to a high level of accuracy. The visibility of the articular cartilage contour can be improved with intra-articular contrast agent ('MR arthrography') as well as traction performed during MR arthrography ('traction MR arthrography').

The second aspect of cartilage imaging is experimental cartilage imaging. This serves to reveal and quantify changes in articular cartilage architecture before these changes become structurally manifest. The most common techniques used to experimentally image articular cartilage are (a) T2-mapping, (b) T1-rho mapping. T2 mapping and T1 rho mapping measure the relaxation times of articular cartilage which in turn provides an indication of water content, proteoglycan content, as well as collagen lattice structure and orientation. These factors all combine to influence relaxation times. Their individual influences on relaxation time cannot be separated. T2 mapping and T1 rho mapping provide different values but essentially are thought to measure the same intrinsic components of articular cartilage.

Sodium imaging of articular cartilage can also be deployed. As cartilage degenerates, its sodium content reduces. This sodium depletion can be quantified with sodium imaging of cartilage though this does require specialized hardware and also the image takes a long time to acquire.

Experimental cartilage imaging is usually only undertaken in persons with either no osteoarthritis or minimal to mild osteoarthritis. In persons with moderate to severe osteoarthritis, there is little benefit in undertaking advanced MRI techniques as the articular cartilage is already severely damaged and thinned in these patients making reliable data acquisition difficult. Irrespective of what advanced cartilage imaging technique is undertaken, one of the main difficulties that you will encounter is to develop an accurate in-house method of articular cartilage segmentation to assess its intrinsic property and to determine its overall volume. This segmentation can be done manually though is time-consuming. Automated or semi-automated techniques are not yet commercial fully available The quality of the research data obtained is highly dependent on an accurate cartilage segmentation technique. Good segmentation requires (a) high resolution imaging of articular cartilage and (b) clear delineation of the articular cartilage both at its superficial and deep margins. The coefficient of variation of cartilage volume in the medial tibia in healthy volunteers is 2%-3.5%. To ensure the smallest coefficient of variation, in longitudinal studies comparative analyses should be performed in one post-processing session by the same reader. Blinding the user to the order of the exams is necessary in order to avoid bias.

Current Evidence In Managing Cartilage Injury Of The Knee In 2016

Karl Fredrik Almqvist, MD, PhD
Ghent University (Gent, Belgium)
Canadian Specialist Hospital (Daubai, UAE)

Cartilage lesions of the knee are commonly found during routine arthroscopy. A review of 31,516 knee arthroscopies noted a 63% prevalence of chondral lesions, in which 19% had focal ICRS 3b or higher (1). These lesions may cause pain, swelling, mechanical symptoms, and functional impairment. In addition to the problem of avascularity of articular cartilage, its hypocellularity and its limited capacity of intrinsic repair in adult hyaline cartilage, several additional factors except the cartilage have to be addressed when treating these frequent present defects.

Effective cartilage regeneration aims to fill the defect void with a tissue that has the same biomechanical properties as articular cartilage while providing durable improvement of patient symptoms. Few, if any, studies have shown a complete remodeling of the pristine hyaline cartilage with techniques which have been used until present.
Microfracture, the standard of care for lesions smaller than 2cm², demonstrates good clinical results; however there is deterioration over time due to the inferior biomechanical properties of the resultant fibrocartilage (2).

Using biological cell treatment with classical or membrane-covered autologous chondrocyte implantation (ACI) (3-4) treating these defects has shown a 90 % good to very good clinical success on femoral condyles (5). Hence, ACI has been suggested as a second-line treatment option only, following failed microfracture (6,7). However, in the literature the proven clinical superiority of ACI compared with the classical microfracture technique is scarce (8,9).

A relatively new focus in cartilage repair is the use of acellular, or cell-free, scaffolds to augment the microfracture procedure in an attempt to improve the quantity and quality of the repair tissue. (10). Acellular scaffolds are 3-dimensional matrices that provide a framework onto which autologous cells, primarily mesenchymal stem cells (MSCs), originating from the subchondral bone and surrounding cartilage may attach, differentiate and develop into new functional tissue (11). These scaffolds are typically made from natural and/or synthetic biomaterials in the form of gels, membranes or meshes.

The current modalities for treating these frequent present cartilage lesions by stem cell stimulation, by (autologous) cell implantation, by (cell-free) scaffolds and the role of using growth hormones and/or cytokines, will be discussed.

References:

Advances In MSC For Cartilage Repair & Regeneration – From Bench To Bedside

James Hui
Department of Orthopaedic Surgery, National University of Singapore

(Abstract is not available)

Salvaging Failed Cartilage Surgery

Karl Fredrik Almqvist, MD, PhD
Ghent University (Gent, Belgium)
Canadian Specialist Hospital (Daubai, UAE)

Traumatic and degenerative cartilage defects occur frequently in the knee joint. These lesions do not heal spontaneously and may predispose the joint to the subsequent development of secondary osteoarthritis. Various techniques have been used to treat these lesions with variable success rates (1,2).

In comparison with the amount of published information on the surgical management of cartilage defects in general, there has been a relative lack of emphasis regarding the management of patients who present with failed attempts at index cartilage repair. Furthermore, the clinical outcomes pertaining to this patient population are less clear, thereby rendering decision-making reliant largely upon expert opinion and experience, and a case-by-case consideration of pertinent patient-specific and disorder-specific variables (3). On the basis of the information above, selecting ‘the next treatment’ is based on a myriad of factors that are patient-specific, defect-specific, and that depends on a global assessment of lower extremity and knee structure and function (3).

A focal metallic resurfacing prosthesis (Hemi- CAP® Focal Femoral Condyle Resurfacing Prosthesis, Arthrosurface...
Inc., Franklin, MA, USA) has been proposed to treat patients with a history of a failed index cartilage repair. For the first time, the targeted population was followed clinically and radiographically in a prospective way (4). The authors hypothesized that focal resurfacing would effectively manage pain and function and could be a possible solution to treat this type of patients.

References:

Meniscus
Shaw Auditorium (1/F), 13:15-15:15

Managing Irrepairable Meniscus

Meniscus Implant: Are We Ready?

Rene Verdonk
Department of Orthopaedic Surgery and Traumatology, Gent State University, Belgium

Purpose:
Treatment of meniscal lesions is the most common surgical intervention performed by orthopaedic surgeons today. Favorable results have been reported in the short term after partial meniscectomy. However, the risk of osteoarthritis and irreversible damage occurring in the long term remains. Therefore, a novel, biodegradable, polyurethane scaffold was developed to fulfill an unmet clinical need in the treatment of patients with presenting with painful irreparable partial meniscal defects.

Methods:
Fourty-three patients were consecutively treated for their partial meniscus defects with the scaffold technique (Actifit). These patients were prospectively clinically evaluated with a follow-up of 60 months. Magnetic resonance imaging (MRI) was used for morphologic analysis of the meniscal regeneration at 12, 24 and 60 months of follow-up.

Results:
The patients included in this study showed a significant gradual clinical improvement after implantation of the scaffold. No effect of the scaffold on the opposing cartilage was observed on MRI. In thirteen patients the treatment had failed (30.2%). Six patients were lost to follow-up (13.9%).

Conclusion:
At five years + post implantation, clinical outcome data from this study support the use of the polyurethane scaffold for the treatment of irreparable, painful, partial meniscus defects. However, well-designed, large-scale, randomized controlled trials are mandatory to confirm the initial results and the reliability of this procedure.

Meniscus Transplantation - Technical Tips & Pitfalls

Jin-Goo Kim
Konkuk University Medical Center, Korea

(Abstract is not available)
Meniscus Allograft Transplantation 2016 State Of The Art

Rene Verdonk
Department of Orthopaedic Surgery and Traumatology, Gent State University, Belgium

The aim of the present review of meniscal allograft transplantation during the last 30 years, is to put this procedure into a clinical perspective. Meniscal allograft transplantation has emerged as a useful treatment for carefully selected patients. Almost all studies, from short- to long-term (>10 years of follow-up), report patient satisfaction and improvement in pain and function. Objectively, physical examination findings are improved in the majority of patients. Radiologically, joint space narrowing is only significantly progressive at long-term follow-up. On magnetic resonance imaging (MRI), shrinkage is seen after some years, but more in lyophilized allografts. Histologically, incomplete repopulation of the graft is noticed. Second-look arthroscopy usually shows good healing to the capsule. In a recent long-term study, progression of cartilage degeneration according to MRI and radiological criteria was halted in a number of patients, indicating a chondroprotective effect.

However, there still is a lack of consensus on how the success of a meniscal transplantation should be evaluated, which makes it difficult to compare study outcomes. In our opinion, radiographic measurement of joint space narrowing and changes in meniscal allograft MR signal are the best assessment tools, but the use of a good clinical evaluation system, such as the International Knee Documentation Committee (IKDC) and the Hospital for Special Surgery (HSS) scoring system, remains essential.
Hyaluronic acid injection probably may be effective only if the right indications are fulfilled. Short term and long term benefits of HA injection in mild arthritis (Kellgren & Lawrence I & II) have been found to be good in some studies but many meta-analysis contradicts it. It is not effective in severe grades (Kellgren & Lawrence IV) of OA. Cost effectiveness is an issue which needs to be addressed in case of hyaluronic acid injection which limits its use.

--------------------------------------------------------

**Biologics in Orthopaedics**

David Parker  
Sydney Orthopaedic Research Institute, Australia

The topic of “Biologics” in the area of orthopaedic surgery encompasses many products and techniques that aim to biologically enhance the success of the management of orthopaedic conditions and injuries. Products such as “platelet-rich-plasma” and many other variations of this, have been used in recent times in the primary treatment of injury, and degenerative conditions, and also as an adjunct to surgical procedures including anterior cruciate ligament reconstruction. The quest to restore normal hyaline articular cartilage is one that to date remains unsolved, despite decades of research and investment into this area, with new techniques regularly appearing within the orthopaedic domain. The use of bone substitutes to negate the need for autologous bone graft harvesting is another area relevant to procedures such as osteotomy that is still under ongoing development and study. Whilst many of these products provide promising adjuncts to the management of orthopaedic conditions, the appropriate basic science research, followed by controlled clinical trials, needs to be undertaken before evidence-based recommendations for usage can be provided.

This talk will discuss some of the more topical areas and products currently in use and under investigation in the area of orthopaedics, and in particular will examine the current relevant evidence-base for each product in order to provide reasonable recommendations for the application of each product or technique.

--------------------------------------------------------

**Varus Knee In Young ACL Deficiency Patient, How To Manage?**

Chanakarn Phornphutkul, MD.  
Chiang Mai University, Thailand

Anterior cruciate ligament injury is one of the most common injuries happened in you athletic patient. High tibial osteotomy has gained acceptance as a treatment option for young patients with lower extremity varus osseous malalignment and symptomatic medial tibiofemoral compartment arthritis along with anterior cruciate ligament reconstruction. Anatomic abnormality of the knee can be classified in to the terms primary, double and triple-varus deformities. Primary varus refers to the tibiofemoral osseous alignment and geometry at the knee joint including the added varus alignment that occurs with loss of the medial meniscus and damage to the articular cartilage in the tibiofemoral joint. The term double varus was coined for the varus knee that has an associated lateral soft tissue deficiency. Triple varus, where the varus alignment occurs because of three factors: tibiofemoral osseous alignment, marked separation of the lateral tibiofemoral compartment, and increased external tibial rotation and hyperextension with an abnormal varus recurvatum position. Detection of all abnormality factors and treat them properly will lead to a good clinical result.

--------------------------------------------------------

**UKA Vs. Osteotomy In Medial Compartment Arthritis Of Young Active Patients**

Myung-Chul Lee, M.D., Ph.D.  
Department of Orthopedic Surgery, Seoul National University Hospital, Seoul, Korea

Both unicompartmental knee arthroplasty (UKA) and high tibial osteotomy (HTO) are successful treatment options for treating medial unicompartmental osteoarthritis. UKA is generally indicated for older patients without malalignment or with passively correctable mild malalignment. And HTO is ideally indicated for younger patients with varus alignment. However, with improved implant design and surgical technique, indications for both procedure is still expanding. Even though they are very different procedures with different philosophies, in some cases they share the same indications. For the patients aged 55 - 65 years with 5 - 10 degree varus alignment and moderate arthrosis, both procedures would be indicated. In this patient group, preoperative activity and patient’s expectation for postoperative activity level are thought to be important factors for choosing UKA or HTO.

In terms of knee scores, both techniques generally seem to show similar results without significant difference. However, in recent meta-analysis, the UKA group showed a better functional result (excellent/good result) compared to HTO group. HTO showed higher degree of range of motion (ROM), and UKA group tend to show faster walking velocity.

Time of the required revision tend to be sooner in the UKA group than in HTO group. In UKA, the risk of revision decrease with age. A possible reason is that younger age is often associated with high activity which will accelerate the process of wearing. On the other hands, the risk of failure increases with the age in HTO group. Complication rate is not seemed to be different between the two procedures, although some study reported that postoperative complications after HTO are greater than those after UKA, especially after open-wedge HTO.

In several cost-effectiveness analysis, it depends mainly on rates of conversion to TKA and the clinical outcomes of the conversions. Because of the different survivorship with the age, HTO is more cost-effective for patients under 60 years of age, and UKA is cost-effective in those 60 and over.

Careful consideration of patient’s activity and expectation for postoperative function is needed.
Long Term Outcome Of UKA With Navigation Versus Conventional Techniques

EK Song, JK Seon, YJ Shin, HA Lim
Center for Joint Diseases, Chonnam National Univ. Bitgoeul Hospital, Kwangju, Korea

Background
Unicompartmental knee arthroplasty (UKA) has become a treatment of choice for many patients with isolated unicompartimental arthritis due to its specific advantages over total knee arthroplasty, but few studies have compared conventional and navigational UKA with similar instrumentation on mid- to long-term results. We investigated whether the use of imageless navigation can improve implant positioning and clinical outcomes of UKA at a long-term follow-up compared to the conventional technique.

Methods
We prospectively studied clinical and radiological results in 68 patients with an average age of 64.0 years (range, 50 to 81 years) who received UKA between January 2003 and December 2005 using the conventional or navigational technique. Clinical evaluations were performed preoperatively and the last follow-up included knee range of motion, Hospital for Special Surgery (HSS) scores, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) scores and Visual Analogue Scale (VAS) pain score. For radiologic evaluation, the mechanical alignment of the lower limb was measured using mechanical femorotibial angle (mFTA) and Kennedy protocol.

Results
After an average 9-year follow-up (range, 7.4 to 10.8 years), the navigation group showed better coronal alignments of the components, fewer radiological outliers and better clinical scores, but similar estimated 10-year prosthesis survival rates.

Conclusion
This study indicates that the use of navigation significantly contributes to the desired mechanical axis and improved component placement as compared to the conventional technique.

Level of Evidence: Prospective comparative study, Level I1

Applications Of Computer Navigation In Sports Medicine Knee Surgery

Mark Clatworthy
Middlemore Hospital, New Zealand

This presentation will review the current literature on Computer Navigation for Ligament Reconstruction, Osteotomy and Arthroplasty.

New data will be presented on measured resection vs ligament balancing computer navigated total knee arthroplasty.

==================================================================
Kai Chong Tong (G/F)

IFOSMA: Knee II - ACL
(膝关节专场 II - 前交叉韧带)
Kai Chong Tong (G/F), 08:00-08:30

关节软骨损伤与修复 Cartilage Defects and Repair
敖英芳
北京大学第三医院运动医学研究所
(沒有论文摘要)

IFOSMA: Knee III - ACL
(膝关节专场 III - 前交叉韧带)
Kai Chong Tong (G/F), 10:15-10:30

好的ACL术式可在术后更好地保护关节软骨，但还不够！
余家阔
北京大学第三医院运动医学研究所
(沒有论文摘要)

Shoulder Instability
Kai Chong Tong (G/F), 13:15-15:15

Surgical Innovations: Dealing With Bony Defects In Anterior Shoulder Instability

Arthroscopic Socket Bristow Operation
Guoqing Cui
Institute of Sports Medicine, Third Hospital Peking University

Bristow procedure was highly neglected these years. Latarjet is more popular, but still there was non-union and osteolysis about 10-20%, no matter open or arthroscopically. Why? And How can we do it better? Especially for contact sportsman.

Tenon and mortise connection is so popular in Chinese old furniture, it really make the contact of the two part more solid and tighter each other. We use this idea to deal with the recurrent dislocation of the shoulder, total 30 cases from May 2015 to May 2016, M/F: 24/6, AGE: 16-50Ys, ave. 27.54Ys, instant CT scan show that the transferred fragment Clock position: ave.4:10, Below surface: 0.68MM. 3month F/U about 18cases, 1 case osteolysis: 5.6%, one case partially union. 16 completely union: 88.9%. Both with early over training of muscle. 6-month follow up, 13 cases, 10 cases completely healed 76.9%, 3 cases partially united.

Arthroscopic Latarjet: My Surgical Evolution!
Chunyan Jiang
The Sports Medicine Department, Beijing Jishuitan Hospital

(Abstract is not available)

Managing Bony Bankart Lesion For High Demand Athletes
Hiroyuki Sugaya, MD.
Shoulder & Elbow Center, Funabashi Orthopaedic Hospital

Arthroscopic soft tissue Bankart repair is well received surgery and popular among surgeons worldwide. However, recently several authors reported disastrous long-term
outcome after arthroscopic soft tissue stabilization and it is true that there is a strong trend towards Latarjet even for patients without bone loss if they are collision/contact athletes. Authors who reported poor long-term outcome after soft tissue Bankart repair stated that the use of less than 3 suture anchors might increase the risk of postoperative failure. This seems to be one of the cause of failure is an inadequate ligament tensioning. In fact, Seroyer and colleagues proposed the four quadrant approach for capsulolabral repair in glenohumeral instability and insist the importance of reinforcing antero-inferior and postero-inferior capsule in addition to the anterior capsule, by inserting inferior suture anchors using the antero-inferior and posterolateral portals in lateral decubitus position. That means at least 4 suture anchors required in order to stabilize anterior and inferior quadrant for standard Bankart repair. Although I prefer to use beach-chair position and not normally use posterolateral portal, I totally agree with their concept that restoring proper tension to the entire IGHL is critical for successful soft tissue Bankart repair. Currently I believe that Latarjet or other bone grafting should indicated only for shoulders with significant bone loss without bone fragment in high demand athletes.

In this talk, first I will describe anatomy and role of the IGHL at the glenohumeral joint and technique for soft tissue Bankart repair for shoulders with or without bony Bankart lesion as well as rotator interval closure as an augmentation for Bankart repair. Then, outcome after a series of soft tissue Bankart repair and originally modified Hill-Sachs remplissage for extremely high risk collision/contact athletes will be described.

Hill-Sachs Lesion – What Size Does It Matter? What Is The Role Of Remplissage? And How I Do It?

Hsiao-Li Ma MD
Section of Sports Medicine, Department of Orthopedics, Taipei Veteran General Hospital

The Hill-Sachs lesion is a very common seen compression fracture of the posterosuperolateral humeral head that occurs in association with anterior shoulder instability. It presents treatment challenges when the lesion has engagement with the glenoid rim in shoulder abduction and external rotation. The most difficult aspect of these cases involves determining which Hill-Sachs lesions are clinically significant and need to be addressed surgically. Previous reports regarding the indication of surgery deal with the size of Hill-Sachs lesion alone, and not take the size of the glenoid into consideration. However glenoid bone loss may magnify the humeral-side lesion and increasing the risk of instability. So, lesion size, orientation, location, and concomitant glenoid bone loss all are important factors and must be evaluated. Recent literature suggests that Hill-Sachs lesions are best approached as bipolar problems. The concept of the glenoid track advanced the understanding of engagement and recurrent instability by defining the humeral head deficiency in relation to glenoid width and bone loss. Glenoid track is 83% of glenoid width and will narrow with glenoid bone loss. Plot the glenoid track width onto the humerus, beginning at medial margin of rotator cuff footprint. If the lesion is within the margins of glenoid track, there is no engagement and so called on tract; if medial margin of the lesion extends beyond glenoid track, the lesion engages the glenoid rim and so called off-track. The role of remplissage procedure is combined with arthroscopic Bankart repair when the glenoid bone loss is less than 25% and the Hill-Sachs lesion is off-track. Recent literature reveals Hill-Sachs remplissage was associated with a low recurrent rate, good clinical and functional outcome, and a low complications rate. While loss of shoulder motion, particularly external rotation, was not widely reported. This simple arthroscopic technique along with Bankart repair will convert an off-track Hill-Sachs lesion to an on-track Hill-Sachs lesion which is essential in stabilizing the shoulder with anterior instability.

Challenges!

Handling Complications & Revision Surgery In Shoulder Instability

Jae-Chul Yoo
Department of Orthopedic Surgery, Sungkyunkwan University School of Medicine, Korea

Fixing Posterior Instability: Technical Tips And Pearls

Seung-Ho Kim, MD
Madi Hospital, Seoul, Korea

Compare to the anterior instability, posterior shoulder instability has indistinct etiology of development. Although trauma may cause posterior instability, commonly, capsular ligamentous laxity is underlying pathology. Any activity which develops repetitive subluxation overloads the posteroinferior glenoid labrum by the excessive rim-loading of the humeral head. This excessive rim-loading eventually develops posteroinferior labral lesion varying from simple retroversion to incomplete detachment. In this stage, patient’s symptom which is shoulder pain, originates from the labral lesion when the humeral head glides over the pathologic labrum. The compressive force on the torn labrum in the jerk and Kim tests generates shoulder pain. Therefore, intact labrum does not produce shoulder pain no matter how lax the glenohumeral joint is. Four type of the labral lesion have been reported. The Kim lesion is a concealed and incomplete tear of the posteroinferior labrum which is characterized by loss of labral height and retroversion, marginal crack, and loose inside. The retroversion of the glenoid labrum decrease the containment function of the glenohumeral joint which further decrease the shoulder’s stability. Two sensitive and specific physical tests are the jerk and Kim tests. Like the McMurray test for evaluation of the meniscal injury in
the knee joint, the basic principle of the jerk and Kim tests is a pain provocation by compressing the labral lesion. During the test, it is important to apply a firm axial force compression force on the glenoid surface by the humeral head. The Kim test was more sensitive in the predominant inferior labral lesion while jerk test was more sensitive for the predominant posterior labral lesion.

The arthroscopic capsulolabroplasty procedure includes posteroinferior labroplasty, superior shift of the posteroinferior and anteroinferior capsule, and posterior portal closure. The basic rationale is both restoration of the posteroinferior labral height and capsular tension. Portal placement is critical for successful arthroscopic capsulolabroplasty. We use triple instability portal which includes Kim posterior portal, transcuff superior portal and midglenoid anterior portal. All 3 portals are located vertical from the glenoid surface which allows better access angle to the inferior aspect of glenoid. Suture anchor repair is mostly reliable. Fixation of the inferior most anchors is through the posterior portal. We insert 2 anchors at the 6 and 5:30 for the right shoulder before the suture passage in order to prevent overcrowding of anchors. Recently all suture anchors provide us reliable selection of anchor placement.

---

**Chronic Locked Posterior Shoulder Dislocation With Posterior Glenoid Bone Loss & Reverse Hill Sach Lesion, How Do You Tackle?**

Bancha Chernchujit MD
Department of Orthopedic Surgery, Faculty of Medicine, Thammasat University, Pathumthani, Thailand

Chronic lock posterior shoulder dislocation is irreducible dislocations associated with a impression defect of the humeral head. Chronic posterior dislocation of the shoulder is a rare injury. But it is diagnostic and therapeutic interest because most are missed on the initial examination. Appropriate management of a posterior dislocation depends on the size of the defect, the duration of the dislocation and the age and activity of the patient. Currently, the treatment of chronic locked posterior dislocation all cases were treated surgically because of high risk of re-engagement. Closed reduction should be attempted if the defect is less than 25% of the articular surface and the duration of the dislocation is less than three weeks. The treatment of neglected dislocation was challenging because we need to deal with humeral head defect or so-called reverse hill-sachs lesion. We can address this in many ways from minimal invasive arthroscopic Subscapularis tenodesis (Anterior Remplissage), bone grafting of the defect, proximal humeral rotational osteotomy, and shoulder arthroplasty. Transfer of the lesser tuberosity remains the operation of choice in patients with a defect of between 25% and 50% of the articular surface. Open reduction with transfer of the lesser tuberosity or shoulder arthroplasty are technically demanding procedures and should be performed only by the experienced shoulder surgeon.

---

**Miscellaneous & Shoulder Case Discussion Forum**

**Kai Chong Tong (G/F), 15:30-17:30**

**How I Do It?**

**Calcified Tendinitis Of The Shoulder: How Do I Deal With That?**

Yang-Soo Kim, Hyo-Jin Lee, Dong-Hyuk Sun, Jin-Hong Kim, Sung-Ryeoll Park
Department of Orthopaedic Surgery, Seoul St. Mary’s Hospital
College of Medicine, The Catholic University of Korea

Introduction
Calcified tendinitis is a painful shoulder disorder characterized by either single or multiple deposits in the rotator cuff tendon or subacromial bursa. It is occasionally characterized by intractable pain and morbidity. However, this disease is usually self-limited and can be treated by conservative treatment methods with good results. The most efficient treatment for this common disease is still under debate, and no standard treatment has been established yet. Several treatment options have been proposed, such as rest, physical therapy, medication with non-steroidal anti-inflammatory drugs (NSAIDs), calcium deposit needling, saline lavage, localized injection of anesthetics or corticosteroids, and extracorporeal shock wave therapy (ESWT). Nevertheless, failure of these conservative treatment methods may necessitate surgical treatment.

Treatment
1. Conservative Treatment
Nonsurgical therapy is the mainstay of treatment for calcified tendinitis, with NSAIDs, physical therapy, and corticosteroid injections comprising first line treatment. Ogon et al. examined prognostic factors for nonsurgical management of calcified tendinitis in 488 shoulders in which initial nonsurgical therapy failed. The overall failure rate was 27%, and the probability of failure increased with bilateral or large calcifications, deposits underlying the anterior third of the acromion, and extension of the calcific deposits medial to the acromion. A Gartner type III (Translucent and cloudy appearance without clear circumscription) calcific deposit was a positive prognostic factor. Treatment can be modulated depending upon the presence of these prognostic factors. Usually, the acute phase requires NSAIDs to relieve the pain and appropriate physiotherapy (passive range of motion exercises) to avoid stiffness of the shoulder. Local steroid injection in the acute phase is a debatable topic, as studies have shown it to have positive or no effect, or even a negative effect in the form of stopping reabsorption of the deposits. In most cases, conservative treatment is sufficient for resolution of symptoms. Cho et al. reported excellent to good results in 72% of their patients.
2. Extracorporeal Shock Wave Therapy (ESWT)
ESWT has been recommended as a second-line therapy before surgery is performed. In the last 2 decades, several studies demonstrated the effectiveness of ESWT in treating this condition and proposed that it should be established as a safe second-line therapy. Nevertheless, ESWT is not an invasive procedure and is relatively easy to perform in the outpatient setting. In a recent meta-analysis, Ugn et al. reported a higher rate of total and partial resorption of calcific deposits 6 months after ESWT compared with placebo treatment. However, this procedure is extremely painful in hyperalgesic crisis. Complications associated with ESWT have been reported, including pain during the procedure, particularly at higher energy flux density. Local reactions, including petechiae, ecchymosis, hematoma, and erythema, are the most commonly reported adverse reactions. Osteonecrosis of the humeral head associated with high-energy ESWT has also been described in case reports. Nevertheless, ESWT appears to be an effective and noninvasive means of managing calcified tendinitis that does not respond to standard nonsurgical treatment. However, limited data are available on long-term outcomes following treatment, and further elucidation is needed with regard to the dosage required for a beneficial effect.

3. Ultrasound-Guided Needling (UGN)
Although UGN was first demonstrated under fluoroscopy control by Comfort et al. who described use of US for bursal lavage and needling. Since then, it has been a commonly used intervention, as it is inexpensive and can be carried out on an out-patient basis under local anaesthesia. Some authors describe puncturing multiple sites (needling) in an attempt to manually break up the calcific deposit, whereas others advocate keeping the needle in the same location to minimize potential damage to the rotator cuff. Following the procedure, the needle is frequently withdrawn into the subacromial bursa under ultrasound guidance, and a steroid is injected. de Witte et al. carried out a randomized controlled trial between UGN with subacromial injection and subacromial injection alone; both groups showed improvement, but the UGN group fared better as compared with injection alone. UGN is an effective, well tolerated, cost-effective procedure, making it a reasonable treatment option when less invasive options fail.

4. Which method is more effective? – UGN and ESWT
We compared the effectiveness of the above 2 procedures. 94 patients diagnosed with unilateral painful calcified tendinitis were randomly allocated to a US needling or ESWT group. At last follow up, there were significant improvements in the mean size of the deposits and clinical outcomes in both groups after treatment. At 1 year follow-up, the US needling group showed significantly smaller deposit size and had significantly better clinical scores (ASES, SST, VAS pain) than the ESWT group. Both treatment modalities for calcified tendinitis improved clinical outcomes and eliminated calcium deposits. US-guided needling treatment, however, was more effective in function restoration and pain relief in the short term. Moreover, the calcium deposit was eliminated more effectively by US-guided needling than by ESWT.

5. Surgical Treatment
After failure of conservative treatment modalities, surgical removal of the deposits is the final option. Several arthroscopic techniques have been used to address calcifications, including direct deposit removal and subacromial decompression. Several studies have reported on the outcomes of arthroscopic removal of calcific deposits. In a study of 54 patients who underwent arthroscopic removal of calcific deposits, the overall results were successful; 92% of patients had excellent results at a 2-year follow-up. However, many issues remain under debate, such as repairing versus leaving the defect created, complete versus incomplete removal of the deposits and removal of deposits versus only acromioplasty. Additional high-quality studies on different treatments for calcified tendinitis are needed before conclusions can be drawn regarding their relative effectiveness.

Summary
Calcified tendinitis is frequently encountered at the clinic. The initial treatment is nonsurgical, and patients should be educated about the condition. Both treatment modalities for calcified tendinitis, UGN and ESWT, were successful in improving the clinical outcomes and eradicating the calcium deposit. Although reabsorption occurs in the majority of cases with conservative treatments, a subpopulation of patients with persistent painful shoulder require operative management.

References
1. BM B. Calcium deposits in the shoulder and subacromial bursitis: a survey of 12122 shoulders. JAMA. 1941;116:2477-82.
10. Ugn et al. reported a higher rate of total and partial resorption of calcific deposits 6 months after ESWT compared with placebo treatment.
Adhesive capsulitis, also known as frozen shoulder, is a common condition encountered in the orthopaedic department. It is presented by the spontaneous onset of shoulder pain and progressive limitation of both active and passive shoulder range of motion. Both intrinsic and extrinsic pathology of the shoulder can cause stiffness and pain, and accurate diagnosis is essential because of different treatment approaches for these separate pathologies.

Frozen shoulder is a common disease affecting middle-aged persons. It often occur with systemic comorbid conditions such as diabetes, cardiovascular diseases, thyroid dysfunction, or breast cancer treatment. Frozen shoulder usually has an insidious onset and follows an extended course. The pathogenesis is unclear, but it is characterized by chronic inflammation of the capsular subsynovial layer, which causes capsular fibrosis, contracture, and adhesion of the capsule to itself and to the anatomical neck of the humerus. And it has many similar features to Dupuytren contractures. Appropriate physical examination and radiologic evaluations can help in differentiating frozen shoulder from the other stiff and painful shoulder disease.

Numerous effective conservative treatments exist, and resolution of symptoms can be obtained in the majority of patients. Appropriate management begins with careful physical therapy on range of motion that is not excessive and painless. Even when nonsurgical treatment is successful, patients undergo months of persisted symptoms.

My Treatment Algorism In Adhesive Capsulitis

Sang-Jin Shin, M.D.
Ewha Shoulder Disease Center, Ewha Womans University Mokdong Hospital, Seoul, Korea

Arthroscopic Glenoid Bone Grafting For Shoulder Instability- How I Do It?

Jin-Zhong Zhao
Shanghai Sixth People Hospital, Shanghai, China

Arthroscopic Suprascapular Nerve Decompression - Technical Tips & Pearls

Kotaro Yamakado, MD, PhD
Fukui, Japan

The subscapularis is the strongest of the rotator cuff muscles and plays an essential role in shoulder function and stability. Traumatic tears of the subscapularis are seen in isolation in younger patients, and associated with anterior shoulder dislocations in the elderly. Degenerate tears with dislocation of the long head of biceps tendon are often seen in conjunction with supraspinatus tears.
Lafosse Classification of Subscapularis Tears:

<table>
<thead>
<tr>
<th>Type</th>
<th>Subscapularis Tear</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Partial tear of superior one-third</td>
</tr>
<tr>
<td>II</td>
<td>Complete tear of superior one-third</td>
</tr>
<tr>
<td>III</td>
<td>Complete tear of superior two-thirds</td>
</tr>
<tr>
<td>IV</td>
<td>Complete retracted tear of tendon, but head centered and fatty degeneration &lt; 3</td>
</tr>
<tr>
<td>V</td>
<td>Complete retracted tendon tear, eccentric head with subcoracoid impingement, and fatty degeneration &gt; 3</td>
</tr>
</tbody>
</table>

Arthroscopic repair technique: Tear types I and II can be visualised from the posterior portal with footprint preparation, anchor insertion and tendon fixation performed using anterior, and anterosuperior portals. For types III and IV, the arthroscope is placed in the lateral portal, and the subscapularis visualised through the resected rotator interval and/or torn supraspinatus. Types III and IV warrant circumferential subscapularis release and coracohumaeral ligament resection. Often a traction suture is used to pull the tendon laterally while release is performed. After debridement of the tendon and footprint, one to three double loaded suture anchors are inserted at the medial footprint. Using a combination of mattress and Mason-Allen sutures, tendon fixation is achieved. For type III tears, a double-row footprint configuration is often possible using a lateral row anchor. In cases of combined tendon tears, subscapularis repair is performed first. Most cases warrant a concomitant biceps tenotomy/teodesis, and Mason-Allen sutures, tendon fixation is achieved. For type IV tears, one to three double loaded suture anchors are inserted. In cases of combined tendon tears, subscapularis repair is performed first. Most cases warrant a concomitant biceps tenotomy/teodesis, and Mason-Allen sutures, tendon fixation is achieved. For type IV tears, one to three double loaded suture anchors are inserted.

The efficacy of arthroscopic subscapularis tendon repair has been validated. Most studies by high-volume surgeons report excellent results with overall rerupture rates varying from 7 to 20%.

Management Strategies In Acute Or Chronic ACJ Dislocation

What Is Optimal Surgical Procedure For Management Of Acromioclavicular Joint Dislocation: My Technical Evolution

Sang-Jin Shin, M.D.
Ewha Shoulder Disease Center, Ewha Womans University Mokdong Hospital, Seoul, Korea

Although recent advances have been made in the treatment of acromioclavicular (AC) joint injuries, they are still challenging for shoulder surgeons. There is a consensus that type I and II injuries should be treated nonoperatively, whereas acute type IV, V, and VI injuries should be treated surgically. There is no algorithm for correctly diagnosing and treating type III injuries; however, the current trend is toward nonoperative treatment except for those with persistent symptoms and functional limitations after a course of conservative management. If surgery is indicated, newer anatomic techniques of reconstructing the coracoclavicular (CC) and AC ligaments are recommended.

Ideal reconstruction methods should provide sufficient strength to maintain the CC interval until biological healing of the soft tissue around the CC ligament occurs. The current literature is inconclusive regarding the ideal technique for treating acute or chronic AC separations. It was previously described procedures included direct fixation across the AC joint or screw fixation directly into the coracoid, however these procedures are often complicated by hardware failure. Reconstruction of the CC ligament using a suspensory fixation device or graft tendon is a recently introduced surgical technique designed to meet the concept of an ideal fixation method. The TightRope is one of the adjustable-loop-length suspensory fixation devices that can be used arthroscopically. Satisfactory clinical outcomes were obtained after CC fixation using the single adjustable-loop-length suspensory fixation device for 18 patients with acute AC dislocation in my previous study. Although clinical outcomes were satisfactory, the CC distance increased more than 50% compared with the unaffected side in 6 patients (33%), and 8 complications (44%) associated with the adjustable-loop-length suspensory fixation device and surgical technical problems occurred. One of the reasons for the CC interval reduction failure was that single suspensory fixation device could not restore 2 components of the native CC ligaments anatomically since 2 components of the native CC ligaments have different anatomic attachments and provide different functions for AC joint stability. Several surgical modifications to overcome the limitations of CC fixation using the single suspensory fixation device might be considered.

The Dogbone construct (Arthrex, Inc., Naples, FL) has been shown to have superior load to failure biomechanical strength as compared with the Weaver-Dunn, TightRope, double TightRope, and GraftRope. However, the Dogbone mechanism of failure is generally suture breakage at extremely high loads, as opposed to coracoid fracture and likely to induce postoperative limitation of shoulder motion with overtightening of FiberTapes. Using one loop of FiberTape passing through Dogbone instead of two loops with one coracoid hole and two clavicular holes, AC-CC alignment on plain x-ray lied on an appropriate position without loss of reduction and satisfactory shoulder function recovery was shown without a limitation of shoulder motion in all patients.

Surgical management is indicated in high-grade AC joint injuries to achieve anatomic reduction of the AC joint, reconstruction of the CC ligaments, and repair of the deltotrapezial fascia. Clinical outcomes after surgical reconstruction have been satisfactory with regard to pain relief and return to functional activities, however, further improvements in biomechanical strength of these constructs are necessary to avoid loss of reduction and creep with cyclic loading.
IFOSMA: Shoulder III - Shoulder Dislocation
（肩关节专场 III - 肩关节脱位）
Seminar Room A (1/F), 13:15-14:00

肩关节脱位值得关注的几个问题
刘玉杰
北京解放军301医院骨科
(没有论文摘要)

关节镜下Socket Bristow手术治疗高要求肩关节复发性脱位
崔国庆
北京大学第三医院运动医学研究所
(没有论文摘要)

Sling-effect在肩关节前脱位治疗中的应用
赵金忠
上海第六人民医院
(没有论文摘要)

IFOSMA: Knee V - Meniscus Injury
（膝关节专场 V - 半月板损伤）
Seminar Room A (1/F), 15:30-15:45

儿童盘状半月板的关节镜治疗
滕学仁
山东青岛市立医院
(没有论文摘要)

IFOSMA: Knee IV - Patella Instability
（膝关节专场 IV - 髌骨不稳）
Seminar Room B (3/F), 10:15-10:30

Recurrent Patellar Dislocation: The Implication Of J Sign
Feng Hua
Sports Medicine Service, Beijing Jishuitan Hospital, Beijing, China
(Abstract is not available)
Invited Lectures
12 June (Sun) | Hong Kong
Biological Augmentation Of Tendon To Bone Healing In Rotator Cuff Repair

Joo Han Oh, MD, PhD
Department of Orthopedic Surgery
Seoul National University College of Medicine, Korea

Cadaveric researches offer new clues regarding biologic factors of rotator cuff healing, leading to development of surgical indication or surgical technique. In my first mechanical study using eight cadavers, tear of the entire supraspinatus tendon was the critical stage for increasing rotational range of shoulder motion and for decreased abduction capability and that further tear progression to the infraspinatus muscle was the critical stage for significant changes in humeral head kinematics. From this study, surgical indication can be determined regardless patient’s symptom. The other cadaveric biomechanical studies presented some surgical techniques for rotator cuff repair to improve healing process of rotator cuff.

Adding to cadaveric biomechanical study, there are several animal studies to enhance rotator cuff healing using assessment of biomechanics, histology, and electrophysiology which give us informations to go toward clinical trials. Rats have been commonly used for pre-clinical study for rotator cuff tears, but they have certain limitations due to size and lack of reproducibility. To solve these concerns, a model was developed using the subscapularis of rabbits, which is a valid model to study human condition given its histologic, molecular, anatomic and biomechanical properties. Using a chronic rabbit model of subscapularis tear, we showed that local administration of adipose-derived stem cells after cuff repair could improve muscle function and tendon healing. Western blot assay and immunohistochemistry in our following report demonstrated that injected ADSC assisted in regeneration of the rotator cuff by the way of expression of insulin-like growth factor-1R and myosin heavy chain. Another our studies using rabbit model suggested that the enhancement of cuff healing after local administration of autologous platelet-rich plasma assessed by histological and biomechanical testing. From the idea on these animal studies, some clinical applications on stem cell have been performed. In order to reduce the clinical rate of healing failure, there must be a systematic approach and understanding of the multiple factors including patient cessation of smoking and using NSAIDs, control of diabestes, osteoporosis and cholesterol, and also supplement of vitamin D.

It is important that researchers must have conscious recognition on limitation of experimental study and link to clinical trials, carefully. For the biomechanical research, we need not only facility, associates, fund and company, but also eager.

Mesenchymal Stem Cell (MSC)-Based Cartilage Repair

BP Chan
Tissue Engineering Laboratory, Department of Mechanical Engineering, The University Hong Kong, Pokfulam Road, Hong Kong

Mesenchymal stem cells (MSCs) can be harvested from clinically accessible tissue sources such as bone marrow. These adult progenitor cells possess high proliferative capability and potential to differentiate towards multiple lineages including chondrogenic cells, presenting a promising cell source for cartilage repair. We previously established a microencapsulation technology, which entraps MSCs in a reconstituted collagen fibrous meshwork and supports their adhesion, proliferation, differentiation and matrix remodeling. Here we report the translation of this technology into a MSC-based cartilage repair strategy YourCartilage™ and the preclinical evaluation of this technology in repairing osteochondral focal defects in a rabbit model. The potential and challenges of the technology will be discussed.

MSC In Cartilage Repair – Hope Or Hype? Enhancement of culture of MSCs for cartilage repair by Heparin sulphate (HS8)

James HUI, Simon COOL
National University of Singapore

Culture supplementation of adult mesenchymal stem cells (MSCs) with carbohydrate-based macromolecule heparin sulfate (HS8) and polysaccharide polymers (SCP) has been shown to enhance MSC proliferation while preserving their stem-like qualities. SCP has been shown to increase diffusion speeds and potency of key mitogens while heparan sulfate sugar (HS8) has been proven to bind and activate endogenously produced FGF-2. With the ultimate aim of using these supplements to enhance the quality and quantity of stem cells for clinical use, human MSCs from 3 healthy donors were successfully expanded for 4 consecutive passages in three conditions (control, HS8 and SCP) under strict adherence to the international guidelines developed by the ISSCR and ISCT in a GMP facility. After expansion, the cells were harvested and further characterized. HS8 demonstrated the greatest ability to enhance
hMSC proliferation whilst also preserving their "stemness", although SCP does not favor hMSC growth. These cells were implanted into osteo-chondral defects created in rodent (NIH nude rat) knees at NUS to assess the ability of hMSCs to enhance osteo-chondral repair, following a three-month implantation period. Our data showed that supplementing cultures with HS8 resulted in ~2-fold more stem cells after only 2 weeks and that when such cells were implanted into osteo-chondral defects in rats, there was a 71% improvement in the number of defects which responded favourably to cell therapy. In comparison, only 45% of the defects treated with cells grown under normal conditions responded favourably. Such exciting results are spearheading our efforts to move this technology into the clinic, after the safety and efficacy tests in a large animal model. Our next step is to use pigs for this important technology-enabling study.

Ankle & Hip Injuries
Shaw Auditorium (1/F), 10:15-12:15

Ankle Sports Injuries Update

Hind Foot Endoscopic Surgery For Athletes

Yasuhito Tanaka MD
Department of Orthopaedic Surgery, Nara Medical University

Arthroscopic surgeries for the foot and ankle field recently becomes more common. Generally arthroscopic surgeries are more effective for deeper lesions. If we wanted to get to a deeper lesion, a large incision is necessary in an open surgery. However, good views are obtained using an arthroscopy with a small incision. Posterior lesions of the ankle and subtalar joints are deeper than anterior lesions. Therefore arthroscopic surgery has advantages for hindfoot lesions. Because most of posterior lesions are located in extra-articular, a scope is used as an endoscopical way. In this presentation, practical techniques for hindfoot endoscopic surgery for posterior ankle impingement syndrome (PAIS) and retrocalcaneal bursitis will be shown.

PAIS is frequently seen in athletes who play sports needing hyper-plantar flexion of the ankle, such as soccer and ballet dancing. It is caused by overuse or acute trauma. Most common bony impingement is the os trigonum, which does not fuse in teenager remaining as an accessory bone, present in 5 – 18% of the people. In addition, enlarger posterolateral talar process (Stieda’s process) are rarely caused for PAIS. Posterior two -portal technique in prone position is safe and reliable. As for retrocalcaneal bursitis, it is diagnostic definition as a painful inflammation of the bursa between Achilles tendon and the enlarged superior-posterior process of the calcaneus. Endoscopic calcaneoplasty in a prone position is an effective procedure for this pathology.

Role Of Ankle Arthroscopy In Treatment Of Chronic Ankle Instability

Pieter D’Hooghe
International Society of Arthroscopy, Knee Surgery and Orthopaedic Sport Medicine (ISAKOS)

Lateral sprains of the ankle are the most frequently encountered injuries in athletic activities. Early diagnosis, functional treatment and rehabilitation are key in preventing a potential evolution towards chronic ligament insufficiency. The aetiological factors behind the development of functional instability are not exactly known, and these factors may vary. It is clear that functional instability is a complex syndrome, where mechanical, neurological, muscular and constitutional factors are interacting. Elongation of the ruptured ligaments, proprioceptive deficit, peroneal muscle weakness and subtalar...
instability are documented aetiological factors of functional instability.
The term functional instability was introduced almost 40 years ago by Freeman as a description of the patient’s subjective complaint of ‘giving way’. He found that proprioceptive deficit was the most important factor behind the development of functional instability. Mechanical instability was less important, and not alone a decisive factor in most cases. It may be concluded that functional instability is caused by mechanical instability, inhibition of proprioceptive function or a combination of these.

**Chronic lateral ligament instability**
Chronic lateral ankle joint instability will develop in approximately 10% of patients after acute ligament rupture. This ligament instability, irrespective of its aetiology does not always require surgical reconstruction. The indication for surgical treatment is recurrent ‘giving way’ in spite of proprioceptive training. Non-surgical treatment is therefore always recommended before surgical treatment. Surgical reconstruction is more often needed in athletes with high demands of ankle stability.

More than 50 surgical methods have been published in connection with chronic ankle joint instability. The surgical procedures can be classified as either non-anatomic tenodeses, using tendons around the ankle joint (e.g. Watson-Jones, Evans and Chrisman-Snook tenodeses) or anatomic reconstruction, with direct suture of the injured ligaments, imbrication and reinsertion to bone, and in some instances augmentation with local tissue e.g. the inferior extensor retinaculum (Gould’s modification of the Broström procedure).

**Surgical treatment of chronic lateral ligament instability:** Although numerous different surgical procedures have been described to stabilise the unstable ankle, most of these are minor modifications of: a) tenodeses or b) anatomical reconstructions. Isolated mechanical instability without “giving way” episodes is never an indication for surgical stabilisation of the ankle. It should be emphasised that repeated episodes of giving way do not predispose to osteoarthrosis of the ankle.

Tenodeses have been the most widely used principle of surgical reconstruction. All tenodeses sacrifice normal and in most cases well-functioning anatomical structures, either the peroneus brevis or peroneus longus tendons. Some have used the plantaris tendon, part of the Achilles tendon or even a free fascia lata graft. None of the tenodeses in common use can be considered as anatomical and the result is always altered kinematics and often limitation of joint motion with gradual deterioration of the tenodesis-ligament reconstruction. This might cause degenerative changes of the ankle in the long run. All of these procedures also restrict subtalar motion.

The four classic tenodeses are all well-defined and the short- and long-term results well known. They are:
1. Elmslie.
2. Evans.

Several authors have reported satisfactory functional results after anatomical reconstruction.

Anatomical reconstruction has been shown to be technically simple with very few complications, giving satisfactory functional results both in the short- and the long-term. Mechanical stability has also been shown to be satisfactory, correlating well with the functional results. Anatomical reconstruction should be the primary choice in patients with chronic ankle instability, rather than the more complex tenodeses. A positive factor is that normal range of motion is easily regained during the postoperative rehabilitation after anatomical reconstruction. A loss of motion that is common after the various tenodeses is a major drawback for the athlete who is in need of full functional range of motion of the ankle.

Thanks to the evolution in ankle arthroscopy results and tools over the last 2 decades, there is a renewed interest in performing these lateral ligament anatomic reconstructions through arthroscopy. The pros and cons will be discussed during the presentation, tailored with research an references on the subject.

**Conclusion**
Acute ankle sprains are the most common injury in Sports and may result in chronic instability if treated inadequately. The most common ligamentous injuries are lateral but the medial ones are more associated with ankle fractures and/or dislocations. The preferred treatment of acute lateral ankle sprains is functional, with acute ligament surgical repair reserved for athletes. Chronic lateral ankle instability is initially managed conservatively but surgery is indicated in case of rehabilitation failure. Non-anatomic tenodesis reconstructions have poor long-term results and the characteristics of the surgical technique sacrifice the peroneal tendons. This evidently leads to an alteration of normal ankle and hindfoot biomechanics. When the intrinsic quality of the torn ligaments allows it, anatomic repair of the anterior talofibular and calcaneofibular ligaments is recommended. Anatomic reconstruction with autograft or allograft are indicated in cases where the ligaments are attenuated. The role of ligamentous reconstruction through an arthroscopic approach is evolving. Ankle arthroscopy as a 1-stage procedure along with repair or reconstruction is indicated when there is a suspicion of combined intra-articular pathology.

**REFERENCE:**
MAHMUT, KARLSSON’s SPORTS INJURIES (2nd Edition): PREVENTION, DIAGNOSIS, TREATMENT AND REHABILITATION
BOOK CHAPTER: “(Chronic) Ligament injuries of the ankle joint”
Authors: D’Hooghe Pieter, Karlsson Jon

*-------------------------------*

**Managing Cartilage Injuries Of The Ankle Joint - 2016 Update**

Yinghui Hua M.D.,PH.D.
Department of Sports Medicine, Huashan Hospital, Shanghai, China

OCL (Osteochondral Lesion) is commonly seen in sports medicine clinic. According to the lesion site, talar OCL could be divided to two subtypes: AL and PM. Bone Marrow Stimulation (BMS), including microfracture, transmalleolar drilling and retrograde drilling, is the most common initial...
treatment for talus OCL. It is better to select BMS in the lesion with area less than 150 mm². The average success rate of BMS is 85%. While the result of BMS is affected by many factors, including area of the lesion, quality of the generated cartilage, rehabilitation schedule, et al. Some treatments, including Diacerein and hyaluronic acid (HA), might improve the quality of new cartilage and results. For the OCL with an area more than 150 mm², other treatments should be selected. Autologous osteochondral transplantation (AOT) could get a satisfying result with a success rate of 87%. AOT could get hyaline cartilage, while it has the risk of donor site morbidity and need the second operation. Juvenile cartilage allograft is another selection, which could be completed arthroscopically and regenerate hyaline like cartilage, while more clinical evidence is needed. Autologous chondrocyte implantation (ACI) and matrix ACL with scaffolds could also get satisfying results. The autologous chondrocytes are cultivated and implanted into ankle joint, which would regenerate the hyaline like cartilage at the lesion site. While ACI or MACI are expensive and still need 2-3 operations. Autologous matrix-induced chondrogenesis (AMIC), a one stage treatment which implants the scaffold without chondrocytes into the ankle joint, seems to have good results when it is combined to the microfracture. While the long term result is not confirmed until now. More researches are needed to get the normal hyaline cartilage.

Tackling Anterior Ankle Impingement In Football Players

Mohammad Razi
Dept. of Orthopaedics Surgery, Rasoul Akram University Hospital, Iran

Definition
The anterior ankle impingement syndrome is a clinical pain syndrome which is characterized by anterior ankle pain, exortional effusion, and subjective symptoms of locking, catching and giving ways. Pain may be considered in the antero-lateral, anterior, and antero-medial side of the joint.

Antero-lateral ankle pain, which is mostly caused by soft tissue impingement in the lateral gutter of the ankle, can occur after one or more episodes of inversion ankle injuries and is a common, but frequently neglected cause of chronic ankle pain. The association between this condition and ankle sprain has been established by many authors. However, this condition may or may not be in association with instability of the ankle.

‘Anterior Ankle Impingement Syndrome.’ The exact cause of the formation of impinging talotibial osteophytes is not fully understood. But it is evident that these bony spurs at the anterior margin of tibial plafond or on the neck of the talus are intra-articular and not at the attachment site of the joint capsule.

Soft tissue impingement of the ankle is a common cause of chronic ankle pain that usually arises at the lateral and/or antero-lateral compartment of the ankle joint following an inversion injury. It is estimated that approximately 3% of ankle sprains may lead to antero-lateral impingement.

In many cases of post traumatic chronic ankle pain with partial or total ligament injury, although impingement may be prominent in one compartment but the other compartments are also involved to some degree and there is a combination of soft tissue and bony impingement, osteochondral lesions of talus or tibial plafond, and loose body and entrapped ossicles. The term chronic ankle disability may be more suitable than the other previously mentioned names. And from the surgical stand point of the view since repeated ankle arthroscopy may contribute to more complications than benefit, when arthroscopy is indicated there must be enough surgical skill and facilities to treat all intraarticular pathologies as possible

Pathophysiology
Impingement syndrome of the ankle is caused by either osseous or soft tissue overgrowth or both. Osteochondral loose bodies by entrapment in gutters or over the neck of talus are the other causes of ankle impingement. Bony impingement is mostly in the anterior part of the ankle but antero-medial and antero-lateral parts are also involved. Moreover soft tissue impingement mostly involves the antero-lateral side of the ankle but anterior and antero-medial parts are also involved. In most cases soft tissue and bony impingement are in combination. Posterior ankle impingement which may be bony or soft tissue or both may be in conjunction with anterior impingement.

Ankle impingement syndromes are painful conditions caused by the friction of joint tissues, which are both the cause and the effect of altered joint biomechanics. The leading causes of impingement lesions are post-traumatic ankle injuries, usually ankle sprains, resulting in chronic ankle pain.

Clinical presentations, and diagnosis and treatment options will be described at time of presentation.

Tackling Posterior Ankle Pain In Football Players

Pieter D’Hooghe
International Society of Arthroscopy, Knee Surgery and Orthopaedic Sport Medicine (ISAKOS)

Posterior ankle impingement in football players, refers to a mechanical conflict at the back side of the ankle. In certain sports such as football, acro-gymnastics and high-jumping - where hyperplantar exion of the ankle is a must - it is frequently encountered. Posterior ankle impingement can present in an acute or a chronic fashion, and accounts for 4% of all ankle injuries during explosive sports performance.

AETIOLOGY Posterior ankle impingement syndrome is a clinical pain syndrome that reflects the most common cause of posterior ankle pain and it can be provoked by a forced hyperplantar exion movement of the ankle. In fact, recent epidemiological studies - that looked at the incidence of ankle lesions in football players - showed that up to 14% of the football injuries are ankle-related. Other FIFA...
Injury time-loss data shows that the ankle is the third most injured joint in football, after the thigh and the knee.

In the event of a soft tissue or bony posterior impingement of the ankle, plantar flexion induces a conflict between the posterior malleolus of the distal tibia and the posteoro-superior calcaneal bone. A prominent posterior processes of the calcaneus occurs in almost 7% of the sports population. Although apparent posterior bony prominences caused by acute or repetitive overload (micro-) trauma can induce posterior ankle pain, it’s not necessarily associated with posterior ankle impingement syndrome.

Since an acute forced hyperplantar flexion movement at the ankle or a repetitive overload induces the bony or soft-tissue conflict in the posteriorly located components of the ankle joint, we mainly see these lesions in a sports specific population. A classical example of repetitive overload is seen in repetitive forced plantar flexion during a football kick. If the lesion occurs due to compression of the os trigonum between the distal tibia and calcaneal bone, it can lead to displacement of this os trigonum or even fractures of the processus posterior tali or distal tibia.

**CLINICAL FEATURES** Patients who suffer from posterior ankle impingement present with posteriorly localised ankle pain during (forced) plantar flexion. Clinically, it presents as a recognisable local pain on palpation along the posterior aspect of the talus. Since the neurovascular structures and tendons are localised in the posteromedial region of the ankle, this area is not always easily palpated as compared to the clinical examination of the posterolateral part of the ankle.

The posterior ankle impingement test is a pathognomonic test to identify the clinical diagnosis of posterior ankle impingement. To have a positive test the ankle is passively and quickly forced from neutral to hyperplantar flexion position. During this movement the patient encounters suddenly recognisable posteriorly located ankle pain. To increase compression on the posterolateral structures of the ankle, plantar flexion, external rotation and eversion movements are considered during clinical testing.

Inversion and internal rotation movements of the ankle are performed during the clinical setup while performing a posteromedial compression. In addition, a diagnostic infiltration with Bupivacaine can be an excellent extra tool to diagnose posterior ankle impingement. Relief of pain following local anaesthetic injection can easily confirm the condition.

**CONCLUSION** Posterior ankle arthroscopy is a challenging, however safe, reliable and effective technique that can be used in the treatment of posterior ankle impingement. Due to the improved functional outcome after surgery and quicker rehabilitation time, athletes can hugely benefit from this technique. Initially, the indications included flexor hallucis longus and os trigonum pathology. Today however, the technique can be used, with or without an additional portal, for an increasing amount of posterior ankle pathologies. Further studies are now being performed to assess the value of these newer indications. These studies are showing that the posterior arthroscopic technique for posterior ankle pathology has not yet reached its limits.

**REFERENCE:**

BOOK: “THE ANKLE IN FOOTBALL” (D’Hooghe, Kerkhoffs) 2014, Springer-Verlag, 322 pages:

BOOK CHAPTER 13: Posterior Impingement (p.141-154)

---

**Endoscopy Of Posterior Ankle With Patient In Supine Patient**

Tun-Hing Lui
Department of Orthopaedics & Traumatology,
North District Hospital, Hong Kong

(Abstract is not available)

---

**Revisit Of Hip Arthroscopy**

Application Of Hip Arthroscopy In Treatment Of Different Sports Injuries – My Evolution Of Knowledge & Skills

Jianquan Wang
Peking University Third Hospital

(Abstract is not available)

---

**Hip Impingement & Labral Tear: When to Scope & When To Hold Our Hands?**

Hang-Cheong Cheng
Department of Orthopaedics & Traumatology,
United Christian Hospital

Hip arthroscopy is among the most rapidly evolving arthroscopic procedures in the recent years. The minimal invasive nature of the procedure has revolutionized the treatment of hip impingement and labral tear. Nevertheless, there are still controversy regarding the appropriate indications and worry about possible overutilization of the procedure. The presentation will review the current indications and contraindications of hip arthroscopy in the treatment of hip impingement and labral tear.

---

**REFERENCE:**

BOOK: "THE ANKLE IN FOOTBALL" (D’Hooghe, Kerkhoffs) 2014, Springer-Verlag, 322 pages:

BOOK CHAPTER 13: Posterior Impingement (p.141-154)
再生医学——未来的出路吗？
戴雪松
浙江大学附属第二医院
(没有论文摘要)
What are the benefits of APKASS Membership?
- The right to vote at General Meeting
- Eligible for position at Executive Board
- Receive latest news of APKASS
- Eligible to be selected as Intercontinental Travelling Fellows
  (At least 1 year full membership before the trip)
- Special rate (20% off) for accepted submission of AP-SMART journal
- Special registration rate (20% off) for Biennial APKASS Congress

Who can be a member of APKASS?
Qualified medical doctors practicing professionally in the field of knee surgery, arthroscopy surgery or sports medicine, in an Asia-Pacific country

Annual Membership Fee
- USD100 (For applicants from developed countries)
- USD 50 (For applicants from developing countries)

How to Apply and Pay Membership Fee?
Please visit our website for online application and payment.  www.apkass.org

Enquiry
APKASS Administration Office – Hong Kong
Address: Rm 74029, 5/F Clinical Sciences Building,
Prince of Wales Hospital, Shatin,
New Territories, Hong Kong SAR
Email: info@apkass.org
Tel: (852) 2144 5016   Fax: (852) 2646 3020
Website: www.apkass.org
Best Paper & Best Poster Presentations
APKASS | IFOSMA
Invited Lectures
Best Paper & Poster

3 senior and 3 junior shoulder surgeons. DICOM images (modified protocol initially published by Kraus reproducibility according a standardized CT-scan analysis assessing intra-observers reproducibility and inter-observer agreement. 15 postoperative CT-scans of Latarjet (5 open, 5 mini-open and 5 arthroscopic procedures) were included to assess intra-observers reproducibility and inter-observer reproducibility according a standardized CT-scan analysis (modified protocol initially published by Kraus et al) among 3 senior and 3 junior shoulder surgeons. DICOM images were extracted from Native CDs using OSIRIX™ software. In the axial plane, we measured:
- The angle of the screws: the ICC in Intra-observer agreement was substantial to almost perfect (mean: 0.80; range, 0.70 to 0.94) and Inter-observer agreement was moderate to almost perfect (mean: 0.60; range, 0.43 to 0.92).
- The positioning of the CG at 50% and 25%: the ICC in Intra-observer agreement was slight to almost perfect (mean: 0.67; range, 0.16 to 0.90) and Inter-observer agreement was slight to substantial (mean: 0.47; range, 0.08 to 0.79).
- The contact area between CG and the glenoid: the ICC in Intra-observer agreement was fair to almost perfect (mean: 0.69; range, 0.31 to 1.0) and Inter-observer agreement was moderate to almost perfect (mean: 0.53; range, 0.43 to 0.87).

In the sagittal plane, when analyzing the percentage of CG under the equator of the glenoid screws the ICC in intra-observer agreement was moderate to almost perfect (mean: 0.69; range, 0.45 to 0.85) and inter-observer agreement was slight to almost perfect (mean: 0.42; range, 0.13 to 0.90).

2) SFA Symposium (n=390)
211 CT-scans/Patients were available for position analysis (79 OT, 86 ATL, 42 ATB). The different previous parameters were analyzed to compare arthroscopic techniques versus open. For the ATB, using endobutton instead of screw for coracoid fixation, the axe of the drilled tunnel was used as “the inferior screw” for the other techniques.

d) Results
1) Preliminary Study
In the axial plane:
- The angle of the screws: The ICC in Intra-observer agreement was substantial to almost perfect (mean: 0.80; range, 0.70 to 0.94) and Inter-observer agreement was moderate to almost perfect (mean: 0.60; range, 0.43 to 0.92).
- The positioning of the CG at 50% and 25%: The ICC in Intra-observer agreement was slight to almost perfect (mean: 0.67; range, 0.16 to 0.90) and Inter-observer agreement was slight to substantial (mean: 0.47; range, 0.08 to 0.79).
- The contact area between CG and the glenoid: The ICC in Intra-observer agreement was fair to almost perfect (mean: 0.69; range, 0.31 to 1.0) and Inter-observer agreement was moderate to almost perfect (mean: 0.53; range, 0.43 to 0.87).

In the sagittal plane, when analyzing the percentage of CG under the equator of the glenoid screws: The ICC in intra-observer agreement was moderate to almost perfect (mean: 0.69; range, 0.45 to 0.85) and inter-observer agreement was slight to almost perfect (mean: 0.42; range, 0.13 to 0.90).

2) SFA Symposium
In the axial plane:
- The angle of the screws: ATB was the “most parallel to the JL option” whereas ATL screws were more divergent than OT (p<0.01).
- The positioning of the CG: OT was significantly more flush to the JL whereas ATB was more lateral (p<0.01). There was a higher dispersion of the values with the ATL.
- The contact area between CG and the glenoid: There was no significant differences between the different open and arthroscopic techniques although a higher dispersion of the values with the ATL.

In the sagittal plane, when analyzing the percentage of CG under the equator of the glenoid screws: The CG with the ATL was significantly “higher” than with the OT, whereas ATB was “lower” (p<0.001).

APKASS Best Free Paper Presentation
11 June (Sat)
Seminar Room A (1/F), 12:15-13:15

[B0795] Comparison Of Coracoid Graft Positioning Between Arthroscopic And Open Latarjet Procedures: A 2D CT-Scan Analysis

Johannes BARTH1, Lionel Neyton2, Pierre Métais3, Gilles Walch4, Laurent Lafosse5 and SFA6
1Centre Ostéo-Articulaire des Cèdres, Grenoble, France; 2Centre Orthopédique Santy, Lyon, France; 3Clinique de la Chataigneraie, Beaumont, France; 4Clinique Générale, Annecy, France; 5French Society of Arthroscopy, Paris, France

a) Background
The Latarjet procedure remains the main effective operation to treat recurrent shoulder instability. However an overhanging position of the coracoid graft (CG) may lead to early arthritis and an excessively medial position may lead to failure. It is difficult to standardize plain X-rays for accurate and reproducible position analysis; therefore CT-scans appear to be a better option. Numerous studies report evaluation of positioning of the CG (for arthroscopic or open procedures) using OSIRIX™ software. The aim of the study was:

1) To define and to evaluate a reliable and reproducible 2D CT-scan analysis protocol to assess the coracoid graft positioning after Latarjet procedure in the axial and sagittal planes (preliminary study)
2) To compare arthroscopic technique to conventional open technique in terms of positioning (SFA Symposium)

b) Material
9 surgeons in 9 centers participated in the multicentric prospective study promoted by the French Society of Arthroscopy, from March 2013 to June 2014 for the inclusions (IRB: CERC-VS-2016-02-1). The follow-up continued until September 2015 to obtain at least one year of follow-up. We included patients operated for recurrent shoulder instability with the Latarjet procedure (arthroscopic and open techniques). 390 patients were enrolled: 104 (27%) with the open technique as described by P. Boileau (ATB) performed by 6 surgeons, 222 (57%) with the arthroscopic technique as described by L. Lafosse (ATL) performed by 6 surgeons, and 64 (16%) with the open technique as described by G. Walch (OT) performed by 2 surgeons.

211 CT-scans/Patients were available for position analysis (79 OT, 86 ATL, 42 ATB). The different previous parameters were analyzed to compare arthroscopic techniques versus open. For the ATB, using endobutton instead of screw for coracoid fixation, the axe of the drilled tunnel was used as “the inferior screw” for the other techniques.

c) Method
1) Preliminary study (n=15)
15 postoperative CT-scans of Latarjet (5 open, 5 mini-open and 5 arthroscopic procedures) were included to assess intra-observers reproducibility and inter-observer reproducibility according a standardized CT-scan analysis (modified protocol initially published by Kraus et al) among 3 senior and 3 junior shoulder surgeons. DICOM images...
Material: 41 patients who underwent anatomic ACL reconstruction using autograft quadriceps tendon with a bone block were enrolled in this prospective cohort study. It has been reported that chronicity of ACL tear greater than 8 weeks was a significant factor in medial compartment chondral pathology [1]. Thus, the timing of early surgery was defined as less than 8 weeks after injury in this study. 27 patients (21.1 ± 7.3 years old) were in the early group (5.0 ± 1.8 weeks) and 14 (23.4 ± 9.2 years old) in the delayed group (22.3 ± 13.9 weeks).

Methods: The patients performed downhill running (speed: 3 m/s, downward slope: 10°) on an instrumented, dual-belt treadmill within the dynamic stereo x-ray system 6 and 24 months after ACL reconstruction. Synchronized X-ray image pairs were acquired at 150Hz. Positions of the femur and tibia were determined from each image pair by aligning the radiographic images to projections through the CT-based 3-dimensional bone models, using a previously validated model-based tracking method [2]. Three dimensional tibio-femoral kinematics (flexion/extension, adduction/abduction, internal/external rotation) were calculated as previously described [3] from initial contact to mid-stance (gait cycle: 0-10%), based on gait events detected using vertical ground reaction forces from the instrumented treadmill. We compared the side-to-side differences (SSD) (The values of ACL reconstructed knees minus the values of contralateral healthy knees ) of mean and range (the difference between maximum and minimum values) of tibiofemoral translations/rotations during downhill running, KT-1000 arthrometer measurements, passive range of motion (extension and flexion loss was defined as the deficit of more than 5 and 15 degrees respectively, on the basis of IKDC form), and patient-reported outcomes (PROs) (IKDC Subjective Knee Form (IKDC-SKF) and KOOS scores) 6 and 24 months after ACL reconstruction between early and delayed groups. The results of knee kinematics, KT-1000 measurements and PROs were analyzed using mixed model ANOVAs. Post-hoc independent-samples t-tests with Bonferroni correction for multiple comparisons were used to explore differences between groups at each time point (significant level: p<0.025). The results of passive range of motion were explored using chi-square test (significant level: p<0.05).

Results: There were significant differences between early and delayed ACL reconstruction in SSD of anterior-posterior translation range (1.1 ± 0.4 mm vs -0.7 ± 0.6 mm; p=0.01) and internal-external rotation range (-0.8 ± 0.5° vs -3.2 ± 1.0°; p=0.02) during downhill running and IKDC-SKF scores 24 months after ACL reconstruction (91.8 ± 1.8 vs 84.6 ± 2.5; p=0.02). There were no significant differences in any other measurements between early and delayed ACL reconstruction.

Discussion: This study is the first to assess relationships between timing for ACL reconstruction and knee kinematics during a dynamic, functional activity after ACL reconstruction. We found that there is increased anterior laxity in the surgical knee in early group in contrast with over constraint in the delayed group during running 24 months after surgery. However, SSD of anterior-posterior translation range in the early group was only 1.1 mm. On the other hand, early ACL reconstruction restored the range of internal-external rotation during running and resulted in better IKDC-SKF scores. These results support performance of early ACL reconstruction within 8 weeks from injury.

Conclusions: Early ACL reconstruction within 8 weeks from injury restored the range of internal-external rotation during running and provided superior IKDC-SKF scores 24 month after surgery.

References:
Dai Sato1, Koji Yabuuchi1, Eiji Kondo2, Jun Onodera3, Tomohiro Onodera1, Toshiaki Kameda1, Nobuto Kitamura3, Tomonori Yagi4, Norimasa Iwasaki4, Kazunori Yasuda3

1 Department of Orthopaedic Surgery, Hokkaido University Graduate School of Medicine, Japan; 2 Department of Advanced Therapeutic Research for Sports Medicine, Hokkaido University School of Medicine, Japan; 3 Department of Sports Medicine and Joint Surgery, Hokkaido University Graduate School of Medicine, Japan; 4 Department Orthopaedic Surgery, Yagi Orthopaedic Hospital, Japan

Background: Medial Open-Wedge High Tibial Osteotomy (MOWHTO) has been a useful surgical options for medial osteoarthritis (OA) of the knee. To perform a MOWHTO, surgeons frequently expose the medial-proximal tibia by partial or complete distal release of the overlying insertion of the superficial layer of medial collateral ligament (sMCL) for osteotomy and decompression of the medial joint compartment. Biomechanically, the sMCL is the primary restraint to valgus forces and plays a significant role in restraining external rotation. Therefore, any release of the MCL can lead to valgus instability of the knee joint. However, clinically, post-surgical valgus instability following HTO with the sMCL release remains unclear.

The present study clearly showed that the valgus instability immediately after releasing the sMCL was significantly greater than before surgery. However, there were no significant differences in the valgus instability between the 2 periods: before MOWHTO and one year after it. These results indicated that the complete release of the distal attachment of the sMCL did not cause the postoperative valgus instability. We consider that this procedure is necessary to avoid not only an increase in medial joint pressure but also neurovascular injury by inserting a protector to the posterior tibia during surgery. However, long-term follow-up evaluations are needed to confirm the superiority found in the present study.

Conclusion: The complete release of the sMCL did not cause the postoperative valgus instability one year after MOWHTO procedure.

Discussion: The present study clearly showed that the valgus instability immediately after releasing the sMCL was significantly greater than before surgery. However, there was no significantly differences in the valgus instability between the 2 periods: before MOWHTO and one year after it. These results indicated that the complete release of the distal attachment of the sMCL did not cause the postoperative valgus instability. We consider that this procedure is necessary to avoid not only an increase in medial joint pressure but also neurovascular injury by inserting a protector to the posterior tibia during surgery. However, long-term follow-up evaluations are needed to confirm the superiority found in the present study.

Material & Methods: Between 2009 and 2014, 65 consecutive patients (71 knees) who underwent MOWHTO using a locking plate (TomoFix, DepuySynthes, Switzerland) were enrolled in this study. Inclusion criteria involved patients who had medial compartment osteoarthritis or spontaneous osteonecrosis of the knee. There were 13 men and 52 women with a mean age of 62 (40-72) years at the time of surgery. In surgical procedure, we performed a complete release of the distal tibial attachment of the sMCL. Then, a biplanar osteotomy of the tibia was performed. Wedged beta-tricalcium phosphate spacer was implanted in the opening space. After repairing the released sMCL and periosteum, a TomoFix plate was fixed onto the proximal tibia. Partial weight-bearing was permitted at 2 weeks after surgery. Full weight-bearing was allowed at 4 weeks after surgery. To assess objective medial instability, the joint line convergence angle (JLCA) and the medial joint space (MJS) was evaluated using a Telos device (Metax, Hungen-Obbornhofen, Germany) with a 150 N valgus force at 20 degrees of knee flexion. The distance of the MJS was calculated according to the method reported by Sawant et al. All patients underwent clinical and radiological examinations before surgery and at one year after surgery. Statistical analysis was made using a Student t test. The significance level was set at p = 0.05.

Results: 1) Postoperatively the mean Japan Orthopaedic Association score significantly improved from 65 to 91 points (total score: 100 points, p< 0.0001). 2) The lateral femorotibial angle changed from 179 to 169 degrees. The weight-bearing line percentage shifted to a point 69 % lateral from the medial edge of the tibial plateau. 3) The JLCA and MJS significantly increased immediately after releasing the distal attachment of the sMCL during surgery (7.5 degrees and 12.8 mm). However, there were no significant differences in the JLCA and MJS between pre-operative (0.9 degrees and 6.7 mm) and one-year post-operative evaluations (0.6 degrees and 6.2 mm).

[BO484] Effects Of Releasing The Superficial Medial Collateral Ligament In Medial Open-Wedge High Tibial Osteotomy

[BO404] Increased Medial Meniscal Slope Is Associated With Greater Risk Of Ramp Lesion In NonContact Anterior Cruciate Ligament Injury
lesions other than ramp lesion, skeletal immaturity, general joint laxity, severe mal-alignment of lower extremity, history of previous knee surgery, lack of available pre-operative MRI, and history of trauma to the proximal tibia. This left 53 patients in the study group (ACL + ramp group), which were matched in a 1:1 fashion to 53 control participants (isolated ACL group) who were arthroscopically verified to have isolated complete ACL injury during the same study period. Patients were matched by age, sex, and time from injury (TFI). Subjects from the matched control group were selected by applying the same exclusion criteria as mentioned above. The MMS and medial posterior tibial slope (MPTS) were measured on the pre-operative MRI in a blinded fashion. Predictors of ramp lesion, including the MMS, MPTS, body mass index (BMI), grade of pivot-shift test, and KT-1000 side-to-side difference were assessed by multi-variable conditional logistic regression analysis.

Results: The mean MMS in the study group was found to be 3.5°, which was significantly larger than that in the control group (2.0°, P < .001). In addition, increased MMS was significantly (odds ratio [OR], 5.180; 95% confidence interval [CI], 1.814 - 32.957; P < .001) associated with concomitant ramp lesion in non-contact ACL injury, especially for those with the TFI more than 6 months (OR, 13.819; 95% CI, 2.251 - 49.585; P < .001). However, no significant association was identified between MPTS and concomitant ramp lesion.

Discussion: The MPTS of the bony tibial plateaus is frequently mentioned for its association to increased anterior tibial translation in ACL-deficient knees 1. Some authors have already presumed that with increased anterior tibial translation, greater ligament loading occurred and placed the ACL at higher risk of injury. Furthermore, Lee et al. 4 reported that the incidence of secondary medial meniscal lesions was significantly higher in patients with increased degree of MPTS after ACL injuries. However, in a matched case-control study recently performed by Hudek et al., 5 no obvious link between the MPTS and non-contact ACL injury was found. Additionally, Markl et al. 6 concluded that higher MPTS was not associated with increased prevalence of medial meniscal lesions after non-contact ACL injuries. Until now, clinical data about the connection between the higher MPTS and secondary medial meniscal lesions are inconsistent.

The lack of consensus might be attributed to the use of bony tissue to define the tibial slope. The soft tissues covered on the tibial plateau (e.g. meniscus), may influence the bony tibial slope and consequently play an important role in controlling the anterior tibial translation, especially for an ACL-deficient knee. Cinotti et al. 7 claimed that since menisci accomplished most of tasks, such as shock absorption, load sharing, and passive stabilization, they should be taken into account in evaluating the sagittal tibial slope. They further showed that both menisci were thicker in their posterior than in their anterior portion. Similarly, Lustig et al. 8 found that the menisci generated a more horizontal slope than the bony tibial slope when measured on MRI. Assessment of the meniscal slope has thus received considerable interest, with some arguing that it could reflect more accurately the relation between the femoral condyle and the tibial surface.

Conclusion: Increased MMS is identified to be an independent anatomical risk factor of concomitant ramp lesions in non-contact ACL injuries, particularly for those with the TFI more than 6 months. This may provide additional information for counseling patients who have increased MMS on greater risk of secondary PHMM lesions if their ACL-deficient knee joints are not well stabilized initially.

References
whether the surgery was performed on dominant side first, age, duration of symptom, no preoperative clinical factors (including VAS for pain and satisfaction, and ROM) were failure of both sides. However, the functional outcomes of supraspinatus (OR = 2.2, P = 0.005) and infraspinatus (OR = 2.1, p<0.05) were higher fatty degeneration of the surgically repaired cuff according to the time of diagnosis for the rotator cuff tear of the opposite side between shoulders (all Ps > 0.05). Tear size of both shoulders were closely related (OR = 20.0, P = 0.001), however, no preoperative clinical factors (age, duration of symptom, diabetes mellitus, osteoporosis, preoperative VAS and ROMs) were significantly related with tear size (all Ps > 0.05).

Postoperative functional outcomes at 6, 12 months and final follow-up of the first and second surgeries improved significantly compared to preoperative state (all Ps < 0.05). Between first and second surgeries, satisfaction at 12 months and functional outcomes (VAS for pain and satisfaction, SST, ROMs) at final follow-up visit were significantly better in first surgery (all Ps < 0.05). Regarding the interval between first and second surgeries, satisfaction VAS and functional scores (ASES and SST) were significantly lower in shoulders of second surgery at postoperative 6 months in patients whose surgical interval was shorter than 6 months compared to patients whose interval was longer than 6 months (all Ps < 0.05). The rates of healing failure were 15.9% (10 of 63) after first surgery, 22.2% (14 of 63) after second one. Larger tear size (OR=2.1, p<0.05) and higher fatty degeneration of the supraspinatus (OR = 2.2, P = 0.005) and infraspinatus (OR = 2.7, P < 0.05) were significantly related to the healing failure of both sides. However, the functional outcomes including VAS for pain and satisfaction, and ROM were not statistically different with respect to cuff healing, and no preoperative clinical factors (age, duration of symptom, whether the surgery was performed on dominant side first, diabetes mellitus, osteoporosis, preoperative VAS and ROMs) were significantly related to the healing failure of both sides. (all Ps > 0.05). Seven patients showed bilateral healing failure, and this meant 70% of initial failure followed subsequent failure in the other shoulder, and there was significant relationship between the failure of first and second surgeries (OR = 15.3, P < 0.001).

Discussion: In staged bilateral rotator cuff repairs, functional outcomes of second surgery were lower than first one, which corresponded to the comparative study of bilateral staged total knee arthroplasty that the expectation and satisfaction are relatively lower in second surgery, because expectation and satisfaction is too high after first surgery. Furthermore, if bilateral shoulders are involved, more symptomatic shoulder usually repaired first, therefore, subjective evaluation might be better in first surgery. The close interval between two surgeries within 6 months negatively affected to functional scores of second shoulder at early postoperative period, as the rehabilitation usually depends on the opposite shoulder. Previously operated shoulder which had not been fully recovered might adversely affected the early outcome of second shoulder. Therefore, it would be recommended that the second surgery should be performed after at least 6 months after first surgery in patients of bilateral rotator cuff tears. However, this decision should be carefully made because there is chance of progression of rotator cuff tear. Interestingly, the healing failure of firstly repaired rotator cuff was significantly related to the healing failure of second shoulder. This might be explained by the correlation of tear size between both sides. The tear condition of both shoulders were seemed to be similar, so it could be expected there were similar results on healing of both shoulder. Being supported by the current study and several studies including authors2, the tear size and fatty degeneration of rotator cuff were the independent prognostic factors for healing regardless of side. Therefore, we could carefully suggest that healing failure at first surgery could be a good predictor for the failure of second surgery.

Conclusion: Though bilateral arthroscopic rotator cuff repair demonstrated good outcomes in each side, the second shoulder would be better to be repaired after at least 6 months after first surgery. The healing of first rotator cuff repair was most important predictor of healing failure of second surgery.


References:

Background: Hamstring grafts used in anterior cruciate ligament (ACL) reconstruction have been shown to lead to changes to the semitendinosus and gracilis musculature\(^1,2\), possibly impacting the morphology and strength of other muscle groups of the knee. It is therefore unknown to what extent knee muscle weakness following the hamstring graft is explained by atrophy of the donor muscles alone, or whether morphological adaptations are also evident in non-donor knee muscles. The objectives of this study were to examine the differences in knee muscle morphology and strength between the surgical and contralateral limbs in patients that had undergone an ACL reconstruction using a quadruple bundle hamstring graft at two years post-surgery. We hypothesised that the loss of donor muscle size would significantly correlate with knee muscle strength deficits and that morphological adaptations would also be evident in non-donor knee muscles.

Materials: Axial T1-weighted 3D fast field echo sequences (FFE) and axial proton density 2D turbo spin echo sequences (PD) were acquired using a 3 Tesla magnetic resonance imaging (MRI) scanner (Philips Medical Systems). Image analysis was performed using image analysis software (Mimics, Materialise, v17). An isotropic dynamometer (Biodex medical systems, Shirley, NY, USA) was used to evaluate knee flexion/extension concentric strength, as well as internal/external tibial rotation concentric strength on both the operative and non-operative leg.

Methods: 20 participants (14 male, 6 female, 29 ± 7 years, 82 ± 15 kg) that had undergone a quadruple bundle hamstring graft in ACL reconstruction at least two years previously, underwent magnetic resonance imaging (MRI) taken from the level of the iliac crest to the ankle mortise spanning both legs. Slice thickness was 2.4 mm with a 0.5 mm intersection gap. From each axial slice, each respective muscle/tendon were traced as separate objects and used to build digitized three-dimensional patient specific mesh models. Using these mesh models, muscle and tendon volumes, peak cross sectional areas (CSA) and lengths were determined for 12 muscles and 6 muscle and tendon volumes, peak cross sectional areas (CSA) and lengths were strongly correlated with the deficits in knee flexor strength. We also demonstrated that the semimembranosus and biceps femoris long head muscles may partially compensate for these deficits in donor muscle size by increasing volume in the surgical leg.

Discussion: Half of all semitendinosus and gracilis donor tendons investigated in the study regenerated post-surgery. However, these regenerated tendons were abnormal, being both longer with larger volume and peak CSA compared to the contralateral leg. These results are in general agreement with previous findings investigating tendon regeneration\(^1,2\). This corresponded with a significant reduction in the semitendinosus and gracilis muscle volume, peak CSA and length in the surgical limb compared to the contralateral side. The knee flexors, extensors and internal tibial rotators were weaker in the surgical leg, and the differences in semitendinosus and gracilis volume, peak CSA and length were strongly correlated with the deficits in knee flexor strength. We also demonstrated that the semimembranosus and biceps femoris long head muscles may partially compensate for these deficits in donor muscle size by increasing volume in the surgical leg.

Conclusion: The muscle and tendon morphological properties of the semitendinosus and gracilis are substantially altered following tendon harvest with either no tendon, or abnormal tendon regeneration with more proximal re-attachment. These alterations may underpin knee flexor weakness in the surgical limb which may only be partially compensated by hypertrophy of other hamstring muscles. These deficits that exist in the medial hamstring may affect loading and stabilisation of the tibio-femoral joint, increasing the risk of ligament re-rupture and/or joint degeneration.

References:
IFOSMA Best Free Paper Presentation
10 June (Fri)
Seminar Room A (1/F), 12:15-13:15

[B0855]: Four-Strand Hamstring Autograft Versus LARS Artificial Ligament In The Anterior Cruciate Ligament Reconstruction: A Retrospective Follow-Up Study Of A Minimal 9-Year Period

Tianwu Chen¹², Shiyi Chen¹²
¹ Department of Orthopedic Sports Medicine, Huashan Hospital, Shanghai, China
² Sports Medicine Center, Fudan University, China

Background:
The optimal graft choice in the anterior cruciate ligament (ACL) reconstruction is controversial. Recently, autografts or allografts were mostly applied in such procedures, while they both have drawbacks¹³. Comparatively, the application of artificial ligaments can evade potential adverse events like harvest-side morbidity or disease transmission in the ACL reconstruction. Despite the failure or at least unsatisfactory results from early application of artificial ligaments, the LARS, a new generation artificial ligament, demonstrated satisfactory outcome in short- and mid-term follow-ups⁴. Whilst, the outcomes from long-term follow-up studies were scant and inconsistent¹⁰. The purpose of this study, to evaluate and compare the long-term results of primary ACL reconstruction using either a LARS artificial ligament or a four-strand hamstring autograft.

Materials:
Eighty-five cases of arthroscopic ACL reconstruction using the Ligament augmentation reinforcement system (LARS) or four-strand hamstring autografts between July 2004 and February 2007.

Methods:
The evaluation included patients-reported questionnaires (Tegner Activity Score, IKDC Subjective Knee Evaluation Form, and Lysholm Score), physical exam and instrumental measurement, as well as radiographic exam (X-ray). Despite the patients-reported questionnaires, the cases were assessed based on the 2000 IKDC Knee Evaluation Form. The postoperative evaluation were performed through telephone, Internet-based communication, and outpatient service.

Results:
A total of 85 cases included in this study, and 67 cases were available in the final follow-up. Twenty-three cases with primary LARS ACL reconstruction and 44 cases with four-strand hamstring autografts were accepted the ACL reconstruction using the LARS artificial ligament (group A), which belonged to part of another research program. While 44 cases underwent the ACL reconstruction using four-strand hamstring autografts (group B). The mean follow-up period was 116 months. The demographics and level of preoperative activity were similar in both groups. For the failure cases, there were 1 in group A and 3 in group B. In the remaining cases, there was no statistical difference between the two groups regarding the patients reported questionnaires.

Discussion:
Long-term outcomes of the ACL reconstruction was mostly reported involving the cases using traditional methods using auto/allografts⁵¹². For the artificial ligaments, especially the LARS, a new generation synthetic graft, investigation was relatively scant. Regarding previous reports, the LARS-ACL reconstruction demonstrated satisfactory outcome in older patients. While some researchers showed unacceptable long-term results of such procedure⁶. According to our knowledge, this study firstly compared the long-term outcome of the ACL reconstruction with the LARS artificial ligaments and those with hamstring autografts. At the final evaluation at a minimal 9 years postoperative, we found that both groups demonstrated good outcomes.

Conclusion:
The long-term outcomes of the ACL reconstruction demonstrated satisfactory outcomes either using the LARS artificial ligament or four-strand hamstring autograft. Degenerative change after the ACL reconstruction was more common in the patients using autografts.

References:
Background: Traditional open reduction and internal fixation (ORIF) method treat with tibial plateau fractures requires extensive soft tissue dissection, which may lead to numerous complications and risks such as traumatic arthritis, infection, and ankylosis. Additionally, intra-articular lesions such as meniscus or anterior cruciate ligament (ACL) injuries cannot be diagnosed and treated properly because of limited exposure. With the development of arthroscopy, arthroscopic assisted reduction internal fixation (ARIF) treatment allows for accurate fracture reduction by direct visualization, avoid extensive dissection of soft tissues, and can simplified diagnosis and treatment of meniscal and ligamentous injuries, thorough-joint lavage, and removal of loose fragments. showed a lower incidence of infection, which is beneficial to early rehabilitation and obtain a better clinical effect eventually.

Objective: To investigate arthroscopic tibial plateau fractures in the auxiliary schatzker I-III type of clinical efficacy.

Material's & Methods: 90 cases treated tibial plateau fractures schatzker I-III type of patients selected from March 2015 to December 2015 in our hospital, according to a random number table method all patients were divided into observation group and control group, the control group were treated with traditional Open reduction and internal fixation method of treatment, patients in the observation group arthroscopic assisted therapy, the clinical efficacy of two groups were compared after treatment, healing time, full weight-bearing time and motion, surgery is generally the case, HSS score and complications.

Results: After treatment, the observation group of patients with fracture healing time, full weight-bearing time (6.78 ± 0.61 months, 95.12 ± 10.25d) was significantly shorter than the control group (12.56 ± 4.16 months, 118.23 ± 13.01d), range of motion (125.78 ± 2.16°) was significantly higher (110.16 ± 2.71 degrees), the difference was statistically significant (P < 0.05); surgery patients in the observation group time, amputation time, incision length, and blood loss were (84.15 ± 2.13min, 3.15 ± 0.03d, 5.12 ± 0.31cm, 45.12 ± 4.16ml) was significantly shorter than the control group (112.06 ± 7.35min, 5.14 ± 0.08d, 12.45 ± 3.12cm, 454.78 ± 9.12ml), postoperative drainage and hospitalization costs are (36.98 ± 7.14ml, 8213.78 ± 405.31 million) lower than the control group (5.14 ± 0.08ml, 9872.78 ± 501.45 million), the difference was statistically significant (P < 0.05), after three months, six months, last follow-up, both groups of HSS score, the difference was not statistically significant (P > 0.05); clinical observation group of patients (88.89%) higher (60.00%), the incidence of complications (6.67%) Low in the control group (42.22%), the difference was statistically significant (P < 0.05).

Discussion: Traditional open reduction and internal fixation (ORIF) method needs long incision, extensive soft tissue dissection, and associated intra-articular lesions cannot be diagnosed and treated properly because of limited exposure. Therefore, it is easy to cause joint adhesion, difficulty rehabilitation and infection. Arthroscopic assisted reduction internal fixation (ARIF) treatment allows for accurate fracture reduction by direct visualization, avoid extensive dissection of soft tissues, and can simplified diagnosis and treatment of meniscal and ligamentous injuries, thorough-joint lavage, and removal of loose fragments, showed a lower incidence of infection, which is beneficial to early rehabilitation and obtain a better clinical effect eventually.

Conclusion: arthroscopically assisted treatment of tibial plateau fractures fold schatzker II-III type incision than traditional fixation surgery, less postoperative complications, shorten healing time, worthy of promotion.

Key words: arthroscopic; tibial plateau fracture; clinical efficacy

*Corresponding authors: 
Qing Bi, Department of Orthopedics and Joint Surgery, Zhejiang Provincial People’s Hospital, Hangzhou, Zhejiang, China

[Research Article]

Clinical Research Of Arthroscopy Assisted In Schatzker I-III Tibial Plateau Fracture

Qing Bi*, Li Cao1, Weiwei Ruan Liu1,2
1 Department of Orthopedics and Joint Surgery, Zhejiang Provincial People’s Hospital, Hangzhou, Zhejiang, China

Abstract: To investigate arthroscopic tibial plateau fractures in the auxiliary schatzker I-III type of clinical efficacy.

Keywords: arthroscopic; tibial plateau fracture; clinical efficacy

*Corresponding authors: 
Qing Bi, Department of Orthopedics and Joint Surgery, Zhejiang Provincial People’s Hospital, Hangzhou, Zhejiang, China, Tel: 86-571-85239988, Email address: 13588302991@126.com

材料：自2010年5月至2013年10月，笔者采用个体化定
位方法，保留胫骨残端撕裂纤维以自体腘绳肌腱重建ACL 204例；男性99例，女性105例；平均年龄25.8(17~43)岁；受术至手术时间3个月~6个月，平均4.5±1.1个月，术前轴
移移位40例165例，Lachman试验阳性204例，ADT阳性
204例；KT2000仪器测量胫骨前移位，与对侧肢体相比，
相差为7.2mm±2.3mm。Lysholm评分81~97分，平均
65.7±5.4分，评分优(95~100)0例(0%)，良(84~94)0例(0%)
中(65~83)9例(4.4%)。差(≤64)195例(95.6%)。Tegner运动功能评
分2~4分，平均3.1±0.6分。

方法：术中保留前交叉韧带残端，股骨端残端保留约
2mm；胫骨残端纤维完全保留。根据残端定位隧道，股骨和
胫骨隧道均定位在原始足印中心区，股骨隧道可经内侧入路定位，股骨端采用RigidFix固定，胫骨端采用InterFix固定。

结果：术前联合平均31.5±2.4个月(24个月~42个月)。末
终访踝移位移移位40例165例，Lachman试验阳性190例，I
度14例；前抽屉试验阳性184例，I度18例，II度
2例；KT2000测量胫骨前移位，术前联合时膝侧偏移
值为1.9mm±0.7mm(0~3mm)，与术前比较，差
异无统计学意义(2=11.15，p=0.0001)。Lachman试验平均
65.7±5.4分，与术前比较，差异有统计学意义(2=18.55，p=0.001)。Lysholm评
分和体侧外旋及内旋活动度较对侧比较差异具有统计学
意义(t=9.11，p=0.0005)。没有观察到隐性骨折和韧带失
效等并发症。

结论：本研究采用的个体化定
位方法，保留胫骨残端纤维以自体腘绳肌腱重建ACL，可更好模拟原始韧带解剖，取得
更好的临床疗效。

【B0209】关于全关节镜下肩袖修补术治疗肩袖撕裂的临床疗效
唐新，李箭，李棋，陈刚，付维力
四川大学华西医院骨科，中国

背景:回顾性分析全关节镜下肩袖修补术治疗单纯肩袖撕
裂的临床疗效。

方法:2013年10月至2014年10月全关节镜下肩袖修补术
治疗的肩袖撕裂患者，排除合并糖尿病，严重骨质疏松以
及吸烟史的患者。对于肩袖撕裂患者，手术常规行关节清
理，囊肿形成，肩袖撕裂缝合术，结扎固定。所有患者均
通过支具固定，术后恢复时间2周以内。

结果:统计分析65例肩袖撕裂患者，患者的平均年龄53岁。
术后均顺利出院。术后随访平均13月，随访期间无感染、不
拔钉、骨折并发症。术后随访患
肩VAS评分较术前均明显降低(P<0.01)，随访末仅2例
患者残留疼痛，其余患者疼痛基本消失；术后随访末
UCLA评分较术前均显著提高(P<0.01)，其中以随访末
期肩肩功能恢复最佳。

结论:全关节镜下肩袖修补术治疗肩袖撕裂疗效满意，具
备创伤小、恢复快等优势。

【B0361】后交叉韧带两切口内侧保残增强手术
技术：急性期vs慢性期
金文赫，宋之明，张晓南
吉林大学第一医院，运动医学科，中国

背景：目前，后交叉韧带损伤手术治疗的方法与技术有
数种，各有优势，后交叉韧带损伤后手术时期的争议仍
存在。我们认为，后交叉韧带损伤后残端与周围组织对移
植的愈合(或粘连愈合)起到重要作用。因此，我们采用
两切口全内保残增强技术，对比分析急性期(损伤6~12
周)与慢性期(损伤3个月以上)两种手术技术的不同，探讨
其在疗效和康复方面的差异。

方法：后交叉韧带损伤合并肩袖损伤的
Bankart损伤后残端与周围组织对移植的愈
合(或粘连愈合)起到重要作用。因此，我们采
用两切口全内保残增强技术，对比分析急性期(损伤
6~12周)与慢性期(损伤3个月以上)两种手术技术的不同，探讨
其在疗效和康复方面的差异。

结论：全关节镜下肩袖修补术治疗肩袖撕裂疗效满意，具
备创伤小、恢复快等优势。
Materials: 19 level III单纯PCL断裂(股骨止点或体部)的患者，包括10例急性期手术患者(A组)及9例慢性期手术患者(B组)，随访至少9个月。自体腘绳肌腱重建，采用两切口全内保残增强技术，手术均由同一个术者主刀。

Methods: 对比研究两组间术前及术后活动度，IKDC主观评分，IKDC组级分类，术中测量等长性及应力位DR片胫骨后移程度，康复过程(术后4周弯腿练习)疼痛VAS评分等。

Results: 活动度、IKDC主观评分、术中测量等长性等评估两组间无统计学差异。应力位DR片胫骨后移程度术前A组与B组无统计学差异(9.61±1.21mm;10.26±1.10mm)，术后9个月胫骨后移均显著改善(2.62±0.30mm;3.56±0.46mm)，组间有统计学差异，A组优于B组。A组术后康复过程疼痛高于B组(6.3±2.2;4.2±2.8)，有显著统计学差异。

Discussion: 1、观察术中形态发现，PCL损伤急性期残端与周围组织血运更丰富。2、移植韧带胫骨止点下移后，保留全部残端，避免“杀手转弯”。3、使用自制专用手术器械不增加后方辅助切口，定位准确，避免移植韧带周围组织的再损伤，保留后方关节囊增加保残增强效果。4、与重建技术相比，胫骨骨隧道出口与后方大血管距离增加，安全性更好。

Conclusions: 两切口全内保残增强技术显著改善后交叉韧带损伤术后后向稳定性。急性期手术在后向稳定性及IKDC组级评分方面优于慢性期重建，但康复过程疼痛较显著。由于短期功能评分无显著差异，长期功能评分、松弛率及运动评分等，仍需大样本及长期随访观察。

---

**[B0290] The Use Of Silk Fibroin Coating To Enhance Intra-Articular Ligamentization Of Polyethylene Terephthalate Artificial Ligament**

Chengchong Ai, Jia Jiang, Fang Wan, Shiyi Chen

1Fudan University Sports Medicine Center and Department of Sports Medicine and Arthroscopy Surgery, Huashan Hospital
2State Key Laboratory of Molecular Engineering of Polymers, Fudan University

Background: In recent years artificial ligament represented by Ligament Advanced Reinforcement System(LARS) is back in the spotlight due to positive clinical outcome but synovitis in case reports is still a scruple. Silk fibroin (SF), which is characterized by good biocompatibility and low immunogenicity, has shown widespread versatility as a tissue engineering material and will play an important role where slow biodegradation and good mechanical properties are required such as for bone, ligament and musculo-skeletal tissues. Ligamentization of intra-articular segment of graft was investigated in this study and it was hypothesized that the graft coated SF would show better biocompatibility and ligamentization process.

Material: PET sheets taken from LARS artificial ligaments; PET artificial ligament for beagle ACL reconstruction made at Donghua University, Shanghai, China; scanning electron microscope (Tescan TS5136MM, Brno, Czech Republic); atomic force microscope (Veeco Metrology Group, Plainview, NY, USA); NEXUS-470 ATR spectrometer (Nicolet Instruments, Madison, WI, USA); BALB/C CL7 mouse fibroblasts cells purchased from American Type Culture Collection (ATCC, VA); CCK-8 solution (Dojindo, Tokyo, Kumamoto, Japan); microplate reader (MultiSkan FC; Waltham, MA, USA); integrinβ1 enzyme immunoassay kits (DYC3230E; R&D Systems, Minneapolis, MN, USA); 12 beagle dogs; microtomes (SM2500 and SP1600 Leica, Nussloch, Germany).

Method: Silk fibroin (SF) coating was utilized to modify the surface of PET. Scanning electron microscopy(SEM), attenuated total reflectance Fourier transform infrared spectroscopy(FTIR), atomic force microscopy(AFM) were utilized for proving the introduction of SF and characterizing the changes in surface properties. The performance of SF-coated PET graft(PET+SF) and non-coated PET graft(PET) were compared in vitro by culturing fibroblast cells. The proliferation, adhesion and differentiation of fibroblast cells were analyzed by SEM, confocal microscopy, CCK-8 assays, integrinβ1 detection with enzyme immunoassay kits. Furthermore, PET+SF ligaments and PET ligaments were implanted in beagle anterior cruciate ligament reconstruction models and intra-
Results: The SF was successfully coated on the surface of PET fiber. The SEM, confocal microscopy and CCK-8 assay showed that the fibroblast cell proliferation on PET-SF group was better than the PET group. After 3 days of culture, the expression level of integrin β1 in the PET-SF group and was higher than in the PET group. The in vivo results showed a thicker tissue enclosed the free fiber in articular cavity. Hematoxylin and eosin staining showed that cells attached to free fibers more closely and more fusiform cells were observed in PET+SF group 16 weeks postoperatively. Masson staining showed that in the PET+SF group 16 weeks postoperatively, the PET fibers were almost completely encircled by collagen. In addition, the expressing level of collagen I in the PET+SF group was higher than in the PET group by immunohistochemical analysis.

Discussion: Artificial ligament is designed to resist tension as a structural tie which is different from biologic grafts for the devoid of potential for ligamentization initiated by the host. The expected three phases of ligamentization for autografts and allografts are not spontaneous process for synthetic ACL grafts. The case of serious synovitis reminded us that it is imperative to prompt the biologic integration of intra-articular segment for synthetic ligaments. Moreover, loss of integrity of the textile because of poorly organized fibrous tissue infiltration was suggested to be a mechanism involved in the failure of artificial ACL prostheses. In vitro study, PET+SF group showed a promising result of fibroblast cells proliferation, adhesion and orientation compared with PET group, which is consistent with our previous work that SF coating on PET enhanced proliferation and adhesion of BMSC and fibroblast cells. These results demonstrates that SF coating is an effective method to cover the shortages of low tissue-inductive capability and poor cell-adhesive function of PET, which benefits ligamentization of synthetic grafts in vivo. 16 weeks after surgery in the beagle ACL reconstruction model, a thicker synovial tissue was observed in PET+SF group. Meanwhile, histologic test showed more fusiform cells in PET+SF group indicating the capability of producing and organizing collagen, which corresponded directly with higher collagen expression level in the immunohistochemical result. The native ACL is composed of multiple fascicles, the basic unit of which is collagen. The addition of autologous fibrin clot to double bundle ACL reconstruction in a caprine model increased collagen content and enhance graft healing. Xie et al. found that the enhancing effect of platelet-rich plasma(PRP) on the ACL graft maturation process was relevant to increased collagen I gene expression level in beagle ACL construction model with flexor digitorum longus. Based on these studies about autografts, it is implied higher collagen I concentration is conductive to a more ligamentous-like structure and increased tensile properties. When it comes to intra-articular region of synthetic ligament, replacement happened to biologic grafts is not expected and tensile strength loaded by newly generated collagen fibril is not the main demand. Ligamentization of synthetic ligament refers to protection from developing inflammatory disease, moreover, newly formed tissue incorporates into PET fibers without impairing the mechanical integrity of graft, that means collagen I fibrils are oriented parallel to the longitudinal axis of the synthetic ligament fiber, where the SF coating makes the most sense.

Conclusion: Our results in vitro demonstrated SF coating enhanced the proliferation, adhesion and the effect translated in vivo into a promoted intra-articular ligamentization. The overall findings indicate that SF coating optimize ACL reconstruction to fully restore the anatomy and function.

[BO115] Low-Dose Hydrogen Peroxide Impaired Tendon Healing And Induced Tendinopathic Changes

Sai-Chuen Fu1,2, Man-Yi Yeung1,2, Christer G Rolf, 1,3, Kai-Ming Chan1,2, Leung-Kim Hung1,2
1Department of Orthopaedics and Traumatology, Faculty of Medicine, The Chinese University of Hong Kong, 2Institute of Innovative Medicine, The Chinese University of Hong Kong. 3Department of Orthopaedic Surgery, Huddinge University Hospital, CLINTEC, Karolinska Institutet

INTRODUCTION: Oxidative stress is implicated in the development of tendinopathy1 and it is well-recognised that muscles generate free radicals during exercise that may induce oxidative stress in nearby tendons. Pathogenesis of tendinopathy is now considered as failed tendon healing2 influenced by a number of risk factors, such as genetics and overuse, but whether oxidative stress would impair tendon healing has not yet been investigated. In this study, the effect of imposed oxidative stress on tendon healing by hydrogen peroxide administration was studied.

METHODS: A total of 30 male SD rats were used in the study. A patellar tendon window injury was created on the right knee according to our previous protocol. The rats were randomly assigned to three groups (n=10). Each group received three subcutaneous injections over the right knee according to our previous protocol. The rats were euthanized at 4 and 16 weeks postoperatively. At day 42, the rats were euthanized to harvest knee specimens for either histology (n=2) or tensile mechanical test (n=8). Repeated measures ANOVA was used to compare results of mechanical test and ultrasound imaging. Statistical significance was accepted at α=0.05.

RESULTS: The elastic modulus of the healing patellar tendons was significantly lower in the group with 50µM H2O2 treatment (p= 0.002) but not in the 500µM H2O2 treatment group, while the ultimate mechanical stress was not significantly different across different groups (p=0.078). Similarly, only the 50µM H2O2 group exhibited pain-associated gait asymmetry as compared to the saline.
control \( (p=0.006) \). From 3-D ultrasound imaging, significant tendon swelling was observed in the proximal patella side in the 50\,\mu M H_2O_2 group, as indicated by increased total tendon volume \( (p=0.004) \). We also observed hypoechogenic changes in the tendon wound, but there was no significant differences in percentage vascularity in the healing tendon \( (p=0.182) \).

**DISCUSSION:** The results demonstrated that H_2O_2 impaired tendon healing and elicited tendinopathic changes, with respect to pain and structural abnormalities. The high dose of H_2O_2 did not elicit tendinopathic changes; it may be attributed to the effective triggering of host antioxidant defense mechanisms. The current findings suggest oxidative stress plays a role in the failed tendon healing of tendinopathies, and H_2O_2 induced failed tendon healing may serve as a good animal model to study tendinopathy.

**REFERENCES:**

**[B0838]: Does Knot Matter For SLAP Repair? - Knotache In Symptomatic Recurrent SLAP Lesion**

**Ho Yun Joung**, Sae Hoon Kim, Seok Hoon Yang, Sung Min Rhee, Hyeon Jang Jeong, Kyung Soon Jeong, Shang Mi Shim, Woo Kim, Joo Han Oh

1Department of Orthopaedic Surgery, Seoul National University College of Medicine, Seoul National University Bundang Hospital, 1Seoul National University Hospital, Korea
2Nalgae Hospital, Seoul, Korea

**Background:** In general, the outcomes of arthroscopic superior labrum anterior to posterior lesion (SLAP) repair are favorable. However, persistent pain and limitation of motion are not rare complication after SLAP repair. One of possible causes is knotache; suture knot on the superior labrum probably impinged during shoulder motion, especially abduction-external rotation position. The purpose of this study was to evaluate the result of re-operation of symptomatic recurrent SLAP tears that had been treated with arthroscopic SLAP repair, and how much knot induce problems.

**Materials and Methods:** Between 2004 and 2013, 11 patients (12 shoulders) who had undergone arthroscopic SLAP repair as a primary operation at the other hospital were treated for recurrent symptomatic SLAP lesion at the senior author’s hospital. By retrospective chart review, operative finding, visual analogue scale (VAS) for pain, range of motion (ROM) and functional scores were analyzed.

**Results:** All patients were male and the mean age was 38 (range, 19 to 64) years. The mean follow up after revision operation was 22.4 (range, 6 to 73.7) months, and the mean interval between primary operation and revision was 35.1 (range, 1.2 to 97) months. In primary SLAP repair, knot-tying suture anchor was used in 9 shoulders, and knotless anchor in 3 shoulders. The second operations were as follows; revision SLAP repair using knotless suture anchors in 3 shoulders, biceps tenotomy in 4 shoulders, biceps tenodesis in 4 shoulders, and just knot removal in 1 shoulder. In 9 knot-tying suture anchor cases, loosened knots surrounded by reddish synovial hypertrophy were observed in 7 shoulders, and pulled-out anchors were observed in 3 shoulders. In 3 knotless anchor cases, two of them showed poor quality of superior labrum with biceps partial tear, and one anchor was pull out after trauma in one patient.

In 9 knot-tying suture anchor cases, loosened knots surrounded by reddish synovial hypertrophy were observed in 7 shoulders, and pulled-out anchors were observed in 3 shoulders. In 3 knotless anchor cases, two of them showed poor quality of superior labrum with biceps partial tear, and one anchor was pull out after trauma in one patient. The mean preoperative pain VAS was 5.7 (range 0-9) and decreased significantly to 1.5 (range 0-5) postoperatively \( (p=0.001) \). The mean internal rotation at back and Constant score were improved significantly after reoperation \( (p=0.041\) and \( p=0.017 \), respectively). The mean satisfaction VAS at final follow up was 8.

**Discussion:** Arthroscopic SLAP repair yields good to excellent results in 63% to 100% \(^1\). However, 37% of patients have had an unsatisfactory result after their SLAP surgery\(^2\). Karz et al.\(^3\) found that 71% of patients with a poor outcome after SLAP repair were dissatisfied with conservative treatment. So, there is a high chance of conservative treatment failure in patients with poor outcome, and the indication of revision operation will be needed. Knot or anchor in the glenohumeral joint can be the pain source. In the present study, symptomatic recurrent SLAP patients were treated with revision operation (SLAP repair, biceps tenodesis, tenotomy) including knot or anchor removal. Postoperative pain VAS was decreased and internal rotation and functional outcome were improved.

**Conclusion:** The current findings indicate that knotache is important when considering the underlying recurred or persistent pain observed in patients with recurrent SLAP lesion. Although all knots in the glenohumeral joint do not induce pain, it is better to mind that knot can be one of the possible pain source after SLAP repair.

\(^1\) Cordasco FA, Steinmann S, Flatow EL, Bigliani LU. Arthroscopic 1993;21:425-431.

================================================================
[B0568]: Analysis Of Graft Length In Anatomic Double-Bundle ACL Reconstruction

Akio Matsumoto*, Motoi Yamaguchi*, Ken Sasaki*, Ryo Kanto*
*Department of Orthopaedics Surgery, Meiwa Hospital

Background: Semitendinous (ST) tendon is the most commonly used graft in anterior cruciate ligament (ACL) reconstruction. However, the requisite graft length for anatomic double-bundle ACL reconstruction with ST tendon alone is unknown. The purpose of this study was to investigate the intra-articular graft length and the length in the bone tunnels after anatomic double-bundle ACL reconstruction.

Materials: Inclusion criteria: 1) Patients who underwent anatomic double-bundle ACL reconstruction with ST tendon alone from 2013 to 2015 in our hospital. 2) Femoral tunnels were located between the lateral intercondylar ridge and the posterior articular cartilage margin of the lateral femoral condyle on the 3-D computed tomography (CT) image at one week postoperatively. 3) Tibial tunnels were located between the medial tibial eminence and the lateral tibial eminence and between the ACL ridge and the anterior intertubercle ridge on the 3-D CT image at one week postoperatively.

Methods: One half of ST tendon was doubled for antero-medial bundle (AMB) reconstruction and the other half of ST tendon was also doubled for posterolateral bundle (PLB) reconstruction. An appropriate size of EndoButton CL was selected so that the graft length in the femoral tunnel was as above 10 mm. At one week postoperatively, all knees were scanned by CT, reconstructed parallel to the longitudinal axis of the intra-articular graft, and measured the length of the intra-articular graft. The graft length in the femoral tunnel was calculated by the lengths of the femoral bone tunnel and EndoButton CL. The graft length in the tibial tunnel was calculated by the lengths of the whole graft, the graft in the femoral tunnel, and the intra-articular graft. Regression analysis was performed to determine the correlation between the intra-articular graft length and the patient’s height.

Results: A total of 178 patients were enrolled. The average intra-articular graft lengths of AMB and PLB were 36 mm and 25 mm respectively. There was statistically significant correlation between the intra-articular graft length and the patient’s height (AMB: R²=0.42, p<0.0001, PLB: R²=0.31, P<0.0001). The average lengths in the tibial tunnel of AMB and PLB were 18 mm and 18 mm respectively. However, in 14 cases, the graft length in the tibial tunnel was less than 10 mm. Gracilis tendon should be harvested in these cases. We selected an appropriate size of EndoButton CL so that the graft length in the femoral tunnel was as above 10 mm, because there might be a minimal acceptable length of intra-tunnel tendon graft to allow satisfactory early tendon-bone healing. However, in 14 cases, the graft length in the tibial tunnel was less than 10 mm. Gracilis tendon should be harvested in these cases. This study showed that the intra-articular graft length was statistically significant correlated to the patient’s height. Therefore, we can presume the total graft length necessary to make the graft lengths in the femoral and tibial tunnels more than 10 mm from the patient’s height: (The requisite graft length) ≥ (estimated intra-articular graft length of AMB) + (estimated intra-articular graft length of PLB) + 10 mm.

Discussion: In ACL reconstruction using hamstring grafts, the double looped graft is generally used for increasing graft diameter but the graft length in the bone tunnel is comparatively short. One report suggested that lower the amount of intratunnel graft below a minimal of 15 mm should be avoided. However, the other report showed that there is no negative correlation between short graft length in the bone tunnel and the resulting knee kinematics and structural properties. We selected an appropriate size of EndoButton CL so that the graft length in the femoral tunnel was as above 10 mm, because there might be a minimal acceptable length of intra-tunnel tendon graft to allow satisfactory early tendon-bone healing. However, in 14 cases, the graft length in the tibial tunnel was less than 10 mm. Gracilis tendon should be harvested in these cases.

【Discussion】Continuing the comprehensive action for 9 years enabled an increase in the number of participants in the elbow surveys and in the number of early detections of elbow OCD. Therefore, the number of surgeries decreased in Niigata Prefecture.

【B0505】The Enhancement Of Tendon-Bone Healing Of ACL Reconstruction With hTGFβ1 Gene Transferring To Hamstring Tendon

WANG Xiaoxu, He min
The second affiliated hospital of University of South China, China

Background: In previous study, the Hamstring tendon recombined with adenovirus vector carrying the hTGF-β1 genes (Ad- hTGFβ1) could promote the tendon-bone interface healing after rabbit’s ACL reconstruction. However, the expression of the Ad- hTGFβ1 is not clear. So we detect the expression of hTGF-β1 gene in Hamstring tendon mediated by adenovirus after rabbit’s ACL reconstruction in this study.

Material: 48 adult New Zealand white rabbits, adenovirus vectors carrying the human transforming growth factor-beta1 gene (Ad-hTGFβ1) and adenovirus vectors carrying green fluorescent protein (Ad-GFP).

Methods: Ad-hTGFβ1 and Ad-GFP were diluted to 5×10⁸ pfu/mL with DMEM. The autologous Hamstring tendon grafts had been infected in vitro with Ad-hTGFβ1 (Group A) and Ad-GFP (Group B), and untreated grafts served as controls (Group C). Then, the anterior cruciate ligament of adult New Zealand white rabbits were replaced with Hamstring tendon grafts. Group A and B were observed GFP with fluorescence microscopy. hTGF-β1 was detected by ELISA in Hamstring tendon of Group A. 4 rabbits of each group were killed at 2, 4, 6 and 8 weeks after operation, and the grafts were evaluated by qRT-PCR and Western blot.

Results: GFP could be observed in the Hamstring tendon grafts transfected with Ad-hTGFβ1 (Group A) and Ad-GFP (Group B). hTGF-β1 protein in the Hamstring tendon graft reached 221.0±12.2 ng/mL in Group A. hTGF-β1 gene mRNA expression could be detected to 8 weeks with the RT-PCR method in group A. However, it could not be detected in group B and group C at any time-point. The results of Western blot show that, the grey value of TGF-β1 protein in Group A was significant higher than Group B and C.

Discussion: TGFβ1 can promote the process of the tendon-bone heal after anterior cruciate ligament reconstruction, however, the half-life of ectogenic TGFβ1 is very short. Gene therapy provides a new way for the use of TGFβ1, and adenovirus vector represent a very efficient method of gene delivery. In this study, the results of fluorescence microscope and ELISA show that, Ad-hTGFβ1 can transfact the Hamstring tendon graft successfully and express effectively. Moreover, it can effectively express to 8 weeks after the operation. An characteristic of adenoviral delivery of therapeutic genes over lentiviral delivery is the intrinsic characteristic of adenovirus DNA not to integrate into the target cell, so the expression of Ad-hTGFβ1 was gradually reduced.

Conclusion: The adenovirus vector carrying hTGFβ1 can transfact the Hamstring tendon successfully, and it can effectively express after the rabbit's ACL reconstruction in a long period.
Arthroscopic Posterior Cruciate Ligament Reconstruction Using LARS Artificial Ligament: A Retrospective Study With A Mean Follow-Up Of Five Years

Xuan Huang, Zimin Wang, Weidong Xu, Department of Orthopaedics, Shanghai hospital, Shanghai, China

Background:
The aims of this study were to analyze the long-term clinical effects of arthroscopic reconstruction of posterior cruciate ligament (PCL) using Ligament Advanced Reinforcement System (LARS) artificial ligament. It is hypothesized that LARS artificial ligament is a safe and effective choice for PCL reconstruction, providing good knee stability.

Methods:
Sixty-one patients who underwent PCL reconstruction using LARS artificial ligament (Y-type) were enrolled in this retrospective study. Average age at time of surgery was 34 yrs old (range, 23-57 y). Average time from injury to surgery was 15 d (range, 5-45 d). Average follow-up period was 5 years (range, 44-72 months). Follow-up examinations included the Lysholm Knee Score and the International Knee Documentation Committee (IKDC) score.

Results:
The average Lysholm knee score was 64.9 ± 8.8 preoperatively (range, 47-75) versus 92.1 ± 3.3 four years after operation (range, 79–100). Fifty-four of 41 patients (88%) showed good or excellent results at final assessment. The final IKDC score at 4yrs postoperatively rated as normal in 56 patients (92%), nearly normal in 4 patients (7%), abnormal in 1 patients (2%).

Conclusion:
The results shows that Y-type LARS artificial ligament appears to be an effective device for PCL reconstruction, long-term follow-up proved the durable stability of the knee and the tolerance of the knee to the LARS artificial ligament.

Key words:
posterior cruciate ligament reconstruction; ligament advanced reinforcement system
【B0202】双侧自体1/2腓骨长肌腱与胭绳肌腱重建前交叉韧带的临床对比研究

郑佳鹏, 虞文亮, 郭志民, 丁真奇, 李强
363000 福建漳州 解放军第175医院(厦门大学附属东南医院) 全军骨科中心

目的 比较取自体双侧1/2腓骨长肌腱与自体胭绳肌腱关节镜下单束重建前交叉韧带( anterior cruciate ligament - ACL) 的临床效果及切取1/2腓骨长肌腱后对踝关节功能的影响。

方法 2011年2月~2013年1月, 63例ACL高风险患者接受关节镜下重建, 按移植肌腱的不同随机分为2组, A组(29例): 取双侧1/2腓骨长肌腱编织成4股移植行ACL单束重建; B组(34例): 取同侧胭绳肌腱编织成4股移植行ACL双束重建, 术后随访13~38个月, 通过膝关节查体, 关节镜下应用LARS人工韧带保留后交叉韧带残端; 结论 关节镜下应用LARS人工韧带保留后交叉韧带残端临床疗效满意。

关键词: 后交叉韧带; 保留残端; LARS人工韧带; 关节镜

【B0202】LARS人工韧带在后交叉韧带保留残端重建中的应用

尚聪, 白伦浩, 李彬, 金孝东, 罗江华, 郝一非

【摘要】目的 探讨关节镜下应用LARS人工韧带保留后交叉韧带残端重建的临床疗效。方法 回顾我院2009年1月~2014年8月, 32例后交叉韧带断裂患者应用LARS人工韧带进行保留后交叉韧带残端关节镜纤维束单束或双束解剖重建术, 术例21例, 女11例, 年龄24~43岁, 均为单侧损伤, 右侧23例, 左侧9例; 所有患者均无骨性外伤, 受伤时间至手术时间平均30天, 术前膝关节镜下检查及体查后交叉韧带重度损伤, 坐位后抽屉试验阳性或弱阳性, 术前及术后采用Lysholm膝关节评分、IKDC评分及KT-2000检查, 采用AOFAS踝足功能评分术前及术后采用后抽屉试验、Lysholm膝关节评分、IKDC评分, 阳性试验及术后采用后抽屉试验、Lysholm膝关节评分、IKDC评分, 受累膝关节活动度及疼痛进行评估, 结果 所有患者术后均获得满意随访9~24个月, 平均18.4个月, Lysholm评分术前平均65.4±2.1分, 术后平均91.4±3.3分; IKDC评分: 术前A级1例, B级5例, C级11例, D级15例; 术后A级18例, B级12例, C级2例; 阳性试验及术后采用后抽屉试验阳性2例; 结论 关节镜下应用LARS人工韧带保留后交叉韧带残端临床疗效满意。

关键词: 后交叉韧带; 保留残端; LARS人工韧带; 关节镜
AP-SMART
Asia-Pacific Journal of Sports Medicine, Arthroscopy, Rehabilitation and Technology

EDITORIAL BOARD

EDITOR-IN-CHIEF
Kai-Ming Chan
Hong Kong
Masahiro Kurosaka
Japan

ASSOCIATE EDITOR
Philippe Beauflis
France
Chih-Hwa Chen
Taiwan
Shi-Yi Chen
China
Mario Lamontagne
Canada
Myung-Chul Lee
Korea
Mitsuo Ochi
Japan
Chister Rolf
Sweden
Patrick Shu-Hang Yung
Hong Kong

• Peer-reviewed
• Published quarterly by Elsevier
• Freely available on ScienceDirect
  www.sciencedirect.com
• Featured on the Health Advance
  www.journals.elsevierhealth.com

MAJOR FOCUS
• Sports Medicine
• Arthroscopy
• Rehabilitation
• Sports Technology
• Reconstructive Surgery
• Upper Limb
• Basic Science

ARTICLE CATEGORIES
• Original Article
• Review Article
• Case Report
• Editorial
• Perspective
• Letter to the Editor

Submit Your Paper at
http://ees.elsevier.com/apsmart

Website: www.ap-smart.com
Email: apsmarteditorial@ort.cuhk.edu.hk
Free Paper Presentations
10 June (Fri) | Hong Kong
Kai Chong Tong (G/F)

IFOSMA: Knee I - Multiligaments & PCL Injuries
(膝关节专场 I - 多韧带及后交叉韧带损伤)

Kai Chong Tong (G/F), 08:00-10:00
Scan the QR Code for Free Paper Abstracts

[0839]: An Analysis Of The Posterior Cruciate Ligament Isometric Position Using An In Vivo 3-Dimensional Computed Tomography: A Cadaveric Study

[0020]: Outcome Of Two-Stage Treatment Of Irreducible Posterolateral Knee Dislocation: 2–8 Year Follow-Up

[0133]: 膝关节后外侧脱位治疗策略与疗效观察

[0195]: 膝关节多发韧带损伤关节镜下韧带重建后中长期疗效观察

[0196]: 132例膝关节多韧带损伤早期修复重建的经验及教训

[0363]: 膝关节多韧带损伤一期重建OR二期重建的临床疗效

[0440]: Minimally Invasive Treatment Of KD - Type IV Knee Dislocation: A Evaluation Of The Results

[0698]: Arthroscopic Suture And Screw Double Fixation Method For Avulsion Fractures Of Both Anterior And Posterior Cruciate Ligament Tibial Insertions

[0311]: 关节镜下经胫骨“腱钉栓”嵌入式后交叉韧带重建术

[0465]: 保留残端双入路治疗后交叉韧带损伤疗效评估与分析

[0270]: Anatomical Repair Of The Posterior Cruciate Ligament Avulsion Fracture: Clinical Comparison Of Total Arthroscopic Fixation With Small Incision Technique

[0643]: PCL重建--应用Fanelli的方法定位胫骨隧道于“斜坡下”一定能改善PCL重建的效果吗？

APKASS Free Paper: Knee - ACL (1)

Scan the QR Code for Free Paper Abstracts

[0172]: Can Clinical Evaluation Detect Isolated One Bundle Or Complete Two Bundles ACL Rupture?

[0086]: The Ideal Femoral Tunnel Position Using 3D-CT In Anatomic Single-Bundle ACL Reconstruction

[0096]: Novel Anatomical Single Bundle ACL Reconstruction Using A Rounded Rectangle Femoral Dilator

[0271]: CT value and tunnel enlargement of rounded rectangular femoral bone tunnel for anterior cruciate ligament reconstruction

[0396]: Efficacy And Safety Of Self-Flip Technique Of Tightrope RT Button For Anterior Cruciate Ligament Reconstruction

[0637]: Comparison Of Clinical And Radiologic Outcomes And Second-Look Arthroscopic Findings After ACL Reconstruction Using A Fixed-Loop And Adjustable-Loop Cortical Suspension Devices

[0542]: Retrograde RigidFix Femoral Fixation In Anatomic Single-Bundle ACL Reconstruction With Transportal Technique

[0551]: Biomechanics Of Single-Tunnel Double-Bundle Anterior Cruciate Ligament Reconstruction Using Fixation With A Unique Expandable Interference Screw

[0236]: Relationship Between Tunnel Malposition And Intra-Articular Degeneration In Anterior Cruciate Ligament Reconstruction

[0656]: Femoral And Tibial Tunnel Placement Correlate With Graft Tunnel Motion: A Quantitative Clinical Imaging Study

[0294]: Twenty-Year Comparison Outcome Data Of A Longitudinal Prospective Evaluation Of Isolated Endoscopic Anterior Cruciate Ligament Reconstruction With Either Patellar Tendon Or Hamstring Autograft

[0104]: Comparison Of Three Different Methods For Drilling PLB Femoral Tunnel In Double Bundle ACL Reconstruction.
[B0602]: The Effect Of SB-ACLR vs DB-ACLR On The Patellofemoral Joint By MRI Evaluation And More Than 2-Year’S Of Follow-Up

[B0811]: Single Vs. Double Vs. Triple Bundle Anterior Cruciate Ligament Reconstruction With Hamstring Tendon. –How Is The Effect Of Multi-Tunnel Reconstruction?

[B0531]: Concomitant Cartilage And Meniscal Injuries In Patients With ACL Injuries Sustained During Basketball Versus Soccer: A Matched-Pair Analysis

[B0558]: Clinical Study On Anterior Cruciate Ligament Combined With Meniscus Ramp Injury Based On 268 Cases And The Analysis Of Typical Cases

[B0720]: Clinical Study On Anterior Cruciate Ligament Combined With Lateral Meniscus Root Tear Injury Based On 577 Cases And The Analysis Of Typical Cases

[B0489]: Staged Anatomical Reconstruction Of MCL Using Achilles Allograft, A Modification To Marx’S Technique

[B0239]: A Comparison Of Two Superficial MCL Reconstruction Including Single-Bundle Anterior Cruciate Ligament (ACL) Reconstruction

[B0335]: Primary Reconstruction Of ACL And PMC Of The Knee

IFOSMA: Shoulder II - Rotator Cuff Injury
(肩关节专场 II - 肩袖损伤)

Seminar Room A (1/F), 13:15-15:15

Scan the QR Code for Free Paper Abstracts

[B0331]: Instability Of The Long Head Of The Biceps (LHB) Tendon: A New Classification System For LHB Pulley Lesions

[B0385]: 关节镜下补片技术修复不可修复性肩袖撕裂

[B0513]: 三维仿生支架促进肩袖修复的研究

[B0555]: 肩袖损伤合并肩锁关节炎行关节镜下肩袖修补伴或不伴锁骨切除疗效对比

[B0561]: 肩袖损伤序列治疗的初步评价

[B0695]: 关节镜下治疗肩胛下肌钙化性肌腱炎

[B0304]: Arthroscopic Treatment For Acute Calcific Tendinitis Of Rotator Cuff

[B0583]: 关节镜下治疗肩胛下肌钙化性肌腱炎

[B0860]: Tenodesis By Single-Anchor And Double-Catch Technique For Lesions Of The Long Head Of The Biceps

[B0451]: Arthroscopic Decompression Of Suprascapular Nerve Entrapment By The Direct Spinoglenoid Notch Portal
APKASS Free Paper: Knee - ACL (2)

Seminar Room A (1/F), 15:30-17:30
Scan the QR Code for Free Paper Abstracts

[B0530]: Active Patellar Apprehension Test For Lateral Patellar Instability

[B0865]: Review Of Radiographic Parameters In Patellofemoral Instability - How To Best Predict Risk Of Patella Dislocation

[B0539]: Research Of Prior-Localization Femoral Tunnel In Medial Patellofemoral Ligament Reconstruction

[B0321]: Graft Length Changes In Medial Patellofemoral Ligament Reconstruction With A Fluoroscopic-Guidance Method

[B0155]: Combined Medial Patellofemoral Ligament Reconstruction And Sulcus-Deepening Trochleoplasty For Patellar Dislocations With Severe Trochlear Dysplasia

[B0242]: Association Of Fibrosis In The Infrapatellar Fat Pad And Degenerative Cartilage Change Of Patellofemoral Joint After Anterior Cruciate Ligament Reconstruction

[B0515]: Dynamic Evaluation Of The Infrapatellar Fat Pad After Anterior Cruciate Ligament Reconstruction Using Ultrasonography

[B0344]: Influence Of Surgery Timing And Meniscus Tear On The Recovery Of Muscle Torque After ACL Reconstruction

[B0043]: The Second-Look Arthroscopic Evaluation For Cartilage Damage Following Anterior Cruciate Ligament Reconstruction: A Systematic Review

[B0760]: Notch Narrowing After ACL Reconstruction

[B0777]: Risk Factors Affecting The Outcome Of The Revision Anterior Cruciate Ligament Reconstruction

[B0661]: Analysis Of Anterior Tibial Subluxation To Femur At Maximum Extension In Anterior Cruciate Ligament-Deficient Knees

[B0241]: Association Of Fibrosis In The Infrapatellar Fat Pad And Degenerative Cartilage Change Of Patellofemoral Joint After Anterior Cruciate Ligament Reconstruction

[B0515]: Dynamic Evaluation Of The Infrapatellar Fat Pad After Anterior Cruciate Ligament Reconstruction Using Ultrasonography

[B0344]: Influence Of Surgery Timing And Meniscus Tear On The Recovery Of Muscle Torque After ACL Reconstruction

[B0043]: The Second-Look Arthroscopic Evaluation For Cartilage Damage Following Anterior Cruciate Ligament Reconstruction: A Systematic Review

[B0760]: Notch Narrowing After ACL Reconstruction

[B0777]: Risk Factors Affecting The Outcome Of The Revision Anterior Cruciate Ligament Reconstruction

[B0661]: Analysis Of Anterior Tibial Subluxation To Femur At Maximum Extension In Anterior Cruciate Ligament-Deficient Knees
Seminar Room B (3/F)

IFOSMA: Shoulder I - Rotator Cuff Injury
(肩关节专场 I - 肩袖损伤)

APKASS Free Paper: Knee - PCL, LCL, MCL, PLC, PMC

Seminar Room B (3/F),
08:00-10:00
Scan the QR Code for Free Paper Abstracts

[B0138]: Arthroscopic McLaughlin Suture In The Treatment Of Rotator Cuff Tear With Major Tubercle Osteoporosis

[B0309]: 肩袖肱骨止点撕脱性骨折的关节镜治疗

[B0293]: 关节镜下肩袖修补1184例的感染率及新治疗策略：宁波李惠利医院的经验

[B0060]: “Tissue-Bridge” Technique To Repair Rotator Cuff Tear

[B0064]: Comparison Of One-Stage Versus Two-Stage Procedure For Management Of Patients With Rotator Cuff Tear And Concomitant Stiffness

[B0365]: 全麻下手法松解联合关节镜下清理治疗中晚期原发性冻结肩

[B0069]: 关节镜下喙肩韧带有限松解在微创治疗肩峰撞击综合征的作用

[B0245]: Cyclic Load Testing Of Two Knotless And Two Suture Anchors For Rotator Cuff Repair

[B0540]: 巨大肩袖损伤肩胛上神经功能评估与Goutallier分型、关节镜下修复预后的相关性分析

[B0745]: 改良三排技术治疗巨大分层肩袖损伤

[B0668]: Arthroscopic Wire Fixation Of Avulsion Fractures Of The Posterior Cruciate Ligament From The Tibia

[B0085]: Which Position Of Femoral Tunnel Is Better In Single Bundle PCL Reconstruction? Higher Vs Lower In 3D-CT

[B0011]: A Study Of Tibial Osseous Tunnel Intersection When Reconstruct PCL And POL Simultaneously

[B0546]: The Effect Study Of Arthroscopic Reconstruction Of Posterior Cruciate Ligament With Ligament Advanced Reinforcement System Y-Shape Double Bundles Artificial Ligament

[B0476]: Remnant Augmentation Technique With LARS Or Autologous Hamstring Graft To Early Reconstruct Posterior Cruciate Ligament

[B0355]: The Discrepancy Between Clinical Signs And Subjective Symptoms In Patients With Posterior Cruciate Ligament Injury Examined Using Gait Analysis And Surface Electromyography

[B0649]: Arthroscopic-Assisted Posterolateral Corner Reconstruction Of The Knee: Our Technique, Classification, Surgical Algorithm, And Midterm Results

[B0506]: Dual-Plane High Tibial Osteotomy To Treat The Posterolateral Corner Injuries Combined With Varus Deformity Of Knee Joint

[B0652]: Patient-Reported Outcomes Following Surgical Treatment For Multiligament Knee Injuries

[B0701]: The Diagnosis And Treatment Of The Medial Rotatory With Button Locked Irreducible Knee Dislocation
[B0626]: Combined Arthroscopic Resection With Repair Of Joint Capsule Using Tendon Flap Of Medical Head Of Gastrocnemius For Treating Popliteal Cyst

[B0182]: A Morphologic And Quantitative Comparison Of Mechanoreceptors In The Tibial Remnants Of The Ruptured Human Anterior Cruciate Ligament

[B0676]: The Study Of Interleukin-8 On Anterior Cruciate Ligament Reconstruction With Remnant Preservation

[B0408]: A Morphologic And Quantitative Study Of Mechanoreceptors In The Remnant Stump Of The Human Anterior Cruciate Ligament

[B0213]: Use Of Estradiol Promotes Tendon Bone Healing In Rabbit Model Underwent Anterior Cruciate Ligament Reconstruction

[B0179]: Effects Of Electrospun Silk Fibroin Mats On Tendon-Bone Healing

[B0509]: Long-Term Effects Of Knitted Silk-Collagen Sponge Scaffold On Anterior Cruciate Ligament Reconstruction And Osteoarthritis Prevention.

[B0015]: Research Of Biocompatibility Of PET Artificial Ligament Modified By Silk Fibroin Coating In Vitro And In Vivo

[B0655]: Injectable Simvastatin Thermogel Promote PET Artificial Graft-Bone Healing On Rabbit ACL Reconstruction Model

[B0025]: Enhancement Of Polyethylene Terephthalate Artificial Ligament Graft Osseointegration Using A Periosteum Patch In A Goat Model

[B0651]: The Experiment Research Of Anatomic Anterior Cruciate Ligament Reconstruction Assisting By 3D Printing Technology

[B0432]: Dual-Energy CT Staining Technique: Detecting Knee Sports Injury-Feasibility Study

[B0192]: Use Of Portable Motion Analysis System For Knee Stability Assessment In ACL Deficiency During Single-Leg-Hop

[B0193]: Utilization Of Portable Motion Capture System For Knee Stability Assessment In ACL-Deficiency During Stair Descent

[B0528]: Gait modification strategies of trunk over right stance phase in patients with right anterior cruciate ligament deficiency

[B0847]: Reliability And Minimum Detectable Change Of Knee Kinematics And Kinetics During Sidestep Cut In Female

[B0686]: A Clinical-Friendly Motion Capture System To Evaluate Knee Instability In ACL-Deficient Patients

[B0194]: Quantitative Evaluation Of Three-Dimensional Dynamic Knee Laxity With Isolated Anteromedial- Or Posterolateral-Bundle Anterior Cruciate Ligament Deficient Knees

[B0746]: Altered Three-Dimensional Knee Kinematics During Step And Turn Are Associated With Patient-Reported Outcomes Following Multiple-Ligament Knee Reconstruction

[B0454]: Arthroscopic Suture Fixation Of Tibial Avulsion Fracture Of Posterior Cruciate Ligament

[B0193]: Utilization Of Portable Motion Capture System For Knee Stability Assessment In ACL-Deficiency During Stair Descent

[B0528]: Gait modification strategies of trunk over right stance phase in patients with right anterior cruciate ligament deficiency

[B0847]: Reliability And Minimum Detectable Change Of Knee Kinematics And Kinetics During Sidestep Cut In Female

[B0686]: A Clinical-Friendly Motion Capture System To Evaluate Knee Instability In ACL-Deficient Patients

[B0194]: Quantitative Evaluation Of Three-Dimensional Dynamic Knee Laxity With Isolated Anteromedial- Or Posterolateral-Bundle Anterior Cruciate Ligament Deficient Knees

[B0746]: Altered Three-Dimensional Knee Kinematics During Step And Turn Are Associated With Patient-Reported Outcomes Following Multiple-Ligament Knee Reconstruction

[B0454]: Arthroscopic Suture Fixation Of Tibial Avulsion Fracture Of Posterior Cruciate Ligament
IFOSMA: Artificial Ligament
(人工韧带专场)

Seminar Room B (3/F),
15:30-17:30

Scan the QR Code for Free Paper Abstracts

[B0406]: LARS人工韧带重建PCL的手术体会与病例随访

[B0477]: Treatment Of Knee Multiple Ligament Injury With LARS Artificial Ligament

[B0854]: Cruciate Ligament Reconstruction With LARS Artificial Ligament Results At A Mean Follow-Up Of Ten Years

[B0521]: LARS韧带重建PCL术后的翻修及疗效分析

[B0562]: The Occurrence Of Osteoarthritis At A Mean Of Nine Years After The LARS-ACL Reconstruction

[B0657]: Carbon Nanotube: A New Potential Ideal Material Of Synthetic Ligament (Tendon) Graft

[B0723]: Arthroscopic Reconstruction Of Medial Patellofemoral Ligament With LARS Artificial Ligament For The Treatment Of Recurrent Dislocation Of The Patella

LARS人工韧带在后交叉韧带保留残端重建中的应用
自体腘绳肌 Vs LARS韧带重建ACL对照性队列研究10年随访
TRAVELLING FELLOWSHIP

Asia – Pacific Knee, Arthroscopy and Sports Medicine Society

About Travelling Fellowship
The inter-continental traveling fellowship program is a scientific and cultural exchange among orthopaedic sports medicine physicians in North America, Europe, Asia-Pacific, and Latin America. The programme provides the fellows a valuable opportunity to exchange scientific information, stimulate research and develop collaboration and lifelong friendships. It also provides a stimulus for leadership by recognizing young surgeons who have made a significant contribution to sports medicine. We have travelling fellowships with European Society of Sports Traumatology Knee Surgery and Arthroscopy (ESSKA), American Orthopaedic Society for Sports Medicine (AOSSM) and Latin American Society of Knee Arthroscopy and Sports Medicine (SLARD).

What do Travelling Fellows do during the tour?
For each travelling fellowship, THREE fellows are selected to visit overseas sports medicine institutes and facilities for 3-4 weeks, and are accompanied by a reputed senior orthopaedic sports medicine specialist as the “Godfather”. They will
- Participate in scientific symposia with host surgeons and give presentations
- View research facilities and surgical procedures
- Attend a national sport medicine meeting in the region they are visiting
- Participate in social and cultural activities with the local sports medicine community.

What are the benefits of the Travelling Fellowship?
- Foster an exchange of scientific information, stimulate research, and develop friendship among physicians
- Serve as a bridge that may be used to forge the future of sports medicine worldwide
- Participate in social and cultural activities with the local sports medicine community
- Develop personal and professional relationships that last a lifetime

Application Requirements
Applicants must
- be a certified orthopaedic surgeon in your own country
- be under 45 years old at point of application
- speak English fluently
- be a citizen in any country in Asia-Pacific region
- be an APKASS member for at least 1 year before the trip
- demonstrate commitment to sports medicine, excellence in research and clinical practice as manifested through presentation, publications and team service
- make yourself available for the whole duration of the fellowship

Application Form and Procedures
Please visit our website for more details:
www.apkass.org

We truly appreciate the generous support from
DJO Global and Smith & Nephew for the Travelling Fellowship Programmes.

Enquiry
APKASS Administration Office – Hong Kong
Address: Room 74029, 5/F Clinical Sciences Building, Prince of Wales Hospital, Shatin, New Territories, Hong Kong SAR
Email: info@apkass.org
Tel: (852) 2144 5616 Fax: (852) 2646 3020
Website: www.apkass.org
Free Paper Presentations
11 June (Sat) | Hong Kong
IFOSMA: Knee III - ACL
(膝关节专场 III - 前交叉韧带)

[K0601]: Evaluation Of Computer-Assisted Preoperational Plan System For Anterior Ligament Reconstruction

[K0199]: 前外侧韧带的解剖和功能

[K0666]: 前交叉韧带重建术中股骨隧道位置与移植物成熟度的相关性研究

[K0697]: Arthroscopic Treatment Of Anterior Cruciate Ligament Tibial Eminence Avulsion Fracture Using Non-Absorbable Suture And Mini-Plate

[K0707]: The Evaluation Of Graft Isometry After Anatomic Single Bundle ACL Recon-Struction On Dynamic Computed Tomography

[K0850]: 移植物供区即刻缝合对前交叉韧带重建术后患肢肿胀的影响

[K0858]: A Prospective Randomized Controlled Trial Of Early And Delayed Arthroscopic Anterior Cruciate Ligament Reconstruction Using Autograft Hamstrings

[K0567]: Effectiveness Comparison Of Anterior Cruciate Ligament Reconstruction By Ethibond Excel Polyester Sutures Combined With High-Strength Sutures Using Rigidfix For Autogenous Tendons Fixation

[K0252]: Evaluation Of Resident Ridge Detection Rate With 3D Reconstruction Of Knee CT Scan

[K0462]: 保留髌下皱襞的自体前交叉韧带重建的短期术后疗效分析

[K0516]: 关节镜下前交叉韧带胫骨双束股骨单束重建术与传统单束重建术的中期临床疗效对比

[08:00-10:00]
Scan the QR Code for Free Paper Abstracts

Kai Chong Tong (G/F), 08:00-10:00
Kai Chong Tong (G/F), 10:15-12:15
Scan the QR Code for Free Paper Abstracts
APKASS Free Paper: Shoulder - Instability, SLAP/Bicep Tendon

[B0410]: Evaluation Of Two Procedures In The Treatment Of Snyder Type 2 Superior Labrum Anterior To Posterior Lesion

[B0784]: Preoperative Evaluation Of Spinoglenoid Ganglion Cyst With MRI, EMG And Isokinetic Muscle Test - Does Size Matter? -

[B0091]: Paralabral Spinoglenoid Cysts With Suprascapular Nerve Palsy – A Comparison Of Two Arthroscopic Approaches

[B0754]: Long Head Of Biceps Tenotomy And Tenodesis Don’t Affect Elbow Flexion And Forearm Supination Strength

[B0347]: Accuracy Of Backward Traction Test For The Diagnosis Of Bicipital Sheath Lesions And Bicipital Tendonitis: Comparison With Arthroscopic Examination

[B0334]: The Comparative Study Of Arthroscopically And Open Subpectoral Tenodesis For The Treatment Of Bicep Tendonitis


[B0434]: Clinical Results After All Arthroscopic Reduction And Fixation With Suture Anchor Of Fresh Bony Bankart Lesion

[B0288]: Short-Term Functional Outcome Of Arthroscopic-Assisted Treatment Of Glenoid Fractures

[B0552]: Arthroscopy Assisted Reduction And Fixation To Treat The Ideberg IA Type Glenoid Cavity Fracture Recent Clinical Curative Effect

[B0372]: Clinical Outcome Of Arthroscopic Fixation For Glenoid Fracture Using A Double Threaded Screw

[B0612]: Surgical Management Of Chronic And Irreducible Anterior Shoulder Dislocation

[B0780]: Arthroscopic Treatment Of Multidirectional Shoulder Instability With Capsular Narrowing And Shortening Of The Anterior, Inferior And Posterior Ligaments: Minimum 2-Year Follow-Up

[B0037]: Effects Of Arthroscopic Versus Open Surgical Treatment On Multidirectional Instability Of The Shoulder – A Meta-Analysis

[B0806]: Outcome Of Latarjet Procedure Using A Congruent Arc Technique

[B0134]: Modified Arthroscopic Latarjet Procedure With Paired-Endobutton: A Safe, Rigid, And Reproducible Technique With Early Results

[B0237]: Relationship Between Humeral Torsion And Career Of Pitcher In Elementary And Junior-High Schools

[B0597]: Elbow Valgus Laxity After Ulnar Collateral Ligament Reconstruction In Competitive Athletes

[B0018]: The Middle To Long Term Results Of Reconstruction Of Stiff Elbow Under Arthroscopy Technique

Seminar Room A (1/F)

APKASS Free Paper: Shoulder - Instability, SLAP/Bicep Tendon

Seminar Room A (1/F), 08:00-10:00

Scan the QR Code for Free Paper Abstracts

Invited Lectures
Best Paper & Poster
Free Papers
E-posters
IFOSMA: Shoulder III - Shoulder Dislocation
(肩关节专场 III - 肩关节脱位)

Seminar Room A (1/F), 13:15-15:15
Scan the QR Code for Free Paper Abstracts

[B0381]: 微创改良Bristow-Latarjet手术治疗复发性肩关节前下脱位15年临床报告

[B0483]: 习惯性肩关节脱位断崖式Bankart损伤关节镜下缝合疗效观察

[B0136]: Arthroscopic Reconstruction Of Shoulder’s Labrum With Extensive Tears

[B0442]: 肩关节镜下植骨结合褥式修补前下盂唇治疗复发性肩关节脱位

[B0532]: Long-Term Clinical Outcomes Of Modified Arthroscopic Remplissage For Engaging Hill-Sachs Lesion

[B0405]: 肩关节脱位合并肩袖损伤的镜下同期修复

[B0286]: 40-55岁单纯SLAP损伤缝合修复术后临床结果

[B0619]: 反向hill-sacks损伤关节镜下治疗

[B0284]: 关节镜下喙锁韧带增强修复或重建联合肩锁韧带修复急性性肩关节脱位的分型治疗

[B0324]: 顽固性肩锁关节炎的诊断治疗

[B0527]: Treatment Of Acromioclavicular Joint Dislocation With C Arm Guide Double Endobutton Fixation Technique

[B0556]: 关节镜下自体半腱肌肌腱重建喙锁韧带治疗急性肩锁关节脱位

IFOSMA: Knee V - Meniscus Injury
(膝关节专场 V - 半月板损伤)

Seminar Room A (1/F), 15:30-17:30
Scan the QR Code for Free Paper Abstracts

[B0519]: 边对边H型全内缝合方法治疗外侧半月板后根部Forke & PetersenⅡ型损伤疗效分析

[B0095]: Diagnostic Significance Of Medial Meniscus Injury In Anterior Cruciate Ligament Reconstruction Failure

[B0121]: 外侧盘状半月板成形术后——如何适应突然的改变

[B0207]: The Nomenclature, Definition, Histological And Clinical Study Of A New Type Of Meniscus Injury

[B0214]: Meniscus Subluxation In Cartilage Injury Caused Osteoarthritis

[B0303]: 内侧半月板外突与半月板损伤及膝内翻的相关研究

[B0339]: A New Arthroscopic Sign For Occult Medial Meniscal Tears

[B0511]: MeSC关节内注射促半月板修复的研究

[B0518]: 全内缝合技术治疗膝内侧半月板ramp损伤疗效分析

[B0545]: 外侧半月板前角下方入路的应用

[B0798]: 10岁以下的儿童盘状半月板损伤的手术疗效短期随访

[B0573]: 症状性外侧盘状半月板——临床及关节镜研究

[B0394]: Clinical Observation Of 48 Cases Of Meniscus Injury Treated With The Arthroscopic OMNISPAN Repair System

[B0092]: Early Clinical Effect Of Unicompartment Arthroplasty In The Treatment Of Anterior Medial Compartment Osteoarthritis
IFOSMA: Hip & Ankle (髋、踝关节专场)

Seminar Room B (3/F),
08:00-10:00
Scan the QR Code for Free Paper Abstracts

[B0028]: An Ultrasound Classification Of Anterior Talofibular Ligament (ATFL) Injury

[B0351]: 关节镜清理联合距腓前韧带重建 治疗陈旧性外侧踝关节不稳的疗效观察

[B0328]: Healing Of Achilles Tendon In A Child: Our Experience From The Management Of Relapsed Clubfoot

[B0093]: The Value Of Ankle Arthroscopy In The Treatment Of Ankle Complex Fracture And Dislocation.

[B0332]: Arthroscopic Reconstruction Of Lateral Ligaments For Chronic Ankle Instability

[B0098]: The Role Of Lateral Ankle Ligaments Repair In Improving Postural Control In Patients With Mechanical Ankle Instability

[B0336]: 全关节镜下重建踝关节外侧韧带复合体

[B0122]: 踝关节复杂骨折脱位能用关节镜治疗吗？

[B0110]: 关节镜下微创治疗顽固性跟痛症的临床疗效分析

[B0547]: 踝关节镜评估旋后外旋型踝关节骨折伴下胫腓韧带损伤的临床价值

[B0468]: Clinical Outcome Of Arthroscopic Minimally Invasive Treatment Of Haglund

[B0244]: 关节镜辅助微创治疗髌囊炎的疗效分析

[B0341]: 准确的髋关节囊减压并自体外周血单核细胞移植治疗早期股骨头缺血性坏死

IFOSMA: Knee IV - Patella Instability (膝关节专场 IV - 髌骨不稳)

Seminar Room B (3/F),
10:15-12:15
Scan the QR Code for Free Paper Abstracts

[B0610]: New Approach To Medial Patellofemoral Complex Anatomy. Is The Name Of MPFL Proper Or Not?: A Cadaveric Dissection Study.

[B0054]: Treatment Of Recurrent Patellar Dislocation With Old Osteochondral Fracture

[B0298]: 习惯性髌骨脱位的诊断和治疗策略

[B0364]: The Analysis Of Reasons About Unsatisfactory Effect After Orthopedic Surgery In Recurrent Patellar Dislocation Patients

[B0370]: 内侧髌胫韧带重建联合胫骨结节移位在习惯性髌骨脱位治疗中的应用

[B0480]: 青少年膝关节游离体及髌骨脱位诊断的相关性研究

[B0687]: 47 例复发性髌骨脱位的诊断治疗效果分析

[B0781]: 个体化内外侧软组织张力调整在复发性髌骨脱位中的应用

[B0799]: Medial Patellofemoral Ligament Reconstruction With A Single Patellar Tunnel For Recurrent Patellar Dislocation

[B0832]: 内侧髌股韧带异体肌腱双束重建治疗骺板未闭青少年髌骨脱位临床疗效分析

[B0787]: 双排技术修复髌骨下极撕脱骨折
APKASS Free Paper: Shoulder - Basic Science, ACJ & Others

[B0730]: Anatomic Considerations In Arthroscopic Reconstruction Of The Coraco-Clavicular Ligament In Patients With Acromio-Clavicular Joint Dislocation

[B0605]: Prognostic Factors To Succeed In Surgical Treatment Of Chronic Acromioclavicular Dislocations

[B0449]: Treatment Of Acromioclavicular Dislocation With Suture Anchor On

[B0594]: Comparison Of Shoulder Range Of Motion Between Nonsurgical And Surgical Treatments For Shoulder Stiffness

[B0393]: Arthroscopic Treatment Of Greater Tuberosity Avulsion Fracture Using A Double-Row Technique In Elderly

[B0836]: Gelatin-Grafted Poly(L-Lactide) Electrospun Fibrous Membranes For Healing Improvement After Rotator Cuff Repair

[B0034]: Effect Of Hypercholesterolemia On Fatty Infiltration And The Quality Of Tendon-To-Bone Healing In A Rabbit Model Of A Chronic Rotator Cuff Tear: Electrophysiological, Biomechanical, And Histological Analyses

APKASS Free Paper: Knee - Joint replacement, Cartilage & Ostetomy

[B0664]: Anteromedial Opening Wedge HTO For The PCL Deficient Varus Arthritic Knee A Prospective Ten - Fifteen Year Study

[B0022]: The Validity Of The Classification For Lateral Hinge Fractures In Open Wedge High Tibial Osteotomy

[B0491]: Clinical Outcome Of A Novel Fixation System For Open-Wedge High Tibial Osteotomy: Comparison With Tomofix

[B0220]: Open Wedge High Tibial Osteotomy Using Three-Dimensional Printing Model: Experimental Analysis Using Porcine Bone

[B0794]: Advantages Of Computer-Assisted Navigation System In Open-Wedge High Tibial Osteotomy

[B0728]: Survival And Clinical Outcomes Of High Tibial Osteotomy For Medial Knee Osteoarthritis

[B0804]: Medial Gap Technique: New Surgical Concept For Quantitative And Safer

[B0099]: Clinical And Radiological Results Of Double Level Osteotomy For Varus Knee Osteoarthritis. Review Of Our Experiences

[B0357]: Outcomes Of Distal Femoral Varus Osteotomy In Patients With Valgus Knee Osteoarthritis

[B0831]: An Open-Wedge Osteotomy Of The Proximal Tibia With Hemicallotasis –Technique And Outcome –

[B0535]: Are Factors Considered For Deciding Whether To Perform High Tibial Osteotomy Or Unicompartmental Knee Arthroplasty Same?

[B0412]: Analysis Of The Tibial Osteotomy Thickness Of Unicompartmental Knee Arthroplasty

[B0395]: Postoperative Flexion Balance Is Improved After TKA By Modified Gap Technique With Imageless Navigation

[B0459]: The Effect Of Total Knee Arthroplasty On Active Knee Extension During Treadmill Walking
[B0593]: Subchondral Drilling With/Without Collagen Augmentation In Patients Undergoing High Tibial Osteotomy

[B0706]: Osteochondral Autograft Transfer(OAT) Combined With OWHTO For Spontaneous Osteonecrosis Of The Knee (SONK)

[B0672]: Results Of Arthroscopic Fixation Of Osteochondritis Dissecans Lesions Of The Knee With Cylindrical Autogenous Osteochondral Plugs (Case Series)

[B0805]: Arthroscopic Results Of The Cartilage Repair Using Fusion Technique Of Island Osteochondral Autograft Transfer(OAT) And Microfracture For Severe Osteoarthritis In Younger Patients

[B0589]: Short-Term Clinical Outcome Of Atellocollagen-Associated Autologous Chondrocyte Implantation For The Repair Of Chondral Defects

[B0797]: Chondral Defects In The Knee: Are Autologous Bone Marrow Derived Mesenchymal Stem Cells Suitable To Replace Autologous Chondrocyte Implantation Techniques? Results From A Mid-Term Observational Cohort Study

APKASS Free Paper: Knee - Cartilage & Meniscus

Seminar Room B (3/F), 15:30-17:30

Scan the QR Code for Free Paper Abstracts

[B0861]: Human Mesenchymal Stem Cell-Derived Exosomes Promote Orderly Cartilage Regeneration In An Immunocompetent Rat Osteochondral Defect Model

[B0063]: Cartilage Storage At 4°C With Regular Culture Medium Replacement Benefits Chondrocyte Viability Of Osteochondral Grafts In Vitro

[B0848]: 3D Printing And Characterization Of Bioactive Scaffold Potential For Reconstructing Calcified Cartilage Zone

[B0314]: Postoperative 2 Years Follow-Up Of Matrix Induced Autologous Chondrocyte Implantation In 24 Cases

[B0578]: Arthroscopic Antegrade Drilling For Unstable Juvenile Osteochondritis Dissecans Of The Knee: Mid-Term Results

[B0574]: Biomechanical Comparison Of Cross-Suture And Vertical Suture Technique In Meniscal Repair Of Radial Tear

[B0788]: Safe Needle Insertion Points Of FAST-FIX 360

[B0397]: Arthroscopic Repair For The Hypermobile Lateral Meniscus

[B0866]: Arthroscopic Meniscoplasty For Discoid Lateral Meniscus In Children And Adolescents – Long Term Results

[B0712]: Arthroscopic Repair Of Meniscus Tear In Patients 40 Years Age And Over

[B0776]: Isolated Anterior Horn Tears Of Medial Menisci In Soccer Players.

[B0228]: Chondral Lesions With Medial Meniscal Posterior Root Tear Are Located More Medially And More Progressive Than Those With Other Meniscal Tears

[B0013]: Effectiveness Of Full-Length Laterally Wedged Insoles For Posterior Medial Meniscus Root Tears

[B0622]: A Novel Technique For Repair Of Posterior Medial Meniscus Root Tear: A Biomechanical Study
Using Porcine Knees

[B0525]: Minimum 1 Year Results Of Pull-Out Suture Repair With Modified Mason-Allen Stitch In Medial Meniscus Root Tear

[B0467]: A Meta-Analysis Of Clinical And Radiographic Outcomes Of Posterior Horn Medial Meniscus Root Repairs

[B0727]: Meniscal Translation In Healthy And Repaired Menisci: A Three-Dimensional In-Vivo Magnetic Resonance Imaging Study

[B0062]: Outcomes After Implantation Of Polyurethane Meniscal Scaffold For Medial Or Lateral Meniscal Deficiency

[B0143]: Comparison Of The Bone Plug And Bone Bridge Technique For Lateral Meniscus Allograft Transplantation

[B0029]: A Polyurethane Meniscal Implant For Painful Meniscectomy: 5 Year Results
Free Paper Presentations
12 June (Sun) | Hong Kong
[B0863]: 关节镜下球囊复位治疗胫骨平台后外侧骨折

[B0315]: 基质诱导的自体软骨细胞移植术修复膝关节软骨缺损24例术后2年的随访

[B0621]: 自体软骨移植、I型胶原填充与微骨折治疗软骨缺损的临床对照研究

[B0714]: Osteochondral Repair With Synovial Membrane-Derived Mesenchymal Stem Cells: Evaluation With 9.4T High-Field Magnetic Resonance Imaging

[B0827]: Diagnostic Value Of Ultrasound To Detect Cartilage Lesion Of Knee Osteoarthritis

[B0318]: 带线锚钉治疗顽固性网球肘的早期临床疗效观察

[B0496]: 肘关节镜术的临床初步疗效报告

[B0570]: Curative Effect Of Intractable Tennis Elbow By Microneurovascular Bundle Excision

[B0101]: Arthroscopic Treatment Of Different Stages Of Kienbock'S Disease

[B0181]: 青少年髂前上棘撕脱骨折保守治疗与手术治疗疗效的临床对比研究

[B0585]: 关节镜下空心螺钉与带线锚钉联合固定粉碎性肩胛盂骨折

[B0150]: A Mouse Model To Measure The Localization And Migration Of Mscs Post Transplantation

[B0384]: 肌腱病P物质表达与病理学特征观察

[B0584]: 富血小板血浆对膝骨愈合影响的实验研究

[B0752]: Effect Of TGF-β1/Smad Signal Path Inhibition Using Lentivirus Mediated RNA Interference Technique For The Enhancement Of Rotator Cuff Healing In SD Rat Model

[B0820]: Medial Collateral Ligament Healing Acceleration With The Injection MicroRNA-210
APKASS Free Paper: Knee - ACL (3)

[B0183]: The Cross-Sectional Shape Of The Four-Fold Semitendinosus Tendon Graft Is Not Round

[B0493]: Does Triple Semitendinosus Autograft Tendon Have The Same Thickness As Quadrupled Semitendinosus And Gracilis Autograft Tendons In ACL Reconstruction

[B0292]: Prediction Of Hamstring Tendon Graft Size For ACL Reconstruction From Preoperative MRI And Patient Height

[B0663]: Graft Diameter Matters In Hamstring ACL Reconstruction

[B0729]: Regression Modelling Combining MRI Measurements And Patient Anthropometry To Predict Graft Diameter In ACL Reconstruction


[B0631]: Biomechanical Comparison Of Two ACL Reconstruction Methods: Semitendinosus And Gracilis Construct Versus Quadrupled Semitendinosus And Tape Construct.

[B0638]: Comparison Of Clinical Outcomes And Second-Look Arthroscopic Findings After ACL Reconstruction Using A Hamstring Autograft Or A Tibialis Allograft

[B0579]: Preoperative Measure Of Individualized Anatomic ACL Reconstruction In West Chinese Patients: Correlation Between Preoperative MRI And Intra-Operative Measurements

[B0845]: LARS Reconstruction Of Anterior Cruciate Ligament With Remnant Preservation: A Prospective Randomized Control Study

[B0088]: Local Delivery Of Controlled-Release Simvastatin To Improve The Biocompatibility Of Polyethylene Terephthalate Artificial Ligaments For Reconstruction Of The Anterior Cruciate Ligament

[B0014]: Effects Of Remnant Tissue Preservation On The Tendon Autograft In Anterior Cruciate Ligament Reconstruction: Biomechanical And Histological Study With A Sheep Model

[B0747]: Effects Of Remnant Tissue Preservation On Tunnel Enlargement After Anatomic Double-Bundle Anterior Cruciate Ligament Reconstruction

[B0757]: Double Bundle Anterior Cruciate Ligament Reconstruction Preserving Antero-Medial Aspect Of Remnant Tissue

[B0191]: Comparison Of Tunnel Positions And Clinical Outcomes Between Splitting And Non-Splitting Remnant Preservation Techniques

[B0864]: Augmentation Of Tendon Graft Anterior Cruciate Ligament Reconstruction Outcome Using A Silk Based Osteoconductive Sheath

[B0129]: Applied Anatomy Of Anterior Cruciate Ligament With Direct Tibial Arc-Shaped Insertion Site

[B0327]: Repair Of Anterior Cruciate Ligament With Internal Brace Technique - Early Results


[B0105]: Influence Of Initial Tension On The Postoperative Tibiofemoral Relationship After Anatomic Anterior Cruciate Ligament Reconstruction

Scan the QR Code for Free Paper Abstracts
APKASS Free Paper: Shoulder - Cuff

Seminar Room A (1/F),
10:15-12:15

Scan the QR Code for Free Paper Abstracts

[B0149]: Subacromial Steroid Injection Is Safe And Effective To Improve Painful Lom After Rotator Cuff Repair

[B0190]: Does Anchor Type, Anchor Material Or Suture Configuration Affect The Outcome Of Rotator Cuff Repair – Analysis From The New Zealand Rotator Cuff Registry

[B0056]: Symptomatic Knot Impingement After Arthroscopic Rotator Cuff Repair: Which Knot Is Critical?

[B0456]: Clinical Analysis Of Surgical Techniques Of Approach Of Arthroscope Approach Of Rotator Cuff Repair In 46 Cases

[B0090]: Rotator Cuff Tears Combined With Long Head Of The Biceps Tendon Lesions: Tenotomy Versus Tenodesis

[B0360]: Delaminated Rotator Cuff Tear: Characteristics And Anatomical Healing After Arthroscopic Rotator Cuff Repair

[B0057]: Outcomes Of Arthroscopic Rotator Cuff Repair With Less Tension

[B0087]: Biomechanical Comparison Of 3 Different Suture-Bridge Techniques For Rotator Cuff Tear Repair

[B0038]: A Meta-Analysis Comparing Single-Row And Double-Row Repair Techniques In The Treatment Of Rotator Cuff Tears

[B0599]: A Survival Curve For Arthroscopic Double-Row Repair Of The Rotator Cuff: Critical Period Analysis

[B0648]: Partial-Thickness Rotator Cuff Tears In University Baseball Players

[B0208]: Characteristics And Clinical Outcomes Of The Patients With Articular Side And Bursal Side Rotator Cuff Tears

[B0743]: Prognostic Factors Of Retear After Arthroscopic Repair Of Massive Rotator Cuff Tear

[B0266]: Arthroscopic Incomplete Repair Of Irreparable Rotator Cuff Tears: Pre-Operative Factors And Outcomes

[B0431]: Arthroscopic Medial Reattachment Of The Torn Cuff Tendon For Massive Rotator Cuff Tears

[B0658]: Association Between Pre-Operative MRI Of The Supraspinatus Muscle And Reparability Of Rotator Cuff Tears

[B0680]: Curative Effect Comparison Of Two Kinds Of Grafts Suture For Massive Rotator Cuff Tear

[B0659]: Clinical And Radiologic Outcomes Of Arthroscopic “Hybrid” Repair In Large To Massive Rotator Cuff Tear

[B0821]: Reversal Of Suprascapular Neuropathy Following Arthroscopic Repair Of Massive Rotator Cuff Tear With Routine Nerve Release

[B0773]: Effect Of Prior Rotator Cuff Repair On Clinical Outcomes Following Reverse Shoulder Arthroplasty
Seminar Room B (3/F)

APKASS Free Paper: Others

Seminar Room B (3/F), 08:00-10:00

Scan the QR Code for Free Paper Abstracts


[B0174]: Autophagy Plays A Protective Role In Tumor Necrosis Factor-α-induced Apoptosis Of Bone Marrow-Derived Mesenchymal Stem Cells

[B0616]: In Vitro Rabbit Periosteal Cell Proliferation And Response To Stimulus In Microfluidic Culture System

[B0330]: The Detrimental Gelling Effect Of Plate-Rich Plasma When Exposed To Human Tenocytes In Small Diameter Culture Well

[B0114]: Confirmed Presence Of Bacterial 16S rRNA In Achilles’ Tendon Rupture Samples

[B0482]: Arthroscopic Debridement Of Talar Cyst And Bone Grafting By Using OATS: A Case Report

[B0030]: All-Arthroscopic Anatomical Reconstruction Of Anterior Talofibular Ligament Using Semitendinosus Autografts

[B0218]: Percutaneus Repair Of Achilles Tendon Rupture Under Ultrasound Surveillance As Effective Method Of Treatment In Patients With Other Diseases

[B0010]: Arthroscopic Treatment For Chronic Achilles Tendon Rupture On High Demand Patients

[B0184]: Development And Validation Of A Computational Foot And Ankle Model To Investigate Lateral Ligamentous Strain

[B0082]: Inferior Balance Strategy Is Associated With Insufficient Training Experience But Not With Injury History In Rugby Players

[B0770]: The X-Ray Changes After Ankle Sprain In Juvenile Patients

[B0184]: Development And Validation Of A Computational Foot And Ankle Model To Investigate Lateral Ligamentous Strain

[B0803]: Precise Patient Selection For Hip Arthroscopy Using Ultrasound-Guided Hip Injection

[B0420]: Arthroscopic Management For Hip Acetabular Labral Tears - A Retrospective Study For 300 Hip Arthroscopy Surgery Cases
Journal of Orthopaedic Translation

The Official Journal of CSOS & ICMRS

Available on ScienceDirect
www.sciencedirect.com

Currently under review for inclusion in SCIE

Journal of Orthopaedic Translation
Volume 1  Issue 1  October 2013
ISSN: 2211 - 5056

Editorial Board

Editor-in-Chief
Chih-Hwa Chen
Taiwan
Ling Qin
Hong Kong

Board of Trustee
Kai-ming Chan
Hong Kong
Zhong-qiang Chen
Beijing, China
Cheng-kung Cheng
Taiwan
Yan Wang
Beijing, China

Associate Editors
Harry K. Genant
San Francisco, USA
Xiang-Dong Guo
New York, USA
Gang Li
Hong Kong
Regis O’Keefe
New York, USA
Geoff Richards
Davos, Switzerland
Ting-Ting Tang
Shanghai, China

Major Focus
- Animal models
- Biomaterials
- Biophysical stimulation
- Clinical trials
- Diagnostics
- Health promotion
- Industries and markets
- Medical devices and implants
- Nutrition and drugs
- Regenerative medicine
- Regulations and policies
- Rehabilitation

Article Categories
- Original articles
- Review articles
- Editorials
- Perspectives
- Letters to the Editor
- Peer-reviewed publication
- Published quarterly by Elsevier
- Free online access at http://ees.elsevier.com/jot
- The first international journal dedicated to orthopaedic translational research
- A bridge between clinicians & researchers in musculoskeletal and related fields
- Fills up gaps between bench & bedside, and bench & community

Email:
joteditorial@ort.cuhk.edu.hk

Submit your manuscript at http://ees.elsevier.com/jot
E-posters
APKASS Session
IFOSMA Session
[APKASS - Knee]

Scan QR Codes for E-posters & Abstracts

APKASS - Knee - ACL

B0068 The Visibility And Classification Grading System Of Anterolateral Ligament Of The ACL Injured Knee In MRI
Kazunori Tanaka, Japan

B0158 Knee Stability And Synovial Fluid Alterations In Allogeneic And Autologous Anterior Cruciate Ligament Reconstruction: A Comparative Study
Rui Yang, China

B0159 Kinesiophobia After Anterior Cruciate Ligament Reconstruction - Does Kinesiophobia Result In Poorer Outcomes?
Yee Han Dave Lee, Singapore

B0176 Investigation Of Copers And Non-Copers In Anterior Cruciate Ligament Deficient Knees
Ryo Kanto, Japan

B0188 A Retrospective Comparative Study Of Clinical And Functional Outcomes Between Anatomic Double Bundle And Classical Single Bundle Hamstring Grafts For Arthroscopic Anterior Cruciate Ligament Reconstruction.
Ki-Joon Jang, South Korea

B0229 Synovial Integrity Of The ACL Remnant Influences The Graft Synovialization After Reconstruction
Hyuk Soo Han, South Korea

B0290 The Use Of Silk Fibroin Coating To Enhance Intra-Articular Ligamentization Of Polyethylene Teraphthalate Artificial Ligament
Chengchong Ai, China

B0295 Use Of Supercritical Sterilized Bone Allograft In Two Stage Revision ACL Reconstruction, A Histological And Histomorphometric Analysis
Lucy Salmon, Australia

B0350 Three-Dimensional Gait Analysis Of Anterior Cruciate Ligament Before And After Injury And Three-Dimensional Gait Analysis Of Anterior Cruciate Ligament
Weiming Wang, China

B0436 Influence Of The Different Entrance Portal On Femoral Tunnel Orientation During Anatomic Anterior Cruciate Ligament Reconstruction
Sun Chul Hwang, South Korea

B0437 Correlation Between Femoral Guidewire Position And Tunnel Communication In Double Bundle Anterior Cruciate Ligament Reconstruction
Sun Chul Hwang, South Korea

B0447 Short Term Results Of ACL Augmentation In Professional And Amateur Athletes
Hamidreza Yazdi, Iran

B0475 Treatment Of Cruciate Ligament Injuries Associated With Femoral Condylar Fracture
Guofeng Dai, China

B0478 Early Reconstruction Of The Anterior Cruciate Ligament Rupture In Multiple Ligament Injuries Is Necessary Or Not
Guofeng Dai, China

B0495 Dose Hyperextension Maneuver Prevent Knee Extension Loss After Arthroscopic ACL Reconstruction?
Hamidreza Yazdi, Iran

B0500 Bone Mineral Density Change Around The Femoral And Tibial Tunnels After ACL Reconstruction Using Curved Dilator System
Joon Kyu Lee, South Korea

B0504 System Evaluation Of Endobutton And Rigid-Fix Femoral Fixation In Anterior Cruciate Ligament Reconstruction
Xiaoxu Wang, China

B0507 Identification Of Factors Influencing Muscle Recovery After Anterior Cruciate Ligament Reconstruction
Mitsuru Hanada, Japan

B0517 Comparison Of Knee Function Between Non-Anatomical And Anatomical Single-Bundle Anterior Cruciate Ligament Reconstruction: A Two-Year Follow Up Study.
Bin Yao, China

B0533 Analysis On The Effect Of Remnant-Preserved Reconstruction On Non-Acute Injured Anterior Cruciate Ligament
Mingming Lei, China

B0568 Analysis Of Graft Length In Anatomic Double-Bundle ACL Reconstruction
Akio Matsumoto, Japan

B0572 Experiences On The Diagnosis And Treatment Of Chronic Anterior Cross Ligament Injury
Guofeng Cai, China
B0582 Intraoperative Kinematic Evaluation Of Double-Bundle Anterior Cruciate Ligament Reconstruction Using A Navigation System Atsuo Nakamae, Japan

B0614 Effect Of Drains On Knee Function After Arthroscopically Assisted Double Bundle Anterior Cruciate Ligament Reconstruction Atul Mahajan, INDIA

B0684 Bfgf Release From Regenerative Silk Fibroin Coated Polyethylene Terephthalate Scaffold Promotes Synthetic Graft Ligamentization Fang Wan, China

B0718 Quantifying The Dynamic Rotational Function Of The Anterior Cruciate Ligament Darren Koh, Singapore

B0731 Complex Short-Term Recovery Of Knee Function Following ACL Reconstruction: Correlation To Cartilage Microstructure At 6Month Follow-Up Corey Scholes, Australia

B0732 Predicting Patient Reported Outcomes A Minimum Of One-Year Following ACL Reconstruction Corey Scholes, Australia

B0737 Quantifying Functional Capacity In Anterior Cruciate Ligament Postoperative Rehabilitation, And Predict The Time To Return-To-Activity Kate Kai-Yee Yung, Hong Kong

B0740 Preoperative Skeletal Parameter Predict Size Of 2-Strand Hamstring Graft During Double-Bundle Anterior Cruciate Ligament Reconstruction Xizhe Liu, JAPAN

B0769 Repair Of The Torn Anterior Cruciate Ligament By Suture Anchor: Report Of Three Cases. Ceferino Chua, Taiwan

B0782 Modified Transtibial Vs Anatomic Anteromedial Techniques For Anatomic Single Bundle ACL Reconstruction, A Comparative Study Ehab Hussin, Saudi Arabia

APKASS - Knee - PCL, LCL, MCL, PLC, PMC

B0002 Neglected PCL Injury In A Child Reetadyuti Mukhopadhyay, India

B0131 One Stage Arthroscopically Assisted Treatment Of Traumatic Knee Dislocation With Multiple Ligament Injuries Chengjun Zhang, China

B0216 Acute Single-Stage Reconstruction Of Multiligament Knee Injuries Using Allograft And Autograft Guang-Hua Lei, China

B0559 Concomitant Posterior Cruciate Ligament Reconstruction And Opening Wedge High Tibial Osteotomy For Posttraumatic Knee Osteoarthritis With Chronic Instability: A Case Report. Oka Shinya, Japan

B0726 Clinical Characteristics Predicting Patient-Reported Outcomes Following Multiple-Ligament Knee Reconstruction Corey Scholes, Australia

B0750 Clinical Results Of Single-Bundle Posterior Cruciate Ligament Reconstruction With Remnant Preserving Norifumi Suga, Japan

B0753 Single-Stage Surgery For Knee Dislocation With Multiligamentous Injuries In Elderly Patients Bin Xu, China

APKASS - Knee - PFJ

B0044 The Effect Of Knee Flexion And Rotation On The Tibial Tuberosity-Trochlear Groove Distance Andrej Nowakowski, Switzerland

B0407 Comparison Of Radiographic Axial Imaging Techniques, Skyline View Vs. Merchant View, For The Evaluation Of Patellofemoral Alignment Masakazu Ishikawa, Japan

B0696 Case-Control Study On Therapeutic Effects Between Arthroscopic Medial Retinaculum Plasty And Medial Patellofemoral Ligament Reconstruction For Recurrent Patellar Instability Guang-Hua Lei, China

B0786 Risk Factors Affecting The Poor Outcomes Following Medial Patellofemoral Ligament Reconstruction Arata Kanaizumi, Japan

APKASS - Knee - Meniscus

B0080 Arthroscopic Meniscal Repair Using Fibrin Clots Osamu Tanifuji, Japan

B0185 Clinical And Radiologic Outcomes Following Surgical Treatment For Medial Meniscus Root Tear In The Middle Age (Meniscus Repair Vs Subtotal Meniscectomy) Ki-Joon Jang, South Korea
B0186 Clinical And Radiologic Outcomes After Single Leaf Resection Of Medial Meniscus Horizontal Tear And In The Knee Varus Alignment
Ki-Joon Jang, South Korea

B0359 Does Decreased Meniscal Thickness Affect Surgical Outcomes After Medial Meniscectomy?
Ki-Joon Jang, South Korea

B0453 Arthroscopic Treatment Of The Lesion Of The Posterior Root Of Lateral Meniscus
Ning Liu, China

B0564 Arthroscopic Meniscal Root Repair In Athletes With FAST-FIX 360 Suture System
Mingming Lei, China

B0571 Clinical Results After Arthroscopic Meniscus Repair
Chunghwan Lee, South Korea

B0598 Does Concomitant Meniscus Injury In Anterior Cruciate Ligament Reconstruction Lead To Poorer Postoperative Functional Outcomes?
Amritpal Singh, Singapore

B0710 Symptomatic Discoid Lateral Meniscus Tear: Arthroscopic Partial Meniscectomy Or Partial Meniscectomy With Repair
Tomohiro Sutefuan Tomi, Japan

B0733 Arthroscopic Suture Anchor Repair Of Medial Meniscus Posterior Root Avulsion (MMPRA): Minimum 2-Year Follow-Up
Sohrab Keyhani, Iran

B0809 The Locked Knee: 10 Years Experience
Raymond Yeak, Malaysia

APKASS - Knee - Cartilage

B0232 Cartilage Repair Using Tgf-β Loaded Glycidyl Hyaluronic Acid Hydrogel With 3-D Scaffold Of Methoxy Poly(Ethylene Glycol)-Block-Poly(ε-caprolactone) And Hydroxyapatite
Hung-Maan Lee, Taiwan

B0741 Prognosis Of Osteochondritis Dissecans Of The Lateral Femoral Condyle After Arthroscopic Meniscectomy Of Discoid Lateral Meniscus With Osteochondritis Dissecans
Junsei Takigami, Japan

B0755 Osteochondritis Dissecans Of The Patella And Medial Femoral Condyle In Identical Twins
Jaesung An, Japan

APKASS - Knee - Joint Replacement

B0071 Comparison Between Accelerometer-Based Portable Navigation, Patient-Specific Instrument And Conventional Instrument For Femoral Alignment In TKA
Kohei Kawaguchi, Japan

B0142 Analysis Of Complications After Unicompartmental Knee Arthroplasty
Kyung-Tae Kim, South Korea

B0231 The Effectiveness And Safety Of Tranexamic Acid In Primary Total Knee Arthroplasty Between Topical Intra-Articular And Intravenous, A Meta-Analysis
Hongtao Xu, China

B0255 The Influence Of The Knee Range Of Motion For Patient’S Satisfaction In Total Knee Arthroplasty
Mitsuhiko Kubo, Japan

B0430 Clinical Results Of Contralateral Arthroscopic Meniscectomy Performed With Unilateral Total Knee Arthroplasty: Minimum 3-Year Follow-Up
Sang Jin Lee, South Korea

B0510 What Is The Pre-Operative Factor Effect On Patient Satisfaction After to-tal Knee Arthroplasty?
Hitomi Fujikawa, Japan

B0574 Relationship Between Preoperative Hip Rotation And Postoperative Knee Flexion In Total Knee Arthroplasty
Shiso Ono, Japan

B0645 Benefit Of The 2011 Knee Society Score (The 2011 KSS) For Evaluation Of Patients After Total Knee Arthroplasty
Mio Udo, Japan

B0673 Relationship Between Preoperative Hip Rotation And Postoperative Knee Flexion In Total Knee Arthroplasty
Shiso Ono, Japan

B0674 Uka In 42 Patients With Medial Compartment Knee Osteoarthritis
Hong Chen, China

B0724 Dissatisfaction After Primary Unilateral Total Knee Replacement
Corey Scholes, Australia

B0725 Safety And Survival Of Simultaneous Bilateral Total Knee Replacements
Corey Scholes, Australia

B0751 Relationship Between Intra-Operative Ligament Balance In Posterior-Stabilized Type TKA Using Modified Gap Technique And Post-Operative Lateral Thrust
Seiju Hayashi, Japan
B0772 Gender Differences In Unicondylar Knee Implant Design For Chinese Population
Hung-Maan Lee, Taiwan

B0789 Effect Of Pre-Operative Ambulatory Function On One-Year Post-Operative Patient Satisfaction After Total Knee Arthroplasty
Kohei Yamaura, Japan

B0790 Ambulation Functional Recovery After Total Knee Arthroplasty
Takahiro Furukawa, Japan

B0791 Preoperative Factors That Affect Recovery Of Knee Flexion Rom 6 Months After Unicompartmental Knee Arthroplasty
Shohei Kawakami, Japan

B0824 Lateral Laxity Of TKA In Flexion Influences To Patient’S Reported Outcome
Nobukazu Okamoto, Japan

B0859 Evaluation Of Knee Kinematics In Single Radius Versus Multi-Radii Total Knee Arthroplasty In Indian Patients
Surabhi Rohilla, Australia

APKASS - Knee - Osteotomy
B0187 A “Safe Zone” In Medial Open-Wedge High Tibia Osteotomy To Prevent Lateral Cortex Fracture
Ki-Joon Jang, South Korea

B0411 Clinical Results And Surgical Complications Of The New Closed Wedge High Tibial Osteotomy (Hybrid HTO)
Kazumasa Inoue, JAPAN

B0487 A Case Of Femoral Varus Osteotomy And Lateral Meniscus Centralization For Lateral Knee Osteoarthritis
Hitoshi Kanamura, Japan

B0538 Patient Satisfaction Following High Tibial Osteotomy Is Affected By Severity Of Osteoarthritis
In Jun Koh, South Korea

B0560 The Four Cases Of Open-Wedge High Tibial Osteotomy With Osteochondral Autograft Transplantation For Spontaneous Osteonecrosis Of The Knee
Kazuhiko Unaka, Japan

B0595 Intraoperative Alignment Adjustment Under Valgus Stress Reduces Outliers In Patients Undergoing Medial Opening Wedge High Tibial Osteotomy
Man Soo Kim, South Korea

B0624 Factors Affecting KOOS In The Intermediate Term After Opening-Wedge High Tibial Osteotomy
Taishi Ninomiya, Japan

B0719 Magnetic Resonance Imaging Evaluation After Opening Wedge High Tibial Osteotomy
Nobuhiro Okuno, Japan

B0815 A Technical Tip To Treat The Intraoperative Lateral Cortex Fracture During A Medial Open-Wedge High Tibial Osteotomy
Ki-Bong Park, South Korea

APKASS - Knee - Basic Science
B0113 Intra-Articular Delivery Of Quercetin Using A Thermo-Sensitive Hydrogel For Osteoarthritis In The Knee
Sze Wing Mok, Hong Kong

B0116 Controlled Drug Delivery System With mPEG/PLGA Hydrogel Coating On Tendon Graft For Anterior Cruciate Ligament Reconstruction
Bruma Sai-chuen Fu, Hong Kong

B0117 The Effect Of GHK-Cu To The Healing Cells At Different ACL Reconstruction Healing Stages
Angel Lee, Hong Kong

B0173 Relationship Between Sex Hormones And ACL Laxity Across Menstrual Cycle In Female Adolescent Football Players
Dongliang Shi, China

B0490 Evaluation Of Projection Of Anatomical Axis Of Proximal And Distal Halves Of The Femur In Relation To Center Of Intercondylar Notch In Normal Aligned Femurs
Hamidreza Yazdi, Iran

B0505 The Enhancement Of Tendon-Bone Healing Of ACL Reconstruction With hTGFβ1 Gene Transferring To Hamstring Tendon
Xiaoxu Wang, China

B0603 Muscle Strength Of Knee Flexors And Extensors After Anterior Cruciate Ligament Reconstruction Using Bone-Patellar Tendon-Bone Grafts
Machiko Akao, Japan

B0606 Assessment Of Dynamic Proprioception Using Star Excursion Balance Test After Single-Bundle And Double-Bundle ACL Reconstruction
Atul Mahajan, INDIA

B0607 Effect Of Concomitant Meniscectomy On Recovery Of Muscle Strength After Arthroscopically Assisted ACL Reconstruction
Atul Mahajan, INDIA

B0608 Assessment Of Proprioception And Postural Control Deficits In Partial Meniscectomized Knees Using Star Excursion Balance Test
Atul Mahajan, INDIA
B0613  Treadmill Training With Early Partial Body-Weight Support After Anterior Cruciate Ligament Reconstruction
Jiao Sha, China

B0654  The Effect Of The Direct Stretch Of Gastrocnemius For Knee Osteoarthritis.
Ryosuke Kawai, Japan

B0735  Hamstring Strength In Soccer Players With And Without Previous Hamstring Strain Injuries: A Retrospective Case Control Study
Justin Wai-Yuk Lee, Hong Kong

B0840  Fetal Anterior Cruciate Ligament Mustafa Buyukmumcu, Turkey

APKASS - Knee - Others

B0367  The Report Of 11 Femoral Condylar Fracture Type B Cases Treated By Arthroscopy-Guided Hollow Screw Fixation
Liang Zhang, China

B0566  Simultaneous Bilateral Rupture Of The Quadriceps Tendon In A Healthy Man: A Case Report
Masaki Nagashima, Japan

B0627  Knee Arthrodesis Using A Unilateral External Fixator Combined With Crossed Cannulated Screws For The Treatment Of End-Stage Tuberculosis Of The Knee
Xin Tang, China

B0762  Applying Arthroscopy To Evaluate The Reduction Of Patella Fracture
Yang Liu, China

B0765  Arthroscopic Synovectomy For Recurrent Hemarthrosis Of The Knee Due To Synovial Lipoma Arborescens.
Yoshinori Kachi, Japan

B0843  Determination Of Safe Anatomic Zones For Arthroscopic Anterior Knee Portals By Protecting Medial And Lateral Patellotibial Ligaments
Onur Bilge, Turkey

APKASS - Shoulder - Cuff

B0032  Predicting Factors Of Arthroscopic Reparability In Large And Massive Rotator Cuff Tear
Vanasiri Kuptniratsaikul, Thailand

B0039  Arthroscopic Treatment For Synovial Chondromatosis Of The Subacromial Bursa Associated With Partial Rotator Cuff Tear: A Case Report
Caiqi Xu, China

B0052  Repair Of Rotator Cuff Tear In Young Sports Athletes.
Tomoyuki Muto, Japan

B0072  Clinical Outcomes Of Arthroscopic Rotator Cuff Repair For Massive Rotator Cuff Tears Using Medialization Methods
Akira Aoki, Japan

B0103  Arthroscopic Removal And Tendon Repair For Refractory Rotator Cuff Calcific Tendinitis Of The Shoulder
Hiroshi Hashiguchi, Japan

B0140  Arthroscopic Treatment Of Massive Rotator Cuff Tear
Guanghua Lei, China

B0189  Revision Rotator Cuff Repairs – Pain And Function At 24-Months
Warren Leigh, New Zealand

B0243  The Long-Term Clinical Results Of Arthroscopic Rotator Cuff Repair
Takayuki Dohke, Japan

B0448  Intraoperative Findings Of The Rotator Cuff With Glenohumeral Joint Effusion And Subacromial Effusion In MRI
Masayuki Abe, Japan

B0452  Arthroscopic Rotator Cuff Repair Using A Suture-Bridge Technique
Ning Liu, China

B0690  Effect Of Manual Advancement Of The Infraspinatus Muscle On Shoulder Joint Range Of Motion: Improvement Of The Range Of Motion While Preventing Rotator Cuff Tear
Norio Nagai, Japan

B0771  Comparison Of Passive Stiffness In The Supraspinatus Muscle After Double-Row And Knotless Transosseous-Equivalent Rotator Cuff Repair Techniques
Taku Hatta, Japan

B0807  Arthroscopic Technique: Rotator Cuff Repair And Bone Graft With Rotator Cuff Tear And Solitary Bone Cyst
Motoi Shibahara, Japan
B0856 Isolated Rupture Of Infraspinatus  
Dae Ha Kim, South Korea

**APKASS - Shoulder – Instability**

B0665 Arthroscopic Middle Glenohumeral Ligament (MGHL) Repair For Minor Shoulder Instability  
Takashi Suzuki, Japan

B0675 The Diagnosis And Treatment Of The Obsolete Posterior Shoulder Dislocation  
Hong Chen, China

B0678 Bankart Combined With Remplissage Treatment Anterior Shoulder Instability With Glenoid Bone Loss More Than 25%  
Hong Chen, China

B0721 Posterior Shoulder Instability – A New Classification System To Aid Surgical Management  
Sujit Kadrekar, INDIA

**APKASS - Shoulder - SLAP/Bicep Tendon**

B0366 Biomechanical Comparison Of Transtendinous All-Suture Anchor Fixation And Interference Screw Technique For Suprapectoral Biceps Tenodesis  
Wei-Ren Su, Taiwan

B0548 Arthroscopic Capsulolabral Reconstruction Of Severe Superior Labrum Anterior Posterior Lesions Plus Anterior Or/And Posterior Extensive Tear  
Huayang Huang, China

B0549 Arthroscopic Reconstruction Of Shoulder’S Labrum With Extensive Tears  
Huayang Huang, China

B0838 Does Knot Matter For SLAP Repair? - Knot-tache In Symptomatic Recurrent SLAP Lesion  
Ho Yun Joung, South Korea

**APKASS - Shoulder – ACJ**

B0036 Removal Of The Implants After Arthroscopic Coracoclavicular Ligament Reconstruction To Acromioclavicular Dislocation  
Issei Nagura, Japan

B0581 Failure Analysis Of The Arthroscopic Surgery Of Acute Rockwood Type III Acromioclavicular Dislocation By Using Endobutton  
Yufeng Wu, China

B0596 Outcome Of Arthroscopic Assisted Reconstruction Using Arthrex Dog Bone Button For Acromio-Clavicular Joint Dislocation  
Yasuhiro Nakane, JAPAN

B0640 Acromioclavicular Joint Dislocation With Acromial Fracture - A Case Report  
Minsu Woo, South Korea

**APKASS - Shoulder - Basic Science**

B0563 Anatomic Correlation Of Clavicular Dimensions To Predict Locations Of Conoid And Trapezoid Bundles  
Nadhaporn Saengpetch, Thailand

B0739 Scapulohumeral Rhythm During Horizontal Flexion And Extension In Shoulder Abduction And External Rotation  
Koji Shibano, Japan

**APKASS - Shoulder – Others**

B0058 Intraoperative Use Of Ultrasound For Identification Of Acromioclavicular Joint During Shoulder Arthroscopy  
Shannon Sim, Australia

B0291 Primary Synovial Chondromatosis Of The Shoulder With Concomitant Intra- And Extra-Articular Involvement: More Than A Simple Removal Of Loose Bodies  
Jana Francesca Tumpalan, Philippines

B0463 Is Pancapsular Release More Effective Than Selective Capsular Release For The Treatment Of Adhesive Capsulitis?  
Seung-Jun Lee, South Korea

B0464 Shoulder And Elbow Injury Rates And Patterns In Korean Rookie Professional Baseball Pitchers  
Seung-Jun Lee, South Korea

**[APKASS - Others]**

Scan QR Codes for E-posters & Abstracts

**APKASS - Others - Hip & Thigh**

B0455 Arthroscopic Reduction And Internal Fixation For Pipkin Type I Femoral Head Fracture In A Professional Athlete: 18-Month Follow-Up Resultsarthroscopic Reduction And Internal Fixation  
Pil Whan Yoon, South Korea
B0479  Gluteal Muscle Contracture Release With Arthroscopy
Guofeng Dai, China

B0768  MRI And Arthroscopic Findings In Early Stage Of Osteoarthritis Of The Hip Due To Hip Dysplasia
Sawa Mikiya, Japan

APKASS - Others - Leg, Foot & Ankle

B0217  Arthroscopic Treatment Of The Lateral Ankle Instability
Mikolaj Wrobel, Poland

B0349  Arthroscopic Ankle Arthrodesis For Haemophilic Arthropathy
Yusuke Inagaki, Japan

B0390  Modified Das De Procedure For Acute And Chronic Peroneal Tendon Dislocation
Tomohiro Tomihara, JAPAN

B0450  Stress Fracture Of The Anterior Process Of The Calcaneus: A Case Report
Takahiro Arakawa, Japan

APKASS - Others - Elbow, Wrist & Hand

B0083  The Prevention And Early Detection For Osteochondritis Dissecans Of The Elbow Since 2006
Tomoharu Mochizuki, Japan

B0156  The Efficacy Of Treating Old Distal Radio-Ulnar Joint Dislocation With The Tightrope Device
Jihang Chen, China

B0157  Arthroscopic Carpal Tunnel Release In Elder With Carpal Tunnel Syndrome Under Electroneurophysiology Monitoring
Rui Yang, China

B0171  Arthroscopic Debridement For Elbow Osteoarthritis: The Hospital Serdang Experience
Arifaizad Abdullah, Malaysia

APKASS - Others - Basics Science

B0115  Low-Dose Hydrogen Peroxide Impaired Tendon Healing And Induced Tendinopathic Changes
Bruma Sai-chuen Fu, Hong Kong

B0734  Isolated Musculocutaneous Nerve Injury In A Professional Baseball Player. A Case Report
Kataoka Takeshi, Japan

B0450  The Effect Of High Intensity Circuit Training On Youth Soccer Players: An Implication On Injury Prevention And Performance Enhancement
Hardaway Chun-Kwan Chan, Hong Kong

B0748  Autologous Point-Of-Care Approach For Regenerative Medicine Applications Using Muscle Derived Factors
Masahiro Yoshikawa, Japan

APKASS - Others - Others

B0048  Joint Flexibility And Sports Injuries During 3 Years In Junior High School
Masaru Kodowski, JAPAN

B0051  The Availability Of Modified Side-Locking Loop Suture (SLLS) Technique: Comparison With The Conventional Slls Technique
Shinji Imade, Japan

B0094  A Novel Solution Improves Preservation Of Fresh Osteochondral Allografts For Clinical Use
Famin Cao, China

B0127  Is The Gluteal Muscle Contracture At Risk In Femoroacetabular Impingement? A Quantitative CT Study.
Tian You, China

B0120  The Role Of Myodynamia Imbalance In Femoroacetabular Impingement
Tian You, China

B0736  A Survey On Team Sport-Related Injury And Management In Young Hong Kong Athletes
Justin Wai-Yuk Lee, Hong Kong

B0744  Isolated Musculocutaneous Nerve Injury In A Professional Baseball Player. A Case Report
Kataoka Takeshi, Japan

June 9-12, 2016 | Hong Kong & Macau
<table>
<thead>
<tr>
<th>IFOSMA - Knee</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IFOSMA - Knee - ACL</td>
<td></td>
</tr>
<tr>
<td>B0016 Clinical Research Of Anterior Cruciate Ligament Tear With Menisci Bucket Hand Tear Injury Shaoshan Wang, China</td>
<td></td>
</tr>
<tr>
<td>B0153 同种异体和自体移植植物重建前交叉韧带临床对比研究 Rui Yang, China</td>
<td></td>
</tr>
<tr>
<td>B0202 双侧自体1/2腓骨长肌腱与腘绳肌腱重建前交叉韧带的临床对比研究 Qiang Li, China</td>
<td></td>
</tr>
<tr>
<td>B0221 骨膜包裹异体肌腱重建前交叉韧带的临床相关研究 Hongtao Xu, China</td>
<td></td>
</tr>
<tr>
<td>B0240 前交叉韧带合并内侧副韧带损伤 MCL分级治疗策略对ACL治疗的影响 Jianguo Dong, China</td>
<td></td>
</tr>
<tr>
<td>B0338 前交叉韧带合并后内侧角损伤的一期重建 Lei Zhang, China</td>
<td></td>
</tr>
<tr>
<td>B0377 关节镜下1期处理前交叉韧带损伤合并内侧半月板ramp损伤临床观察 Liang Zhang, China</td>
<td></td>
</tr>
<tr>
<td>B0422 保留残端重建前交叉韧带损伤的临床效果研究 Huayang Huang, China</td>
<td></td>
</tr>
<tr>
<td>B0426 前交叉韧带重建术后感染的治疗效果研究 Huayang Huang, China</td>
<td></td>
</tr>
<tr>
<td>B0444 关节镜下个性化手术治疗前交叉韧带下止点撕脱骨折 Mingyu Zhang, China</td>
<td></td>
</tr>
<tr>
<td>B0458 关节镜下单隧道类解剖单束重建治疗ACL损伤疗效观察 Hong Wang, China</td>
<td></td>
</tr>
<tr>
<td>B0481 High Tibial Osteotomy And ACL Reconstruction With LARS Ligament In Patients With Medial Knee Osteoarthritis Guofeng Dai, China</td>
<td></td>
</tr>
<tr>
<td>B0693 关节镜下4隧道双线或6隧道三线法固定治疗ACL胫骨止点撕脱骨折疗效观察 Hui Wang, China</td>
<td></td>
</tr>
<tr>
<td>IFOSMA - Knee - PCL</td>
<td></td>
</tr>
<tr>
<td>B0272 LARS人工韧带在后交叉韧带保留残端重建中的应用 Lunhao Bai, China</td>
<td></td>
</tr>
<tr>
<td>B0369 后叉下止点撕脱骨折的全镜下治疗 Liang Zhang, China</td>
<td></td>
</tr>
<tr>
<td>B0413 关节镜下保残腓骨长肌腱重建PCL Yanxiong Meng, China</td>
<td></td>
</tr>
<tr>
<td>B0851 Arthroscopic Posterior Cruciate Ligament Reconstruction Using LARS Artificial Ligament: A Retrospective Study With A Mean Follow-Up Of Five Years Xuan Huang, China</td>
<td></td>
</tr>
<tr>
<td>IFOSMA - Knee - Multiligaments Injuries</td>
<td></td>
</tr>
<tr>
<td>B0325 膝关节多韧带损伤一期和二期处理结果对比分 Jianzhong Xu, China</td>
<td></td>
</tr>
<tr>
<td>B0380 膝关节外侧复合体损伤重建疗效观察 Liang Zhang, China</td>
<td></td>
</tr>
<tr>
<td>B0428 膝关节多韧带损伤的重建方法研究 Huayang Huang, China</td>
<td></td>
</tr>
<tr>
<td>B0461 膝关节脱位关节镜下前后交叉韧带同时重建并一期修其他韧带疗效观察 Hong Wang, China</td>
<td></td>
</tr>
<tr>
<td>IFOSMA - Knee - Patella Instability</td>
<td></td>
</tr>
<tr>
<td>B0163 急性髌骨脱位的个体化治疗策略 Rui Yang, China</td>
<td></td>
</tr>
<tr>
<td>B0352 同种异体肌腱绕大收肌止点重建内侧髌股韧带治疗儿童复发性 Weiming Wang, China</td>
<td></td>
</tr>
<tr>
<td>B0378 半腱肌膝肌移植双束解剖重建治疗青少年复发性髌骨脱位 Liang Zhang, China</td>
<td></td>
</tr>
<tr>
<td>B0423 单隧道同种异体肌腱重建髌股韧带治疗髌骨脱位 Huayang Huang, China</td>
<td></td>
</tr>
<tr>
<td>B0429 自体及同种异体肌腱重建内侧髌股韧带的疗效比较研究 Huayang Huang, China</td>
<td></td>
</tr>
</tbody>
</table>
**IFOSMA - Knee – Meniscus**

B0375 半月板桶柄样撕裂联合缝合术临床疗效分析  
Liang Zhang, China

B0857 半月板缝合临床观察  
Wenhua Mao, China

**IFOSMA - Knee – Others**

B0055 Arthroscopic Resection Of Benign Tumor In The Knee Posterior Septum  
Zhu Dai, China

B0222 关节镜下治疗钙化性腘肌腱炎  
Hongtao Xu, China

B0223 局部关节腔和静脉给予氨甲环酸在初次全膝关节表面置换术中有效性和安全性Meta分析  
Hongtao Xu, China

B0226 膝关节交叉韧带重建术后抗凝必要性讨论  
Hongtao Xu, China

B0227 膝关节内侧副韧带损伤对膝关节旋转稳定性影响的研究  
Hongtao Xu, China

B0230 评价全膝关节置换术中气囊止血带的作用  
Hongtao Xu, China

B0326 单髁置换近期失 heir原因分析  
Jianzhong Xu, China

B0586 关节镜清理术结合药物治疗反应性关节炎的临床研究  
Mingyu Zhang, China

B0641 膝关节骨折、脱位类型损伤的一些问题与思考  
Hui Wang, China

B0692 关节镜辅助下15例膝关节软骨骨折治疗疗效观察  
Hui Wang, China

B0713 关节镜有限清理结合耻骨近端截骨术治疗膝关节骨关节炎的疗效研究  
Yunbo Bai, China

**IFOSMA - Shoulder - Rotator Cuff**

B0620 Relationship Between Critical Shoulder Angle And Rotator Cuff Tear In Asians  
Zhijun Chen, China

B0868 超声检查与MRI成像诊断冈上肌肌腱性变的对比研究  
Tianwu Chen, China

B0065 改良压配式双排缝合技术与传统单双排缝合技术在肩袖大型撕裂修补中的生物力学比较  
Jieen Pan, China

B0165 镜下关节内修复I-III型肩胛下肌损伤  
Rui Yang, China

B0171 关节镜结合小切口修复肩袖全层损伤  
Rui Yang, China

B0274 Tension Bridge Fixation Of The Greater Tuberosity Fracture Of Humerus Of The Osteoporosis Patients  
Xuwen Jia, China

B0305 肩关节镜下应用空心螺钉治疗肱骨大结节撕脱性骨折  
Jun Tao, China

B0386 Speed Bridge With Double-Pulley Technique For Medium Crescent Rotator Cuff Tear Repair  
Shaohua Ding, China

B0403 镜下应用肩袖止点内移技术修复巨大难复性肩袖撕裂  
Hui Kang, China

B0439 Arthroscopic Treatment Of Shoulder Dislocations Complicated With Rotator Cuff Tears  
Hui Kang, China

B0632 Speed Bridge技术缝合肩袖撕裂疗效评估及预后影响因素  
Shaohua Ding, China

B0634 肩下肌下1/3撕裂缝合技术的疗效及预后因素研究  
Shaohua Ding, China

**IFOSMA - Shoulder – ACJ**

B0415 关节镜下单枚挤压钉结合自体半腱肌治疗急性肩锁关节脱位  
Yinping Liu, China

**IFOSMA - Shoulder – Instability**

B0160 全关节镜下治疗初发和复发性肩关节前下脱位的对比分析  
Rui Yang, China

B0161 关节镜下带线锚钉缝合修补Bankart损伤的体会  
Rui Yang, China

---

Scan QR Codes for E-posters & Abstracts
B0164  髋关节镜下无结锚钉技术在治疗Bankart损伤中的应用
Rui Yang, China

B0167  两钉4点交叉固定治疗复发性肩关节前脱位
Rui Yang, China

B0211  关节镜下盂唇缝合关节囊紧缩术治疗肩关节
复发性脱位的临床疗效
Xin Tang, China

B0383  关节镜下无结锚钉技术治疗Bankart损伤
的15年随访
You Zhou, China

[IFOSMA - Others]

Scan QR Codes for E-posters & Abstracts

IFOSMA - Others - Hip
B0371  髋关节镜下治疗FAI
Liang Zhang, China

IFOSMA - Others – Ankle
B0049  MR Image Identification Of The Fibular And
Talus Position In Patients With Chronic Ankle
Instability
Hongyun Li, China

B0111  关节镜下关节融合术治疗距下关节炎
Wei Huang, China

B0215  缝线桥技术在修复踝关节外侧副韧带二度损伤
中的应用
Fuke Wang, China

B0373  踝关节前方撞击的关节镜治疗
Liang Zhang, China

B0418  关节镜下骨柱植骨踝关节融合术治疗严重踝关节炎
Yuwen Li, China

B0421  关节镜下空心螺丝内固定治疗SneppenⅡ
型骨体冠状面骨折
Yuwen Li, China

B0474  Clinical Study Of Percutaneous Minimally Invasi
ve Suture For Fresh Rupture Of Achilles Tendon
Guofeng Dai, China

IFOSMA - Others - Elbow
B0164  肩关节镜下无结锚钉技术在治疗Bankart损伤
的15年随访
Rui Yang, China

B0167  两钉4点交叉固定治疗复发性肩关节前脱位
Rui Yang, China

B0211  关节镜下盂唇缝合关节囊紧缩术治疗肩关节
复发性脱位的临床疗效
Xin Tang, China

B0383  关节镜下无结锚钉技术治疗Bankart损伤
的15年随访
You Zhou, China

IFOSMA - Others – Wrist
B0169  两钉4点交叉固定治疗复发性肩关节前脱位
Rui Yang, China

IFOSMA - Others - Basic Science
B0177  Comparison Of Tumor Necrosis Factor-a
Induced Apoptosis Between Synovium-Derived
Mesenchymal Stem Cells And Bone
Marrow-Derived Mesenchymal Stem Cells
Rui Yang, China

B0178  Multipotent Differentiation And Immunosuppression Of Synovium-Derived Mesenchymal Stem Cells From Patients With Osteoarthritis
Rui Yang, China

B0212  慢病毒介导siRNA下调软骨细胞Ob-Rb表达
抑制骨关节炎软骨破坏
Xin Tang, China

B0400  FPR1诱导BMSCs向软骨细胞分化研究
Baorong Liu, China

B0498  慢病毒介导TGFβ1基因转染半腱肌腱重建兔
ACL术后生物力学的影响
Xiaoxu Wang, China

B0699  转化生长因子-β1对兔半月板损伤修复作用研究
Wei Lv, China

B0716  人膝关节软骨细胞内自发性钙离子信号研究
Baorong Liu, China
一次性

有效降低伤口感染率

用后即丢，强调卫生安全

具有良好透气性的医疗无纺布

BioCover®

亚太医联医疗器械（大连）有限公司

亚福医疗器材（上海）有限公司

北京亚泰医联医疗器械有限公司

英属维京群岛商亚太医联股份有限公司台湾分公司

上海:
上海市嘉定区双单路1509弄259号1602室
电话: 021-54816086
传真: 021-54816085

大连:
大连市保税区中轻大厦2楼217室
电话: 0411-87545309
传真: 0411-87545309

北京:
北京市海淀区交大东路
66号院1号楼217室
电话: 010-62249156
传真: 010-62249522

台湾:
10656台北市大安区复兴南路一段360号7楼之3
电话: 00886-227002883
传真: 00886-227002893
Ultra low displacement, ultra strong fixation and uniquely designed for graft protection.

Easy Quick Graft Loading
Unique Graft Protection
Easy One-Handed Reduction

Supporting healthcare professionals for over 150 years

To learn more about arthroscopy solutions please visit www.smith-nephew.com or contact your Smith&Nephew Sales Representative