UPPER LIMB PROBLEMS IN SPORTS

Website: www.hkssh.org

Co-Organized by:

Supporting Organization: (in alphabetical order)
Contents

Message from The President .......................... 4
Message from The Chairman of the Organizing Committee .......... 5
Message from Co-organizing Chairman .................. 6
The Council ........................................... 7
Organizing Committee ................................ 7
HKSSH Presidential Report 2009-2010 .................. 8
JSSH-HKSSH Exchange Ambassador 2010 ............. 12
Overseas Faculty ...................................... 14
Local Faculty .......................................... 15
HKSSH Visiting Scholars (China) ....................... 18
HKSSH-JSSH Ambassador ............................. 19
HKSSH Asian Pacific Scholar .......................... 19
General and Venue Information ........................ 20
Congress Week Activity ................................ 22
Programme at a Glance .................................. 23
Programme in Details .................................... 24
Abstracts of Lecture ..................................... 28
Abstracts of Free Paper Session I ....................... 47
Abstracts of Free Paper Session II ..................... 55
Acknowledgements ...................................... 60
Message from The President

As president of Hong Kong Society for Surgery of the Hand, it is my pleasure and great honor to welcome all participants to the 24th Annual Congress of the Hong Kong Society for Surgery of the Hand.

The theme of this year’s congress is centered on Upper Limb Problems in Sports. As our society progresses, the injuries happened in leisure sport activities are gradually taking over industrial accidents, as a significant contribution to Hand and Upper Extremities problems. We like to see encouraging results from our elite athletes, but how to help them recovering from their injuries, require inputs from many disciplines and certainly this is an art and science for us.

This year, we are delighted to have Hong Kong Jockey Club Sports Medicine and Science Centre as our co-organization of this congress. Also, with the enormous contributions from our supporting organizations, we are looking for an opportunity to provide a good platform for knowledge interflow in this relatively new realm of Hand and Upper Extremities Surgery.

We are honored to have invited 4 eminent surgeons in this aspects - Dr. Ashish Babhulkar from India, Dr. Gregory Bain from Australia, Dr. Jiang Chun-yan from Beijing, China and Dr. Roger van Riet from Belgium. We have also invited Dr. Peggy Houglum from Pittsburgh, United states as our distinguished speaker for our therapist session. With such a good mix of remarkable leaders from all over the world, we hope that every participants can learn a good chunk of experiences and useful information from our great teachers. I would also take this opportunity to welcome our friends from China and Asia-Pacific region joining us as visiting scholars. I wish all our overseas friends can enjoy the vibrant and attractive life of Hong Kong city.

Besides the Main Congress, we have a whole week packed with nurse symposium, workshop, therapist symposium and surgical demonstration. You are most welcome to join. The details of our scientific week program are listed out in our program book. I would like to thank our Congress chairman, Dr. Chan Ping-tak, Scientific Program chairman Dr. Wong Hin-keung and their prominent team for their enormous effort over a whole year in organizing such a fabulous scientific program over the week.

Please don’t forget to take time visiting our industrial exhibitions. The generous sponsorships and support from the commercial sector help us making our congress an admirable scientific event.

Last but not least, 2011 marks the 25th Anniversary of our Society. To celebrate and acknowledge the devotion and contribution of our pioneers of hand surgery in Hong Kong, we have prepared the 25th Anniversary Celebration Banquet on 26th March, 2011 7:00 pm at Peking Garden, Tai koo Shing. Please do come and enjoy!

Dr Alexander K Y Choi
President
Hong Kong Society for Surgery of the Hand

Message from The Chairman of the Organizing Committee

On behalf of the Organizing Committee, I would like to welcome you all to our 24th Annual Congress of Hong Kong Society of Surgery of the Hand. We believe your participation will make this congress the greatest success ever.

This year we are focusing on “Upper Limbs Problems in Sports” and it is the first time that we are organizing the Annual Congress together with the Hong Kong Jockey Club Sports Medicine and Health Sciences Centre. This cooperation is just a beginning and we are looking forward for future collaboration.

In this congress, we have invited five overseas guest speakers and many local speakers to cover from the shoulder to the hand, from prevention to rehabilitation. The overseas speakers are Dr. Ashish Babhulkar from India, Dr. Gregory Bain from Australia, Miss Peggy Houglum from United States, Dr. Jiang Chun Yan from China and last but not least, Dr. Roger van Riet from Belgium. They also contributed to the whole congress week, including the surgeons’ workshop, surgical demonstration, the therapist symposium and the nurse symposium. There are also traveling fellows from China, Japan and Asian Pacific regions. We are certainly expecting an active sharing of experience and ideals. We also hope to develop a long lasting fraternity.

I must thank the whole organizing committee for their hard working to make this congress a successful one. Their unfailing support and selfless sacrifice in the past one year had shown their passion in hand surgery. I would also like to think all the supporting organizations for their effort and contribution.

Once again, I would like to express my warm welcome to all of you again.

Dr. Chan Ping-tak
Chairman of the Organizing Committee
24th HKSSH Annual Congress
Message from Co-organizing Chairman

On behalf of The Hong Kong Jockey Club Sports Medicine & Health Science Centre, it is indeed my greatest pleasure & privilege for the centre, to collaborate with the Hong Kong Society for Surgery of the Hand (HKSSH), to support the 24th HKSSH Annual Congress.

Over the past few years, there were numerous mega sports events taking place in Hong Kong and in our neighborhood, including the Beijing Olympics in 2008, the East Asian Games in Hong Kong in 2009 & the Asian Games in Guangzhou in 2010, which have upraised the atmosphere of participation in sports activities in our communities. We are now witnessing an enormous trend of exercise for health among the general public, and with increasing sports participation, we are seeing more sports injuries. With increasing participation in throwing and racket sports, we are seeing and treating more sports injuries in the shoulder, elbow & wrist. With the theme of “Upper Limb Problems in Sports” this year, this congress provide a very good platform for a great line up of top experts from different parts of the world, coming together with our local experts, to deliver a prestigious array of presentations on upper limb sports injuries. I am expecting a most stimulating & interactive meeting, which allows our upper limb surgeons, the Orthopaedic Sports Medicine practitioners, and all other disciplines serving our recreational or professional sportsman, to seize this opportunity to interact and to learn from one another, and to stimulate new ideas and technology to promote the advances in this field.

For overseas guests and delegates, apart from participating and interacting with our local professionals and enjoying our conference, I would like to encourage you to explore our fascinating city, savor the superb hospitality of our organizing committee, and above all enjoy the great sports medicine festivity of Hong Kong.

I would like to thank the organizing committee and all the other supporting organizations, for making this conference a truly exceptional event. I am sure that all the participants will find this congress both stimulating and enriching experience for all.

With my very best personal regards,

Dr. Patrick Yung
Deputy Director,
The Hong Kong Jockey Club Sports Medicine & Health Science Centre
HKSSH Presidential Report
2009-2010

The Council and Office Bearer
The new term of council members and office bearers of the HKSSH was elected during the Annual General Meeting held on 4 Oct 2008 in Princess Margaret Hospital. The list is as follows:
- President: Dr Ho Pak-lung (Prince of Wales Hospital)
- Vice-President: Dr Law Yat-kin (United Christian Hospital)
- President-elect: Dr Chi Kiu-yiu (Queen Mary Hospital)
- Honorary Secretary: Dr Tin Wai-on (Prince of Wales Hospital)
- Honorary Treasurer: Dr Wong Tin-shiu (Pamela Youde Nethersol East Hospital)
- Council member: Dr Ho Chiu-on (Caritas Medical Centre)
- Council member: Dr Wong Hing-kwong (Prince Margaret Hospital)
- Council member: Dr Tai Chi-lung (Kwong Wah Hospital)

Mission of the Council
- Promote hand surgery among budding orthopaedic surgeons in Hong Kong to nurture new blood for succession
- Enhance general education on medical care and rehabilitation in hand disorders among public and primary health care providers
- Formulate plans of sub-specialization in hand surgery to strengthen professional development to meet new challenges
- Encourage joint clinical research and publication in hand surgery through concerted effort
- Enhance collaboration with different professional organizations for exchange of ideas and information
- Link with international and regional hand surgery bodies and organizations to promote cross-boundary collaboration

Membership
As of Sept 2010, the membership of HKSSH consisted of:
Life full member: 47
Life associate member: 4 (total 51)
Full member: 24
Associate member: 12 (total 36)

23rd HKSSH Annual Congress Week 2010
The 2010 HKSSH Annual Congress Week was conducted from 14 Mar – 22 Mar 2010. Chairman of the organizing committee was Dr Chi Kiu-yiu of THM. The main theme was "Upper Limb Trauma: 21st Century Perspective". Invited overseas keynote speakers included Prof. Batsa Tafa from Israel, Prof. Tu Van-chien from Taiwan and Prof. Jean Edelstein from USA. The program consisted of:
1. Nursing symposium and hands-on workshop co-organized with AADO on 14 Mar in Orthopaedic Learning Centre, PVH. Main topic was on forearm fractures.
2. Comprehensive elbow course on 17-18 Mar 2010 (see above)
3. Live surgical demonstration by Prof. Ben Taufiq on 19 Mar 2010 in PTNHE and Prof. Tu Van-chien on 22 Mar 2010 in QMH
4. Professorial Lectures by Prof. Jean Edelstein on 17 Mar 2010 in HKU, Prof. Tu Van-chien on 18 Mar 2010 in PVH and Prof. Ben Taufiq on 19 Mar 2010 in PTNHE
5. Welcoming dinner for all visiting guests and fellows on 18 Mar 2010
6. HKSSH supported the Hong Kong Society for Hand Therapy to organize the 3rd Annual Hand Therapist Symposium on 19 Mar 2010 in PTNHE. The main theme was on "Management of Upper Limb Trauma". A pre-symposium workshop on "Upper Limb Amputee Rehabilitation Workshop: From Injury to Integration" was held in HKU on 18 Mar 2010. Speaker was Prof. Jean Edelstein.
7. The 23rd HKSSH Annual Congress on 20-21 Mar 2010 in HKCEC Training Centre, Pamela Youde Nethersol East Hospital. The main theme is on "Upper Limb Trauma: 21st Century Perspective". There were 12 local invited speakers and 10 overseas guests. The Congress was attended by 150 participants.
8. The HKSSH Annual Banquet was held on 20 Mar 2010 in Poeng Tien, Tuen Mun.
   - The HKSSH-JSSH exchange ambassador from Japan was Dr Takashi Morisawa.
   - The HKSSH best paper award was obtained by Dr Jean Chung of QMH.
   - The Congress was supported by a group of local professional organizations including HKOA, AADO, HKPTA, HKOTA, HKSHD, Department of Rehabilitation Science of HKU, Department of O & T of CUHK and Department of O & T of HKU.

Comprehensive Elbow Workshop 17-18 Mar 2010
- The two-day course consisted of day 1 cadaver workshop on elbow arthroscopy and elbow arthroplasty and day 2 program on upper limb trauma management with saw bone specimen. It was conducted in the Prince of Wales Hospital at the Orthopaedic Learning Centre.
- Programme director was Dr Chan Ping-tak (THM)
- Overseas invited guests were Dr Roger van Nieu from Belgium, Dr Hiroaki Inoue from Japan and Prof. Tu Van-chien from Taiwan.
- The course was attended by 33 surgeons from 7 countries.

Hong Kong International Congress on Extra-Brachial Sept 11 2010
- The Society organized the first international conference of this kind in Asia focusing on a single and common congenital upper limb anomaly condition. The programs was a one day event consisted of didactic state-of-art lectures and reconstructive case discussions.
- Overseas speakers included Prof. Teruhisa Ogin (Japan), Dr. Hitoshi Kawamura (Japan), Prof. Ben Goo-kyun (Korea), Dr. Chen Shih-ting (Beijing, PR) and Dr. Alphonso Cheng (Singapore). Dr. Emiko Horii (Japan) could not turn up due to health reason.
- Co-chairman of the organizing committee were Dr. Wong Tse-chuen (PTNHE) and Dr. Cheng Hui-shan Sally (PVH).
- There were over 100 local and overseas participants.
- Welcoming banquet was held in the evening.

24th HKSSH Annual Congress Week 2011
- The 2011 HKSSH Annual Congress Week is scheduled to be held from 23-28 Mar 2011
- Chairman of the organizing committee is Dr. Chan Ping-tak of THM
- Invited overseas surgeons keynote speakers include Dr. Gregory Bait from Australia and Dr. Mark Barratt from USA.
- The main theme is on "Upper Limb Sport Injury".
- The week programs will consist of a two-day cadaver and shoulder arthroscopy cadaveric hands-on workshop, therapist rehabilitation symposium, surgical demonstrations, professional lectures, nursing symposium and public education series on top of the 24th Annual Congress 26-27 Mar 2011.
- Support was obtained from the Sport Chaper of HKIDA and the HK Jockey Club Sports Medicine and Science Center to provide sponsor on invited speakers
- The program will be conducted in PTNHE.

11th JSSH Congress 31 Oct - 4 Nov 2010, Seoul, Korea
- The President and other 5 members of the Society are being invited to give talks and/or moderated sessions at the 11th JSSH Congress in Seoul, Korea on 31 Oct – 4 Nov 2010.
- Special scholarship of HK$5000 was set up to encourage young surgeons to attend the meeting 5 members were eligible to receive the scholarship.
- A delegation consisted of 20 surgeons from Hong Kong will attend the Congress.
- Officials of the Society will represent HKSSH attending the JSSH-delegates meeting on 31 Oct 2010

HKSSH Scholarship
- The Society continued to maintain various local and international scholarships to encourage participation of local young surgeons in major academic activities and rotary to renowned centers in hand surgery as well as to facilitate surgeons in China and Asia-Pacific region to join scientific functions in Hong Kong to promote intellectual exchange.
- The Chinese visiting scholars of year 2010 were Dr. Xiao Yun-hui from Beijing and Dr. Shen Yun-ting from Shanghai. Both of them received HK$3000.
- The Asia-Pacific Scholar was Dr. Alexander L. Waring of India. He received a scholarship of HK$6,000.
- Dr. Yoon Cheungs of HKU was elected as the HKSSH-JSSH exchange ambassador 2010 to participate in the JSSH Annual Meeting as well as a series of visit to hand surgery centers in Japan in May 2010.
Sub-specialization of Hand Surgery

- The President and Vice-President of HKSSH invited special meetings summoned by the President of HKCSS on sub-specialty training and development in Hong Kong on 8 Jan 2010. Representatives from other orthopaedic societies were present. A general consensus on the need for a more uniform and standardized local orthopaedic training across the territory was reached in order to uphold the standard of professional development and service delivery to the public in Hong Kong.

- The President of HKSSH and HKCSS met on 23 Feb 2010 to discuss the impact following the failure of formation of Spina Subspecialty.

Replantation Service in Hong Kong

- The Council noted that the responses of Hospital Authority to doctors work hours and compensation might have exerted negative effect on the efficiency of replantation service in Hong Kong. The Council held special meeting in Jan 2010 to evaluate the current status of the provision of replantation service in Hong Kong.

- It was noted that under such pressure, some hospitals reacted by canceling the replantation call roster or enforced surges for replantation. The Council regarded this as regression of replantation service in Hong Kong, thwarting the standard of care to patients and the commitment of hand surgeons in serving patients in need.

- A general survey led by Dr. Lin-fai Yick was conducted among all major units to evaluate the situation. The result is being summarized as follow:

  - The replantation service has wide differences within HA hospitals.
  - NTSC, NTIVC, KKC, Itech, HKCW have replantation call system.
  - There is no replantation call system in KWC and KKCC. The replantation is performed by voluntary hand surgeons or by general orthopaedic surgeons.

- Compensation for the replantation on call surgeon is also different in different hospitals.

- The Council defined that a structured replantation service should meet the following requirements:
  - Maintain or improve the standard of replantation services
  - Maintain the system in a sustainable way so that knowledge and skills can be passed on to younger generations
  - The system must provide training and professional development.

- The Council received a report on an official letter on 9 Jan 2010 to all hospital COGs and stated:
  - The emphasis of the importance of maintaining replantation service and standard in HK.
  - Request for well-regulated replantation call system in hospital or cluster basis to safeguard the standard of care provided to patients and recognition of the surgeons dedicated to this service.

Local activities supported by HKSSH

1. HKSSH supported the Hong Kong Physiotherapy Association in organizing a 2nd certified course on hand physiotherapy with a two-days programme on 8 and 9 Jan 2010 in QEH on hand rehabilitation for physiotherapists, doctors and other health care providers. Dr. Ho Pak-cheong, Dr. Chan Ka-pui and Dr. William Wing-yat were invited speakers.

2. HKSSH supported the Hong Kong Society for Hand Therapy in organizing a series of Discussion Forum on various hand rehabilitation problems from Jan to Aug 2010. The President was invited to conduct a workshop on Wrist Anatomy and Examination on 14 April 2010 in HKPU as one of the members of the program.

3. HKSSH in collaboration with AO Trauma Hong Kong Chapter organized a dinner symposium in Hotel Nikko on “Science-based Variable Angle Locking Technology and Hand Fracture Implant” led by Dr. Douglas Campbell, Chairman of AO Expert Working Group from UK on 30 July 2010. The meeting was chaired by Dr. Chan Ka-pui and was attended by over 25 surgeons and participants.

4. The Society was being invited by the Hong Kong Orthopaedic Association to collaborate at the 35th HKOA Annual Congress in Nov 2010 in which the main theme will be an occupational related orthopaedic problem. Dr. Yuen Chi-hung was the event coordinator. Dr. Kevin Chung of USA was reinvited by the Society as the keynote overseas speaker on hand problem.

5. The newly revived Hong Kong Journal of Orthopaedic Trauma and Rehabilitation organized by HKCSS was invited to participate at the annual conference of the HKOA in Nov 2010.

6. HKSSH was accredited as CNE provider by the Hong Kong Nursing Council for the period from 18 September 2009 to 17 September 2012.

7. A series of Hand Courses for Nurses jointly organized by HKAOH and HKSSH as education program in 2010 was conducted in QEH from 1 April 2010 to 20 May 2010 on weekly basis. 8 hand surgeons were involved in the teaching faculty.

Supporting organization to international surgical courses

1. 2010 Wrist Arthroscopy Basic Course — Training on Anatomical Specimen, GEAP-EVAS, 15-16 May 2010, Taiwan
2. 2010 Hong Kong International Wrist Arthroscopy Workshop and Seminar, 27-28 Oct 2010, Hong Kong
3. 2010 Wrist Arthroscopy Advanced Course —Training on Anatomical Specimen, GEAP-EVAS, 6-7 Nov 2010, Taiwan

Hand Surgery Education for the Public

- Dr. Ho Chun-an was designated to take charge of projects of public education on hand surgery.

- The Society was invited to coordinate a series of public education programs at the TNW TV to introduce the concept of hand surgery as well as the scope of services and medical advances in managing common and specific hand and wrist problems. Programme recording has been commenced in late October 2009 and two programmes featuring Dr. Ho Pak-cheong and Dr. Ho Shau-yung have been broadcasted in early 2010. Other invited doctors included Dr. Chi-hung and Dr. Weng Hin-keung.

Joint Research Project

The Society coordinated a joint clinical research project among different hospitals and led by Dr. Yuen Ching-hung in a survey of reconstructing facilities of upper limb in Hong Kong in late 2008. Results and recommendation on management were reported in local and regional meetings. The paper had been submitted to the Hong Kong Medical Journal and was currently under review.

Out-reach to world-wide hand surgery societies and centers

The President was invited to attend various international meetings and courses to deliver lectures and surgical demonstration in cadaveric hands:

- 3. 2nd Netherlands Orthopaedic Forum, 23-25 Apr 2010, Beijing, China.
- 4. 2010 Wrist Arthroscopy Basic Course — Training on Anatomical Specimen, GEAP-EVAS, 15-16 May 2010, Taichung, Taiwan.
- 7. 7th World Congress of Orthopaedics (WCO) 24-25 Jul 2010, Singapore.

Liaison with the Hand Surgery Society of the Chinese Medical Association

- Dr. Ho Pak-cheong, Dr. Chi Kai-ju and Dr. Yuen Chi-hung representing HKSSH were invited to present at the 11th Triennial National Congress of the China Hand Surgery Society held from 18-22 Aug 2010 in Shenyang, Liaoning, China. Other invited speakers from Hong Kong included Prof. Hong Leung-Adam and Prof. Ivan Wong Pak.

- HKSSH was invited by the China Hand Surgery Society to participate in an editing work for an official handbook on Chinese Terminology in Hand Surgery to be published in 2011.

Prepared by

Dr. HO Pak-cheong
President

HKSSH 2008-2010
JSSH-HKSSS Exchange Ambassador 2010

It is my great pleasure to be selected as the 2010 JSSH-HKSSH Exchange Ambassador by the Hong Kong Society for Surgery of the Hand (HKSSH). Thanks to HKSSH, this is an ambassadorship exchange program between HKSSH and the Japanese Society for Surgery of the Hand (JSSH) since 2000. This ambassadorship aims at promoting fraternity and mutual exchange of knowledge, skill and experience between the two sister Hand Societies.

This ambassadorship works well in a variety of ways. Primarily, the ambassador will serve as the main communication conduit in the Annual Congress of JSSH, held in Niigata, Japan with their peers and faculties on 15-17 April 2010. I was given an ample opportunity to present my paper on “Pick-Up Test - An Indication for Oppositionplasty in patients with severe Carpal Tunnel Syndrome” during the congress. In this connection, I would like to thank all the co-authors for their contributions to the success of this study. In addition to hand surgery, Niigata is famous for Uonuma Koshihikari rice (魚沼越光米) and sake, which anyone should try at least once in their life time.

Another great opportunity that will only be made available to the JSSH-HKSSH Ambassadorship is the potential to visit many hand surgery centers at their own wish. Speaking for myself, I have visited Niigata Hand Surgery Foundation, INC. in Niigata chaired by Prof. Yukako Makii; St. Marianna University School of Medicine chaired by Prof. Moroe Seppu; National Hospital Organization Saitama National Hospital where the Japanese Exchange Ambassador Dr. Yasushi Marisawa is from; and last but not least, Keio University chaired by Prof. Hiroyasu Koegami.

Directed Goals and Outcomes of the JSSH-HKSSH Ambassadorship include:
• Leadership role in the clinical context of hand surgery
• Increased awareness of hand services and recent advances in Japan
• Networking opportunities with other hand surgeons in Japan

I would like to take this opportunity to express my sincere appreciation for all the arrangements, along with HKSSH scholarship to cover my travel, lodging and meal costs that made this trip possible. Lastly, I would highly recommend any of you with a special interest in hand surgery to participate in this important life event during your own history of Orthopaedic Surgery.

Dr Yen Chi-hung
Associate Consultant
Department of Orthopaedics and Traumatology, Kwong Wah Hospital, the HKSAR
**Overseas Faculty**

**Dr. Ashish Babhulkar**  
Shoulder Specialist and Joint Replacement Surgeon  
Deenanath Mangeshkar Hospital, Pune.  
Sancheti Institute for Orthopaedics and Rehabilitation, Pune.  
Jupiter Hospital, Thane - Visiting Surgeon.

**Professor Gregory Bain**  
Clinical Associate Professor, Dept of Orthopaedics and Trauma, University of Adelaide.  
Associate Professor, Discipline of Anatomy and Pathology, University of Adelaide.  
Senior Visiting Orthopaedic Surgeon, Royal Adelaide Hospital.  
Senior Visiting Orthopaedic Surgeon, Modbury Hospital.

**Professor Jiang Chun-yan**  
Professor, Shoulder Service  
Beijing Ji Shui Tan Hospital  
School of Medicine, Peking University

**Professor Roger van Riet, MD, PhD.**  
Professor of Orthopaedic Surgery, Elbow Surgery  
University Libre Brussels  
Orthopaedic Surgeon, upper extremity surgery  
Monica Hospital

**Dr. Peggy A. Houglum**  
Associate Professor,  
Department of Athletic Training,  
Rangos School of Health Sciences, Duquesne University, Pittsburgh, USA

**Local Faculty**

**Dr. CHOI Kai-yiu, Alexander**  
President,  
Hong Kong Society for Surgery of the Hand  
Senior Medical Officer,  
Department of Orthopaedics and Traumatology, Tuen Mun Hospital

**Prof. Dr. CHOW Yuk-yin**  
Cluster Chief of Service,  
Department of Orthopaedics and Traumatology  
New Territories West Cluster

**Dr. HO Pak-cheong**  
Immediate Past President,  
Hong Kong Society for Surgery of the Hand  
Consultant,  
Department of Orthopaedics and Traumatology  
Prince of Wales Hospital

**Professor IP Wing-yuk, Josephine**  
Associate Professor,  
Chief of Division of Hand & Foot Surgery,  
Department of Orthopaedics & Traumatology, Queen Mary Hospital, The University of Hong Kong
Local Faculty (cont')

Dr. LAU Yan-kit
Associate Consultant,
Department of Orthopaedics & Traumatology,
United Christian Hospital

Dr. LEUNG Yuen-Fai
Senior Medical Officer,
Department of Orthopaedics & Traumatology,
Yan Chai Hospital

Dr. LUI Tun-hing
Consultant,
Department of Orthopaedics & Traumatology,
North District Hospital

Dr. TSE Wing-lim
Associate Consultant,
Department of Orthopaedics and Traumatology,
Prince of Wales Hospital

Local Faculty (cont')

Mr. Leo CHAN
Registered Occupational Therapist,
Department of Occupational Therapy,
Queen Elizabeth Hospital

Mrs. Shelley M. CHOW
Adjunct Associate Professor,
The Hong Kong Polytechnic University
Registered Occupational Therapist
Senior Consultant
Rehabilitation Consultants

Miss Debbie LOOK
Sports Physiotherapist
Musculoskeletal Physiotherapist
Sports and Spinal Physiotherapy Centre

Miss WONG Man-wah, Josephine
Occupational Therapist,
Department of Occupational Therapy,
Prince of Wales Hospital
President,
5th Asian Pacific Federation of Societies for Hand Therapists
Chairman,
Hong Kong Society for Hand Therapy
HKSSH Visiting Scholars 2011 (China)

**GAO Kai-ming, MD**
Department of Hand Surgery, Huashan Hospital, Fudan University, Shanghai, China

**Li Peng-cheng, MD**
Attending Orthopaedics Surgeon, Department of Hand Surgery, Beijing Jishuitan Hospital, The 4th Clinical College of Peking University, Beijing, China

**Professor KAN Shi-Lian, MD**
Head, Department of Hand and Microscopic Surgery, Tian Jin Hospital, Tianjin, China

HKSSH - JSSH Ambassador 2011

**Yamazaki Hiroshi, MD**
Chief of the Orthopaedics Department, Department of Orthopedic Surgery, Aizawa Hospital, Nagano, Japan

HKSSH Asian-Pacific Scholar 2011

**Gong Hyun Sik, MD, Ph.D.**
Assistant Professor, Consultant for Hand Surgery, Department of Orthopedic Surgery, Seoul National University, College of Medicine, Seoul National University Bundang Hospital

**Sreedharan Sechachalam, MD**
Registrar, Department of Hand Surgery, Tan Tock Seng Hospital, National University Hospital, Singapore
General and Venue Information

Venue: HKEC Training Centre for Healthcare Management and Clinical Technology, Pamela Youde Nethersole Eastern Hospital, 3 Lok Man Road, Chai Wan, Hong Kong SAR.

Traffic Connection
(Access to the Hospital)

Public Light Bus 48M shuttles between MTR Chaiwan station and the Hospital from 6:00am to 12:00 midnight daily.

From | Bus Routes
--- | ---
A | Su Sai Wan: 8, 8X, N8X, 106, 118, 314, 606, 780
Hing Wah Estate: 81, 81A
Chai Wan (East): 82, 662, 694, A12
B | Shau Kei Wan: 8, 81, 81A, 82, N8, N8X
Tai Koo Shing: 8, 81, 81A, 82, N8, N8X
North Point: 8, 8X, 81A, 82, N8, N8X
Wan Chai: 8, 8X, 780, N8, N8X
Lai Tak Tsuen: 81, 780
Admiralty: 8X, 780
Central: 780, N8X
Stanley: 314
C | Wong Tai Sin: 106
Sham Shui Po: 118, 118N
Cho Wan: 606
Ma On Shan: 682
Tung Kwan O: 694
H.K. Int'l Airport: A12
D | Public Light Bus 66 shuttles between Aldrich Bay and Wan Tsui Estate from 6:30am to 11:00pm daily.
E | Public Light Bus 65 shuttles between North Point Fort Street and the Hospital from 6:00am to 11:00pm daily.

Locations of Programme

- The registration desk is near the entrance of HKEC Training Centre for Healthcare Management & Clinical Technology (HKECTC), Pamela Youde Nethersole Eastern Hospital
- Scientific Programme and lectures will be held at the Lecture Theatre of HKECTC
- Booth area for the scientific exhibition will be located at the Foyer of HKECTC
- Coffee and Tea will be served at the Foyer of HKECTC
- Lunch will be served at Eastern Garden, 1st Floor, Block C, Pamela Youde Nethersole Eastern Hospital

Booths:
A. Health Medical (HK) Ltd.
B. Hong Kin Medical Instrument Ltd.
C. The Industrial Promoting Co. Ltd.
D. McBarron Book Co. Ltd.
E. Synthes (Hong Kong) Ltd.
F. Stryker China Limited
G. Eli Lilly Asia Inc. (Hong Kong)
H. Accession Medical Supplies Co.
I. Century Group
## Programme at a Glance

### 26th March 2011 (Saturday)

<table>
<thead>
<tr>
<th>Time</th>
<th>Events</th>
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<tbody>
<tr>
<td>08:30-09:30</td>
<td>Free Paper Session I (Local)</td>
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<tr>
<td>09:30-10:50</td>
<td>Symposium I: Elbow Injuries</td>
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<tr>
<td>10:50-11:15</td>
<td>Tea Break</td>
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<tr>
<td>11:15-12:00</td>
<td>Plenary Lecture I: Elbow Instability</td>
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<tr>
<td>12:00-13:00</td>
<td>Lunch</td>
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<td>13:00-13:10</td>
<td>Opening Ceremony and presentation of souvenirs</td>
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<tr>
<td>13:10-14:15</td>
<td>Symposium II: Shoulder Injuries</td>
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<td>14:15-15:00</td>
<td>Plenary Lecture II: Scapular Rehabilitation - The Neglected Element of Shoulder Rehabilitation</td>
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<td>15:00-15:25</td>
<td>Tea Break</td>
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<tr>
<td>15:25-16:15</td>
<td>Symposium III: Fractures and Instability of Elbow and Wrist</td>
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<tr>
<td>16:15-17:05</td>
<td>Symposium IV: Soft Tissue Injuries of Wrist</td>
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<td>17:05-17:10</td>
<td>Photo with Speakers and Organizers</td>
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<tr>
<td>17:10-18:10</td>
<td>HKSSH AGM</td>
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### 27th March 2011 (Sunday)

<table>
<thead>
<tr>
<th>Time</th>
<th>Events</th>
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<tr>
<td>08:30-09:35</td>
<td>Symposium V: Hand Fractures</td>
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<tr>
<td>09:35-09:50</td>
<td>HKSSH-JSSH Ambassador Report</td>
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<td>09:50-10:15</td>
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<td>12:50-13:00</td>
<td>Closing remarks and presentation of souvenirs</td>
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## 24th HKSSSH Annual Congress

### Week Activity (2011)

<table>
<thead>
<tr>
<th>Date</th>
<th>AM Activity</th>
<th>PM Activity</th>
<th>Evening Activity</th>
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<tbody>
<tr>
<td>20/3 Sun</td>
<td><strong>Nurse Symposium</strong>&lt;br&gt;AADO/HKSSH Conjoint Scientific Meeting 2011&lt;br&gt;Theme: Physical Fitness and Health&lt;br&gt;Venue: OLC, 1/F Li Ka Shing Specialist Clinic, North Wing, PWH</td>
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<td>23/3 Wed</td>
<td><strong>Elbow Workshop</strong>&lt;br&gt;Venue: OLC, 1/F Li Ka Shing Specialist Clinic, North Wing, PWH</td>
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<tr>
<td>24/3 Thu</td>
<td><strong>Shoulder Workshop</strong>&lt;br&gt;Venue: OLC, 1/F Li Ka Shing Specialist Clinic, North Wing, PWH</td>
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<tr>
<td>25/3 Fri</td>
<td><strong>Therapist Symposium</strong>&lt;br&gt;Theme: Upper Limb Problems in Sports&lt;br&gt;Venue: Seminar Rm 1, G/F, HKEC Training Centre for Healthcare Management &amp; Clinical Technology, PYNEH</td>
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<td>26/3 Sat</td>
<td><strong>24th HKSSSH Annual Congress</strong>&lt;br&gt;Venue: HKEC Training Centre for Healthcare Management &amp; Clinical Technology, PYNEH&lt;br&gt;Time: 08:00-18:10</td>
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<tr>
<td>27/3 Sun</td>
<td><strong>24th HKSSSH Annual Congress</strong>&lt;br&gt;Venue: HKEC Training Centre for Healthcare Management &amp; Clinical Technology, PYNEH&lt;br&gt;Time: 08:30-13:00</td>
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### Programme in Details

#### 26th March 2011 (Saturday)

<table>
<thead>
<tr>
<th>Time</th>
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<th>Speaker</th>
<th>Time</th>
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<tr>
<td>08:00-08:30</td>
<td>Registration</td>
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<tr>
<td>08:30-09:30</td>
<td>Free Paper Session I (Local)</td>
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<td>60 min</td>
<td>SC Koo/Steve Cheng</td>
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<tr>
<td>09:30-10:50</td>
<td>Symposium I: Elbow Injuries</td>
<td>Gregory Bain/Roger van Riet/TH Lui</td>
<td>15 min</td>
<td>WY Ip/TC Wong</td>
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<tr>
<td></td>
<td>1. Biceps tendon injuries in athletes</td>
<td></td>
<td>15 min</td>
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<td></td>
<td>2. Repair of triceps tendon</td>
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<td>15 min</td>
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<td></td>
<td>3. Open and arthroscopic management of tennis elbow in athletes</td>
<td></td>
<td>15 min</td>
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<td>4. Medial collateral ligament reconstruction in throwers' elbow</td>
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<td>15 min</td>
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<td></td>
<td>5. Radial ulnohumeral ligament reconstruction for posterior-lateral rotatory instability of elbow</td>
<td></td>
<td>5 min</td>
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<td></td>
<td>6. Discussion</td>
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<tr>
<td>10:50-11:15</td>
<td>Tea Break</td>
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<tr>
<td>11:15-12:00</td>
<td>Plenary Lecture I: Elbow Instability</td>
<td>Gregory Bain</td>
<td>45 min</td>
<td>PC Ho</td>
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<tr>
<td>12:00-13:00</td>
<td>Lunch</td>
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<tr>
<td>13:00-13:10</td>
<td>Opening Ceremony and presentation of souvenirs</td>
<td>KY Choi</td>
<td>10 min</td>
<td>PT Chan</td>
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<tr>
<td>13:10-14:15</td>
<td>Symposium II: Shoulder Injuries</td>
<td>Aakash Bahluka/TH Lui/Ian Chan/ Billy Law</td>
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<tr>
<td></td>
<td>1. Evaluation of shoulder instability &amp; assessment of bone loss</td>
<td></td>
<td>15 min</td>
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<td></td>
<td>2. Arthroscopic remplacement for huge Hill-Sachs' lesion in anterior shoulder instability</td>
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<td>3. Managing shoulder problems in throwing athletes</td>
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<td></td>
<td>4. Footprint reconstruction in arthroscopic rotator cuff repair</td>
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<td>5. Discussion</td>
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<tr>
<td>14:15-15:00</td>
<td>Plenary Lecture II: Scapular Rehabilitation - The Neglected Element of Shoulder Rehabilitation</td>
<td>Peggy Hsia/Jo Wongs</td>
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<td>15:00-15:25</td>
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<tr>
<td>15:25-16:15</td>
<td>Symposium III: Fractures and Instability of Elbow and Wrist</td>
<td>Roger van Riet/Gregory Bain/PC Ho/YY Chow</td>
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<tr>
<td></td>
<td>1. Management of radial head fractures</td>
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<td>15 min</td>
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<td></td>
<td>2. Management of carpal instability in athletes</td>
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<td></td>
<td>3. Arthroscopic management of scaphoid fractures in athletes</td>
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<td></td>
<td>4. Discussion</td>
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<tbody>
<tr>
<td>08:30-09:35</td>
<td>Symposium V: Hand Fractures</td>
<td>Gregory Bain/Joe Wong/WY Ip/Leo Chan</td>
<td>15 min</td>
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<tr>
<td></td>
<td>1. Distal radius anatomy &amp; injuries</td>
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<td>15 min</td>
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<tr>
<td></td>
<td>2. Splitting of hand fractures</td>
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<td>15 min</td>
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<td></td>
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<td>15 min</td>
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<td></td>
<td>4. The use of protective gear in sports</td>
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<td>5 min</td>
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<td>09:35-09:50</td>
<td>HKSSH-JSSH Ambassador Report</td>
<td>CH Yan</td>
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<td>HK Wong</td>
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<tr>
<td>11:15-12:00</td>
<td>Plenary Lecture III: Arthroscopic Treatment of Elbow Problems</td>
<td>Roger van Riet/Ky Choi/YY Leung/Shelley Chow</td>
<td>45 min</td>
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<td>12:00-12:50</td>
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<td>15 min</td>
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<tr>
<td></td>
<td>1. Thumb (MCP) injuries</td>
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<td>2. Finger sprain injuries (PIP) in sports</td>
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<td></td>
<td>3. Treatment of stiff PIP after injuries – Occupational Therapist’s Approach</td>
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<td>4. Discussion</td>
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<td>12:50-13:00</td>
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<td>KY Choi</td>
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### Programme in Details (cont')

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<tr>
<td>16:15-17:05</td>
<td>Symposium IV: Soft Tissue Injuries of Wrist</td>
<td>YK Lau</td>
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<tr>
<td></td>
<td>1. Arthroscopic Repair of triangular fibrocartilage complex tears</td>
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<td></td>
<td>2. Management of distal radio-ulnar joint instability</td>
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<td></td>
<td>3. Rehabilitation of upper limb sports injuries: Physiotherapist's perspective in elite athletes</td>
<td></td>
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<td>4. Discussion</td>
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<tr>
<td>17:05-17:10</td>
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<td>5 min</td>
<td>PT Chan</td>
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<tr>
<td>17:10-18:10</td>
<td>HKSSH AGM</td>
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<td>PT Chan</td>
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**Free Paper Session I (Local)**

<table>
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<th>Title</th>
<th>Presenter</th>
<th>Affiliated Institute</th>
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<tbody>
<tr>
<td>1</td>
<td>Free tissue transfer in reconstruction of composite oromandibular defects by using vascularized fibular osteoseptocutaneous flap</td>
<td>TC Wong</td>
<td>Department of Orthopaedics and Traumatology, Pamela Yоде Nethersole Eastern Hospital</td>
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<td>2</td>
<td>Long Term Results of Matched Hemil-resection Interposition Arthroplasty for DMRJ Arthritis in Rheumatoid Patients</td>
<td>Jason Cheung</td>
<td>Department of Orthopaedics and Traumatology, Queen Mary Hospital</td>
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<td>3</td>
<td>New biodegradable nerve conduit, Crosslinked Urethane-doped Polyester Elastomers (CUPEs), in rats.</td>
<td>SL Yip</td>
<td>Department of Orthopaedics and Traumatology, Kwong Wah Hospital</td>
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<tr>
<td>4</td>
<td>Portal Site Local Anaesthesia in Wrist Arthroscopies</td>
<td>MTY Ong</td>
<td>Department of Orthopaedics and Traumatology, Alice Ho Miu Ling Nethersole Hospital, Prince of Wales Hospital</td>
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<tr>
<td>5</td>
<td>Spontaneous Paralysis of the Posterior Interosseous Nerve: A report of three cases and literature review</td>
<td>KY Choi</td>
<td>Department of Orthopaedics &amp; Traumatology, Tuen Mun Hospital</td>
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<tr>
<td>6</td>
<td>Stainless steel 2.0mm Locking Compression Plate (LCP) osteosynthesis system for the fixation of comminuted hand fractures in Asian adults</td>
<td>TK Wu</td>
<td>Department of Orthopaedics &amp; Traumatology, Princess Margaret Hospital, Hong Kong SAR</td>
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<tr>
<td>7</td>
<td>The reverse flow digital artery island flaps in digital pulp reconstruction of the fingers</td>
<td>Mai MY Chow</td>
<td>Department of Orthopaedics and Traumatology, Pamela Yоде Nethersole Eastern Hospital</td>
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<tr>
<td>8</td>
<td>Uncommon dorsal radiocarpal fracture dislocation complicated with median nerve palsy case report, review of the literature and a new classification system guiding the management</td>
<td>SW Chan</td>
<td>Department of Orthopaedics &amp; Traumatology, Princess Margaret Hospital</td>
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**Free Paper Session II (Overseas)**

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<tbody>
<tr>
<td>1</td>
<td>Long Term Follow Up of Nerve Transfer in Brachial Plexus Injury</td>
<td>Li Peng-Cheng</td>
<td>Department of Hand Surgery, Jishuitan Hospital, Beijing, China</td>
</tr>
<tr>
<td>2</td>
<td>Combined Volar And Dorsal Plating of AO Type C Distal Radius Fractures: Clinical And Radiological Outcome Parameters</td>
<td>Sreedharan Sechachalam</td>
<td>Department of Orthopaedic Surgery (Hand Surgery Section), Tan Tock Seng Hospital, Singapore</td>
</tr>
<tr>
<td>3</td>
<td>Patients’ Preferred and Retrospectively Perceived Levels of Involvement during Decision-Making Regarding Carpal Tunnel Release</td>
<td>Hyun Sik Gong</td>
<td>Department of Orthopedic Surgery, Seoul National University Bundang Hospital, Seongnam, Korea</td>
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<tr>
<td>4</td>
<td>Outcome of partial contralateral C7 nerve transfer –Results of 46 patients</td>
<td>Gao Kai-Ming</td>
<td>Department of Hand Surgery, Huashan Hospital, Fudan University, Shanghai, China</td>
</tr>
<tr>
<td>5</td>
<td>Osteoarthritis of the distal radioulnar joint associated with extensor tendon rupture: Radiologic risk factor identification</td>
<td>Hiroshi Yamazaki</td>
<td>Department of Orthopedic Surgery, Aizawa Hospital, Japan</td>
</tr>
<tr>
<td>6</td>
<td>Experimental study of FK506 in combination with neural stem cells improve the regeneration in nerve allografts Part I: The study on isolation and culture of neural stem cells from rat brain in vitro</td>
<td>Kan Shi-Lian</td>
<td>Department of Hand Microsurgery, Tianjin Hospital, Tianjin, China</td>
</tr>
<tr>
<td>7</td>
<td>Experimental study of FK506 in combination with neural stem cells improve the regeneration in nerve allografts Part II: Experimental study of FK506 in combination with neural stem cells improve the regeneration in nerve allografts</td>
<td>Kan Shi-Lian</td>
<td>Department of Hand Microsurgery, Tianjin Hospital, Tianjin, China</td>
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</tbody>
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Distal Biceps Tendon Ruptures

Gregory I. Bain PhD
University of Adelaide, Department of Orthopaedic Surgery, Adelaide, South Australia.

Introduction
Disorders of the distal biceps tendon are relatively uncommon. By far the most common clinical pathology is a complete avulsion of the distal biceps tendon from the tuberosity. Less common conditions include a partial tear of the distal biceps tendon insertion, muscular-tendinous tears and bursitis of the biceps bursa. Distal biceps tendon ruptures almost always occur in middle aged males with it only rarely being reported in females. More than 80% of the cases are reported in the dominant arm. Patients taking anabolic steroids are at an increased risk.\(^1\)

Anatomy
The majority of anatomical texts report that the biceps muscular-tendinous unit has 2 proximal heads which merge at the level of the deltopectoral groove to form a muscular body and tendon that extends down and inserts into the bicipital tuberosity of the proximal radius.\(^2,3\) Lacertus fibrosis is a thickening of the palmar aponeurosis which extends from the biceps tendon to the subcutaneous border of the ulna.\(^4,5\)

The author performed a cadaveric study on 17 specimens. The biceps muscle and tendon was noted to be separate down to their insertion of the radial tuberosity in the majority of cases. This allows the two tendons to work independently. The remaining specimens had fibrous bands that connected the two tendon components.\(^6\)

The aponeurosis consists of a superficial and deep layer. Both took origin from the long head tendon and the two leaves of the aponeurosis then slided to insert the short head. Thela then passed to the subcutaneous border of the ulna. Other fibres passed to the radial side of the long head tendon to insert into the radial border of the proximal ulna.\(^7\)

Lacertus fibrosis attaches to the long head of the biceps tendon and passes around the short head tendon to control its position and then attach to the bicipital aponeurosis.\(^8\) With resistive eccentric contraction of the biceps tendon the biceps tendon is pulled in an ulnar direction, to increase the maximal force and predispose the tendon to rupture.\(^9\)

The long head tendon inserts onto the prominence of the radial tuberosity. The short head attaches more distally onto the shaft of the radius. The long head inserts into the prominence of the radial tuberosity that is the maximum distance that the radius extends from the axis of rotation of the forearm, providing maximal rotatory torque. Interestingly the short head inserts distally which is along the line of centre of rotation of the forearm, therefore providing greater flexion leverage and a reduced rotation torque.\(^10,11\)

Mechanism of Injury
Local degeneration and hypovascularity of the distal biceps tendon, hypertrophic of the radial tuberosity\(^1\) and bursitis\(^2\) is some of the theories of etiology of distal biceps tendon rupture. In addition, when the forearm rotates the space between the radius and ulnar is narrowed which could abrade or compress the biceps tendon during the distal forearm rotation.\(^12\)

A typical presentation is for a male patient to describe a sudden episode of severe pain while performing a forced eccentric contraction of the arm. The forced power grip with proximal migration of the forearm musculature puts increased tension on the lacertus fibrosis that pulls the biceps tendon in an ulnar direction and increases the force of the biceps tendon. This is important physiologically for providing a supramaximal force, but also becomes an etiological factor in acute tendon ruptures.\(^13\)

Clinical Presentation
The patient will typically have ecchymosis on the medial aspect of the elbow that may extend proximally and distally. The patient will have pain and weakness with flexion and supination of the elbow against resistance. With proximal migration of the biceps muscular-tendinous unit there may be an abnormal contour of the biceps muscle. In partial tears there will not be the same migration of the muscular-tendinous unit, so therefore no deformity will be present. The hook test is used to differentiate between complete and partial tears. The examiners finger is hooked under the biceps tendon and traction applied to see if the tendon is intact.
Abstracts of Lecture (cont')

KEY POINT To reproduce the risk of Radial Nerve injury the surgeon must pass the pin in the 0-30° window.

A No. 5 Ethibond™Burnell suture is placed into the biceps tendon distal to the bicipital groove with the Endobutton™. The sutures are tied proximally so that they do not impinge when lacking of the Endobutton™. Sutures are also placed into the leading and trailing holes of the Endobutton™. These sutures are placed through the eye of a straight needle.

Which is then advanced through the shaft of the radius and was withdrawn from the posterior position. The surgeon then pulls the sutures through the drill holes in the radius. The elbow is placed into a flexed and supinated position and the Endobutton™ is advanced by placing traction on the sutures. The leading and trailing sutures can then be manipulated, like the strings of a puppet to advance the Endobutton™ through the radius. Position is confirmed to be satisfactory with the aid of fluoroscopy.

Rehabilitation

The patient is advised that they can remove the arm from the sling in the first week but not to do any heavy lifting or grasping for a period of 3 months.

The Extended™technique allows the suturing to be performed with the tendon delivered from the wound. The Endobutton™ acts as a delivery and locking mechanism and is biomechanically stronger which allows the surgeon to recommend early active mobilisation following a surgical repair.

In patients with a delayed presentation a hamstring tendon graft is then attached to the end of the tendon and advanced through the middle two holes of the Endobutton™. The sutures are tied proximally so that they do not impinge when lacking of the Endobutton™. Sutures are also placed into the leading and trailing holes of the Endobutton™. These sutures are placed through the eye of a straight needle.

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Partial Distal Biceps Tendon Rupture

Assessment and management of these patients is difficult. The patient will often give a history of an eccentric injury to the elbow. The patient will have localized tenderness over the anterior aspect of the elbow, weakness of supination and flexion against resistance. Imaging in the form of ultrasound and MRI scan can be difficult to interpret. However echogenic changes in the biceps tendon and associated effusion of the bicipital bursa is often identified. We have been managing these with an endoscopic assessment and debridement. For severe incomplete tears we have performed an open surgical release and then re-attached them with the Endobutton™ technique. However in those patients who have the outer rim of tendon intact we would manage these with a debridement of the tendon and radial tuberosity as an endoscopic procedure. The Extended™technique allows the surgeon to recommend early active mobilisation following a surgical repair.

Distal Biceps Brachii Tendon Repair

In a cadaveric study that we performed the average length of the distal tendon was 7cm. If the rupture has a delayed presentation, a hamstring tendon graft is then attached to the end of the tendon and advanced through the middle two holes of the Endobutton™. The sutures are tied proximally so that they do not impinge when lacking of the Endobutton™. Sutures are also placed into the leading and trailing holes of the Endobutton™. These sutures are placed through the eye of a straight needle.

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Delayed Presentation

In a cadaveric study that we performed the average length of the distal tendon was 7cm. If the rupture has a delayed presentation, and it is greater than 4 cm then it can usually be reattached without the need to lengthen the tendon. If it is less than 4 cm and inserted into the muscle, then we would use a hamstring tendon graft into the muscle and attach an endobutton to the end of the tendon graft and attach it to the proximal radius.

Imaging in the form of ultrasound and MRI scan can be difficult to interpret. However echogenic changes in the biceps tendon and associated effusion of the bicipital bursa is often identified. We have been managing these with an endoscopic assessment and debridement. For severe incomplete tears we have performed an open surgical release and then re-attached them with the Endobutton™ technique. However in those patients who have the outer rim of tendon intact we would manage these with a debridement of the tendon and radial tuberosity as an endoscopic procedure. The Extended™technique allows the surgeon to recommend early active mobilisation following a surgical repair.

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References

2. Repair of triceps tendon
Roger van Riet MD, PhD
Elbow Surgery, Monica Hospital Deurne, Belgium
Professor of orthopedic surgery, University of Brussels, ULB, Brussels, Belgium

Distal triceps ruptures are rare, representing less than 1% of all tendon problems related to the upper extremity. Arsal reported only eight triceps injuries among 1,014 tendon dislocations. Reports in the literature typically have associated the triceps rupture with weight-lifting and anecdotal studies. An accurate triceps reconstruction, such as that sustained during a fall on the outstretched hand, is the most common mechanism of injury. Direct trauma to the posterior aspect of the elbow has also been shown to cause a distal triceps rupture.

Disruption occurs most commonly as an avulsion from the osseous tendon insertion. Less commonly, the injury occurs intramuscularly or at the myotendinous junction. The mechanism of injury is usually as a result of a fall on the outstretched hand, however direct trauma to the posterior aspect of the triceps has also been reported.

Substantial force is usually required to rupture or avulse normal tendons; however, spontaneous ruptures can occur following minimal to moderate force, when the structural integrity of the tendon has been altered. Many local and systemic factors have been reported in association with triceps tendon ruptures; systemic entities such as chronic renal failure with secondary hyperparathyroidism, hypocalcemic tetany, rheumatoid arthritis, osteogenesis imperfecta, anabolic steroid use, and a possible association with insulin dependent diabetes have been reported.

Local factors associated with triceps disruption include local steroid injections, intentional changes from degenerative arthritis and olecranon bursitis.

The diagnosis of an acute triceps tendon rupture can be difficult and can easily be misdiagnosed. Difficulties in diagnosis as well as underestimation of the degree of injury can lead to prolonged disability and delayed surgical intervention. Extension against gravity is difficult or impossible. A palpable defect may be detected however localized swelling may limit the usefulness of this finding in the acute phase. In our series the diagnosis was initially missed in ten cases.

Radiographic findings in distal triceps ruptures are usually minimal and the small flakes of avulsed bone reported in the literature is actually a less common finding.

Physical examination and radiographs should assess for the uncommon associated injuries that may occur around the elbow as well as the elbow. Imaging studies, such as magnetic resonance imaging and ultrasound, are usually recommended to assess triceps deficiency.

The treatment for an acute, complete rupture of the triceps tendon is a tenodesis operation is a surgical repair. Repair of the ruptured tendons can reliably be accomplished by direct reattachment of the tendon through drill holes in the olecranon using non-absorbable suture. Results using this technique have been quite good especially if performed within three weeks of injury. Distal triceps tendon tears should be amenable to suture repair in patients treated within three weeks after the injury. In some patients a delay will still be possible to perform a primary repair at a later stage after injury.

Surgical options in the delayed setting can certainly be more complex due to the availability and quality of the local soft tissues. Direct reattachment alone is less likely to be possible as a result of tendon retraction and scarring. In cases where direct reattachment is impossible, repair can be accomplished with allograft or autogenous tendon grafts, forearm fascial flaps, triceps turndown flap or the anconeus slide technique.

In summary, careful evaluation of distal triceps injuries should be performed to ensure an accurate early diagnosis. Clinical examination should be repeated if this is inconclusive initially due to pain and swelling. Complete ruptures can be repaired accurately by direct reattachment of the triceps tendon to the olecranon, with predictable good results. Delayed surgical intervention is indicated for persistent triceps weakness, which frequently is associated with a partial triceps rupture. Delamination of the repair, from the complexity of the repair it can also result in effective return of extension strength and elbow function, however the recovery period is prolonged, requiring up to one year to demonstrate the full merits of the intervention.

3. Medial collateral ligament reconstruction in the throwers elbow
Roger van Riet MD, PhD
Elbow Surgery, Monica Hospital Deurne, Belgium
Professor of orthopedic surgery, University of Brussels, ULB, Brussels, Belgium

TA sequence of events usually leads to medial collateral insufficiency in the thrower. Not only the medial collateral ligament is pathological, but also the medial ulnohumeral joint and even the radioscapular joint can be symptomatic in the so-called valgus overload syndrome. The extent of the pathology will also determine the outcome of a medial collateral ligamentous reconstruction and not only the status of the reconstructed ligament.

Severe structures provide stability to the elbow. The physiological laxity of normal elbows is approximately 5 degrees. Dynamic constraint is provided by the muscles crossing the elbow and his particularly important to the throwing athlete as this is something that can be trained. All muscles crossing the elbow joint exert postural forces to the joint. Stability of the joint increases as the radial head and coronoid process are pressed into the articular surfaces of the distal humerus. The common extensor mass has been shown to increase varus stability and the flexor carpi ulnaris may increase valgus stability and act as a dynamic stabilizer.

The most important structure to resist valgus stress is the medial collateral ligament (MCL) complex. The anterior band is the strongest and probably the most important part of the MCL. It is a primary stabilizer of varus stress.

Static constraint to valgus stress is also, in part, provided by the olecranon. This is especially the case for athletes. Reaction of the posterosmedial aspect of the olecranon has been shown to induce valgus force, even with 3 mm of the articular resection. Another structure providing static constraint is the radial head. The radial head has been shown to be a secondary stabilizer to valgus stress, with the medial collateral ligament being the most important stabilizer.

Several techniques exist to reconstruct an insufficient MCL. A medial incision is made. The ulnar nerve is identified and protected throughout the procedure. The flexor-pronator Group is split in order to evaluate the MCL. In the thrower elbow, the MCL may be structurally intact but clearly insufficient. The anterior band is identified and followed to its insertion on the ulna, just distal and posterior to the coronoid process. A bone tunnel is made in the ulna and a docking technique is used to fix the graft into the humerus. Several techniques can however be used to achieve a strong fixation. An endobutton technique can for example be used to fix the graft onto the ulna or the humerus. Postoperatively, a dynamic brace can be worn, but this is not always necessary. ROM exercises are initiated on the first postoperative day. Strengthening exercises will be permitted after 4 to 6 weeks. The patient will have to avoid valgus stress for up to 12 weeks, after which sports specific rehabilitation may progress. Results are in very good to good in the majority of patients. Approximately 80% of patients will have a good result.

4. Managing Shoulder Problems in throwing athelets
Ashish Babhulkar
Shoulder Specialist Sanjichi Hospital, Deenanath Mangeshkar Hospital, Pune, India

Shoulder problems in the throwing athletes are common but very complex. Invariably the injury results from a cascade of events that started much before. It is hence desirable to identify root cause and the sequence of decomposition to full dissect the entire sequence of injury. Unless this is achieved the athlete may have an incomplete recovery & may not be able to get back to his original level of play. This could be due to inadequate repair of the labrum or it can be a real challenge to identify the specific cause of the problem and treat it quickly and easily. Many throwing athletes don’t allow time enough to rest the shoulder between games and especially after an injury. Over time and with much study we are slowly coming to understand more and more about how the shoulder works and what shifts occur in near-muscular balance, cuff strength, and kinematics (movement) in the throwing athlete. Rotator cuff fatigue, stretching out (laxity) or tightness of the shoulder capsule, and tips or a slight shift of the humerus (upper arm bone) are examples of ways the upper outer complex can change with repeated throwing motions, thus leading to shoulder problems. Even the smallest damage to the soft tissues, joint surface, or bone can set up a chain of events that result in shoulder injuries. If the athlete presents late – it is possible that he has irreversibly changed his bowing or throwing action possibly disabling his Shoulder-dc joint or Back ache as small changes in the kinetic chain lead to distal compensation.

Repetitive microtrauma can lead to Subscapularis fatigue. According to the Hawkins - Krishnan school of thought - the anterior labrum is transferred from the lower body to the shoulder through the scapulothoracic joint. Repetitive high-speed pitches can put the shoulder at significant risk for injury. They can take less than five seconds. Acceleration and deceleration forces along with compressive, shear, and distractive forces of the impact on the entire pitch sequence of throwing mechanics and what contributes to injury. With pitches at 90 miles per hour or more, the entire pitch sequence can take less than 2 seconds. Cofactor and desaturation forces along with compressive, shear, and distractive forces of repetitive high-speed pitches can put the shoulder at significant risk for injury.

Köhr has improved our understanding of the role of the scapula & also changed how we view throwing injuries. Scapular stabilization is crucial to the success of any rehab programme. It is not just the arm and shoulder that are involved in a pitch. Half of the energy that goes behind a pitch comes from the legs and trunk. Rotational forces needed for the forward delivery of the pitch are transferred from the lower body to the shoulder through the scapulothoracic joint.

Mandly identifying a SLAP tear in an athlete is not enough. The collateral damage in terms of posterior capsule tightness, Ligament labral rotator cuff strength & endurance & the athletes level of play must be assessed holistically An MRI, as an investigation, is only one small cog in the wheel.
Abstracts of Lecture (cont')

6. Assessment of Anterior Glenoid Bone Loss
Ashish Babhulkar
Shoulder Specialist, Sancheti Hospital, Deenanath Mangeshkar Hospital, Pune, India

Introduction
Recurrent instability of the glenohumeral joint is usually associated with a Bankart tear - a soft-tissue injury of the glenoid labrum attachment. The nature of recurrence wears down the anterior glenoid column along with the Hill-Sachs area of the head of humerus. Often it is the recurrence that systemically erodes the bone in a progressive fashion. Occasionally, it is the violence of the trauma that impacts the anterior glenoid column. It is paramount that we address substantial bone loss along with the Bankart tear to “completely” the treatment. It would be dangerous to ignore the glenoid bone loss which affects the final outcome of surgical repair. If the bone loss on the humeral side is easily assessed by either plain x-rays or CT scans. Assessment of the glenoid bone loss is trick and fraught with controversy. Significant anterior glenoid loss is one of the most important factors leading to recurrent or failed arthroscopic Bankart repair. Similarly anterior rim fracture after the first violent dislocation can also easily go unnoticed.

We would like to highlight the various techniques for assessment of this glenoid defect. Traditionally radiographs and MRI scans were standard to the treatment of the patient with shoulder instability. It was form the era where Bankart lesion was critical to the treatment. Soft tissue lesions, no doubt would be best appreciated on MRI. The role of the CT scan has been significantly underutilized. In the modern era, the advent of the 144 slice CT scan has revolutionized 3-D mapping of the articular surfaces especially in peri-articular fractures. The extrapolation of the same principle is used to diagnose glenoid bone loss. In addition to detecting glenoid loss, it is vital to quantify it in a reproducible, consistent manner to offer an error free treatment protocol.

Assessment of glenoid bone loss
Clinical
Typically patients give a history of abduction or dislocation with absolutely trivial movements of the arm such as getting up with support, while sneezing or in sleep. Presumably the instability emanates from the loss of anterior pillar, facilitating easy subluxation or dislocation of the shoulder. It may be presumptive to diagnose glenoid bone loss just by history. Similar dislocations may occur after a large rotator cuff tear and neurological injury to the shoulder also.

On examination, the crank and jock’s relocation tests are performed in 90 degrees of abduction and external rotation. In patients with glenoid bone loss the abduction-apprehension test may be elicited in much lesser degrees of restful between 30 to 90 degrees. Ekhari has described the Load and Shift test in a “halo” manner to differentially assess the extent of anterior instability.

Imaging
Radiographs are the simplest and most cost effective manner in suspecting glenoid bone loss. Unfortunately the contribution of radiographs has not received the respect it deserves. In our unit, it is standard to have three views - a true AP, an axial and a Stryker notch view. The axial view, if taken correctly can detect anterior bone loss by assessing the reduced anterior column of the glenoid (Figure 1). Often the axial view is improperly taken, due to apprehension or stiffness, and there is an overlap of the head of humerus on glenoid. In such situations glenoid bone loss may not be appreciable. The Stryker notch view is ideal to demonstrate the extent of Hill Sachs lesion. On the AP view, although being looking can identify a glenoid bone loss by the double cortex sign - A (Figure 2 and 3).

5. Arthroscopic management in anterior shoulder instability with bony lesions
Jang Chun-yun
Professor, Shoulder Service., Beijing J Shui Tan Hospital, School of Medicine, Peking University.

Glenoid defect or bony Bankart with engaging Hill Sachs lesion is a risk factor for recurrence after arthroscopic repair in patients with anterior shoulder instability. Simple soft tissue reconstruction may not be an enough treatment for these kind of patients. For those patients whose glenoid bone loss is within 25%, arthroscopic remplissage combined with Bankart repair can achieve optimal results. Our data showed that this technique is an effective treatment without significant restriction of the anterior shoulder joint range of motion. For those patients with predominant bone loss beyond 25%, an open latissimus dorsi procedure is recommended. With the development of our surgical technique and equipment, arthroscopic bony procedures may take a major role in the near future.

Abstracts of Lecture (cont')
Abstracts of Lecture (cont*)

The apical oblique view* described by Garth et al., the West point view9, and the Odessa view9 are considered the most sensitive radiographs for detecting glenoid bone loss. Bigliani et al. reported a radiographic classification of Bankart lesions consisting of three basic types: Type I is a displaced avulsion fracture with an attached capsule; Type II is a medially displaced fragment malunited to the glenoid rim and Type III; an erosion of the glenoid rim. Type III lesions are further classified according to whether bone loss is less (Type IIIA) or greater (Type IIIB) than 25%.

MRI is commonly used to assess the soft tissue lesions involving the labrum and rotator cuff. In addition information regarding the bone edema secondary to trauma could also be useful. However, the MRI is incapable of visualizing a small bony fragment or even the loss of anterior glenoid. Plain radiographs using a 3T or a good quality 1.5T MRI can hazard a guess regarding glenoid bone loss but it may be imprudent.

We recommend a CT scan for assessing precise glenoid bone loss. Volume rendered images (3D reconstructions) on a 64 Slice or equivalent (we use Siemens Somaton Sensation 64 multi detector CT scan). Techniques involves taking 1mm slice thickness with overlap of 0.7mm. Multisrural reconstruction of the glenoid subtracting the head of humerus for an an en face view of the glenoid (Figure 4-5).

Quantification of glenoid bone loss

Once an en face glenoid image is achieved, the next step is accurately quantifying the bone loss. The conventional method is to draw a circle over the lower glenoid10-11. The dimensions and position of this circle are determined by drawing a basic circle about the inferior two-thirds of the glenoid. The center of this circle roughly at the glenoid "bare spot" (Figure 4). There are some guidelines on extent of bone loss and recommendation of type of surgery. The AP diameter of the glenoid on an average is 24.7mm. Sugaya classified defects as small (<5%), medium (5-20%), and large (>20%).

The small bony Bankart fractures more under diagnosed on arthroscopy. Anterior bone loss less than 20% can be treated with an arthroscopic Bankart Bank. For bone loss more than 20%, a bone augmentation procedure is ideally. Perhaps the CT assessment of glenoid bone loss as described above is the most reliable technique. Arthroscopic assessment of glenoid bone loss can be prone to errors. A depending on entry portal position and we recommend the site of an anterior viewing portal to objectively assess glenoid bone loss. We prefer the Modified Latarjet procedure as described by Burkart and De Beer for bone augmenting procedures. Other authors may prefer iliac crest bone grafting for the anterior glenoid bone loss as more an anatomical procedure. For the bone bankart tears, Sugaya has described an arthroscopic repair technique5.

Our experience of the arthroscopic technique for evaluating anterior bone loss is error prone. The size of the circle can be variable and there is no fixed point of reference. We prefer to measure lateral bone, comparing the abnormal to the native glenoid on normal side. An anteroposterior line is measured passing through the center of this circle, reveals less glenoid loss (Figure 6). There are some guidelines on extent of bone loss and recommendation of type of surgery. The AP diameter of the glenoid on an average is 24.7mm. Sugaya classified defects as small (<5%), medium (5-20%), and large (>20%).

Figure 6 En face view of glenoid showing tiny Bankart fragment

Figure 7 Same patient as Figure 6, smaller circle, more bone lost glenoid

Conclusion

The clinician must be aware about the occurrence of glenoid bone loss and suspect the same in high velocity trauma or in cases with high recurrence and re-dislocation with minimal trauma. In such patients the double cortex sign on plain radiographs may lead the clinician to order for a 3DCT as recommended. Once the CT is done, the technique is to measure the bone loss must be accurate. Recurrent anterior dislocation of the shoulder.

Reference

Abstracts of Lecture (cont‘)


7. Footprint Recon for Rotator Cuff Tear
Jiang Chun-yan
Professor, Shoulder Service, Beijing Jishuitan Hospital, School of Medicine, Peking University.

Arthroscopic management of massive rotator cuff tear is challenging. There had been lots of literatures reported that the re-tear rate after operation, ranging from 50 – 70%. Although re-tear does not necessarily mean poor shoulder function, the integrity of repaired tendon does correlate with shoulder functional recovery. With the development of surgical techniques and instruments, dual-row rotator cuff repair become more and more popular. Compared with single-row repair, the dual-row techniques can achieve better anatomical reconstruction of the footprint and better initial biomechanical stability. Two major types of dual-row repair are available. The suture-bridge type appears to be more easy and can achieve more contact area between the cuff and the greater tuberosity than the traditional anchor dual-row method. Adequate evaluation of the tear geography during operation is the key to achieve appropriate fixation. It is also important to judge the extent of fatty infiltration before surgery. Open fat transfer or other augmentation procedures may be necessary for irreparable massive rotator cuff tear.

8. Scapular Rehabilitation: The Neglected Element of Shoulder Rehabilitation
Peggy A. Houglum
Associate Professor, Department of Athletic Training, Rangos School of Health Sciences, Duquesne University, Pittsburgh, USA.

The shoulder is a common site for injury, especially in sports participants. Following any injury or surgical repair, rehabilitation plays a vital role in the patient’s total recovery. To assure a successful outcome of the rehabilitation program, the clinician must be cognizant of not only the injury and subsequent recovery involved but also what potential causes have led to the injury. Pathological conditions such as shoulder impingement and tendinopathies are among the more common shoulder injuries seen in athletes. Although these problems affect the rotator cuff, a common source of such pathologies is scapular muscle weakness. Clinicians often focus on strengthening and rehabilitating these rotator cuff muscles than actually attending to the cause of the problem. For this reason, it is common for athletes with such an injury to experience a recurrence of the injury.

This presentation includes information on how scapular muscles function to prevent common glenohumeral joint pain and weakness and the techniques and applications of a rehabilitation program which includes resolution of these problems. Progression of a rehabilitation program is discussed along with specific examples of exercises commonly incorporated into sports rehabilitation programs.

TSE Wing-Lim
Department of Orthopaedics and Traumatology, Prince of Wales Hospital, Hong Kong SAR

The distal radio-ulnar joint (DRUJ) instability is not an uncommon sequel after sport injury. It is usually associated with distal radius fracture, ulnar styloid fracture, interosseous ligament injury or after a DRUJ dislocation. Disruption of the radio-ulnar ligaments, which are the major component of the Triangular Fibrocartilage Complex (TFCC) that stabilize the DRUJ during forearm rotation, is the cause. Early recognition of DRUJ instability is the key to successful treatment with favourable outcome. Physical signs include pain and swelling over ulnar side of wrist, prominent ulna head, Pian’s key sign, painful or limited forearm rotation, or laxity demonstrated on DRUJ ballottement. CT is useful in establishing the diagnosis and MRI define the soft tissue injury. When presented acutely non-operative treatment is useful but operative treatment may be beneficial if the TFCC injury is associated with a large ulnar styloid fracture or when the DRUJ is not completely reduced.

For delayed or chronic cases surgical options include TFCC repair, ulna shortening or reattachment. For low demand patients or those neglected cases with DRUJ osteoarthritis various forms of excision arthroplasties, Sauve Kapandji operation or prosthetic replacement may be considered.

10. Arthroscopy of the elbow
Roger van Riet MD, PhD
Elbow Surgery, Monica Hospital Deurne, Belgium
Professor of orthopedic surgery, University of Brussels, ULB, Brussels, Belgium

Arthroscopy of the elbow has become a common procedure. However, compared to other joints, it remains to be a relatively risky procedure. It is important to realize that there is a learning curve involved. At the beginning of the curve, diagnostic accuracy is very useful to gain experience in doing a systematic check of all structures in the elbow. Simple procedures will be followed by more complex arthroscopic surgery. Whereas the procedure, the basics stay the same.

The arthroscopy starts with setting the indication. There are no contraindications for arthroscopic surgery. The general health of the patient, inability of the surgeon to perform a safe arthroscopy may be reasons not to do an arthroscopic Relative contra-indications include multiple prior surgeries to the elbow or anterior transposition of the brachialis muscle. Indication is often confirmed by an examination, under total anesthesia. Subtle instability for example, can become more clear.

A tourniquet with a pressure of 250 mmHg is used, and the patient is placed in lateral decubitus. Some surgeons prefer a prone or supine position, which are both possible. The arm is placed on a support. Care should be taken not to compress the brachial plexus, as this will push the neurovascular structures into the operating field. When the arm is placed properly, the tourniquet rests on the support. The arm is prepped and draped. The ulnar nerve is palpated and marked with a surgical marker. Other landmarks, such as the epicondyles, olecranon tip and radial head can be marked as well.

The capsule is then dissected by injection approximately 25 ml of physiological fluid into the joint. Typically, this is done through the soft spot, in the radioulnar joint. The soft spot is identified as the center of a triangle formed by the radial head, lateral epicondyle and olecranon tip. It is important to realize that instabilities will increase the distance between the neurovascular structures and the portal, but not the distance between the capsule and the shaft. The neurovascular structures will therefore still be close to the capsule and this is important when working on the capsule.

The proximal anteromedial portal is the first portal. It is located 2 cm proximally from the medial epicondyle and 1 cm anteriorly to the intermuscular septum. Only the skin is incised so that the medial cutaneous nerves are not detached. The intermuscular septum is palpated with the tip of the trocar and the trocar is advanced anteriorly to it, in the direction of the radial head. The humera is felt on the posterior aspect of the trocar and the anterior capsule is penetrated. The first intra-articular view is that of the radioulnar joint and the lateral capsule. Tearing of the lateral capsule can sometimes be seen in cases of severe lateral epicondylitis. The camera is then angled at the coronoid and the ulnolhumeral joint. From there, the coronoid and radial fossae are visualized and finally the camera is turned so that the anterior capsule can be seen. A lateral working portal can be made if a therapeutic procedure is necessary. The lateral portal is made with the use of a needle. The position of the needle is confirmed under direct arthroscopic view. The more proximal the portal is, the safer it is. When this portal is made more posteriorly, it becomes closer to the radial nerve. Additional portals can be made, to introduce retractors or other instruments into the anterior joint space.

Once the anterior part of the procedure is complete, posterior portals are made. The first posterior portal is the lateral posterior portal. This portal is made proximal to the lateral tip of the olecranon. The camera is placed on the olecranon fossa and the camera is angled laterally. From here the medial portal can be penetrated by moving the camera medially over the olecranon. The lateral portal can then be used to access the ulnohumeral joint. The lateral portal is made with the use of a needle. The position of the needle is confirmed under direct arthroscopic view. The more posterior the portal is, the safer it is. When this portal is made more posteriorly, it becomes closer to the radial nerve. Additional portals can be made, to introduce retractors or other instruments into the posterior joint space.

Fealvly the camera is moved into the radial gutter. This is sometimes technically somewhat challenging, especially at the beginning of the learning curve. The tip of the olecranon is followed laterally until the olecranon joint can be seen from the lateral side. The arm is then gently extended and the camera is advanced into the radial gutter. A bare area without cartilage, is seen on the proximal radius. This is not pathological, and is present in over 90% of people. There is often some synovial tissue that obstructs the view of the posterior aspect of the radial head. A soft portal is made at this point. A needle is placed into the soft spot and its position is verified with the scope. Shavers, retractors and other instruments can be introduced through the soft spot. Posterior lateral rotatory instability can be diagnosed by performing the pivot shift test. If a working portal is necessary, it is made medial to the lateral posterior portal and slightly proximal. The ulnar nerve is palpated while creating the portal, so its position is clear and the nerve is protected during the incision.

Finally the camera is moved into the radiocapitellar joint. This is sometimes technically somewhat challenging, especially at the beginning of the learning curve. The tip of the olecranon is followed laterally until the olecranon joint can be seen from the lateral side. The arm is then gently extended and the camera is advanced into the radiocapitellar joint. A bare area without cartilage, is seen on the proximal radius. This is not pathological, and is present in over 90% of people. There is often some synovial tissue that obstructs the view of the posterior aspect of the radial head. A soft portal is made at this point. A needle is placed into the soft spot and its position is verified with the scope. Shavers, retractors and other instruments can be introduced through the soft spot. Posterior lateral rotatory instability can be diagnosed by performing the pivot shift test. If a working portal is necessary, it is made medial to the lateral ulnohumeral joint opens and the camera can be driven through the to the medial gutter. A plication of the lateral collateral ligament can easily be performed if it is felt that this will be sufficient.

At the end of the procedure the elbow is examined in position with a smooth transition to the range of motion. The elbow is then immobilized in a posterior plaster splint. Extension is the maximum closed packed position of the elbow and is used to force the fluid used during the arthroscopy out of the joint. After the patient has woken up, the neurovascular status is carefully checked. The posterior portal is removed, after the patient is discharged from the hospital. The posterior scar is removed at the first postoperative day at which point mobilization of the elbow is encouraged.

This sequence of events should be followed for simple as well as complex arthroscopic procedures. This will minimize the risk of complications and maximize the outcome. Arthroscopic surgery of the elbow is a very important tool for the elbow surgeon. With experience, more complex procedures will become possible, but this ‘basis’ will remain to be very important.
13. Arthroscopic Repair of Triangular Fibrocartilage Complex Tears

YK Lau
Associate Consultant, Department of Orthopaedics & Traumatology, United Christian Hospital

The TFCC (Triangular Fibrocartilage Complex) is a complex of soft tissues located at the wrist joint that plays a crucial role in stabilizing and protecting the wrist. It consists of the central fibrocartilage disc (TFCC), the ulnar collateral ligament (UCL), the volar and dorsal radioulnar ligaments, and the sub capitulum of the radius. The TFCC acts as a shock absorber to absorb the forces that are transmitted to the wrist joint, especially during high-impact activities like sports.

The TFCC can be damaged due to various reasons such as direct trauma, repetitive microtrauma, or overuse injuries. The extent of the injury can range from mild to severe, and the clinical presentation can be varied. The goals of surgical repair are to restore the normal anatomy and function of the TFCC.

14. Splinting of Hand Fractures

Josephine Wong Man Wah
Occupational Therapist, Prince of Wales Hospital

Chairman, Hong Kong Society for Hand Therapy

Hand fractures are common injuries that can affect the wrist, fingers, or metacarpals. Splinting is an essential part of the treatment plan for patients with hand fractures. The purpose of splinting is to provide support and protection to the injured area, allowing for healing and preventing further injury.

The primary function of a splint is to immobilize the injured area to allow for proper healing. A well-designed splint should be comfortable, easy to wear, and effective in maintaining the alignment of the fracture. Splinting is particularly important in the early stages of healing to prevent displacement of the fracture fragments.

15. Labral Tears

Gregory I. Bain PhD
University of Adelaide, Department of Orthopaedic Surgery, Adelaide, South Australia.

Anatomy. The anterior inferior labrum is convex in shape and sits on top of a bony foundation of the glenoid. There is no crevice between the labrum and the articular surface. It is ideally positioned to act as a bumper to prevent anterior subluxation of the humeral head. It is an organ of compression.

The superior labrum sits “off the face” of the glienoid with no bony foundation. It is mobile with a cleft between the labrum and the articular surface greater than 5mm. A “slap lesion” is when the arm is placed into external rotation (throwing position) that the posterior labrum will pull off posteriorly from the glenoid. This can be assessed at arthroscopy.

In the anterior inferior labrum it is abnormal to have a labrum. Any labrum in the anterior inferior or posterior aspects of the labrum is abnormal. Some of these may be a capsular lesion (rim lesion).

A superior labral tear may have had an acute injury, including a dislocation. Superior labral tears can also be associated with repetitive activities such as throwing. The diagnosis can be challenging. The clinic diagnosis can be difficult. Clinical tests that have been described include the anterior slide test, compression rotation test, crank test and ORB test.

Unfortunately not all of these tests have fair reliability in clinical practice and it is common to perform an MRI scan to assess the anatomy. The use of intra-articular Gadolinium will enhance the image modality and allow associated injuries to be assessed.

Arthroscopy is the definitive diagnostic tool. It also allows classification and treatment.

At arthroscopy, it is evident that there can be quite a variation in the normal anatomy including the Buford complex, which is where there is a thick middle glenohumeral ligament and an absent anterior inferior labrum. This occurs between 1.5 and 55.

Superior labral tears were classified by Snyder (1) Arthroscopy (1999). However since then there has been many other subcategories of labral tears described. Basically any other part of the labrum, humeral ligaments or rotator cuff interval can be involved.

Surgical repair. Anterior inferior labral tears usually heal unless the anterior aspect of the glenoid but in a malpositioned condition. Therefore the bursae is lost and leads to recurrent instability.

The surgical management of these patients is to release the labrum and capsular complex from the glenoid, debride the glenoid back to bleeding cancellous bone, advance the labrum and capsular complex onto the normal bony foundation of the glenoid and attach in position.

For superior labral tears the same concepts exist except that a surgical repair should be to the biceps anchor and off the face of the glenoid.
Abstracts of Lecture (cont’)

17. Finger sprain injuries (PIPJ) in sports
YF Leung
Senior Medical Officer, Department of Orthopaedics & Traumatology, Yan Chai Hospital

Etiology of injuries
Mostly Indirect injuries
Common in ball games such as football, basketball, cricket, handball, volleyball, bowling, judo, etc.
Often neglected in subtle cases
Usually minor, self-limited
Repeated minor strains may result in chronic pain and insidious onset of finger stiffness

Common injured structures
Proximal interphalangeal joint (PIPJ) is the commonest injured site (our focus)
Capsule, collateral ligaments, volar plate, checkrein ligament, tendons, cartilages, proximal and middle phalangeal bones
Very rarely open injuries with neurovascular compromise

Mechanism of PIPJ injuries
Hyperextension, Axial compression, Lateral Bending, Twisting (rotatory), combination force, Repeated stress injuries

Clinical management
History: Time of injuries (acute, delayed, chronic, repeated), mechanism
Clinical assessment: location of tenderness and swelling, neurovascular status, active motion, stability of the joint under digital block, other association injuries
Radiological assessment: X-rays, CT scan, MRI

Clinical assessment of the soft tissue --- ligaments, capsule and volar plate
Grade 1 sprain (microscopic rupture of capsule/ ligaments ) , stable on active motion and passive stress testing under digital block
Grade 2 sprain (partial rupture of capsule/ ligaments ) , stable on active testing but passive stress will demonstrate some abnormal laxity under digital local block
Grade 3 sprain (complete rupture of capsule/ ligaments ) , unstable injury

Protocol of Management---- Grade 3 injury
Examination of neurovascular status of the finger and treat appropriately with priority
Estimate the chance of congruent reduction of the articular surface
Try to reduce the PIPJ by traction and reverse the injury forces
Assess the stability of PIPJ after reduction and congruency of the articular surface
Consider surgical intervention if non-congruent reduction or unstable PIPJ
(1) Open reduction +/- internal fixation
(2) Dynamic splinting
(3) Volar plate arthroplasty
(4) Sublimus tenodesis
(5) Arthrodesis/implant arthroplasty
(6) Others

Surgical exposure for PIPJ
Depend on the pathologies, Mid-lateral approach, Volar zigzag approach, Dorsal longitudinal approach, Combined approach

Eaton type I ------- Volar plate avulsion
Eaton type II ------- Dorsal PIPJ dislocation (stable after reduction)

Abstracts of Lecture (cont’)

Dorsal fracture dislocation of PIPJ

Eaton type III
An unstable injury
Surgical intervention is indicated
Choice of treatment
OR +IF +/- bone graft
Osteochondral graft
Volar plate arthroplasty
Dynamic external fixator
PIP total joint replacement
arthrodesis
X-rays, CT sometimes needed

Lateral Dislocation PIPJ
Rotational & combined injury
Repeated stress injuries
Neglected injuries
Chronic PIPJ # dislocation

18. Treatment of the Stiff PIPJ after Injury – An Occupational Therapist’s Approach
Shelley Chow
Adjunct Associate Professor, The Hong Kong Polytechnic University

Stiff proximal interphalangeal joints (PIPJ) following an injury can be a headache for the hand surgeon, GP, therapist and especially the patient. In some cases long periods of treatment give frustratingly little improvement. Active treatment with patient involvement in a home programme can supplement other therapy methods and provide more success than passive treatment alone. A late referral to the occupational therapist necessitates that the patient be well-motivated towards his/her treatment and to have realistic expectations of the outcome of treatment. Various therapy techniques are discussed.
Abstracts of Free Paper Session I

1. Free tissue transfer in reconstruction of composite oromandibular defects by using vascularized fibular osteoseptocutaneous flap
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4. Department of Oral & Maxillofacial Surgery, Pamela Youde Nethersole Eastern Hospital

Introduction
The functional and facial aesthetics are often severely compromised after oncologic resection of the mandible. This changed significantly with the advent of microvascular reconstruction; the objective of this study was to evaluate patients with free tissue transfer in reconstruction of composite oromandibular defects by using vascularized fibular osteoseptocutaneous flap

Patients and Methods
From 1996 to 2010, ten cases of oromandibular reconstruction using vascularized free flaps to evaluate functional parameters of results were evaluated. Nine male and one female patient comprised the study, with a mean age of 56 years. Squamous-cell carcinoma (SCC) constituted of 8 cases, of which 2 patients were recurrent. All defects located at anterolateral mandibular, and the mean size of skin paddle was 7cm x 6cm while that of bone gap was 7.2 cm. The mean hospital stay was 22 days. The superior thyroid (7) and facial (3) were the main recipient arteries. The internal jugular and its tributaries was the main recipient vein.

Results
Nine flap survival. Two patients required one extra operation: one flap required re-anastomosis due to venous thrombosis and the other flap required exploration and evacuation of haematoma. One patient had complete flap loss which was salvaged by radial forearm graft. There was neither partial loss of the flap nor formation of oro-cervical fistula. Swallowing was identified as "excellent" and "good" in 6 cases. Speech was classified as "excellent" and "good" in 6 cases. Cosmetic acceptance was rated "good" in all cases.

Discussion and Conclusion
Free tissue transfer by using vascularized fibular osteoseptocutaneous flap reconstruction of composite oromandibular defects provides good functional and facial aesthetic results. The majority of patients are able to tolerate a regular diet, intelligible speech and acceptable appearance are restored.

Abstracts of Free Paper Session I (cont’)

2. Long Term Results of Matched Hemi-resection Interposition Arthroplasty for DRUJ Arthritis in Rheumatoid Patients
Jason Pui Yin Cheung • Syed Kamran Ahmed • Boris Kwok Keung Fung • Wing Yuk Ip
Department of Orthopaedics and Traumatology, Queen Mary Hospital

Introduction
The distal radio-ulnar joint (DRUJ) is commonly affected in rheumatoid arthritis and is associated with significant functional morbidity. The aim of our study is to review our results with matched hemi-resection interposition arthroplasty in patients with positive rheumatoid factor.

Methods
This was a retrospective study of 39 patients with 51 wrists that were treated at Queen Mary Hospital in Hong Kong from 1989 to 2007. All patients underwent matched hemi-resection interposition arthroplasty and dorsal wrist synovectomy. Long arm hinged elbow brace was used for three weeks followed by intensive rehabilitation up to twelve weeks. The indicators of outcome included range of motion assessment, pain, wrist stiffness, grip strength and need for revision assessed during follow-up. Statistical analysis was performed with student t-test.

Results
The average age of patients was 50.5 years (25 to 77 years) and there was a 35:4 female to male ratio. The average follow up was 4.5 years ranging from 1 to 18 years. Associated extensor tendon ruptures were found in 31.4% patients. The average increase in supination was from 73 degrees preoperatively to 81 degrees at long term follow up. The average increase in pronation was from 68 degrees preoperatively to 74 degrees on long term follow up. There was evidence of painless, relatively stiff but functional wrist in 37.2% of patients. There was an increase in grip strength from an average of 6.1 kilogram force preoperatively to an average of 11.5 kilogram force at follow-up. Complete relief of ulnar sided pain was seen in 43 wrists (84%), partial relief was seen in 7 wrists (13.7%) and no relief was found in one wrist (1.9%). Two patients required revision procedures. One revision required the Modified Darrach procedure for ulnar sided pain due to ulna plus at 1.9 years of follow-up. The second revision procedure was for ECU rupture at 7 years follow-up.

Conclusion
DRUJ arthroplasty is a rewarding procedure and most patients obtain pain free movement. A team approach to management of these conditions with rheumatologists and rehabilitation specialists is essential for good outcome.
Abstracts of Free Paper Session I (cont’t)

3. New biodegradable nerve conduit, Crosslinked Urethane-doped Polyester Elastomers (CUPEs), in rats.
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Introduction
The golden standard of bridging the nerve gap is autologous nerve grafting. Donor site morbidity is a major concern. With the advances of bioengineering and material science, biodegradable nerve conduits are emerging. At least 4 FDA approved models are available in the market. None of them is ideal. CUPEs is a new synthetic biodegradable polymer which is soft, strong and elastic. This study aims at determining the efficacy of CUPEs as nerve conduit on the neural regeneration over a segmental nerve defect in rats.

Methods
Sixteen adult Sprague-Dawley rats were divided into the investigational group and the control group, each containing 8 rats. A 10 mm nerve defect was produced over the right sciatic nerve. In the investigational group, the nerve gap was reconstructed with CUPEs nerve conduit 15 mm in length, entubulating 2 mm of the nerve stump at each end. A reversed autologous nerve graft was used as a control. By 8 weeks, the reconstructed nerves were harvested for histomorphometric analysis, including nerve fiber density and axonal diameter. The non-inferiority margin for the difference between the decreases in fiber density of the distal nerve among 2 groups was calculated.

Results
The center of all seven conduits contained regenerating nerve tissues across the distal anastomosis, except one conduit dislodged over the distal end. Histomorphometric analysis demonstrated that the percentage decrease of fiber density in the post-graft nerve segment over pre-graft was -26.5% (95% CI -38.9% to -14.0%) in autograft group, versus -39.2% (-44.7% to -33.7%) in the conduit group. In testing non-inferiority, the difference between the 2 groups was less than 20%.

Conclusion
CUPEs nerve conduit was effective in promoting neural regeneration across 10 mm nerve gap in comparison with nerve grafts.

4. Portal Site Local Anaesthesia in Wrist Arthroscopies
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Objective
A study of 38 wrist arthroscopies between May 1998 and February 1999 performed in the New Territories East Cluster, Hong Kong, found that wrist arthroscopy performed under PSLA to be highly effective.

Ten years on, is the use of PSLA more mature and more effective?

Method
Retrospective study of 111 wrist arthroscopies done under PSLA, between January 2007 and December 2009, in Alice Ho Miu Ling Nethersole Hospital, Hong Kong.

Cases were evaluated for variables including age and gender of patient, types of procedures, duration of operation, and whether PSLA required addition of other forms of anaesthetics, as the objective effectiveness of PSLA.

Telephone interview conducted for the level of discomfort and whether the patient would choose PSLA again for similar operations in the future, as the subjective effectiveness of PSLA.

Result
68 male and 43 female, aged between 16 and 77 (mean 43.2), received diagnostic arthroscopy and synovectomy, 47 of which received additional therapeutic procedures. The duration of operation ranges from 20 to 255 minutes (mean 73).

Six cases required addition of FIRA/IVLA, due to intra-operative findings and not due to discomfort. (6 in previous study, 4 due to discomfort)

Telephone interview showed majority of patients reported at least tolerable for the discomfort and would consider PSLA for future similar procedures.

Conclusion
PSLA is highly effective for wrist arthroscopic procedures. With increasing experience, results for PSLA have improved with no conversion to FIRA/IVLA due to discomfort.

Patient selection and possible addition of FIRA/IVLA according to intra-operative findings would make PSLA more effective.
5. Spontaneous Paralysis of the Posterior Interosseous Nerve: A report of three cases and literature review
Alex CP Chow • Emily KY Yip • KY Choi
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Introduction
It is generally accepted that PINS is caused by compression of the PIN in the radial tunnel. Other causes, including neuralgic amyotrophy or multifocal motor neuropathy, although relatively rare, have been previously reported as causes of upper limb mononeuropathy or posterior interosseous nerve palsy, and should also be considered in the list of the differential diagnosis. Detailed history and physical examination, and the use of electrophysiological evaluation are essential for reliable diagnosis. Ultrasonography and MRI are also useful important adjuncts in establishing a diagnosis.

Material
Three cases of spontaneous paralysis of the posterior interosseous nerve were seen at the Department of Orthopaedics and Traumatology, Tuen Mun Hospital, Tuen Mun, Hong Kong, in 2008 to 2009. Routine laboratory studies and standard imaging studies including roentgenograms and ultrasound studies in these three cases showed no discernible abnormality. Electromyography helped to localize the lesion and confirming the posterior interosseous palsy. In our first two patients, MRI showed absence of compressive lesion and patchy neurogenic high T2 signal intensity outside the territories of the posterior interosseus nerve, and these suggested neuralgia amyotrophy. The third patient had a typical history of spontaneous onset of severe forearm pain followed by weakness, and imaging studies including MRI showed no structural causes, and this suggested mononeuropathy of the left posterior interosseous nerve which was likely secondary to neuralgia amyotrophy.

Results
Some authors have recorded that between 80% and 90% of patient with neuralgic amyotrophy had recovered spontaneously after two to three years. We adopted a conservative approach and our patients were serially monitored with nerve conduction studies and needle electromyography for early evidence of motor recovery. All patients began to show early motor recovery within six to nine months after the onset of the symptoms, and all achieved good functional improvement eighteen months to two years later.

Conclusion
Spontaneous paralysis of the posterior interosseous nerve is uncommon. It is important to note that the paralysis can be due to non-compressive causes and neuralgia amyotrophy, although less common, should always be included in the list of differential diagnosis. Detailed history especially the circumstances at the time of the onset of the disease, careful clinical and electrophysiological examination are important and essential for a reliable diagnosis. Electromyography (EMG) can establish the topography of the lesion and the severity of muscular denervation. Ultrasonography and magnetic resonance imaging can be helpful to rule out compressive lesions and for the diagnosis of neuralgic amyotrophy. Conservative management is recommended for neuralgic amyotrophy, and serial electrophysiological studies are helpful to monitor the motor recovery.

6. Stainless steel 2.0mm Locking Compression Plate (LCP) osteosynthesis system for the fixation of comminuted hand fractures in Asian adults
HC Wong • HK Wong • KY Wong • TK Wu
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Objective:
The aim of this retrospective study is to analyze the clinical outcome of the application of stainless steel 2.0mm LCP system for the treatment of comminuted hand fractures in Asian adults.

Methodology:
Six patients who had comminuted hand fractures were treated by open reduction and internal fixation with the application of stainless steel 2.0mm LCP (AO Compact Hand System--- Synthes) from December 2009 to October, 2010. The total arc of motion (TAM) of fingers, grip power, complications and additional surgery were recorded.

Results:
3 out of 6 patients eventually restored good hand functions in terms of the total arc of finger motion (> 220 degrees) and grip power. The commonest complication was skin impingement in finger region by the implant (4 cases). Another common complication was restricted range of motion (3 cases). One patient had minimal degree of malrotation of his left little finger. Additional surgery was required in all the patients for implant removal (6 cases), tenolysis (3 cases) and capsulotomy (2 cases).

Conclusions:
The stainless steel 2.0mm locking compression plate (LCP) is useful for the fixation of unstable comminuted hand fractures especially in metacarpal bones because of its advantage of better stability which allows more aggressive rehabilitation. However, its design is not very versatile and therefore limits its use in the finger region. Its bulkiness frequently causes implant impingement. The patients must be informed for the chance of implant removal later.
7. The reverse flow digital artery island flaps in digital pulp reconstruction of the fingers
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Introduction
Fingertip injuries represent the most common type of trauma in the hand. The reconstruction of the fingertips continues to be a challenge for the surgeon. The objectives of treatment of loss of digital pulp are 1) elimination of pain; 2) preservation of finger length; 3) discriminatory sensation; 4) stable pinch with good range of motion. The aim of this study is to report usefulness postoperative results of reverse flow digital artery island flaps for fingertip reconstruction.

Patients and Methods
From January of 2009 to May of 2010, 13 fingers in 13 patients (11 men and 2 women; mean age of 42) with defects of the distal phalanx were reconstructed by reverse flow digital artery island flaps. The main outcomes were 1) pain status; 2) loss of the finger length; 3) the capacity to discriminate between two points; 4) pinch grip; 5) proximal, distal interphalangeal joint motion loss.

Results
All the flaps survived and all reconstructed finger pulps were pain-free at the final follow-up evaluation (average 5.4 months). The mean length of the injured digit was 99% of contralateral normal side. The mean static two point discrimination was 8 mm. The mean AROM of PIPJ and that of DIPJ of contralateral normal side was 90% and 85% respectively. The mean pinch strength was 90% of contralateral normal side.

Discussion and Conclusion
The reverse flow digital artery island flap is a safe procedure for reconstruction of the fingertip defect with excellent functional results and high survival rate.

8. Uncommon dorsal radiocarpal fracture dislocation complicated with median nerve palsy – case report, review of the literature and a new classification system guiding the management
HC Wong • HK Wong • KY Wong • SW Chan
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Abstract
We report a 36-year-old lorry driver who sustained left dorsal radiocarpal fracture dislocation and left median nerve injury in a traffic accident in 2010. Emergency operation of closed reduction, cross wrist bridging external fixation, percutaneous trans-radial styloid Kirschner wire fixation, decompression of left median nerve and repair of the partially torn palmar radiocarpal ligament were performed under general anaesthesia. Because of the persistent depressed dorsal articular rim fracture of left distal radius, another operation of open reduction, corticocancellous bone grafting and dorsal buttress plating was performed 5 days after the initial operation. Six months after the operation, the patient enjoyed good range of wrist motion but weak twisting power especially in supination. There is no radiological feature of radiocarpal subluxation.
Abstracts of Free Paper Session II

1. Long-term follow up of Nerve Transfer in Brachial Plexus Injury
Li Peng-Cheng • Wang Shu-Feng
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Introduction
To evaluate the efficiency of our new nerve transfer methods for brachial plexus injury.

Method
From June 2004 to April 2010, 300 cases of brachial plexus injury patients are treated by multiple nerve transfer method. We reconstruct the main functions of the upper extremity in a single procedure, that is to say, SAN (spinal accessory nerve) transfer to SSN (suprascapularis nerve) to reconstruct shoulder abduction, direct coaptation of contralateral C7 with lower trunk and then MACN (medial antebrachial cutaneous nerve) transfer to MCN (musculocutaneous nerve) to reconstruct hand and elbow flexion; phrenic nerve transferred to PDLT (Posterior division of lower trunk) to restore the elbow and finger extension.

Result
64 patients who undertake contralateral C7 root transfer to lower trunk are followed up for at least 36 months (36 to 57 months, average 44 months). The muscle force are defined according to British Medical Research Council grading system. M4 grade muscles occur in 64.10% of finger flexors (FDS/FDP), 53.10% of flexor pollicis longus (FPL), 73.40% of flexor carpal ulnaris (FCU) and 50% of palmaris longus (PL). M3 and M4 grade elbow flexion occur in 79.3% of musculocutaneous nerve reinnervation. 48 patients who undertake phrenic nerve transfer to PDLT either by direct coaptation or by sural nerve graft are followed for average 28 months (range 10 to 61 months). M3 and M4 grade EDC (extensor digital communis) occur in 40% of direct coaptation cases, and in 20% of sural nerve graft cases, while M3 and M4 grade triceps occur in 80% of both these two methods.

Conclusion
Main upper extremity muscle forces can be successfully regained by multiple nerve transfer in a single procedure. However, to reconstruct a functional upper extremity is still a challenge.

Abstracts of Free Paper Session II (cont')

2. Combined Volar And Dorsal Plating of AO Type C Distal Radius Fractures: Clinical And Radiological Outcome Parameters
Sreedharan S • Wong JH • Yong FC • Teoh LC • Chew WY
Department of Orthopaedic Surgery (Hand Surgery Section), Tan Tock Seng Hospital, Singapore

Introduction:
The use of combined volar and dorsal plating for the surgical management of AO Type C distal radius fractures may be required in fracture patterns with significant volar and dorsal comminution. In our department, we do adopt this method of fixation for certain fracture patterns in order to achieve absolute stability and start immediate range of motion exercises. We report our experience with this method of ‘sandwich’ osteosynthesis of distal radius fractures.

Method:
We performed a retrospective study by selecting all the distal radius fractures that had combined volar and dorsal plating performed during 2008-2009 from our distal radius database. The biodata of the patients was obtained from the case records and the clinical outcome was retrieved from our distal radius database. Radiological parameters were measured by the investigators from our online radiology web containing all the radiographs of the patients.

Results:
During the study period, we treated 38 distal radius fractures with combined volar and dorsal plating; all the fractures were of AO Type C variety. In the majority of the cases, Synthes® 2.4mm LCP system was used. A variety of configurations were used with regards to the number of plates on each side (either one or two plates on each side); in some cases, radial plates were necessary. Over a mean follow-up period of 15 months, there were no complications of wound infection, deep infection or tendon ruptures. Initial wrist stiffness was common; however, a good range of motion was achieved in the majority of the patients at the latest review.

Radiologically, in the immediate post-operative radiograph, the articular and extraarticular parameters were satisfactory in all the cases. All the fractures went into union and at point of union, the articular and extraarticular parameters remained satisfactory.

Discussion and Conclusion:
When indicated, the use of combined volar and dorsal plating of distal radius fractures can be safely utilized with a low complication rate and good clinical and radiological outcomes.
3. Patients’ Preferred and Retrospectively Perceived Levels of Involvement during Decision-Making Regarding Carpal Tunnel Release

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Department of Orthopedic Surgery, Seoul National University Bundang Hospital, Seongnam, Korea

Background:
Patient-centered care requires that physicians respond to patients’ preferences, including their preferences regarding treatment decision-making. The authors surveyed patients’ preoperative preferences and their retrospectively perceived levels of involvement in decision-making for carpal tunnel release, and attempted to identify factors that affect patient preferences and experiences.

Methods:
Seventy-eight patients that underwent carpal tunnel release for carpal tunnel syndrome (CTS) were requested preoperatively to choose a preferred level of involvement and postoperatively were requested to assess their actual levels of involvement using a Control Preference Scale (CPS) containing five levels, ranging from fully active to fully passive. Potential clinical and demographic factors that affected patients’ preoperative preferences and postoperative assessments of levels of involvement were analyzed.

Results:
Fifty-nine (76%) patients preferred shared decision-making preoperatively, and 63 (81%) felt that they had experienced this postoperatively. The correlation between preoperative and postoperative CPS assessments was significant (r = .525, p < .001). Operation history was found to be independently associated with a preoperative preference for a more active role (OR = 4.2), and those with a caregiver (OR = 4.9) or private insurance (OR = 2.6) were found to be more likely to experience an active role. High DASH scores (more severe symptoms) were associated with a preference for either an active or passive role (p = .034).

Conclusions:
The majority CTS patients preferred to share surgical decision-making with the physician, and those with less severe symptoms showed a greater tendency to do so. Operation history, having a caregiver, and having private insurance were found to be associated with a more active role. It is hoped that this information will help patient-centered consultation in CTS patients.

Level of Evidence:
Therapeutic Level IV
5. Osteoarthritis of the distal radioulnar joint associated with extensor tendon rupture: Radiologic risk factor identification

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2. Orthopedic Surgery, Shinshu University School of Medicine, Japan

Introduction
Osteoarthritis (OA) of the distal radioulnar joint (DRUJ) can cause extensor tendon rupture, although this complication is less frequent than in rheumatoid wrists. Radiographic abnormalities with positive ulna variance, dislocation of the ulnar head and arthrographic demonstration of capsular perforation of the DRUJ have been reported, but quantitative radiographic analysis of the likely causes of extensor tendon ruptures has not been reported. We analysed radiographic morphology to identify risk factors for this complication.

Method
41 wrist X-rays of 37 patients with extensor tendon rupture caused by DRUJ OA were evaluated retrospectively for severity of the OA by the Kellgren/Lawrence scoring system. The mean age of the patients was 73 (range 52 - 93) years. 21 patients were men and 16 were women. Exclusion criteria included rheumatoid arthritis and trauma. Then measurements were obtained from posterior-anterior views.

Result
All but one patient had severe degenerative changes exceeding grade 3. Affected wrists with associated tendon ruptures had significantly more severe OA changes than those wrists without tendon ruptures. The severity of the OA changes in wrists with associated tendon ruptures had no significant effect on the number of ruptured tendons. The radiographic features compared with the contralateral wrists included deep and wide sigmoid notch, radial shift of the ulnar head, and dorsal inclination of the sigmoid notch. Morphology of the ulnar head and ulnar variance did not differ significantly in association with tendon rupture.

Conclusion
Deepening and widening of the sigmoid notch has been reported as the “scallop sign”, which has an increased risk of extensor tendon rupture in rheumatoid wrists. In this study, the “scallop sign” and the radiological severity of the OA of the DRUJ were risk factors for extensor tendon rupture in patients with nonrheumatoid OA.

6. Experimental study of FK506 in combination with neural stem cells improve the regeneration in nerve allografts

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Part I: The study on isolation and culture of neural stem cells from rat brain in vitro

Objective
To investigate culturing neural stem cells (NSCs) from rat embryos in vitro and observe their growth and differentiation.

Methods
NSCs were isolated from hippocampus of SD rat embryos by mechanical and chemical methods. Cells were cultured in DMEM/F12 medium. To observe process of cell proliferation microscope and identify cell types by immuno cytochemical analyses after differentiation.

Results
NSCs grew well serum-free conditional medium and their cell bodies. After differentiation, the cells demonstrated Nestin and GFAP immunoreactive. Conclusion NSCs were cultured in serum-free conditional medium and they could be induced to differentiate into neurons and astrocytes in serum conditional medium.

Part II: Experimental study of FK506 in combination with neural stem cells improve the regeneration in nerve allografts

Objective
To study the effect of FK506 and neural stem cells on the regeneration in nerve allografts.

Methods
An established rat sciatic nerve model was used. A total of 30 rats were used in this experiment (Lewis(L) n=20, Brown-Norway (BN) n=10). Sciatic nerve (1cm) deficits were created in the Lewis rats and the animals were randomized to four treatment groups. Sciatic nerves were harvested from BN rats to repair the deficits of the Lewis rats. Group A receive no treatment. Group B receive neural stem cells. Group C receive FK506. Group D receive both neural stem cells and FK506. Nerve regeneration was evaluated at 12 weeks by standardized pin-prick and toe-spread tests. Nerve samples were harvested at 12 weeks and stained with toluidine blue to assess the total number of myelinated axons, axon area, and myelin sheath thickness. Muscle denervation atrophy was evaluated by gastrocnemius weights.

Results
Improved functional and histomorphometric outcomes were observed in animals treated with neural stem cells and FK506 after nerve allograft transplantation when compared to animals receiving no treatment and FK506 or neural stem cells alone.

Conclusion
The combination of neural stem cells and FK506 affording nerve regeneration. It may provide for an expanded source of nerve tissue to alleviate the morbidity of harvesting peripheral nerves from multiple sites for those afflicted with extensive peripheral nerve injuries.
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