



ISAKOS

newsletter

WINTER 2009

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**International Society of
Arthroscopy, Knee Surgery and
Orthopaedic Sports Medicine**

2678 Bishop Drive, Suite 250
San Ramon, CA 94583 USA

Telephone: +1 (925) 807-1197

Fax: +1 (925) 807-1199

Email: isakos@isakos.com

www.isakos.com

Join ISAKOS in Osaka...

ISAKOS looks forward to welcoming all participants to the 2009 ISAKOS Congress, to be held in Osaka, Japan on April 5-9, 2009. The five-day ISAKOS Congress will bring together world leaders in the fields of arthroscopy, knee surgery and orthopaedic sports medicine. ISAKOS is known internationally for the Biennial Congresses, as the meetings provide a unique opportunity for education through instructional course lectures, scientific papers, Socratic debates, symposia, lectures, and hands-on workshops. ISAKOS looks forward to welcoming delegates from more than 75 countries.

The city of Osaka is known for both embracing its rich cultural history, as well as looking forward as a modern and fashionable city. Known for cultural arts, such as theatre, fashion, and cooking, Osaka's charm and acceptance of visitors will make it an ideal venue for the international participants of the ISAKOS Congress.

The 7th Biennial ISAKOS Congress will be held at the Osaka International Convention Center. Built in 2000, the Osaka International Convention Center has served as a gateway between Japan and the international community. Located in the urban heart of Osaka, the Convention Center offers easy access to the city's sophisticated urban amenities.

ISAKOS members are encouraged to attend the 2009 ISAKOS Congress to experience the unique diversity and international exchange of knowledge offered at the ISAKOS Congress.

www.isakos.com

7TH BIENNIAL

ISAKOS
CONGRESS

OSAKA, JAPAN • APRIL 5-9, 2009





February 2009

Happiness Predicted in Osaka

James H. Lubowitz, MD
Editor



Now for our story: psychology or psychiatry, like most fields of medicine, has historically focused on pathology, or sickness—albeit sickness of the mind—and how to make sick people feel well. In recent years, however, spurred by leading researchers like Mihaly Csikszentmihalyi (check out his classic text: *Flow*) at the University of California, Los Angeles, the new field of positive psychology focuses on people who are happy and well. This would be similar to ISAKOS members focusing their research on healthy athletes who are never injured, or people who never have pain in their knees—maybe not a bad idea.

At any rate, the goal of positive psychology is to “enable individuals and communities to thrive. Positive psychologists seek to find and nurture genius and talent, and to make normal life more fulfilling.”

The results of affect research demonstrate that it is friendship and intellectual engagement which bring happiness. Thus, because we have previously focused our Editorials on the research advances expected in Osaka, as well as the cultural opportunities we will experience in Japan, we now focus on the epidemic of happiness with which we will be overcome as a result of the engagement and friendship we will experience at the ISAKOS Congress.

But wait, you ask: doesn't money buy happiness? (Or do we have that wrong?) Many research studies demonstrate that “increases in wealth have negligible effects on personal happiness”

What then will make us smile? As above, it is close friendship and engagement. In addition, we are captivated when we achieve a state of flow, where we are challenged enough to be not bored, yet not so greatly challenged (relative to our abilities) that we are overcome by stress. In other words, most beneficial is the “immersion, absorption, and flow that individuals feel when optimally engaged with their primary activities. These states are experienced when there is a positive match between a person's strength and the task they are doing, i.e. when they feel confident that they can accomplish the tasks they face.” In addition, there is clear evidence that “individuals derive a positive sense of well-being, belonging, meaning, and purpose from being part of and contributing back to something larger and more permanent than themselves (e.g. nature, social groups, organizations, movements, traditions, belief systems”, and may we add, ISAKOS).

Thus, we should all look forward to attending the ISAKOS Biennial Meeting in Osaka, Japan. We will be surrounded by old friends, who evidence-based results demonstrate will make us happy, and we will be making new friends which is further shown to lead to greater happiness. In addition, we will be engaged—neither bored, nor excessively stressed—so that we may achieve flow. And, we will be learning; thus, we will be increasing our abilities to take on greater challenges (avoiding boredom), but without greater stress (due to our increased aptitude)—the result, is yet again, greater happiness and a state of flow.

I am fascinated by positive psychology, and looking forward to our empirical research at the ISAKOS meeting in Osaka. Affect research demonstrates that I will be happy to see you there.



Positive psychology. Assessed December 10, 2009 at http://en.wikipedia.org/wiki/Positive_psychology.
Csikszentmihalyi, Mihaly (1990). *Flow: The Psychology of Optimal Experience*. HarperCollins Publishers.

EXECUTIVE COMMITTEE MESSAGE

Cherry Blossom Time

The Cherry Blossom (Sakura) is Japan's unofficial national flower and "Hanami", or Cherry Blossom, viewing is a popular pastime, especially if it's adjacent to a popular site such as the wonderful Osaka Castle—this is a photo opportunity not to be missed. Konsei Shino has organized the weather such that ISAKOS Delegates will enjoy the "Mankai" or full bloom of the Cherry Blossom.

For very good reasons the ISAKOS Site Selection Committee chose Osaka for the 2009 ISAKOS Congress over applications from some wonderful cities around the world. This is a beautiful time to be in Japan and we are assured of a very warm welcome with first class facilities.

Some have concerns about travel in this era of uncertainty. But we are adventurous people seeking improvement and I am sure that if Tiger Woods had been a doctor then he would have been an Orthopaedic Surgeon. We know that these days we must be selective with travel to Congresses, attending only the best and the most important—I think it was Mark Twain who said "travel is the enemy of prejudice." Twain would also have been an Orthopaedic Surgeon and would have joined us in Osaka.

It seems true that an event such as the ISAKOS Congress, which occurs only every two years, does create anticipation and excitement. It is truly two years in the preparation with non stop work during that time outlining the scientific program; selecting world leaders as faculty; grading of submitted abstracts; preparing the conference venue; meeting with industry supporters; arranging social events whilst all the time maintaining the budget costs against forecasts. This requires skill and commitment and ISAKOS is very fortunate in having an outstanding Executive Director and office staff coordinating activities and supported by the enormous voluntary efforts of many Committee members—here a special thanks must go to our host Japanese colleagues.

The Executive has put everything into the Congress effort and on behalf of our President Paolo Aglietti. We eagerly look forward to meeting you in Osaka at Cherry Blossom Time.

John Bartlett M.D.

ISAKOS Executive Committee



Congress Highlights

- Integration Between EBM and Future Challenges
- The Future of Sports Medicine
- Double Bundle ACL Reconstruction: Any Clinical Evidence?
- Cartilage Repair: Present and Future
- Knee Arthroplasty: Unicompartmental versus Total
- Minimally Invasive Arthroplasty
- Athletic Shoulder: Difficult Problems and Controversies
- Difficult Elbow Problems
- Advancement in Ankle and Hip Arthroscopy
- Difficult Knee Problems: PCL, Meniscal, and Patellofemoral
- Overuse: Evidence-based Overview

Featured Sessions

- Scientific Paper Presentations
- Electronic Poster Exhibits with Best 20 E-posters
- Socratic Debates
- Surgical Demonstrations
- Instructional Course Lectures
- Partner Society Lectures
- Didactic Lectures
- Hands-on Workshops
- Technical Exhibits

ISAKOS WELCOMES NEW MEMBERS

Jeffrey S. Abrams, MD USA
Takeo Ando, MD, PhD JAPAN
Richard L. Angelo, MD USA
Nadim Aslam, FRCS Orth UNITED KINGDOM
Ivan Paul Astori, MBBS FRACS(Orth) AUSTRALIA
Julian Ballesteros, MD USA
Björn Barenius, MD SWEDEN
Roland Becker, MD GERMANY
Moroe Beppu, MD, PhD JAPAN
Tejinder Pal Singh Bhullar, MBBS FRCSG FRCSEd(orth) UNITED KINGDOM
Paulo Sergio Bicalho, MD USA
Carlos Jose Bichara Junior, BRAZIL
Harvey Bishow, MD USA
Hendrick Brink Bosch, MD SOUTH AFRICA
Mahlon A. Bradley, USA
Mark W. Brown, MD USA
Angel Calvo, MD SPAIN
Mauro Caravaggi, Medicine BRAZIL
Tulio Pereira Cardoso, BRAZIL
Salvador B Cecilio, MD USA
David J Chao, MD USA
Shiyi Chen, MD PhD CHINA
Todd Chertow, MD USA
Anikar Chhabra, MD MS USA
Chien-Cheng Chiang, Master CHINA
Jerzy Cholewinski, MD POLAND
Michael G. Ciccotti, MD USA
Darren Clark, FRCS(Tr & Orth) UNITED KINGDOM
Steven B. Cohen, MD USA
Jonathan Cooper, DO USA
Ricardo Soares Da Silva, MD BRAZIL
Diane Lynn Dahm, MD USA
Daniel J. Daluga, MD USA
Murat Demirel, MD TURKEY
Laxmidhar Diwan, MD USA
Jon Olav Drogset, MD PhD NORWAY
François-Paul Ehkirch, FRANCE
Hussein Adel Elkousy, MD USA
Todd Sidney Ellenbecker, DPT, MS USA
Roshdy Mostafa Elsallab, MD, Professor EGYPT
Mohi El-Shazly, M.Ch.(Orth) UNITED KINGDOM
Jaroslav Fahnrich, M.D. CZECH REPUBLIC
Larry D. Field, USA

David C. Flanigan, MD USA
Brian Forsythe, MD USA
John Charles Franco, MD USA
Manuel Rufino Vieira Freitas, PORTUGAL
Niklaus F. Friederich, Prof. SWITZERLAND
Sanjay Anil Garude, MS; MCh; DNB Orth INDIA
Jerome Goldberg, FRACS AUSTRALIA
Nuno Sampaio Gomes, PORTUGAL
Christopher William Goosen, MB,Ch.B. (Stell) F.C.S. (SA) Orth SOUTH AFRICA
Chris Hajer, USA
Alan Hirahara, MD, FRCS USA
Simon Anthony Holland, MD, FRACS AUSTRALIA
Zhiqi Hou, MD, PhD CHINA
Huang Huayang, MD CHINA
Yusuke Inagaki, JAPAN
Takashi Ito, JAPAN
Rodolfo Ivancovich, MD USA
William Charles Jacobson, MD USA
David Turner Jones, MD USA
Jan Daniel Joubert, SOUTH AFRICA
Soong Hyun Jung, MD SOUTH KOREA
Sofiene Taoufik Kallel, MD TUNISIA
Jean Francois Kempf, MD FRANCE
Rebar Rmohammed Noori Khaffaf, PhD IRAQ
Young-Mo Kim, MD (Prof.) KOREA
Tae Eun Kim, SOUTH KOREA
Sae Hoon Kim, KOREA
Mikko Olavi Kirjavainen, MD FINLAND
Keisuke Kita, MD JAPAN
Michael B. Krinsky, USA
Seiji Kubo, MD. PhD JAPAN
Sanae Kuroda, M.D. JAPAN
Peter R. Kurzweil, MD USA
Christian Lattermann, MD USA
Yong Seuk Lee, MD KOREA
Scott Michael Levin, MD USA
Jit-Kheng Lim, FRCS SINGAPORE
Andri MT Lubis, M D INDONESIA
Chowdhury Iqbal Mahmud, MBBS, FRCS, MChOrth BANGLADESH
Bert R. Mandelbaum, MD USA
Ghosh Manikuntal, BPT INDIA
David Keith Martin, MBBS AUSTRALIA

Hisamudin Masdar, MD, MS (ortho) MALAYSIA
Yasuyoshi Mase, JAPAN
Vishal Mahul Mehta, MD USA
Steven W. Meier, MD USA
Darius Franklin Mitchell, III, MD USA
Tomoyuki Mochizuki, MD, PhD JAPAN
Mohamed Goda Montaser, MD EGYPT
Burt Edwin Moritz, MD USA
Marcelo de Azevedo e Souza Munhoz, MD BRAZIL
Jan Myncke, MD BELGIUM
Daisuke Nakai, JAPAN
Kazuhiko Nakano, MD JAPAN
Alexander Neverkovich, Ph.d RUSSIA
Angus Nicoll, AUSTRALIA
Eiki Nomura, MD, PhD JAPAN
Satoshi Ochiai, MD.PhD JAPAN
Agbeko Kwasi Ocloo, MD GHANA
John Marshall O'Donnell, MB,BS AUSTRALIA
Hiroshi Ohuchi, MD JAPAN
Shuzo Okudaira, JAPAN
Buki O'Loruntoba, MBBS,FC(ortho),FRACS AUSTRALIA
Vitor Barion Castro De Padua, MD BRAZIL
Yee Pak Kin, Fellowship HONG KONG
Mauricio Palacio, COLOMBIA
Alejandro Aristides Palacios, MD VENEZUELA
Andreas Panagopoulos, CONSULTANT GREECE
Shital N. Parikh, MD USA
Lucas Pavlovich, MD USA
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Thilo J. Schmuck, Dr. SWITZERLAND
Philip Bastian Schoettle, MD
GERMANY
Fabio Valerio Sciarretta, MD ITALY
Ichiro Sekiya, MD, PhD JAPAN
Mohamed Salah Shawky, MD EGYPT
Raine Sihvonen, MD FINLAND
Michael Simoni, MD BRAZIL
Sydney Smith, MD USA
Jason Smith, MD CANADA
Derek B. Smith, MD CANADA
Chee Khian Soon, MBBS, MS Orth,
AM(Mal) MALAYSIA
Jeffrey Spang, MD USA
Nigel Winslow Sparks, MD USA
Matthew Stiebel, MD USA
Kenji Takahashi, MD JAPAN
Mitsuhiro Takeda, MD JAPAN
Yoshinari Tanaka, MD PhD JAPAN
Agnar Tegnander, M.D., Ph.D. NORWAY
Sam Tejwani, MD USA
Mateusk Trzeciak, POLAND
Toshikazu Tsuboi, M.D JAPAN
Harehiko Tsukada, MD JAPAN
Yoshihiko Uchida, MD JAPAN
Soshi Uchida, MD, PhD JAPAN
Hisaya Uchida, MD JAPAN
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Scott Philip Worrell, MD USA
Walker Alan Wynkoop, MD USA
Wei-Dong Xu, CHINA
Yasukazu Yonetani, JAPAN
Igor Mychailo Zazirnyi, MD POLAND

MEMBERSHIP APPLICATIONS AVAILABLE ONLINE

ISAKOS Members can refer
friends and colleagues to apply
online for ISAKOS membership
at www.isakos.com

A Brief Update from the ISAKOS Office: 7TH BIENNIAL ISAKOS CONGRESS

The ISAKOS Office would like to thank the ISAKOS membership for their overwhelming support and promotion of the 2009 ISAKOS Congress. Early registration numbers indicate that the 2009 ISAKOS Congress will be a great success.

Need a new Preliminary Program? Visit the ISAKOS Congress website for an updated ISAKOS Congress Preliminary Program

Visit the ISAKOS Congress website for information related to hotel reservations, tours, travel tips, and Frequently Asked Questions

Committee Meetings:

The ISAKOS Office looks forward to seeing our committee members at their upcoming meetings during the AAOS Annual Meeting in February 2009 in Las Vegas, as well as at the 2009 ISAKOS Congress in Osaka.

Please note – not all ISAKOS Committees will meet in Las Vegas, as the ISAKOS Congress is only a few weeks later. Please review the schedule carefully to determine if your committee is meeting in Las Vegas.

Members Only

Visit the newly redesigned ISAKOS Members Only website. The new ISAKOS Members Only website includes updated educational content and easier access to ISAKOS member benefits like the online subscription to *Arthroscopy: The Journal of Arthroscopic and Related Surgery* for those members who receive the Journal.

MEMBERS

NEW MEMBERS

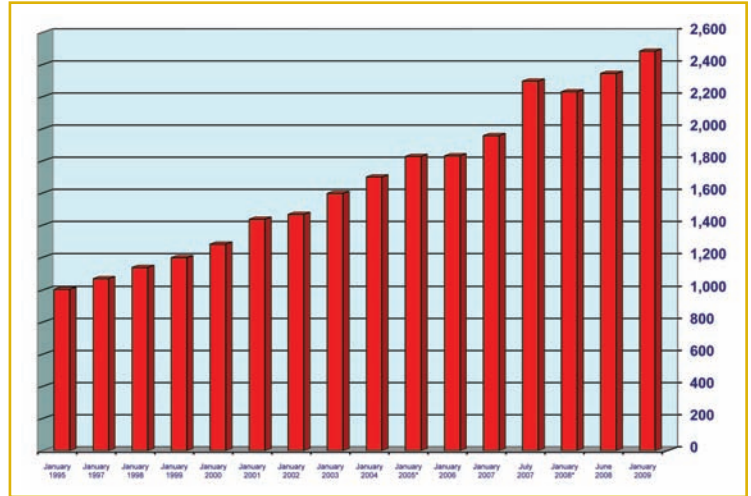
We depend on our members to make the society what it is today and to embrace the potential it has in the future. It is the responsibility of members to recruit NEW MEMBERS to join ISAKOS and its goal to reach across the world.

ISAKOS MEMBER GROWTH SINCE 1995

Year	Total Number of Members
January 2009	2,484
June 2008	2,345
January 2008*	2,231
July 2007	2,297
January 2007	1,958
January 2006	1,832
January 2005*	1,828
January 2004	1,700
January 2003	1,598
January 2002	1,467
January 2001	1,437
January 2000	1,282
January 1999	1,198
January 1998	1,141
January 1997	1,071
January 1995	1,005

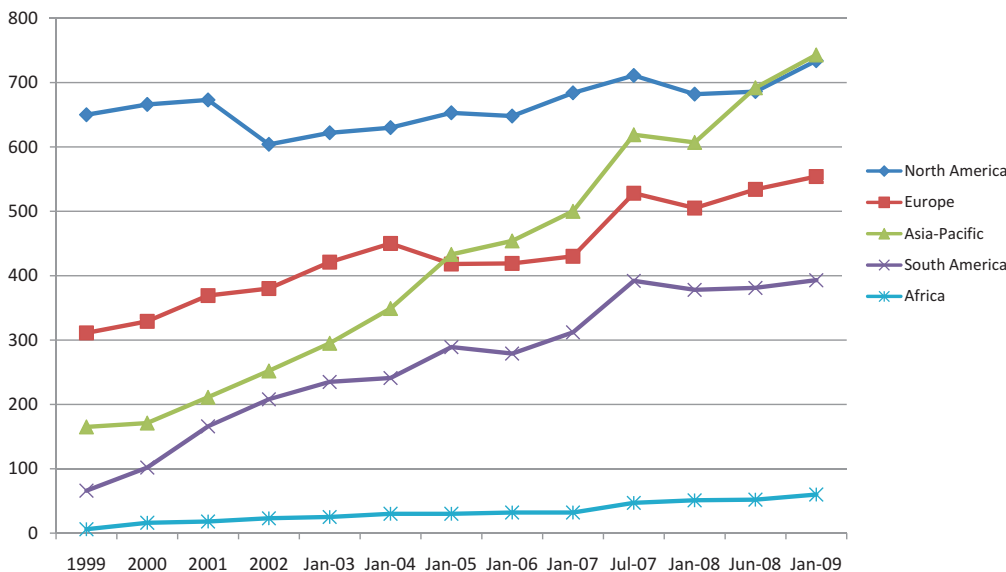
*Office Purges Non-Paying Members on Continual Basis.

ISAKOS MEMBERSHIP GROWTH



ISAKOS MEMBERSHIP GROWTH BY REGION

Growth by Region	1999	2000	2001	2002	Jan-03	Jan-04	Jan-05	Jan-06	Jan-07	Jul-07	Jan-08	Jun-08	Jan-09
North America	650	666	673	604	622	630	653	648	684	711	682	686	734
Europe	311	329	369	380	421	450	418	419	430	528	505	534	554
Asia-Pacific	165	171	211	252	295	349	433	454	500	619	607	692	743
South America	66	102	166	208	235	241	289	279	312	392	378	381	393
Africa	6	16	18	23	25	30	30	32	32	47	51	52	60
TOTAL	1,198	1,282	1,437	1,467	1,598	1,700	1,828	1,832	1,958	2,297	2,231	2,345	2,484



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www.isakos.com

YOUR COMMITTEES AT WORK

ISAKOS COMMITTEE MEETINGS

AAOS ANNUAL MEETING DATES: FEBRUARY 24-25, 2009

Paris Hotel, Las Vegas, Nevada

Tuesday, February 24, 2009	Time	2007-2009 Committee	Room
	09:00 – 13:00	Executive & Finance	Versailles Ballroom 1
	13:00 – 14:00	Committee on Committees	Versailles Ballroom 1
	13:00 – 15:00	Education	Versailles Ballroom 4
	15:00 – 16:00	Education Resource Development	Versailles Ballroom 1
	15:00 – 16:00	Membership	Versailles Ballroom 4
Wednesday, February 25, 2009	09:30 – 11:00	2007 – 2009 Program Committee	Versailles Ballroom 4
	11:00 – 13:00	Board of Directors with Committee Chairs	Versailles Ballroom 1 & 2
	13:00 – 14:30	Board of Directors	Versailles Ballroom 1 & 2

2009 ISAKOS CONGRESS: APRIL 3-9, 2009

Osaka, Japan

Friday, April 3, 2009	Time	2007-2009 Committee	Osaka Int'l Conv. Center
	08:30 – 12:30	Executive Committee & Finance	Room 1201
Saturday, April 4, 2009	Time	2009 – 2011 Committees	Osaka Int'l Conv. Center
	07:00 – 8:30	2007 – 2009 Program Committee	Room 801
	08:30 – 10:00	Membership	Room 801
	08:30 – 10:00	Communications	Room 802
	08:30 – 10:00	Upper Extremity	Room 803
	08:30 – 10:00	Scientific	Room 804
	08:30 – 10:00	Education Resource Development	Room 805
	10:00 – 11:30	Education	Room 801
	10:00 – 11:30	Arthroscopy	Room 802
	10:00 – 12:30	Journal Advisory	Room 803
	10:00 – 12:30	Newsletter Editorial	Room 804
	12:30 – 16:30	ISAKOS Strategic Planning Forum and Luncheon (All NEW & OLD committee chairs and members to attend)	Conference Hall (Breakout Rooms – 801, 802, 803, 804)
Sunday, April 5, 2009	12:00 – 13:30	Orthopaedic Sports Medicine	Room 801
	12:00 – 13:30	Knee	Room 804
Wednesday, April 8, 2009	12:15 – 13:15	2009 – 2011 Program Committee	Room 1201 (Lunch Provided)
Thursday, April 9, 2009	09:30 – 11:00	2009 – 2011 Board of Directors with 2009 – 2011 Committee Chairs	Room 1201
	11:00 – 12:00	2009 – 2011 Board of Directors	Room 1201

YOUR COMMITTEES AT WORK

ARTHROSCOPY COMMITTEE:



The production of high quality, narrated videos of normal arthroscopic anatomy of the knee, shoulder, hip, ankle, elbow, and wrist is complete and will be available at the 2009 meeting in Osaka and on-line in the near future in the ISAKOS Member's Only section. Special thanks go to the following surgeons for their contributions to this valuable project:

Ankle: C.N. van Dijk, Alberto Gobbi, J.S. de Vries, and P.A.J. de Leeuw

Elbow: Marc Safran (Chairman), with additional contributions by Gregory Bain, Roger Hackney, Luigi Pedrizini, Gary Poehling, and Benjamin Schaffer

Hip: Michael Dienst (Chairman) & Marc Safran (Chairman), with additional contributions by J.W. Thomas Byrd, Marc Philippon, Thomas Sampson, and Richard N. Villar

Knee: Mark Clathworthy, Patrick Djian, Bjorn Engstrom, and Bent Wulff Jakobsen

Shoulder: Keith W. Lawhorn (Chairman), with additional contributions by Romain Seil, Roger Hackney, Björn Engström, Anders Valentin, Roland Becker, Jens Agneskircher, and Marc R. Safran.

Wrist: L.Pederzini (Chairman), with additional contributions by M.Tosi, M. Prandini, M. Esposito, and I. Saenz

The ISAKOS Arthroscopy Committee has selected the following five surgeons and their papers to compete for the John Joyce Award at the 7th Biennial ISAKOS Congress.

- Dr. Rahul Patel: abstract # 3803, titled Revision Arthroscopic Capsulo-labral Reconstruction for Recurrent Instability of the Shoulder
- Dr. Dinshaw Pardiwala: abstract # 4156, titled Comparison of Open Versus Arthroscopic Fixation for Isolated PCL Tibial Bony Avulsions: A Prospective Randomized Study with Minimum 2 Year Follow-up
- Dr. Gian Luigi Canata: abstract # 4140, titled Arthroscopic Proximal Realignment in Patellar Instability
- Dr. Sandro Giannini: abstract # 3443, titled Surgical Treatment of Osteochondral Lesions of the Talus with a New One-step Arthroscopic Procedure
- Dr. Yon-Sik Yoo: Your abstract # 3953, titled Biomechanical Study and Preliminary Results for a Newly Developed Arthroscopic Coracoclavicular Ligament Reconstruction Using Tendon Graft

A biography of John Joyce and more information on this award can be viewed at <http://www.isakos.com/awards/default.aspx>

Stephen Howell, MD

ISAKOS Arthroscopy Committee Chairman 2007–2009

KNEE COMMITTEE:



The Knee Committee recently convened via email.

The main items for discussion were the forthcoming ISAKOS Master's Pre-Course: Advances in Total Knee Arthroplasty and Navigation. The preparation of the Master's Pre-Course is well under way. The Knee Committee has been heavily involved in the planning of this course and we have had an enormous amount of assistance from Elizabeth in the Executive Office. A highlight of this course will be the final session on the Future of Navigation.

The Navigation component of the Pre-Course will serve as a template for a Current Concepts publication. The manuscript will be prepared by members of the Knee Committee under the supervision of David Parker who will be assisted by Kelly Vince, Peter Bonutti, and Jean-Yves Jenny. For those ISAKOS members unable to attend the Pre-Course, the Current Concepts publication will provide a readily accessible synthesis of the material covered.

Other projects continue including the classification of meniscal tears project and preparation of papers for the newsletter. The next major Current Concepts topic will be discussed at the next committee meeting in Osaka.

Osaka will also see a significant turnover of members of the Knee Committee with many members having completed their four year term. I would like to thank those members for their input and participation and also welcome the new committee members.

Julian Feller, MD

ISAKOS Knee Committee Chairman 2007–2009

YOUR COMMITTEES AT WORK

UPPER EXTREMITY COMMITTEE:



I have every reason to be proud and pleased with our committee.

During the SLARD Congress in Cancun, we had the Consensus Instability Closed Meeting. Our agenda was very busy and during the two days of this meeting as we discussed many important and controversial aspects of shoulder instability in athletes. The presentation format included each speaker presenting information on specific topic for about 15 minutes and 30 minutes discussion after all the presentations in each combined areas. The hot topics were physical examination and soft tissue evaluations, first time dislocation, MDI, associate lesions, revision surgery and rehabilitation. The Upper Extremity committee is finalizing our findings, and will soon produce a report including all outlines and final conclusions. In accordance with ISAKOS philosophy, the diverse international panel made for very interesting discussion as we compared different experiences from all over the world.

The UE committee had an important participation at the SLARD Congress when Dr Guillermo Arce (Chairman of SLARD program committee) invited all members of the committee to show their lectures and conclusions from the consensus meeting.

The Upper Extremity committee is finalizing the results from elbow dislocation survey, and during the 2009 ISAKOS Congress, Dr. Kevin Plancher will lead an Instructional Course Lecture on this topic. In Osaka, the Upper Extremity Committee will be responsible for many ICLs, Symposium and lectures, when the member could share their skills and experiences.

The Upper Extremity Traveling Fellowship was developed to promote better understanding and communication regarding injuries or conditions involving the structures of the Upper Extremity. This opportunity will be available on a competitive basis to an orthopaedic surgeon between the ages of 35 and 45 years, interested in the study and advancement of understanding of injuries to the Upper Extremity. The Upper Extremity committee has a commission that is deciding the winner, we had applications from 9 countries and the result will be in the website very soon.

A panel comprised of members of the ISAKOS Upper Extremity Committee will select two prize-winning papers in 2009. The winners will be announced in Osaka, Japan at the awards ceremony.

It is a great honor to be the chairman of UE committee and I would like to thank the past chairmen, Steve Burkhart, Philippe Hardy and Ben Kibler, as the committee promises, under the direction of Klaus Bak, to continue to be an influential committee in the future of ISAKOS.

Pay Your **ISAKOS** Membership Dues Today!

Please visit www.isakos.com and log into the Member's Only Section to pay your membership dues online or download your invoice. Your membership dues must be paid in full to receive the member registration fee for the 2009 ISAKOS Congress.

Your ISAKOS Membership includes:

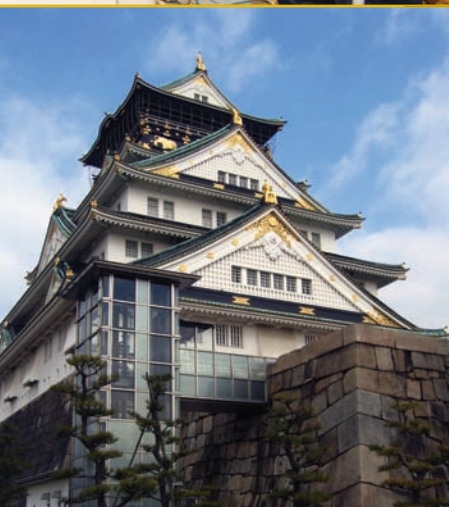
- Automatic subscription to the official ISAKOS Journal *Arthroscopy: The Journal of Arthroscopic and Related Surgery*
- Optional online subscription to *Knee Surgery, Sports Traumatology, Arthroscopy* (KSSTA)—the official journal of the European Society of Sports Traumatology, Knee Surgery and Arthroscopy (ESSKA)
- ISAKOS Biannual Newsletter
- Discounted registration rate at the ISAKOS Congress
- Access to "Member's Only" at www.isakos.com
- Opportunity to participate in ISAKOS Approved Teaching Centers and Approved Courses
- Complimentary publications from ISAKOS Committee Projects



7TH BIENNIAL ISAKOS CONGRESS



**Register before March 1, 2009
to receive Pre-registration Rates**



Register TODAY!

OSAKA, JAPAN • APRIL 5 - 9, 2009

Registration available online
www.isakos.com



UPDATE

FROM THE ISAKOS PROGRAM COMMITTEE

On behalf of the ISAKOS Program Committee, I cordially invite all members of the ISAKOS to attend the 7th Biennial ISAKOS Congress in Osaka, Japan on April 5-9, 2009. The ISAKOS Congress provides a unique opportunity for the exchange of knowledge and dissemination of research throughout the international community.

Under the theme of "Integration between EBM and Future Challenges", the ISAKOS Program Committee has created a diverse and unique program featuring a wide array of interdisciplinary presentations by international experts in arthroscopy, knee surgery and sports medicine. The five day ISAKOS Congress will include a variety of educational opportunities such as 30 symposia, 6 Socratic debates, 21 lectures, 13 surgical demonstrations, 292 podium presentations, more than 400 electronic posters, and 28 instructional course lectures. Lunchtime Workshops and Lectures, as well as technical exhibits will also be available at the Congress. Each attendee will receive a CD-ROM of all paper and poster abstracts, as well as handouts of electronic posters, instructional course lectures, and symposia.

One important feature of the Osaka Congress is that this is the first time for the ISAKOS Congress to travel to the Far East of Asia. Japan has a rich cultural history of more than 2000 years. The city of Osaka has a rich and vibrant culture dating back nearly 1400 years. Osaka has been a major commercial city of Japan since the 600s, because of its important role as a hub for land, sea and river-canal trade and transportation. Now, Osaka is the heart of the metropolitan area of **Osaka-Kobe-Kyoto**, and is the second largest city in Japan.

Osaka offers a variety of cultural arts, including traditional Japanese stage arts such as Bunraku puppet theater, Noh, and Kabuki. Additionally, Osaka has been called the "kitchen of Japan". To date, Osaka remains the best place to eat, drink and have a party in Japan. Osaka's rich culinary tradition has created such gourmet specialties as Sushi, Shokado-Bento, Okonomiyaki, Takoyaki, Udon, and etc.

No matter what your interests, Osaka has something for you and will provide an ideal backdrop for a variety of social activities. Among those social activities, you will be able to conduct day-tours to the most charming cities in Japan, e.g. Kyoto and Nara. Kyōto has a reputation worldwide as the most beautiful city in Japan. Kyoto was the capital of Japan and the residence of the Emperor from 794 until 1868. During its millennium at the center of Japanese power, culture, and religion, Kyoto accumulated a magnificent collection of palaces, temples and shrines, which were built for emperors, shoguns, and monks. Because Kyoto fortunately escaped the bombings of World War II, visitors can now feel the long history of Kyoto over 1200 years. Nara was the oldest capital of Japan between 710 and 784. Nara flourished under the influence of Buddhism, leading to the creation of an enormous number of cultural assets, buildings and books, many of which are preserved today. After the capital was moved to Kyoto, Buddhism remained influential throughout the following centuries. Nara has the largest number of buildings designated as National Treasures in Japan.

We hope that a great number of orthopaedic surgeons and sports medicine professionals will gather at the 2009 ISAKOS Congress in Osaka from all corners of the world. We strongly encourage you to visit the ISAKOS website at www.isakos.com for more information about the Congress. *We look forward to seeing you in Osaka.*

Kazunori Yasuda, MD, PhD

Chair, Program Committee for the 2009 ISAKOS Congress

7TH BIENNIAL ISAKOS CONGRESS

OSAKA, JAPAN
APRIL 5 – 9, 2009



LIVE SURGICAL DEMONSTRATIONS

Sunday, April 5, 2009

11:00 – 12:00 **Room 1001/1002**
A Simplified Approach to Arthroscopic Bankart Repair Featuring a Re-inforced Double Stitch

Jeffrey Abrams, MD USA

Sponsored by: ConMed Linvatec

Arthroscopic anterior stabilization using bioabsorbable suture anchors and capsular retensioning devices and techniques continue to evolve. Treatment creates a 180-degree repair of injured soft tissue restraints

13:30 – 14:00 **Conference Hall**
Large Rotator Cuff Tears

L. Sam Reber, MD

Sponsored by: ArthroCare Sports Medicine

Knotless suture anchor repairs will be demonstrated including single and double-row bridging techniques. Tears including the subscapularis and margin convergence techniques will be demonstrated

13:30 – 14:30 **Room 1003**
The Management of Hip Injuries in Athletes: Open and Arthroscopic

Marc Philippon, MD USA

Sponsored by: Smith & Nephew

14:30 – 15:30 **Main Hall**
Anatomic Double Bundle ACL Reconstruction

Freddie Fu, MD USA

Sponsored by: Smith & Nephew

The principles and methods of anatomic ACL reconstruction will be demonstrated and discussed, as well as the pitfalls to avoid in ACL reconstruction.

Monday, April 6, 2009

10:45 – 11:30 **Room 1001/1002**
“Big Hopes for Big Holes”: Arthroscopic RTC Releases and Repairs

Guillermo Arce, MD ARGENTINA

Sponsored by: DePuy Mitek

Bear in mind that accurate releases are key to get a successful rotator cuff reconstruction, surgical anatomy, biceps tenodesis and double row cuff repair will be shown.

13:30 – 14:30 **Room 1001/1002**
Arthroscopic Rotator Cuff Repair: Demonstration of Single and Double Row Repair

Stephen Burkhart, MD USA

Sponsored by: Arthrex

Dr. Burkhart will demonstrate portal placement, suture instruments and anchor options for double and single row rotator cuff suturing techniques including latest developments like MultiFire™, Scorpion™, SpeedBridge™, Double Row and SpeedFix™ Single Row Cuff Repair.

Tuesday, April 7, 2009

10:30 – 11:30 **Room 1001/1002**
Innovations in Rotator Cuff Repair and Biceps Tenodesis: Use of a Bridging Technique in a Double Row Repair

James Esch, MD USA & Michael Terry, MD USA

Sponsored by: Smith & Nephew

Dr. Esch and Dr. Terry will demonstrate a rotator cuff bridging repair using fully threaded anchors that allow suture tension adjustment. As well, a novel biceps tenodesis fixation approach that maintains proper biceps length with only a few steps will be done as part of the total repair.

11:15 – 12:00 **Main Hall**
Arthroscopic ACL Reconstruction

Mark Clatworthy, FRACS NEW ZEALAND

Sponsored by: Arthrex

Dr. Clatworthy will demonstrate new ACL-Drill Guides for ante- and retrograde drilling options for anatomical tibial and femoral bone socket placement. Latest ACL reconstruction techniques and products will be shown such as Retroconstruction™ with FlipCutter™ and RetroButton™ fixation.

13:30 – 14:15 **Main Hall**
Unicompartmental Knee Arthroplasty

Wael Barsoum, MD USA

Sponsored by: Stryker

Dr. Barsoum will be performing a lateral unicompartmental knee replacement with a newly designed single radius of curvature uni knee.

15:45 – 16:45 **Room 1001/1002**
Arthroscopic Bankart Repair with Bone Grafting

Hiroyuki Sugaya, MD JAPAN

Sponsored by: DePuy Mitek

Surgeon will demonstrate arthroscopic bone grafting combined with Bankart repair using iliac crest. This is a treatment option for large glenoid defect without bony fragment.

Wednesday, April 8, 2009

15:00 – 15:30 **Room 1001/1002**
Arthroscopic Uni-Knee Resurfacing for the Sports Medicine Surgeon

Anthony Miniaci, MD FRCS USA

Sponsored by: Arthrosurface

From company: Treating cartilage defects and early arthritis in the 40-65 y.o. can be a challenging problem. In this course surgeons will master the Arthrosurface anatomic and meniscal-sparing unicompartmental technique for the femoral condyle and tibial kissing lesions.

From Faculty: The surgical demonstration will consist of an Arthroscopic Assisted Anatomic Mini Unicompartmental knee implant and will be performed utilizing the latest in technology for minimally invasive knee resurfacing. Both the medial femoral condyle and tibial plateau will be partially resurfaced anatomically with implants measured to fit the patients native anatomy.

15:30 – 16:00 **Room 1001/1002**
Articular Cartilage Repair Using Matrix-induced Autologous Chondrocyte Implantation (MACI) – Arthroscopically Assisted and Open Techniques

Michael McNicholas, MD

Sponsored by: Genzyme

Genzyme's MACI® is the most commonly performed second-generation Cartilage regeneration procedure. This demonstration will show the simplicity of the essential technique via mini-arthrotomy.

Thursday, April 9, 2009

11:15 – 11:45 **Main Hall**
ACL Repair System Demonstrating the Modified Double Bundle Technique with Stratis

Paul Re, MD USA & Peter Kurzweil, MD USA

Sponsored by: Covidien

Improve upon the “Gold” standard. Covidien invites you to take advantages of a double bundle reconstruction to your patients without the reported complications.

11:45 – 12:15 **Main Hall**
Anatomic Single-Bundle Hamstring ACL Reconstruction

Andrew Williams, MB BS, FRCS, FRCS (Orth.) UNITED KINGDOM

Sponsored by: Smith & Nephew

Endobutton plus interference screw femoral fixation optimises fixation strength without graft damage and gives the benefits of aperture healing, and a stiff graft.

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7TH BIENNIAL
**ISAKOS
CONGRESS**

FAQS

How much does it cost to register?

The cost of registration depends on the registration type, how the reservation is completed, and when the registration is received.

All prices are given in US dollars.

Category	Late (Jan 1 – Mar 1)	Onsite
Member*	\$700	\$800
Non-Member	\$950	\$1050
Presenter/Faculty	\$775	\$875
Allied Health**	\$500	\$600
Resident/Fellow**	\$500	\$600
Pre Course: Member	\$200	
Pre Course: Non-Member	\$250	

* Members are required to have paid all dues owed to ISAKOS. If dues are not paid prior to registering, they will be requested at the time of registration.

** Allied Health and Resident/Fellow Registrants must provide proof of status when picking up badge onsite. Those who are unable to provide proof of status will be asked to pay the full registration price.

Please note that you can save \$25 by registering online via the ISAKOS website. Discounts will be taken from the total registration fee automatically before the registration fee is charged.

Online registrations must be completed by midnight on March 1, 2009. After March 1, you will need to register onsite in Osaka.

If I am a presenter or member of the faculty, is my registration fee waived?

Due to the large number of presenters participating in the ISAKOS Congress, presenters' registration fees are NOT waived. ISAKOS does offer a discounted registration rate for presenters. If you are a presenter who qualifies for a less expensive registration rate (ie-resident/fellow or ISAKOS member), please register at the less expensive registration rate.

How can I pay for my ISAKOS Congress Registration Fees?

Registrants can pay for their registration fees in three ways: by credit card, by check, and by wire transfer. Please see below for more information:

- **Credit card** – ISAKOS accepts Visa, MasterCard and American Express. Please note that charges will be processed immediately when the registration is completed. Payment with credit card is required if using the online Registration system
- **Check** – ISAKOS will accept checks for payment of registration fees raised by a US bank in US dollars. The check must be mailed to the ISAKOS office. Please note that your registration will be revoked if the check cannot be deposited.
- **Wire transfer** – Wire transfers are only available by contacting the ISAKOS office. Wire transfers must be accompanied by a Wire Transfer Authorization form and contain specific information related to the registrant. Wire Transfer forms must be faxed to the ISAKOS Office with the registration forms. Please note that registrations will not be processed until the wire transfer is received in the ISAKOS bank account.

I faxed in my registration form, when will I receive confirmation of my registration?

You will receive your email confirmation one week after the form is received in the ISAKOS Office. If you have not received a response within 10 days, please contact the office. Please note that registration confirmations will ONLY be sent via email.

Who do I contact to make arrangements for hotel and flight reservations?

The ISAKOS Office is not involved in the booking of hotel or flight reservations. **Congress Corporation** in Osaka will be able to assist registrants with making hotel reservations. Please visit the ISAKOS website for a link to make hotel reservations online or for contact information for KNT! Kinki Nippon Tourist, Co., Ltd. ISAKOS is not able to assist registrants with the booking of flight reservations.



TEACHING CENTER SPOTLIGHT

ORTHO ONE

CONTACT ADDRESS:

Dr. David V. Rajan MS Orth MNAMS

OrthoOne,

Orthopaedic Speciality centre,

657, Trichy road, Coimbatore 641005

Email: arthroscopy_india@yahoo.co.in

Ph: +91 422 2317118,

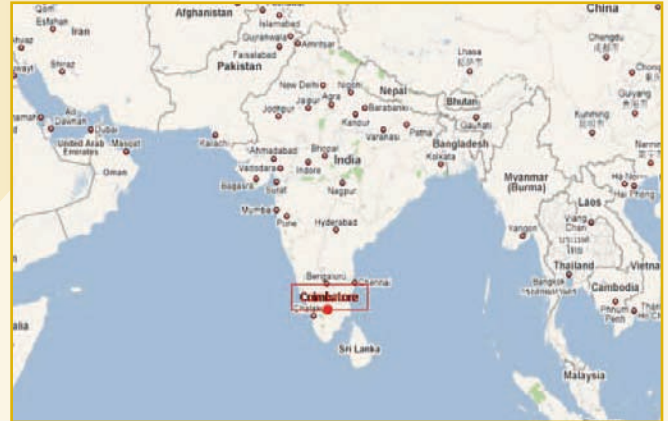
Fax +91 422 2317119

Website: www.ortho-one.in

ABOUT THE CENTRE

Our Centre is one of first centres in India to offer structured training programme in arthroscopy and Sports medicine. Our Centre carries out around 800 knee and shoulder surgeries per year. Services provided in the centre includes Arthroscopy, Knee reconstruction and arthroplasty, Shoulder service, Pediatric orthopaedics, Physiotherapy, mini gym and Dr. S.G. Krishnan Arthroscopy Learning Centre. The learning centre is equipped with Sawbones models (courtesy of Karl Storz), library and video resource centre. including shoulder, elbow, wrist, hip, knee and ankle. All faculty have been trained in the United States of America, Europe, or Australia. With the Center's state-of-the-art technology and surgical techniques, many national elite athletes have been treated at the Center, illustrating the impact and status of sports medicine in China. In addition to clinical services, the Center has conducted extensive research on muscle injury, artificial ligament, cartilage regeneration, and the biomechanics of joints. This research is supported by national or Shanghai Municipal grants. In the past five years, the Center had organized five international symposia and national courses on orthopaedic sports medicine and arthroscopic surgery with great success, including conferences for more than 1000 doctors, and participation of approximately 300 surgeons in cadaver workshops. In October 2007, a first-class arthroscopy training center was built in Huashan Hospital, with eleven brand new stations for cadaver workshops and live surgical demonstrations.

The Center offers various fellowships (3–12 months) with surgical training, clinical research or basic research activities. Additionally, visitors for shorter time periods, and attendees for seminars or courses are always welcome.



THE TEAM

Orthopaedic Surgeons:

Dr. S. G. Krishnan (Hon), Dr. David V. Rajan,
Dr. K. Vinodh, Dr. J. Clement Joseph & Dr. Easwar

Radiology:

Dr. Murugan & Dr. Anbarasu

Critical care and Anaesthesiology:

Dr. Sudarsanan and Dr. Sekar Michael

Physiotherapists:

Mr. Anoopkumar, Ms. Divya and Ms Rajalakshmi

TRAINING PROGRAMS

Our centre offers observerships (2 weeks) and Fellowships (3 to 6 months). So far about 150 doctors have been trained through both observerships and fellowships. Training includes weekly academic symposia, training on bone and joint models. Fellows participate in patient care in the hospital and out-patient clinical examination, assisting in surgeries and scientific work. Doctors from countries like Iraq, Syria, and Maldives were also trained in our centre. Weekly symposia are held on Wednesday mornings and they include review of week's cases, topic and case presentations by fellows, journal reviews and discussions. Surgeries are done daily in the mornings and in specified theatre days surgeries go on throughout the day. For physiotherapy students, there is a monthly rotation posting in sports rehab in association with a physiotherapy institute.

TEACHING CENTER SPOTLIGHT

ACTIVITIES

Our centre is actively involved in the care of sports persons and our outreach programs include medical coverage of sports events and conducting workshops and seminars on sports injuries.

We recently conducted the 26th national congress on sports medicine and the national conference on pediatric orthopaedics. A two day arthroscopy workshop as part of the Indian Orthopaedic association conference was also coordinated by our team. In addition our centre hosts prominent faculty from abroad who demonstrate surgeries and conduct seminars for our local doctors.

Our school outreach program educates the teachers and students about basic first aid, emergency procedures and sports injury care. Ongoing clinical studies include Medial patellofemoral ligament reconstruction using three techniques (multi centre study), a book on patellofemoral disorders, study on shoulder problems in overhead athletes and dance injuries in Indian classical dance.

CHALLENGES

The greatest challenge faced by us are in providing and adapting the recent developments in the field of knee and shoulder surgery and arthroscopy to benefit the patients in India to suit the economic conditions and requirements of the population. Similarly training of doctors is also challenging as cadaveric training facilities and anatomic models are not available freely. There is a great interest among doctors in learning arthroscopy and a great demand from the huge population with significant knee and shoulder problems. Our aim is to become a centre of excellence in providing quality training. In this regard we welcome collaboration from other centres and industry to set up state-of-the-art arthroscopy skills and training lab.



ISAKOS Mission Statement

ISAKOS advances the worldwide exchange and dissemination of education, research and patient care in arthroscopy, knee surgery and orthopaedic sports medicine.

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ISAKOS

ONLINE CONTENT



ONLINE CONTENT NOW AVAILABLE FOR ISAKOS MEMBERS!

APPLICATIONS NOW AVAILABLE ONLINE FOR ISAKOS APPROVED COURSES AND TEACHING CENTERS

Visit the ISAKOS website today to submit your application to hold and ISAKOS Approved Course, or have your location be considered and ISAKOS Approved Teaching Center. Approved courses will be advertised on the ISAKOS website and in the ISAKOS Newsletter, and given permission to use the ISAKOS logo and label "ISAKOS Approved" in all course advertising materials. ISAKOS Teaching Centers are also listed on the ISAKOS website, and can be selected for the Teaching Center Spotlight feature in the ISAKOS Newsletter. Submit your application today!

PROMOTE ISAKOS!

Applications for ISAKOS membership are now available online at www.isakos.com. Current ISAKOS members are asked to refer those interested in joining ISAKOS to the website to apply for membership. Also please note that applying members will be asked to request that Sponsorship forms be sent to existing ISAKOS members – if you receive a sponsorship form, we ask that you complete the form as instructed, or contact the ISAKOS office for more information.

UPDATE YOUR CONTACT INFORMATION

Please visit the Member's Only section of the ISAKOS website at www.isakos.com to update your contact information. It is necessary that we maintain current records of your contact information to send information on upcoming ISAKOS projects and events.

Other Content available for Member's Only includes:

- 2009–2011 ISAKOS Committee Roster
- MCL Study presented by OSMC (Orthopaedic Sports Medicine Committee)
- Elbow Dislocation Survey (Upper Extremity Committee)
- Normal Arthroscopic Anatomy of the Major Joints (Arthroscopy Committee)
- ISAKOS 2007 CONGRESS–MEDIA COLLECTION VOLUME I
- E-Poster Presentations and Abstracts
- Presentation CD Paper Abstracts and Outlines for Instructional Courses, Symposia & Lectures

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AVOIDING ROOF AND PCL IMPINGEMENT IN DOUBLE-BUNDLE ACL RECONSTRUCTION



STEPHEN HOWELL, MD
sebhowell@mac.com



TAKESHI MUNETA, MD, PHD
*Department of Orthopaedic Surgery,
Tokyo Medical and Dental University
Hospital*
muneta.orj@tmd.ac.jp

Recently, double-bundle (DB) ACL reconstruction using multi-strand hamstring tendons has taken attention from many sports medicine surgeons. In DB ACL reconstruction, each two tunnels are created in the anatomic space of tibial and femoral insertion sites of the natural ACL. The clinical outcome of DB ACL reconstruction has been reported to be better in anterior and rotational stability comparing with that of single-bundle (SB) ACL reconstruction.

The tibial insertion of the natural ACL is long in anterior-posterior direction and the femoral insertion is also long in anterior-proximal to posterior-distal direction. Therefore, DB reconstruction has an advantage of positioning thick multi-strand tendon into the normal insertion area compared with SB reconstruction based on the thickness of the graft. The natural ACL has been divided into anteromedial (AM) and posterolateral (PL) bundles functionally as well as morphologically. The DB ACL reconstruction has an advantage to reproduce normal anatomy and function of the ACL in sense of putting AM and PL bundles separately.

Approximately 10% of second-look cases showed poor function or partial tear of PL bundle even in the paper reporting the significant better stability of the DB reconstruction. The responsible reason of lower PL bundle function has been in too high initial tension of the PL bundle. How does too much initial tension of the PL bundle affect its function, and consequently in poor PL bundle function? From the results of the research of investigating change of tendon graft tension in the early stage of graft

healing, high tension will not be maintained for a long time, so that high initial tension seems not to be main reason of poor PL bundle function. I think it will be easier to understand that the reason for the poor PL bundle function will be mainly in some graft impingement.

Thinking of cross-sectional area of the natural ACL, the tibial insertion area is approximately 3 and the femoral insertion area is 2 when the area of central part of the ACL is 1. From the 3-D reconstruction study of the normal ACL, the natural ACL exists as if it runs around the PCL in the narrow intercondylar space. On the other hand, graft structure is a straight string, so that thick graft tissue would be easily impinged on the intercondylar bony wall as well as normal PCL. Especially, the impingement will be inevitable if the graft placement is done based on the whole tibial and femoral insertion area of the normal ACL, because both tibial and femoral insertion area is more than two times greater than its midsubstance cross-sectional area. The natural ACL is a 3-D torsional structure consisted of many small bundles.

Graft impingement in ACL reconstruction has been reported with regard to roof impingement and PCL impingement. Graft impingement by anterior roof of the intercondylar notch occurs when the graft tissue is positioned too anteriorly in respect to the anterior roof of the notch. The affect of PCL impingement seems prominent when the thick graft is positioned vertical to the joint surface to the high noon direction. The anterior impingement results in graft failure and/or flexion contracture. The PCL impingement causes flexion deficit and/or graft slackness. To avoid anterior graft impingement, tibial placement had better to be posterior. Anterior third of the normal tibial insertion of the ACL can be impinged on the anterior notch from the study of Howell, et al. To avoid PCL impingement, femoral placement had better to be also posterior in the lateral wall of the intercondylar notch. In DB ACL reconstruction where two smaller bundles can be better positioned to avoid impingement, however, once the impingement occurs, smaller two bundles are mechanically weaker, so that the grafts will be vulnerable to functional deficit. We have to pay more attention to the graft placement when doing DB reconstruction to avoid graft impingement.

Recent anatomic studies of normal ACL insertion site reaffirmed that normal ACL femoral insertion extends to shallower and more posterior. The PL portion of normal ACL inserts at shallow and posterior area of the femoral lateral condyle.

AVOIDING ROOF AND PCL IMPINGEMENT IN DOUBLE-BUNDLE ACL RECONSTRUCTION *(cont.)*

If the femoral tunnel is created in the apparent normal attachment of the PL portion of the ACL, the length of the PL bundle is shorter. Shorter graft is more vulnerable to damage by friction around the tunnel. Also, PL graft in the shallow and posterior portion is inclined to be partially ruptured or become slack, because the tension change of the PL graft is larger than AM graft especially in extension position.

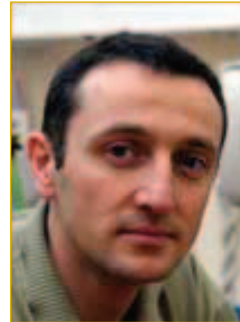
If the surgeon tries to create femoral tunnel by transtibial technique, tibial PL tunnel is inclined to be created more horizontally to the joint surface. Consequently, the opening of the tibial tunnel to the joint surface is easy to become laterally or tibial tunnel of the PL bundle sometimes breaks the medial tibial articular surface. If PL tibial tunnel is laterally shifted, the intercondylar wall impingement occurs easily.

Once various kinds of graft impingement occur, graft is more vulnerable to be damaged in the DB ACL reconstruction because each graft tissue is thinner and mechanically weaker. To avoid graft impingement in DB ACL reconstruction, tibial PL tunnel should not be placed laterally. The AM femoral tunnel should not be created too anteriorly and PL femoral tunnel should not be created too shallow. The midsubstance of the graft should be in the proper space of the normal ACL midsubstance. Even for anatomic ACL reconstruction, avoiding graft impingement is not easy task for ACL surgeons.

Full article and references also available online at www.isakos.com.

ENDOSCOPIC APPROACH TO OSGOOD-SCHLATTER DISEASE

TECHNICAL NOTE



ROBERT ŚMIGIELSKI, MD
*Carolina Medical Center
Warsaw, Poland*

INTRODUCTION

Described for the first time in 1903 by two independent researchers Osgood-Schlatter disease usually involves young, active adolescents. There are different hypotheses according its etiology:

- trauma
- avulsion fracture of the growing tibial tubercle
- avascular necrosis
- infection
- endocrine predisposition
- heterotopic calcification and ossification
- simple tendinitis involving distal patellar tendon attachment

And no clear consensus was ever established.

EPIDEMIOLOGY AND CLINICAL EXAMINATION

Boys to girls ratio is 3:1 and the disease mainly occurs during adolescences (from 11 to 15 y.o.). Boys are usually older at presentation, which correlates with ossification rates. The disease occurs bilaterally in 25–50% of cases.

Pain usually occurs during sport activity (kicking, jumping, squatting), climbing stairs, kneeling, standing-up or there may be symptoms of patella-femoral pain.

On clinical examination one may find pain and deformity over tibial tubercle (Fig. 1), swelling, tenderness and warmth.

TREATMENT

It is generally found that the disease spontaneously heals. Rarely though, in some patients (about 12%) conservative treatment (including complete rest from activity, nonsteroidal anti-inflammatory drugs, physiotherapy with stretching and cryotherapy) are not effective enough, the lesion does not resolve and surgical removal of the persistent ossification is needed.

Rarely the symptoms may reoccur even several years after puberty among young adults. Open approach may cause several complications and therefore according to presence tendency to minimal invasive surgery we established new endoscopic treatment of Osgood-Schlatter disease. This approach may be also taken into consideration in young professional athletes, when the time of healing is crucial.

SURGICAL TECHNIQUE

We approach to ossicle through deep infrapatellar bursa (Fig. 2). It allows not only for endoscopic removal of the ossicle but also for plasty (in older patients) of tibial tubercle. That kind of approach reduces potential danger of typical (after open operation) postoperative complications.



Fig. 1: Clinical presentation of Osgood-Schlatter disease. Pain and deformity over tibial tubercle.

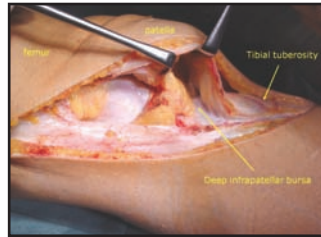


Fig. 2: Deep infrapatellar bursa presented during open approach usually, in adolescents measures about 3–4cm, which allows for good endoscopic approach to that area.

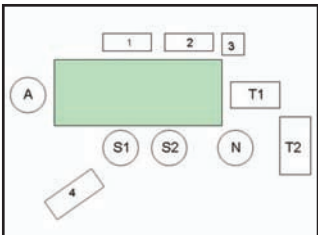


Fig. 3a: Operative room set up. S1-first surgeon, S2-surgical assistant, N-operating room nurse, A-anesthesiologist, T1-table with basic instruments, T2-table with all the other surgical instruments, 1-X-ray TV screen, 2-Monitor, light source, shaving system, 3-water pomp, 4-X-ray.



Fig. 3b: Standard arthroscopic equipment.

The procedure is performed with spinal anesthesia. Patient is in a supine position. Arthroscopic operative room set up (Fig. 3a) with standard arthroscopic equipment (Fig. 3b) and an X-ray C-arm is needed. A pneumatic tourniquet is applied with its pressure ranging usually from 300 to 320 mmHg, depending on the leg size and a blood pressure of the patient. At the beginning of the procedure operative limb is positioned in 90° of flexion. We cut the skin in the typical place for anterolateral portal, but we direct instruments towards deep infrapatellar bursa (Fig. 4a). After introducing the camera into the bursa, we insert a needle (in the placement of anteromedial portal) again pointing it towards bursa (Fig. 4b). The needle is seen by the camera, and at that point we may check and correct its position in order to have complete approach to ossicle and tibial tuberosity. Once the position is correct we perform second portal (Fig. 4c). At any moment we may control procedure with C-arm X-ray (Fig. 5). That gives a great help especially for beginners with that procedure. Routinely, it is not usually necessary to perform X-ray during the procedure (Fig. 6). Endoscopic approach allows for complete removal of ossicle and tibial tubercle plasty, if needed (Fig. 7).

Postoperative protocol includes:

- drainage
- no immobilization
- full weight bearing
- rehabilitation the next day postop.
- no-steroidal anti-inflammatory drugs (choice depends of the age of the patient)
- fraxiparine s.c. for 10 days postop. (or other available low molecular weight heparin)
- mean hospital stay: 0-1 day



Fig. 4a: Anterolateral portal for deep infrapatellar bursa. Limb is positioned in 90° of flexion.

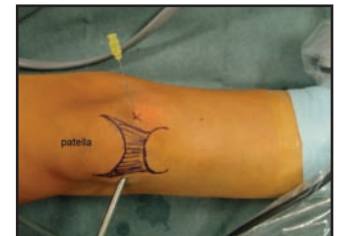


Fig. 4b: Introducing the needle for the second portal.

ENDOSCOPIC APPROACH TO OSGOOD-SCHLATTER DISEASE (cont.)



Fig. 4c: Performing the second portal.

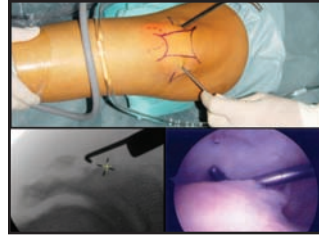


Fig. 5: Endoscopy of deep infrapatellar bursa. General, arthroscopic and X-ray view.



Fig. 6: General view of endoscopy of deep infrapatellar bursa.

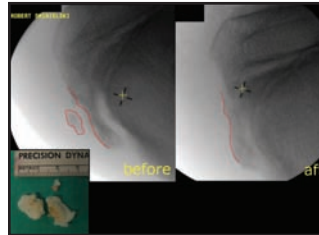


Fig. 7: X-ray view of Osgood-Schlatter disease before and after procedure with ossicles that have been removed.

RESULTS

Within 6 weeks in all our patients the pain disappeared. The main complains considered the scar tissue in the portals, however that was not different from any other arthroscopic procedure. No general or local complications were observed.

We do believe that that kind of endoscopic treatment being safe gives very good approach into tibial tuberosity area and may be also used in the other pathologic conditions, such as infrapatellar bursitis or patellar tendinopathy. It allows for a quick return to unlimited sport activity and being safe for growth plates may be applied in children. Also additional procedures (in cases of any other intraarticular pathologies) such as arthroscopy may be performed in the same time.

Full article and references also available online at www.isakos.com.

COMPLICATIONS IN MENISCAL SUTURES



MATTEO DENTI*

* IRCCS Galeazzi Orthopaedic Institute, Sports Traumatology and Arthroscopic Surgery Dpt., Milan, Italy

** San Donato Hospital, Milan, Italy

PIERO VOLPI*

PAOLO ARRIGONI**

PIETRO RANDELLI**

Very little can be found in literature regarding complications following meniscal sutures. The percentage and type of complications depend on the anatomical location of the meniscal lesion, the type of surgical technique used and the type of material used for the suture.

Complications, when they occur, can be generic or specific.

GENERIC COMPLICATIONS

Vascular and septic complications following meniscal sutures can occur. In most cases, the vascular complications follow the period of immobility, or relative immobility recommended to guarantee the biological healing processes. This immobility can result in vascular complications linked to thrombotic phenomena.

Septic complications are rare, but on occasion can be found (as in all arthroscopic surgery). There are specific septic complications involving the "Out-In" and "In-Out" techniques and the "all inside" technique.

SPECIFIC COMPLICATIONS

In terms of surgical techniques, we can distinguish complications associated with the "Out-In / In-Out" and "All inside" techniques. And no clear consensus was ever established.

1. "OUT-IN" AND "IN-OUT" TECHNIQUE COMPLICATIONS

Three conditions may favor specific complications:

- a. The presence of a suture: this is a go between the intra and extra articular and therefore may facilitate the passage of pathogenous microorganisms. Complications are commonly due to phenomena involving the skin or subcutaneous area (Fig.1).

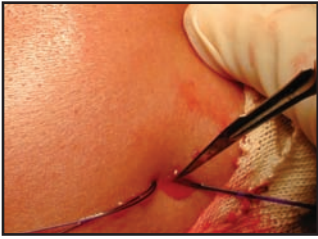


Fig. 1: out-in suture skin view

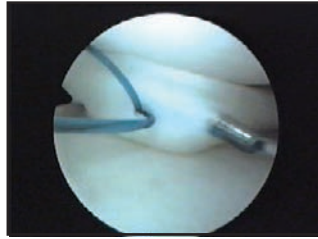


Fig. 2: out-in suture arthroscopic view

- b. The intrarticular rupture of metallic needles utilized for the suture: this event requires the immediate removal of the needle, which, in certain cases, can be a rather difficult task requiring arthroscopic surgery. In order to reduce the risk of this happening, it is important that suture needles are modeled well and in advance (Fig. 2). This is the only way to facilitate articular entry, while avoiding forced bending at the condylar surfaces (a natural obstacle to meniscal sutures).
- c. The formation of granulomas from an external body: as the knotting of sutures usually takes place in the extrarticular area of the subcutaneous skin, it is not uncommon for a granuloma under the skin to develop where the knot has been tied. This, however, usually disappears over time (Fig.1).

A recent cadaver study considers the complications in medial meniscus repair using an inside-out suturing device. The posterior horn of the medial meniscus was sutured using three vertical stitches. An anatomical dissection was subsequently performed to check for any possible effects upon the structures of the medial aspect of the knee. No vascular or nervous structures were pierced by the needle. On knotting, it was found that a number of different structures had become trapped: the sartorial tendon was affected in each of the specimens used. In four cases, the saphenous vein was trapped by some of the knots. The saphenous nerve was trapped in four instances.

The authors conclude, highlighting that inside-out suture of the posterior meniscal horn carries a high incidence of entrapment of the neurovascular structures of the medial aspect of the knee. The sartorial tendon is constantly affected.

These authors suggest risk can be reduced by entering the safety zone via a small auxiliary incision, which they go on to describe.

2. "ALL INSIDE TECHNIQUE" COMPLICATIONS

Complications relating to this technique are the result of ruptures, or loss of the means of suture (needles, darts, and pullout). When adopting an "All inside" technique, bioabsorbable devices are usually utilized which in general do not pose problems, except in some cases. One is the formation of acute and /or chronic inflammation and the

persistence of suture material in the articulation which may cause a reaction, such as that seen with external intrarticular foreign bodies. In this case, removal is necessary by means of a second arthroscopic approach. In order to reduce the risk of this occurring, it is important to use the most suitable suture instruments, those that have the correct angle and length, in this way impingement in the joint can be avoided during the entry phase (Fig. 3). In addition, it is advisable to make use of arthroscopic canulas for the articular passage of the device, smoothing the passage through the fat pad, which, if large can trap suture material. Of fundamental importance is the evaluation of the depth of the meniscal surface to avoid penetration further than necessary into the articular capsule.



Fig. 3: all-inside suture arthroscopic view

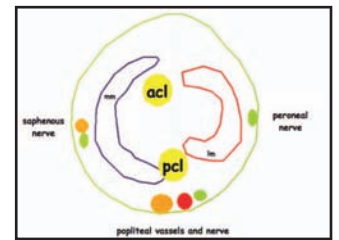


Fig. 4: anatomy of the principle anatomical structures at risk during meniscal suture

In an interesting randomized controlled clinical trial one hundred consecutive patients randomly assigned to arrows (n=51) or sutures (n=49). Patients were followed up at 6 weeks and 3, 6, 12, and 24 months postoperatively. Re-tear rate difference between the techniques was shown not to be significant. Two patients (4% of the arrows group) required reoperation for removal of a prominent, subcutaneous arrow, and one patient in the suture group (2%) suffered a transient peroneal nerve palsy during revision suturing.

In a prospectively randomized study including 68 patients, the results of inside-out horizontal meniscus suturing were compared to meniscus repair using the meniscus arrow. 96% of the patients underwent a second look arthroscopy after 3–4 months. Only lesions in the red/red or red/white areas were included. Two patients in the suture group had a deep infection. There were no serious neurovascular injuries. Five patients in the suture group and two patients in the arrow group had symptoms in the saphenous nerve area. All patients had some synovial irritation at control arthroscopy but no severe reactions to suture or arrows were seen. In conclusion the deep infection rate and the transient neurological symptoms in the saphenous area seem to be higher with outside-in technique respect to the all-inside suturing.

COMPLICATIONS IN MENISCAL SUTURES *(cont.)*

NEURO-VASCULAR COMPLICATIONS

- a. Popliteal artery: there are also specific complications that can occur, as in all suture techniques, that manifest as nervous and vascular problems and in some cases as the opening of lesions. Although rare, it is possible to encounter lesions of the popliteal artery. This anatomical structure, left of the Hunter channel, penetrates the popliteal fossa at the level of the junction of the middle inferior third of the femur, passing through an opening localized in the adductor magnus. Lesions of the artery could appear particularly in sutures of the posterior horn of the medial meniscus. The penetration by suture instruments, may in fact damage the artery through the popliteous fossa. (Fig.4). Eight fresh-frozen cadaver legs were used to evaluate the risk to the popliteal artery related to the use of two all-inside meniscal repair devices. The risk to the popliteal artery was significantly greater using one of the devices compared to other ($P < .05$) when analysed through AP X rays of the knee after injection of femoral artery with barium. The distance between the needle and the artery was measured on the radiographs using calipers.
- b. Lateral geniculate artery: a recent paper demonstrates the possibility of damage to the lateral geniculate artery when sutures are passed via inside-out and outside-in techniques, in eleven embalmed cadaveric knees. The number of punctures of the lateral geniculate artery and quantitative distances of needle penetrations were measured. The lateral geniculate artery was punctured 7 times during inside-out passes through the junction of the middle and anterior third of the meniscus and 8 times during passes through the body of the middle third of the meniscus. During outside-in passes, there were 5 punctures when passing anterior to the lateral collateral ligament and 4 punctures when posterior to the ligament. In conclusion, inside-out techniques seem to put the artery at more risk than outside-in techniques.
- c. Common Peroneal Nerve and Saphenous Nerve: nervous lesions involving the saphenous nerve in medial sutures and lesions of the peroneal nerve in lateral sutures are more commonly found. The common peroneous nerve penetrates in the popliteal fossa on the external part of the omonymous internal and directs itself distally towards the internal margin of the biceps tendon, passing between the tendon and the lateral head of the gastrocnemius. Distally it proceeds downwards behind the fibular head where it splits up in superficial and deep peroneal nerve.

The saphenous nerve passes near the main saphenous vein and runs distally through the medial side of the leg. As a reminder surgical scars adhesions can modify the anatomy. Lesions involving the saphenous nerve are more common and they are the consequence either of a lesion of the infrapatellar branch of the nerve, or due to paralysis caused by trapping or stretching of the suture of the sartorial branch. Austin described it as the most common complication after a meniscal suture.

Before proceeding with a meniscal suture, fundamental criteria should always be taken into consideration, factors such as the anatomic location of the lesion (red-red, red-white, white-white), the type of lesion, the age of the patient, the time elapsed between the lesion and the surgery, whether isolated or associated, and last but not least the physical activities of the patient. Incorrect evaluation of one or more of these parameters can lead to failure of the suture with varying degrees of consequences depending on the kind of lesion. Joint stiffness following meniscal suture is a rare event, these types of complications usually follow incorrect rehabilitation. It is, however, possible to verify that the surface of the meniscus to be sutured is attached correctly, and not in a way that will create ridges impeding normal articular function. It is for this reason that meniscal sutures must follow a strict surgical method. An interesting report describes the case of a young male patient with a lateral meniscus repair using meniscus arrows. Postoperatively, repeated episodes of intra-articular effusions have occurred. A second-look arthroscopy showed that the meniscus tear had not healed and revealed the presence of chondral damage corresponding to the location of the arrows in the posterior area of the lateral femoral condyle. Surgeons using the meniscus arrows should be aware of this possible postoperative complication. If fundamental anatomical and biomechanical rules are respected, this will guarantee success in most cases (Fig. 5). It should be noted that complications are rare, and are caused by incorrect surgical techniques when they do occur.

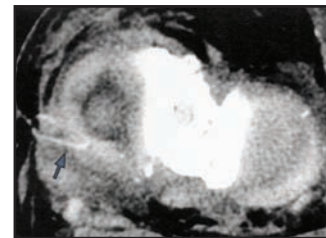


Fig.5: CT scan of a out-in meniscal suture at 6 months

Full article and references also available online at www.isakos.com

HISTORY AND CURRENT STATUS OF ARTHROSCOPIC KNEE LIGAMENT SURGERY IN INDIA



DR. MANDEEP S. DHILLON

*Professor of Orthopaedics, PGIMER
Chandigarh, India*

*Address correspondence to
drdhillon@gmail.com*

DR. DAVID RAJAN

Past President Indian Arthroscopy Society, Coimbatore, India

DR CLEMENT JOSEPH

Coimbatore India

Surgical expertise in India is recorded since times immemorial; there are records of Medical treatment (Ayurveda) in many ancient Indian texts, and this science has purportedly been practiced since 1000 BC. Three classical treatises were available in the ancient language Sanskrit, written by Caraca, Sushruta and Vagbhata; Sushruta is focused chiefly on surgical issues. The author of the book - Sushruta Samhita, talks about 120 surgical instruments, and discusses 300 surgical procedures and cadaveric dissection. The text classifies human surgery into 8 categories, with some focus on orthopaedic issues; there is a recorded classification of bones, fractures and dislocations, with some inputs regarding dislocation reduction and fracture immobilization, along with stress on rehabilitation.

Despite the early recorded surgical practice, arthroscopy as a specialized form of surgery is not uniformly developed, with specialized work only in urban areas. Economic constraints, lack of exposure to this specialty, and the relative discomfort of established leaders in the orthopaedic fraternity to this new methodology with a high learning curve were the major factors for delay in establishing arthroscopy. Nevertheless some surgeons ventured abroad for training and technology, and by the mid 1980s the concept of arthroscopic knee surgery was introduced in the major metropolitan cities of India. India now boasts of two ISAKOS accredited teaching centers.

There are around 25,000 orthopaedic surgeons practicing in India, around 8000 of whom are members of the Indian orthopaedic association. The Indian Arthroscopy Society membership is reaching the 1000 member mark, with almost half of the new members having joined in the last 3 years. This reflects upon the recent spurt in interest in the field of arthroscopy, with better training facilities in India, and return of surgeons trained abroad. To get an overview of

the status of knee ligament reconstruction surgery in India, around 700 members of the Indian Arthroscopy Society (IAS) were asked to participate in an online and postal survey by one of the authors (DR) in his capacity as President IAS. The focus was on preferences and practice of knee ligament surgery, with additional focus on practice profiles and training, technique of ligament reconstruction used, with specifics of graft fixation choices, type of implant used and methods of rehabilitation. 70 surgeons responded with adequately filled proformas. Many of the deductions in this article are based on this data.

We reviewed the literature for publications on arthroscopy and arthroscopy related surgery originating in India. Publications were few and far apart, with the Indian Journal of Orthopaedics having less than 5 publications related to knee ligament reconstruction in its 30 year publishing history. The relative paucity of published literature from Indian sources was a reflection of the lack of surgeons and centers actively involved in knee ligament reconstructions.

The epidemiology of Knee ligament injury in India is significantly different from that seen in the western world; indigenous sports like Kabbadi, Kho Kho and Indian wrestling (Pehalwani) involve significant tackling and body contact. Although no official statistical data exists about the incidence on knee injury associated with these sports, the authors see almost 20% of their patient population with knee instability being caused by these sports. The respondents of the IAS survey also seem to concur. The other major issue is the delay in presentation to specialized centers; due to relative lack of specialized diagnostics and trained personnel where these sports are practiced, the referral to centers where management facilities are available is usually delayed; it is not uncommon to encounter patients after 3 –5 significant episodes of injury in an ACL deficient knee, where multi-ligament instabilities and both menisci damage could have been prevented by early ACL reconstruction.

The survey undertaken by DR found that two wheeler accidents (motorcycle and scooter) constituted 52% of the cases who presented with knee ligament injury. 5% of these were multi-ligament injuries, with the driver being injured 96% and the pillion rider being injured 4% of the times. The mechanism of trauma seems to be the touching down of the involved leg, and the motor cycle pivoting along with the rider, on a stationary foot. (Picture can be provided). This involves pivoting and a rotational and translatory stress, which damages more than one ligament. The exact pattern of injury, however, varies due to other variables, and fractures are often part of the injury complex.

CURRENT CONCEPTS

HISTORY AND CURRENT STATUS OF ARTHROSCOPIC KNEE LIGAMENT SURGERY IN INDIA *(cont.)*

From our experience, and from the survey, it has been noted that operative management is focused on ACL reconstruction.

Though many centres offer PCL and multi ligament reconstructions, majority treat PCL injuries non-operatively, unless they are avulsions seen initially PLC injuries are most often missed, and are often diagnosed after an ACL reconstruction, with poor outcome (Dhillon MS, in press). The IAS, with significant inputs from ISAKOS, has started training facilities for PCL and PLC injuries in the last few years.

About 7% of the surveyed surgeons were still doing ligament surgery by the open method; minimally invasive methods using the mini open procedure was used by another 20% of the respondents, while 70% of the surveyed Indian surgeons were doing arthroscopic assisted ACL reconstruction. This percentage actually does not suggest the actual number of surgeons (in India) doing this procedure, nor does it reflect upon the actual number of cases being operated, as many surgeons in smaller towns may still be using the conventional open methods, though that number is now decreasing. A significant factor in decrease in open surgery is patient education by media or otherwise, and the awareness in almost all orthopods that centers for arthroscopic surgery now exist. PCL and PLC surgery is still in the developmental stage; most surgeons do not have the requisite experience, and learning centers for this aspect of arthroscopic surgery are few and far apart.

Graft choice in India is also varied; 20% of the respondents in the IAS survey used Bone Patellar tendon grafts in isolation, 28% using hamstrings by preference, while 24% were comfortable with both of the above: surprisingly 5% reported use of quadriceps tendon predominantly. Others or combinations were quoted at 28% and these included allografts (rare) and artificial ligaments. Allograft use in our country is still in its infancy due to inadequate graft banks, cost factor and disease transmission issues.

Implant choice is another issue which is different in the subcontinent. A host of Indian surgical companies are manufacturing fixation devices at a fraction of the cost of internationally available ones. The surgeon survey showed up some preferences; those using BPT graft preferred the cheaper locally manufactured metal screws (71%) to Bioscrews (25%), with 4% using other methods. Hamstring grafts were mostly fixed proximally by endo-buttons and distally by suture discs (both manufactured cheaply by local manufacturers), with bioscrews coming as a distant second. Newer and more expensive devices like cross pins were used by a miniscule percentage of surgeons, with cost and lack of expertise being cited as contributing factors

Supervised rehabilitation is another issue which influences surgical outcomes; almost 25% of the surgeons surveyed did the rehab process personally. 70% have trained physiotherapist help, but many of these still have to be supervised for ACL rehabilitation. Issues related to home physiotherapy, patient compliance and the use of post operative motion control brace are also significant; as cost, technical know how, availability and other factors become relevant. CPM after surgery is rarely used.

Notwithstanding the relative unavailability, the economics of knee ligament surgery in India are very different from that in the developed world. A standard ACL reconstruction costs about US \$800 to \$2000, depending upon the type of hospital, (Government or corporate) the type of implant used, (Indigenous or biodegradable) and the location of the surgeon (Metropolitan or small town). We also have the unique feature of “travelling surgeons”, who visit various hospitals all over the country, and perform multiple operations over 1 or 2 days. This involves cooperation with the local surgeons in small towns who lack the facilities and the expertise, and this often cuts down the cost for the patient.

The projected requirements for ACL reconstructions in India is approximately 125,000 operation per year, versus 5,000–10,000 being done now. Training centers and surgeon expertise has mushroomed; one aspect is the involvement of the private sector, wherein many new hospitals have been set up with trained surgeons and latest equipment. Income from Medical Tourism, where many patients come from abroad for cheaper, faster surgical appointments, is fuelling the development of many more centers. The future of knee ligament surgery is dynamic and exciting and the Indian Arthroscopy Society with inputs from ISAKOS has the responsibility of imparting uniform state-of- the art professional training in knee ligament surgery.

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BACK TO ANATOMY – BACK TO THE FUTURE

Current Concept of Anatomic ACL Reconstruction



FREDDIE H. FU, MD, D.SC. (HON), D.P.S. (HON)

Department of Orthopaedic Surgery
Division of Sports Medicine
University of Pittsburgh
471 Fifth Avenue
Pittsburgh, PA 15213 - USA
Phone +1 412-605-3203
Fax +1 412 687 0802
Email: ffu@upmc.edu



SEBASTIAN KOPF, MD

Department of Orthopaedic Surgery
Otto-von-Guericke University of
Magdeburg
Leipziger Str. 44
Magdeburg, 39120, Germany
Phone +49 391-67-14034
Fax +49 391-67-14029
Email: Sebastian.kopf@med.ovgu.de

Anterior cruciate ligament (ACL) reconstruction is the sixth most frequently performed orthopaedic procedure in the United States. Currently, a transtibial approach to restore a single bundle of the ACL is the most common technique to reconstruct the ACL. Use of a transtibial approach to create the femoral tunnel results in a relatively high femoral tunnel placement and does not restore normal anatomy of the ACL. Single bundle ACL reconstruction has been shown to restore antero-posterior laxity, but does not restore normal rotatory laxity of the knee. Furthermore, after single bundle ACL reconstruction, only 65 to 70% of individuals return to the pre-injury level of sports activity and 90% have radiographic evidence of arthritic changes at an average follow-up of 6.6 years. Thus, single bundle ACL reconstruction is less than optimal in restoring stability of the knee, allowing individuals to return to prior levels of activity and participation and preventing the development of knee OA.

As a result of the less than optimal outcomes following single bundle ACL reconstruction, over the last several years, there has been a growing interest to anatomically reconstruct both bundles of the ACL. There have been a number of biomechanical and clinical studies to investigate double bundle ACL reconstruction. In general, these studies have demonstrated that double bundle ACL reconstruction results in equivalent or superior outcomes in comparison to single bundle ACL reconstruction. A limitation of these studies is that different techniques were used to perform double bundle ACL reconstruction and not all of the techniques were truly anatomic.

Whether the addition of a second bundle confers additional stability to the knee is not necessarily the question at hand. In our opinion, it is important to understand the concept of anatomic double bundle ACL reconstruction, regardless of whether one is performing a single bundle ACL reconstruction or an augmentation. The principle that guides our current approach to ACL reconstruction may be characterized as “anatomical reconstruction.” We believe that restoration of normal anatomy is required to restore normal function of the knee. Anatomical ACL reconstruction requires an individualized approach to account for each patient’s anatomical differences. Avoiding tunnel mismatch, restoring the insertion sites, and correct tensioning of the graft is paramount to achieve successful outcomes.

To restore ACL anatomy, the insertion sites for both anteromedial (AM) and posterolateral (PL) bundles must first be identified. Anatomical landmarks, like bony ridges, surrounding soft tissue structures, and the remaining tissue of the ACL provide important clues as to the location of the native insertion sites.

The lateral intercondylar ridge (or resident’s ridge,) and the lateral bifurcate ridge are important bony landmarks to identify the femoral insertions of the anteromedial and posterolateral bundles (Figure 1). The ACL does not extend beyond the lateral intercondylar ridge anteriorly (or superiorly, with the knee in 90° flexion), and the lateral bifurcate ridge separates the AM and the PL bundles from one another. To visualize these anatomical structures, it is necessary to use an accessory medial portal (or medial infrapatellar portal).

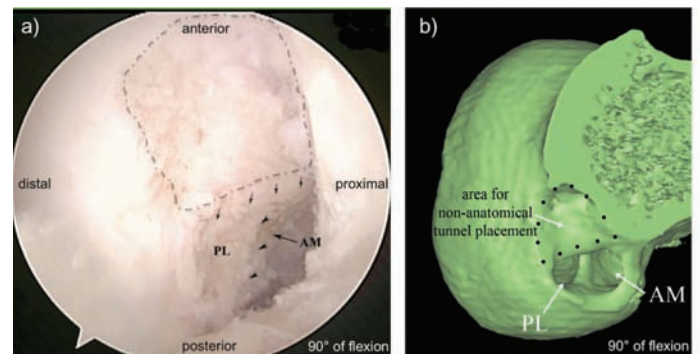


Figure 1: a) Arthroscopic view at the medial surface of the lateral condyle showing the AM and the PL bundle insertion sites divided by the lateral bifurcate ridge (arrowheads). Both bundles are entirely posterior to the lateral intercondylar ridge (short arrows). The marked area above this ridge shows the large space for non-anatomical placement. b) CT view of the before mentioned region after anatomical double bundle ACL reconstruction with the AM and PL drill holes.

CURRENT CONCEPTS

BACK TO ANATOMY—BACK TO THE FUTURE

Current Concept of Anatomic ACL Reconstruction (cont.)

Furthermore, a notchplasty must be avoided because it ablates the essential bony and soft tissue landmarks. Failure to follow utilize these anatomical landmarks to locate the femoral tunnels often results in placement of the graft anterior to the lateral intercondylar ridge. This non-anatomical position is called a 'high AM tunnel', and is associated with failure to restore normal rotational laxity of the knee.

Our approach to identify the anatomical location of the femoral ACL insertion sites has advantages over the "o'clock position" method, which fails to appreciate the three-dimensional orientation of the femoral ACL insertion site within the notch, which changes with the angle of knee flexion. The "o'clock position" method also fails to appreciate anatomical variation between patients. Instead of using the "o'clock position" method in publications pertaining to surgical technique, arthroscopic pictures, with the angle of knee flexion noted, should be utilized. Furthermore, 3D CT images should be incorporated when available (Figure 1).

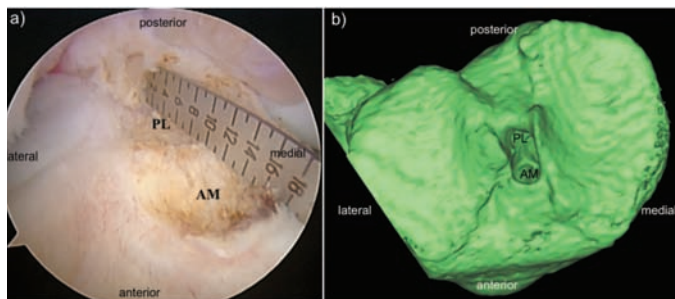


Figure 2: a) Arthroscopic view at the tibial ACL insertion site with its two bundles, the AM and the PL. An arthroscopic ruler is used to measure the ACL insertion size. If the insertion sites are greater than 14 mm, we perform a double bundle ACL reconstruction; if the insertion sites are less, we recommend performing single bundle ACL reconstruction. b) CT view at the tibial plateau after anatomical double bundle ACL reconstruction with the AM and PL drill holes.

With respect to identification of the tibial ACL insertion sites, the remnants of the ACL, the surrounding soft tissue structures, the tibial spines, and the "over-the-back" ridge (or retro eminence ridge) are important anatomical landmarks. Commonly during single bundle ACL reconstruction the tibial tunnel is placed posteriorly on the tibial footprint in the area of the posterolateral bundle insertion. "Mismatch" is created when the posterior position of the tibial ACL insertion is combined with a high AM femoral tunnel.

The surgical goal of anatomical ACL reconstruction is to restore 80 to 90% of the ACL anatomy in a matched fashion, single or double bundle. The ultimate goal is to restore the long term health of the knee in patients.

—Dr. Freddie H. Fu

Some surgeons believe that this "mismatch" technique is necessary to avoid pathological impingement between the ACL and the posterior cruciate ligament (PCL) and between the ACL and the anterior notch. This non-anatomical, mismatched graft position may diminish iatrogenic impingement; however, an anatomically placed graft, be it single or double bundle, also avoids pathological impingement and restores more normal kinematics of the knee.

Once the insertion sites are identified, we believe that it is important to measure the size of the insertions to determine whether single or double bundle ACL reconstruction should be performed. We use a simple arthroscopic ruler to measure the insertion sites. If the insertion sites are greater than 14 mm, we perform double bundle ACL reconstruction, drilling 4 independent tunnels located within the anatomic footprints of the anteromedial and posterolateral bundles. If the insertion sites are small, we recommend performing single bundle ACL reconstruction with the graft placed anatomically within the center of the anteromedial and posterolateral insertion sites. A challenge we currently face following ACL reconstruction is the accurate assessment clinical outcomes. The lack of readily available reliable and valid clinical outcome measures makes it difficult to compare different techniques to reconstruct the ACL. This is further complicated by the fact that tunnel positions are referenced in a variable manner, with respect to knee flexion angles and the "o'clock position". Furthermore, few studies reference tunnel positions as confirmed by CT or 3D CT imaging, or arthroscopic recordings.

CURRENT CONCEPTS

At this time, methods to quantify the effects of anatomic versus non-anatomic, and single versus double bundle ACL reconstruction on restoration of normal knee kinematics, are imperfect and evolving. In the office setting, it is a challenge to quantify differences in antero-posterior and rotational stability. Performance of the Lachman, anterior drawer, KT-1000, and pivot shift tests all contain elements of subjectivity, especially in conscious patients. Quantification of rotational laxity is especially difficult. Furthermore, the importance of restoring range of motion is often underestimated. As an outcome measure, range of motion provides important clues to the presence of notch impingement and most importantly, accurate tunnel placement. A graft that recreates anatomic insertion sites should intuitively restore more normal kinematics, range of motion, and maintain long term health of the knee.

High speed, biplane radiographic stereophotogrammetric analysis (RSA) is a promising research modality to precisely evaluate knee kinematics during activities of daily living, running, and jumping activities.

This coupled with high-field MRI to detect early signs of cartilage wear and arthritis may provide a more reliable means to determine the effects of different methods to reconstruct the ACL. We believe that use of more accurate outcome measures will enable us to demonstrate the benefits of anatomic ACL reconstruction on restoring normal structure and function of the knee.

In summary the current methods to reconstruct the ACL are **less than optimal** in restoring the normal anatomy and the long term health of the knee. We believe that anatomic reconstruction of the ACL, whether using one or two bundles will lead to improved outcomes of ACL surgery. More sophisticated measures of knee kinematics and sensitive measures of early arthritis will be needed to provide evidence of the benefits of anatomic ACL reconstruction.

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ISAKOS IN QATAR

ISAKOS IN QATAR

1ST ANNUAL ASPETAR ARABIAN GULF SPORTS MEDICINE MEETING

November 19–20, 2008

I just returned from Doha, Qatar where I attended and spoke at the “**1st Annual Aspetar Arabian Gulf Sports Medicine Meeting**”, organized by ISAKOS members Dr. Peter Fowler and Dr. Craig Bottoni Aspetar Orthopaedic & Sports Medicine Hospital. This was the first annual meeting and they already have plans to have another larger meeting next year.

The meeting was a huge success, drawing many surgeons from the surrounding regions including Saudi Arabia and India. The featured speakers included me, Richard Hawkins, Charlie Brown, Pete Fowler, and Craig Bottoni. The presentations and discussions were universally outstanding. In addition, the hospital had very nice facilities which allowed interaction between the attendees, and facilitated the presentation of live surgeries being performed in their operating room. They also had Sawbones demonstrations and labs for attendees.

The meeting provided good exposure for ISAKOS. The ISAKOS logo was prominently displayed throughout the meeting and on all printed materials prior to the meeting. In addition, printed materials regarding the 2009 ISAKOS Congress were provided to all attendees.

In summary, this was a great meeting in a part of the world which was targeted by both ISAKOS and our industry sponsors to be an important area for growth. Congratulations to local hosts Dr. Craig Bottoni and Peter Fowler for their organization of a high quality educational event. Both should be commended for a job well done.

David R. McAllister, MD

Chief, Sports Medicine Service

Associate Professor

David Geffen School of Medicine at UCLA

Department of Orthopaedic Surgery

Los Angeles, CA, USA



QATAR



ISAKOS APPROVED COURSES IN REVIEW

37TH (KNEE) & 38TH (SHOULDER) SEVERANCE ARTHROSCOPY FRESH CADAVER WORKSHOPS

The 37th (knee) and 38th (shoulder) Severance arthroscopy fresh cadaver workshops were held on March 15th & 22th, 2008, respectively.

The workshops have been held at Yonsei University College of Medicine in Korea for 35 times since July 7th, 2001 and got ISAKOS approval since 11th workshop on November 1st, 2003. Those are the only fresh cadaver workshops in Korea with ISAKOS Approval. Professor Sung-Jae Kim, course chairman of the workshop and director of Severance arthroscopy unit, had been working as arthroscopy committee member of ISAKOS.

During the workshop, participants observed demonstrations by Professor Sung-Jae Kim and other instructors and then went into training by themselves under the guidance of professor and table instructors. Participants were able to train themselves for various operative techniques and had opportunities to discuss with the table instructors. Besides previously arranged program, there were additional demonstration of procedures such as transseptal portal making and all inside meniscal repair by request of participants.

After practice, they dissected the cadavers to get more information about surgical anatomy of the shoulder and knee joint. Especially in this workshop, not only shoulder and knee, but also elbow and ankle arthroscopy was demonstrated.

It was a very useful educational program for the participants to attend the workshop. Professor Sung-Jae Kim plans to hold advanced course in the future workshops.

Sung-Jae Kim

Yonsei University Arthroscopy & Joint Research Institute

Dept of Orthopedic Surgery

Yonsei University College of Medicine

Seoul, KOREA



ISAKOS APPROVED COURSES IN REVIEW

THE 1ST BIENNIAL ASIA ARTHROSCOPIC CONGRESS (AAC 2008) REPORT

The 1st Biennial Asia Arthroscopic Congress (AAC 2008) was held from September 18 to 20, 2008 at the Yonsei University Health System in Seoul, Korea in conjunction with the 9th Korea-Japan Joint Meeting for Sports Medicine. As the first-ever meeting of its kind in Asia, AAC 2008 received much attention from the academic field of arthroscopy in the region.

The Congress was attended by about 800 participants from 21 countries, including 615 registrants, companies from some 20 countries, and members of the organizing committees. The successful meeting brought together participants from not only Asia but also non-Asian countries such as the U.S., Germany, the U.K., Austria, Switzerland, Greece, Australia and Nigeria. In particular, many eminent scholars from the Asian region honored the meeting with their presence including Professor Konsei Shino; Professor Yingfang Ao, President of the 2nd AAC meeting; Professor Mitsuo Ochi, President of the Japan Arthroscopy Association; Professor Chi-Hwa Chen, President of the Taiwan Shoulder and Elbow Society; Professor Hung-Maan Lee, Past President of the Taiwan Arthroscopy and Knee Society; Professor Anant Joshi, Past President of the Indian Arthroscopic Society; Professor Isik Akgun, President of the Turkey Arthroscopy Association; Professor Satoshi Toh, President of JOSSM; and Professor Moroe Beppu, President-elect of JOSSM.

At the International Board meeting which was held during the Congress, the appointment of Professor Sung-Jae Kim, Department of Orthopaedics, Yonsei University as the first President of the AAC and his 2-year tenure were approved.

Moreover, Beijing, China was decided as the host venue of the 2nd AAC meeting, with Professor Yingfang Ao as the Congress President. Lastly, Professor Anant Joshi of India also expressed his desire to host the 3rd meeting in his home country at the meeting.

Some 50 world-renowned scholars representing the Asian region were invited to speak for the academic program which consisted of 2 Plenary Lectures, 11 symposia, 6 Live Surgeries, 5 Cadaver Workshops, 4 Instructional Course Lectures, 15 Podium Presentations with 103 scientific papers, 92 Poster Presentations and multimedia presentations. In particular, many participants from overseas were impressed by the smooth management of the live surgery and cadaver workshop sessions. Proposed along with the academic program were symposia that highlighted hot topics, controversies and new developments in arthroscopy as well as an exhibition grouping more than 20 exhibitors who displayed the latest in arthroscopic devices and equipments.

Lastly, 200 scientific papers and poster presentations were pre-selected from some 300 abstracts submitted, which were then evaluated by 9 members of the International Board representing 5 countries. Finally, 2 podium presentations (Chan-Woong Moon, Korea; Takanori Iriuchishima, USA) and 1 poster presentation (Kian Chun Chong, Singapore) were selected as winners for their excellent quality and contribution to the field of arthroscopy, and awarded at the Congress.

Professor Sung-Jae Kim, the newly appointed first President of the AAC, stated that he would strive to raise the level of arthroscopy in Asia during his tenure of 2 years by increasing exchanges among arthroscopists in Asia and fostering education even further.



ISAKOS APPROVED COURSES IN REVIEW

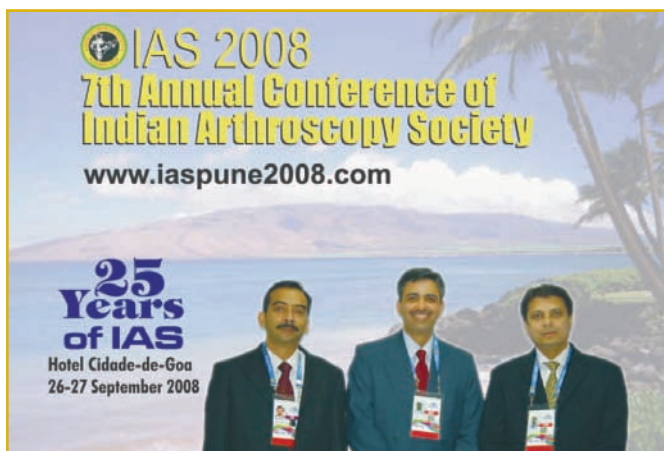
REPORT OF THE THE SEVENTH ANNUAL INDIAN ARTHROSCOPY SOCIETY (IAS) CONFERENCE

September 25th to 28th, 2008
Goa, India

The seventh annual Indian Arthroscopic Society Conference (IAS) was held in Goa, India, from the 25th to 28th September, 2008 in collaboration with ISAKOS. This conference was attended by more than four hundred delegates not only from all over India but also from neighboring countries like Sri Lanka, Bangladesh, Nepal and Myanmar. Dr. Parag Sancheti was the organizing secretary for the meeting and Dr. Ashish Babhulkar and Dr. Sachin Tapasvi were the joint organizing secretaries.

The conference based on the theme "Controversies in Arthroscopy" was held with the purpose of discussing various controversies and updating delegates on current concepts and recent advances in arthroscopy. This conference also commemorated the completion of 25 years of the Indian Arthroscopic society.

The main conference which was held at a beach side resort in Goa on the 26th and 27th September, 2008 composed of guest lectures, debates, symposiums, free papers and interactive sessions. Renowned international faculty included Professor Freddie Fu from Pittsburg USA, Professor Hiroyuki Sugaya from Japan, Dr. Anil Ranawat from New York USA, Dr. Isik from Netherlands, Dr. Simon Frostick from United Kingdom and Dr. Cugat from Spain. They delivered lectures and interacted with the delegates and other faculty. The conference also involved acclaimed national faculties like Dr. Anant Joshi, Dr. Sripati Rao, Dr. Dinshaw Pardiwala, Dr. David Rajan and others.



Organizers of the 7th IAS meeting in Goa , India

Left to right: Dr. Ashish Babhulkar, Dr. Sachin Tapasvi and Dr. Parag Sancheti.

The pre-conference workshops were held on the 25th September, 2008 at Goa Medical College. Dr. Freddie Fu did a live demonstration on double bundle ACL reconstruction surgical technique. Dr. Sugaya demonstrated double row repair for rotator cuff tear of the shoulder.

Dr. Freddie Fu, Vice President of ISAKOS, expressed his appreciation of the proceedings of the conference and envisioned a great future for Indian Arthroscopy. During this conference an ISAKOS booth was set up which gave information regarding the various activities of ISAKOS.

The Indian Arthroscopy society president Dr. Sripati Rao expressed immense satisfaction on the execution of the conference and its academic content. Dr. Parag Sancheti secretary of IAS expressed his desire to develop stronger ties with ISAKOS which would aid in the further development of Arthroscopic surgery in India.



ISAKOS booth set up at the IAS meeting in Goa , India

Left to right: Dr. Parag Sancheti, Dr. David Rajan, Dr. Freddie Fu and Dr. Anant Joshi

ISAKOS APPROVED COURSES IN REVIEW

CALIFORNIA SURGERY INTERNATIONAL 2008 SUMMARY

**Newport Beach, California
October 16-18, 2008**

Members of the orthopaedic community assembled in Newport Beach, California on October 16–18, 2008 to participate in “California Surgery International 2008,” a truly unique and innovative surgical learning experience. This course was jointly sponsored by the University of California–Irvine, and The Sports Clinic Orthopaedic Medical Associates.

Objective for this year’s course included:

- 1) Identify the technical differences between surgeons and prostheses for Reverse and normal Total Shoulder Arthroplasty.
- 2) Learn the indications and technique for medial elbow ligament reconstruction.
- 3) Learn how to read Shoulder MR scans with better understanding and accuracy
- 4) Evaluate whether or not the Mini-Open Total Shoulder procedure is a good technique to learn, and how to perform the procedure.

Now in its 29th year, the course continues to focus on Shoulder Surgery Controversies, and strives to set a higher standard for continuing education. Designed by surgeons for surgeons, and under the direction of Dr Wesley M. Nottage, the course included an esteemed panel of faculty from across the world, including Laurent Lafosse, M.D., of Annecy, France. This global faculty guided attendees through new techniques and offered different approaches to traditional thinking. Attendees were able to learn differently and better, by seeing the “pros” doing the case, and applying methods to better their own surgical procedures.

The course also combined a hands-on cadaver shoulder surgical lab, and MRI reading sessions with Dr Keith Burnett and Dr Gregory Applegate. Attendees received practical instruction on digital imaging and reading MRIs during these popular sessions. Cases were also included in these sessions for participants to diagnose via interactive audience response systems.

ISAKOS APPROVED ARTHROSCOPY CADAVER COURSE

**New Delhi
November 16, 2008**

ISAKOS supported Arthroscopy cadaver course of Arthroscopy learning centre, Indian Arthroscopy Society, New Delhi

The course was attended by surgeons of South east Asia and Middle east countries. It helped us in helping creating awareness among general orthopedics surgeons about expanding indications of Arthroscopy

It also initiated interest in Arthroscopy and sports medicine among young post graduate students It provided platform for practicing arthroscopy surgeons of south east Asian and Middle East countries (Pakistan, Burma, Thailand, Sri Lanka, Bangladesh, Nepal, Philippines, Indonesia, UAE, Oman and Malaysia) to share their experiences.

The skill development program helped delegates to upgrade their skills in Arthroscopy under direction of specialists.

We thank ISAKOS for approving the course.

Ips Oberoi
Convener
Cadaver Arthroscopy Learning Centre
Indian Arthroscopy Society
New Delhi

UPCOMING ISAKOS APPROVED COURSES

KNEE ARTHROPLASTY: FROM EARLY INTERVENTION TO REVISION

Organized by the Institution of Mechanical Engineers

Date: April 30– May 2

Venue: Royal College of Surgeons of England
London UK

Invited speakers include respected opinion leaders on both sides of the Atlantic, including Prof. David Barrett, Dr. Daniel Berry and Prof. Fabio Catani amongst many others. This event will see surgeons, academics and engineers come together to share knowledge and benefit from each others' experiences, successes and frustrations. Together, they will explore radical new designs, innovative new materials, advanced minimally invasive techniques and computer assisted surgery. Topics will include: total knee replacement, patella-femoral replacement, surveillance of implant performance, experimental testing, indications and contra indications, UKR, musculoskeletal modelling and much more

To see the full programme got to:
www.imeche.org/events/c683

For event enquiries, email Amy Hurlstone on
a_hurlstone@imeche.org

STANFORD/IOC ADVANCED TEAM PHYSICIAN COURSE

2nd Annual Advanced Team Physician Course,
June 20–23, at Stanford, California.

Stanford University, in conjunction with the IOC Medical Commission and Olympic Solidarity, will host the 2nd annual Advanced Team Physician Course, June 20 - 23, at Stanford, California.



Attendees will enjoy four exciting days of advanced team physician medicine and science, as well as a very special social program that reflects the unique culture of the Northern California coast and Stanford University. The course promotes interaction between attendees and internationally renowned speakers through case presentations, lectures, debates, and audience participation. Topics include shoulder injuries, use and abuse of medications, practical application of biomechanics and physiology to athlete performance and health, disordered eating, muscle and tendon injuries, new technologies for team physicians, ECG screening, and return to play decision making. Some of the 25 speakers include Ned Amendola, John Bergfeld, Bill Garrett, Nicola Maffulli, Don McKenzie, Winne Meeuwisse, Nick Mohtadi, Antonio Pelliccia, Bill Roberts, and Marc Safran.

Registration is limited to 100 participants. For more information and on-line registration, please go to
<http://sportsmedicine.stanford.edu/>.



7TH BIENNIAL ISAKOS CONGRESS

OSAKA, JAPAN • APRIL 5–9, 2009

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For further information, please contact:

Elisa Marzaloni

Tel: 0039 051 765357

Fax: 0039 051 765195

www.cscongressi.com

39TH SEVERANCE FRESH CADAVER KNEE ARTHROSCOPY WORKSHOP

Yonsei University Anatomy Department

Seoul, South Korea

March 21, 2009

For further information, please contact:

Woo-Hyuk Chang MD

Tel: +82 2 2228 5679

Fax: +82 2 363 6248

www.severanscopy.com

40TH SEVERANCE FRESH CADAVER SHOULDER ARTHROSCOPY WORKSHOP

Yonsei University Anatomy Department

Seoul, South Korea

March 28, 2009

For further information, please contact:

Woo-Hyuk Chang MD

Tel: +82 2 2228 5679

Fax: +82 2 363 6248

www.severanscopy.com

KNEE ARTHROPLASTY: FROM EARLY INTERVENTION TO REVISION

Royal College of Surgeons, IMechE Event

London, United Kingdom

April 30–May 2, 2009

For further information, please contact:

Glenn Hickling

Tel: +44 0207 973 1303

Fax: +44 0207 222 9881

www.imeche.org/events/C683

9TH AMSTERDAM FOOT & ANKLE COURSE

Academic Medical Center

Amsterdam, Netherlands

June 18–19, 2009

For further information, please contact:

Christiaan van Bergen

Tel: +31 20 5666419

Fax: +31 20 5669117

www.ankleplatform.com

ADVANCED TEAM PHYSICIAN COURSE 2009

Munger Residences, Stanford University

Stanford, California, USA

June 20–23, 2009

For further information, please contact:

Gordon Matheson MD, PhD

Tel: +1 650 723 2258

Fax: +1 650 7252607

<http://sportsmedicine.stanford.edu/>

11TH KOREA UNIVERSITY ARTHROSCOPY CADAVER WORKSHOP

Korea University Anatomy Department

Seoul, South Korea

July 19, 2009

For further information, please contact:

Yong Seuk Lee

Tel: +82 31 421 5040

Fax: +82-31-421-4095

THE LIGAMENT RECONSTRUCTION SEMINAR & LIVE SURGERY

The Hokkaido University Faculty House "Enreisou"

Sapporo, Japan

July 23–24, 2009

For further information, please contact:

EIJI KONDO

Tel: +81 11 706 7211

Fax: +81 11 707 7822

THE PRAGUE ARTHROSCOPY SYMPOSIUM ON CARTILAGE SURGERY

Town Hall of Prague

Prague, Czech Republic

September 17–19, 2009

For further information, please contact:

Milan HANDL

Tel: 420 602 238 530

Fax: 420 257 720 510

www.prague2009asc.cz

12TH KOREA UNIVERSITY ARTHROSCOPY CADAVER WORKSHOP

Korea University Anatomy Department

Seoul, South Korea

December 13, 2009

For further information, please contact:

Yong Seuk Lee

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*International Society of Arthroscopy,
Knee Surgery and Orthopaedic Sports Medicine*

2678 Bishop Drive, Suite 250
San Ramon, CA 94583 USA

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