



ISAKOS

NEWSLETTER

WINTER 2001

Volume 4, Issue 2

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INSIDE THIS ISSUE

Editor's Note	1
President's Message	1
From the ISAKOS Office	2
2001 Congress Update	3
Your Committees at Work	5
Spotlight on Teaching Centers	6
ISAKOS Congress Sponsors	7
Saudi Arabia Meeting	8
Turkish Society Meeting	8
Viewpoint: Arthroscopy and Virtual Reality	9
Committee on Committees	10
Viewpoint: Anterior Cruciate Ligament Tears	11
Viewpoint: Considerations for Arthroscopic Meniscal Repair	12
Viewpoint: A New Technique - Transplantation of Cartilage-Like Tissue for Cartilage Defect	13

Editor's Note

Stephen S. Burkhart, M.D., San Antonio, Texas, USA, ISAKOS Newsletter Editor



Progress. In a word, that is what we believe the discipline of arthroscopy represents. But there is a vast orthopaedic world outside the realm of arthroscopy, and the surgeons that populate that world have often been slow to embrace arthroscopic techniques, particularly those that infringe upon their "territory."

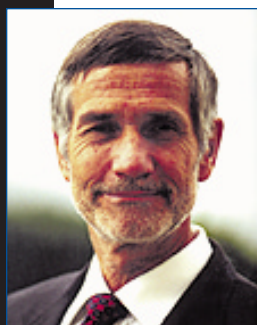
Earlier this month, I had the unique opportunity to participate in a debate on the program of the Closed Meeting of the American Shoulder and Elbow Surgeons, an organization to which I belong. The topic of the debate was whether rotator cuff repair should be performed by arthroscopic or open means. The theme of my argu-

ment for arthroscopic repair was that arthroscopy represented progress and that progress was inevitable. In order to avoid being misinterpreted, I emphasized that the arthroscopic approach did not forsake the principles of Codman and Neer, but rather built upon those principles to provide an improved method of treatment for rotator cuff tears. Needless to say, this argument was a "hard sell" to that particular audience, which was composed primarily of the most prominent open shoulder surgeons in the United States. At the conclusion of the debate, the moderator, Dr. Rich Hawkins, took a vote of the audience and, as expected, the vast majority voted that they believed rotator cuff repair should be done by open means. However, Dr. Hawkins then asked the audience how many

Continued on page 14

President's Message

Roland P. Jakob, M.D., Fribourg, Switzerland, 1999-2001 ISAKOS President



Sitting on the terrace of my room at the Istanbul Hilton in the Beyoglu district of the city, where the pace of life never slackens day or night, I can watch the ferries carrying people across the Bosphorus between Asia and Europe. Two elegant bridges from east to west link the continents high above the giant cargo vessels plying north

Turkey is home to 65 million people, stretching 2,000 kilometers from east to west and 1,500 kilometers from north to south. There is a single association for sports traumatology, arthroscopy and knee surgery that is all the stronger because there are no separate societies for arthroscopy, knee surgery and/or sports trauma. Instead, the Turkish society has six regional branches sharing the common goals of improved patient care and teaching. The arrangements are similar in Greece.

to south between the Black Sea and the Mediterranean. Istanbul is truly the crossroads of the world.

I am here to take part in the 5th Congress of the Turkish Sports Traumatology, Arthroscopy and Knee Surgery Association. The Turkish Association continues to grow, and this year it has attracted more than 700 colleagues from the Middle East, North Africa and Eastern Europe who share our interest in their Sports Traumatology, Arthroscopy and Knee Surgery Congress.

This reminds me of the time when the European Society (ESSKA) was founded to bring together European surgeons with the same interests, and how two great international societies, the International Society of the Knee (ISK) and the International Arthroscopy Association (IAA), were united as ISAKOS only five years ago. David Dandy of the IAA and Kenneth DeHaven of the ISK had the vision to realize that their two organizations had a common interest with sports tra-

Continued on page 10

ISAKOS Welcomes New Members

ASSOCIATE MEMBERS

Abbas Al-Numairy, M.B.B.Ch., M.Sc., Dubai, United Arab Emirates • Carlos A. Alvarado, M.D., Lima, Peru • Ron Arbel, M.D., Hod-Hasharon, Israel • Camilo Azar, M.D., Santiago, Chile • Jean-Marie Beguin, M.D., Brussels, Belgium • Hanfred Bernard, M.D., Berlin, Germany • Seong-Il Bin, Seoul, Korea • David N.M. Caborn, Lexington, Kentucky, USA • Carlos C. Canessa, M.D., Santiago, Chile • Paul Chang, M.D., Singapore • Chih-Hwa Chen, M.D., Taoyuan, Taiwan • Jaehoon Chung, Kwangju, South Korea • Antonio Correa, Porto Alegre, Brazil • Juan Durruty, M.D., Santiago, Chile • Saul Eichenblat, M.D., Rehovot, Israel • Andree Elleremann, Pforzheim, Germany • Salah H. El-Nour, Riyadh, Saudi Arabia • Julian Feller, FRACS, Bundoora, Australia • Braden C. Fleming, Ph.D., Burlington, Vermont, USA • Roberto Gaffree, M.D., Bage, Brazil • Robert Ghatan, M.D., Alhambra, California, USA • Andreas Gobel, M.D., Wiesbaden, Germany • Alvarez Golano, M.D., Barcelona, Spain • Hector Mauricio Guarda, M.D., Osorno, Chile • Sharon Hame, Sherman Oaks, California, USA • Kevin Hargrove, M.D., Oklahoma City, Oklahoma, USA • Hiroshi Higuchi, M.D., Maebashi-shi, Japan • William D. Hovis, M.D., Knoxville, Tennessee, USA • Ivan Hrgetic, M.D., Caracas, Venezuela • Carlos Infante, M.D., Santiago, Chile • Ernest Irha, M.D., M.Sc., Zagreb, Croatia • Aleksandar Jakovljevic, M.D., Banja Luka, Bosnia • Daniel Kalbac, M.D., Miami, Florida, USA • Jon Karlsson, M.D., Ph.D., Gothenburg, Sweden • Michael Klinger, M.D., Bad Hersfeld, Germany • Toannis Konstantinidis, M.D., Kozani, Greece • Robert F. LaPrade, M.D., Minneapolis, Minnesota, USA • Dong-Chul Lee, Dae Gu, South Korea • Young-Soo Lee, M.D., Ph.D., Sungnam, South Korea • Jose M.A. Mardones, M.D., Santiago, Chile • Jose Matas, Santiago, Chile • Humberto Mena, M.D., Sao Paulo, Brazil • Hector W. Mendez, M.D., Cochabamba, Bolivia • Andrzej Mioduszewski, M.D., Warsaw, Poland • Yasuaki Nakagawa, M.D., Kyoto, Japan • Roberto Negrin, M.D., Puerto Varas, Chile • John B. O'Donnell, Baltimore, Maryland, USA • Yasumitsu Ohkoshi, M.D., Hokkaido, Japan • Greciet A. Ojeda, M.D., Concepcion, Chile • Fernando Olavarria, M.D., Santiago, Chile • Maria A. Orellana, M.D., Buenos Aires, Argentina • Mario Orrego, M.D., Santiago, Chile • Andres Pakuts, M.D., La Serena, Chile • Pericles P. Papadopoulos, M.D., Thessaloniki, Greece • Leopoldo Parada, M.D., Con Con, Chile • Leo Pinczewski, M.B.B.S., FRACS, Crows Nest, Australia • Gustavo M.A. Pires, M.D., Fortaleza, Brazil • Carlos H. Poisl Jr., M.D., Rio Grande Do Sul, Brazil • Ludwig A. Pontoh, M.D., Jakarta, Indonesia • Bruce I. Prager, M.D., Dallas, Texas, USA • Moshe Pritsch, M.D., Ramat Gan, Israel • Milton Quijada, M.D., Santiago, Chile • Michael R. Redler, M.D., Trumbull, Connecticut, USA • Mario G. Rivera, M.D., Cochabamba, Bolivia • Anthony Romeo, M.D., S.C., Willowbrook, Illinois, USA • Nahum Rosenberg, M.D., Haifa, Israel • Eduardo A. Ruggieri, M.D., Cordoba, Argentina • Valdet Saciri, M.D., Ljubljana, Slovenia • Marc R. Safran, M.D., Anaheim, California, USA • Claudio H.M. Saluzzi, M.D., Buenos Aires, Argentina • Seung-Suk Seo, M.D., Pusan, South Korea • Matsuyuki Shimizubata, M.D., Ph.D., Toyooka City, Japan • Dong-Bae Shin, M.D., Anyang, South Korea • Etsuo Shoda, M.D., Hyogo, Japan • Robert Smigielski, M.D., Warsaw, Poland • Matthias Speck, M.D., Karlsbad, Germany • Robert Swierczynski, M.D., Ph.D., Warsaw, Poland • Rodrigo Hernandez Tagle, M.D., Santiago, Chile • Humberto Villegas Tapia, M.D., Carilla, Chile • Carol Teitz, Seattle, Washington, USA • Kam Tho, M.B.B.S., FRCS, Singapore • Yuki Yoshi Toritsuka, M.D., Ph.D., Osaka, Japan • Dimitrios Tsoukas, M.D., Athens, Greece • Ahmet Ugur Turhan, M.D., Trabzon, Turkey • Gehrard Uawzyl, M.B.Ch.B., Cape Town, South Africa • Hernan Ulloa, M.D., Santiago, Chile • Ioannis Valavanis, M.D., Ph.D., Athens, Greece • Carlos E.S. Vaz, Londrina, Brazil • Carlos M. Villalba, M.D., Cordoba, Argentina • Ching J. Wang, M.D., Koahsiung Hsien, Taiwan • Bruce L. White, Hallidays Point, Australia • Savio L-Y Woo, Ph.D., Pittsburgh, Pennsylvania, USA • William B. Workman, Walnut Creek, California, USA

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FROM THE ISAKOS OFFICE

ISAKOS Establishes OREF Endowment Fund

It is a pleasure to inform our membership that ISAKOS has partnered with the Orthopaedic Research and Education Foundation (OREF) and will establish an endowment fund with the foundation at the close of the 2000 calendar year. By establishing this endowment fund, ISAKOS members will have a tremendous opportunity to support our society in perpetuity by contributing to OREF and designating the ISAKOS Endowment. ISAKOS will join a list of 17 other organizations that now have a multi-donor endowment at the foundation.

OREF continues to make it a high priority to establish partnerships with other orthopaedic organizations. By working with many different organizations within a specialty, OREF can maximize the dollars available to support high-quality research and education programs. Established in 1955, OREF has proudly funded more than \$40 million to young and new investigators through more than 1,300 grants and awards.

Generous supporters of OREF include orthopaedic surgeons, physician groups, institutions, corporations and grateful patients.



As you consider your charitable giving at year-end, please consider participating in the ISAKOS Endowment at OREF. Simply write-in **ISAKOS Endowment** in Box E of any OREF contribution envelope. We look forward to keeping you updated on the success and growth of this endowment at OREF, and thank you in advance for your participation. For more information contact:

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Vice President – Development
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E-mail: malone@oref.org

Upcoming ISAKOS-Approved Meetings

17th International Jerusalem Symposium March 28- 29, 2001

Shoresh Hotel
Jerusalem, ISRAEL

This symposium is a traditional event held annually in Israel, and all presentations will be given in English. It is a purely academic, non-profit event aimed at providing theoretical and practical education to young doctors and surgeons.

For further information, please contact: Dr. Gideon Mann, fax: +972 2.652.8231; e-mail: howrob@gazernet.co.il

Argentina 2002 – Arthroscopy Congress May 22-25, 2002

Sheraton Hotel & Convention Center
Buenos Aires, ARGENTINA

For further information, please contact: Miss Laura Paola Espósito, Meetings Coordinator, Asociacion Argentina de Artroscopia, Montevideo 1546 1° floor, 1018 – Capital Federal, Buenos Aires, ARGENTINA; telephone: +54 11 4811-2089 or +54 11 4816-8191; fax: +54 11 4811-2389; or e-mail: artroscopia_arg@ciudad.com.ar

Keep Your Member Information Current!

ISAKOS Members: Help us keep your information current! Please visit the ISAKOS Web site at www.isakos.com and check your listing in the online Membership Directory to verify that we have your correct address, telephone numbers and e-mail address. Please notify the ISAKOS office if any of your information is missing or incorrect.

2001 ISAKOS Congress Program Takes Shape

Per A. Renström, M.D., Ph.D., Stockholm, Sweden, 1999-2001 Program Committee Chairman

There are only a few months left before the next ISAKOS Congress in Montreux. The Preliminary Program has been printed, and the format of the meeting has taken shape.

For three intensive days in August, the members of the Program Committee met in New York, New York, and worked to develop an outstanding program. Paolo Aglietti from Italy, Gideon Mann from Israel, Anastasios Georgoulis from Greece, former program chairman Terry Whipple from the USA, and I worked to develop an array of symposia and lectures. We scrutinized every paper to ensure a proper order and representation. I would like to thank these people, as well as Michele Johnson and Kathryn Grady, for their enormous work and constructive support of ISAKOS.

Scientific Papers and Posters

Last summer, we were excited to receive more than 800 abstracts. After extensive scrutiny by our committees, 200 were selected as podium presentations to create a broad and exciting program. Because of time limitations and programming needs, many good abstracts were turned down as podium presentations. They will instead be offered as poster presentations. Poster authors will attend the more than 400 poster displays at a special evening reception, providing a better opportunity for examination and unlimited discussion. The poster displays and reception will be an exceptional component of the conference.

Instructional Course Lectures

Every morning from Tuesday to Friday will start with instructional courses. There will be six courses each day, in total 24 courses. These courses will cover a wide variety of current topics. For the first time in ISAKOS history, these lectures will be free of charge to all attendees.

Symposia & Special Lectures

An array of high-caliber symposia, led by internationally recognized specialists, will highlight the program throughout the week. We will also feature mini-symposia, where current concepts will be debated.

Current topic clinical lectures will be presented and some sports-related questions will be discussed. Topics will include



The Program Committee met in August 2000 to develop the five-day program for the 2001 ISAKOS Congress.

anterior cruciate ligament (ACL) surgery in adolescents, subtalar instability, knee fractures, shoulder impingement, early osteoarthritis, fate of bone bruises, patella tendinopathy, SLAP lesions, anterior tibial stress fractures, carving skis and elbow impingement.

ISAKOS President Roland Jakob, M.D., has selected his Presidential Guest Lecturers: Joseph Buckwalter from the USA and Wahid Al-Kharusi from Oman.

Live Surgical Demonstrations & Workshops

Between Monday and Thursday, free to all attendees, nine live surgical demonstrations will be performed on cadaver specimens. Highly qualified surgeons will use the most cutting-edge instrumentation available.

Mini hands-on workshops will be available to all at lunchtime each day. Participants will learn and evaluate new techniques and equipment pertaining to meniscal repair, ACL and PCL surgery, articular cartilage repair, shoulder labrum repair and total joint arthroplasty.

There will also be an ongoing knot-tying workshop, allowing participants to learn and practice the most commonly used arthroscopic knots and knot-tying techniques. Models will be used to replicate shoulder anatomy and the arthroscopic approaches for rotator cuff and Bankart repair.

Education Through Multimedia

A multimedia center, open throughout the day, will offer free viewing of videotapes and CD-ROMs from the American Academy of Orthopaedic Surgeons (AAOS) video library. It will run continuously throughout

the week for ongoing independent study.

An Internet Cafe will offer access to e-mail and Internet surfing.

Social Events

The social program will be extensive. A grand welcome reception will be held next to the convention center on Monday evening, at an elegant restaurant overlooking the lake. The balconies overlook the lake and nearby Alps. You will want to enjoy the views.

Two nights later we will host a Poster and New Member Reception, providing the opportunity to meet with the poster authors and new ISAKOS members. Enjoy the Montreux wine and Gruyères cheese with us in the convention center.

There will be an ISAKOS morning "Fun Run" along the shores of Lake Geneva on Wednesday morning. The start line will be just in front of the convention center, so participation will be convenient. Tours will offer attendees a chance to visit the International Olympic Museum in Lausanne, one of the most outstanding sports museums in the world.

The Farewell Banquet will be held on Thursday evening at the famous Nock Circus. We have worked hard to ensure that ticket prices are kept low, and we hope all attendees will join us.

The program promises to be outstanding. We wholeheartedly welcome you to this meeting and look forward to seeing you in Montreux this coming May.

Montreux Offers a Range of Activities to All ISAKOS Guests

ISAKOS attendees and their guests will enjoy a wide variety of activities outside the walls of the Montreux Convention Center. Montreux is unusually warm in May – an average of 22°C (71°F) during the day – yet the snow-covered Alps and late spring winter sports are just a short drive away.

Congress Social Events

Congress attendees will be entitled to two receptions, and for the first time in ISAKOS history, all attendee guests will be invited to join the events free of charge. Join your peers for the Welcome Reception, which will be held Monday evening at the elegant Petit Palais of the royal Montreux Palace Hotel. The restaurant, with its balconies overlooking Lake Geneva and distant Evian, France, will be alive with Montreux jazz music and hosted cocktails.

On Wednesday, the Poster and New Member Reception will permit congress attendees to view more than 400 scientific posters, visit with the poster authors and enjoy a bit of wine and cheese with ISAKOS' newest members.

On Wednesday morning, May 16, attendees and guests are invited to participate in the morning "ISAKOS Fun Run." This short run will extend along the shores of Lake Geneva, behind the convention center, and is sure to be a memorable experience for all.

Farewell Banquet at the Nock Circus

Aircast® Inc. and Smith & Nephew Endoscopy have contributed to ISAKOS to ensure a memorable and affordable Farewell Banquet at the congress on Thursday evening. To allow as many people as possible to attend, we have moved the Farewell Banquet from the Chillon Castle to the circus.

The Nock Circus is famous for its trapeze acts, animals and clowns. This fantastic event will be accompanied by dinner, followed by dancing under the tent. Make sure you purchase Farewell Banquet tickets and join us. It is sure to be a one-of-a-kind, spectacular evening!

Congress Day Tours

The ISAKOS Office has worked closely with the Montreux Convention Office to

develop a schedule of tours especially for ISAKOS Congress attendees. Highlights of the tour menu include the famous Chillon Castle, the local wine vineyards, the Matterhorn peak and village of Zermatt, and the International Olympic Museum in neighboring Lausanne.

Tour details and the tour registration form are available in the insert section of the Preliminary Program or on the ISAKOS Web site at www.isakos.com.

Spouse Program

Spouses of congress attendees are invited to register for a special program that provides all spouses with a morning breakfast at the convention center and daily tours. If your guest would like to meet other spouses, this is the program. Special spouse tours are designed to work around other congress day tours.

Highlights of the Spouse Program include a walking botanical tour of Montreux and a museum visit in Berne, to view the world's greatest collection of works by Paul Klee.

Spouses can be registered for the program on the congress registration form.

ISAKOS Congress Features 9 Live Surgical Demonstrations

ISAKOS is offering a series of live surgical demonstrations on cadavers, free to all congress attendees. All demonstrations will be interpreted into French, Spanish and Italian. Scheduled surgical demonstrations include:

Monday, May 14

4:50 p.m. - 5:25 p.m.

Arthroscopic ACL

Stephen Howell, M.D., USA

Sponsored by Arthrotek

5:25 p.m. - 6:00 p.m.

Arthroscopic ACL With STG Graft Using Absorbable Femoral Cross Pin System and Tibial Graft Tensioning With 'Intrafix' Fastener

Raymond Thal, M.D., USA

Sponsored by Mitek Surgical Products

Tuesday, May 15

11:30 a.m. - 12 p.m.

Endoscopic Tendon Surgery

Niek Van Dijk, M.D., The Netherlands

Sponsored by Smith & Nephew Endoscopy

5:10 p.m. - 5:40 p.m.

A New Method to Identify Bony Deficiencies of the Glenoid to Predict Success Potential of Arthroscopic Bankart Procedures

Joe DeBeer, M.D., South Africa

Sponsored by Smith & Nephew Endoscopy

5:40 p.m. - 6:10 p.m.

New Bio-absorbable Anchoring Devices in Shoulder Surgery

Philippe P. Hardy, M.D., France

Sponsored by Arthrex Inc.

Wednesday, May 16

11:30 a.m. - 12 p.m.

Femoral and Tibial Opening Wedge Osteotomy

Giancarlo Puddu, M.D., Italy

Sponsored by Arthrex Inc.

Thursday, May 17

10:55 a.m. - 11:30 a.m.

Meniscal Repair

David Caborn, M.D., USA

Sponsored by Smith & Nephew Endoscopy

11:30 a.m. - 12 p.m.

Autologous Chondrocytes: Implantation Procedure

Scott D. Gillogly, M.D., USA

Sponsored by Genzyme Tissue Repair

4:15 p.m. - 4:45 p.m.

Arthroscopic Rotator Cuff Repair With the Super Revo

Alessandro Castagna, M.D., Italy

Sponsored by Linvatec

Scientific Committee Soliciting Ideas for Multicenter Study

Scientific Committee

Alexandra Kirkley, M.D., FRCS, Vice-Chair

The scientific committee of ISAKOS is committed to the development and implementation of an international multicenter randomized clinical trial in orthopaedic sports medicine. In doing so, our organization will take a lead role in orthopaedic clinical research.

The cost in time, effort and money of a large-scale trial is significant, and it will be a challenge to piece together funding from granting agencies and industry in different countries. Therefore, it is imperative that the research question be an important one. At this time we are soliciting ideas for the scientific question that will be answered by the trial, keeping in mind that this should deal with a relatively common orthopaedic problem that has major impact on the quality of life of patients and where there is an area of significant controversy in the prevention or treatment thereof. If you would like to voice your opinion on the research question, please submit it to Dr. Alexandra

Kirkley by fax at +1 (519) 661-4052, or e-mail akirkley@julian.uwo.ca.

An example of a suggested question is: Is electro shock wave therapy better than sham electro shock wave therapy for the reduction of pain and improvement of disease specific quality of life in patients with chronic rotator cuff tendinosis?

The scientific committee met by conference call in the Fall 2000 and will finalize a protocol at the meeting of the committee at the AAOS Annual Meeting in San Francisco. We will be soliciting volunteer ISAKOS members to be involved in the study at an informational meeting at the 2001 ISAKOS Congress in Montreux, Switzerland.

Membership Committee

Moises Cohen, M.D., Chairman

The Membership Committee's main goal is the diversification and expansion of ISAKOS membership. In the past three years we have increased our membership by 35 percent. The reaction has been highly positive and we are

receiving application forms from all over the world. We are pleased because many well-known surgeons of our specialty are joining ISAKOS, which is a clear indication of the society's recognition. Many colleagues from distant countries have been looking to ISAKOS as an important professional affiliate.

Today, ISAKOS is the legitimate universal representative of all interested specialists in knee, arthroscopy and orthopaedic sports medicine.

The ISAKOS membership application is available in English and Spanish and soon in Portuguese. The annual membership fee is US\$200, which includes a subscription to the journal *Arthroscopy*, biannual ISAKOS newsletters and reduced registration fees at the ISAKOS Congress. ISAKOS encourages membership by all members of the following societies: American Orthopaedic Society for Sports Medicine (AOSSM); Arthroscopy Association of North America (AANA); Asia Pacific Orthopaedic Society for Sports Medicine (APOSSM); Knee and Orthopaedic Sports Medicine Section of the Western Pacific Orthopaedic Association (WPOA); European Society of Sports Traumatology, Knee Surgery, and Arthroscopy (ESSKA); or Sociedad Latino Americana de Ortopedia y Traumatologia (SLARD).

To obtain an ISAKOS membership application, contact the ISAKOS office by fax at +1 (925) 314-7922, e-mail isakos@isakos.com, or you may download an application from the ISAKOS Web site at www.isakos.com.

To become an active member, the ISAKOS Office must receive all applications by February 1, 2001, to be reviewed at the AAOS Meeting in San Francisco, California (February 28, 2001) and at the ISAKOS Congress in Montreux, Switzerland (May 14-18, 2001).

Strategic Planning Committee

Terry Whipple, M.D., Chairman

The Strategic Planning Committee has a full agenda for the young and immature years of our new society. Based on input from group leadership sessions, committee members and others, we are helping various committees lay the groundwork for the following plans:

- Donating and sharing education and technical training with underdeveloped countries.

ISAKOS Committee Meeting Schedule

AAOS Annual Meeting • Sheraton Palace Hotel • San Francisco, CA, USA

Tuesday, February 27

6 p.m. - 10 p.m. Executive Board of Directors Telegraph Hill Room

Wednesday, February 28

8 a.m. - 9:15 p.m.	Communications Committee/Breakfast	Presidio Room
9:30 a.m. - 10:45 a.m.	Upper Extremity Committee	Presidio Room
10 a.m. - 10:45 a.m.	Knee Committee	Telegraph Hill Room
11 a.m. - 2 p.m.	Sports Medicine Committee/Lunch	Presidio Room
11 a.m. - 2 p.m.	Arthroscopy Committee/Lunch	Telegraph Hill Room
2:30 p.m. - 4 p.m.	Membership Committee	Presidio Room
2:30 p.m. - 4 p.m.	Scientific Committee	Telegraph Hill Room
4:15 p.m. - 5:15 p.m.	Education Committee	Presidio Room
4:15 p.m. - 5:15 p.m.	Bylaws Committee	Telegraph Hill Room
5:30 p.m. - 6:30 p.m.	Site Selection Committee	Presidio Room

Thursday, March 1

7:30 a.m. - 11:30 a.m.	Program Committee	Telegraph Hill Room
12:00 p.m. - 1:30 p.m.	Strategic Planning Committee/Lunch	Telegraph Hill Room
1:30 p.m. - 2:30 p.m.	Finance Committee	Telegraph Hill Room
3 p.m. - 4 p.m.	Executive Board of Directors	Telegraph Hill Room
4 p.m. - 6:30 p.m.	Board of Directors	Telegraph Hill Room
6:30 p.m. - 7 p.m.	Staff Meeting	Telegraph Hill Room

- Cooperating with international organizations such as the Red Cross and National Olympic Committees.
- Balancing the academic appeal of ISAKOS to joint reconstruction surgeons.
- Organizing traveling fellowship programs for members with commercial financial sponsors.
- We are challenged with making communication between members and ISAKOS committees easier via the Internet.

The plate is full and we encourage your input to any member of the Strategic Planning Committee.

Finance Committee

K.M. Chan, M.D., *Chairman*

Since ISAKOS took on an independent management office, we have invested in capital office equipment and information technology systems. This is an important long-term strategic development with the aim of serving our membership more effectively and building up links and partnership with the industry.

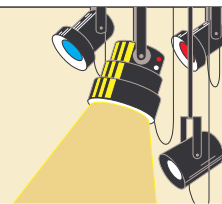
For the 2001 ISAKOS Congress, we will need extensive networking in soliciting sponsorship from corporate and industry. The Finance Committee would like to appeal to our membership to look for possible partners who have an interest in staging an exhibition or achieving corporate visibility at the

ISAKOS Congress. The ISAKOS Office would contact the corporations directly for arrangements. Since this is the premiere meeting with world-leading specialists, it should be an attractive occasion.

The Finance Committee is also considering the engagement of a financial firm to invest our funds more effectively. We shall scrutinize these proposals very carefully, balancing profitability and security. This is one of the measures in building a good financial foundation for our society.

Once again, I would like to appeal to our membership for support. This is the lifeline of our society's existence and prosperity. See you soon in Montreux!

Spotlight on Teaching Centers: Kassel Orthopedic Hospital, Kassel, Germany



The Kassel Orthopedic Hospital (OKK) is one of the largest specialty hospitals covering all aspects of orthopaedic and traumatologic medicine in Central Germany. Per year we treat more than 5,000 patients on our wards and conduct over 4,000 surgical procedures. In our specialized ambulatory clinics, which for example include pediatric orthopaedics, a rheumatoid clinic and a clinic for the treatment of high performance athletes, we take care of about 100 outpatients daily.

Our hospital participates in the development of new therapies, such as computer-assisted surgery, shock wave treatment and medical training therapy (MTT). These new therapeutic possibilities are closely followed up in prospective studies and the results thereof presented in national and international meetings.

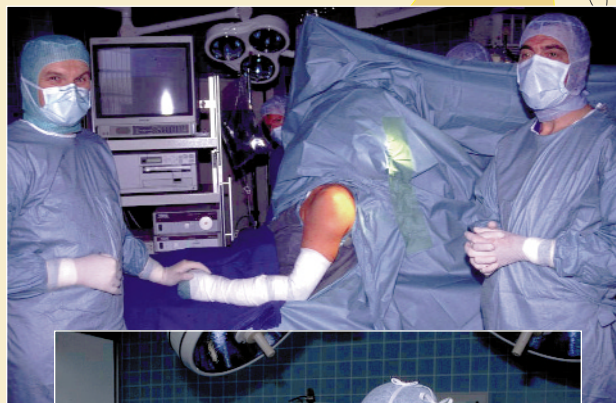
As a teaching center, the OKK offers training in the following fields: arthroscopy of the knee, shoulder and other joints; endoprosthetic surgery of the knee and hip (conventional, computer and robot-assisted); spinal surgery; shock wave therapy; MRI for orthopaedists; and chiropractic medicine.

Our educational program is based on flexibility and individual training. Alongside our annual symposia on the above-mentioned subjects, doctors can visit our hospital for any length of time to observe a certain type of operation or therapeutic procedure.

A guest physician can come for one day, a few days or several weeks to train in a specific area or to learn about several different aspects of orthopaedic medicine. For example, the Indian-German Orthopaedic Society (IGOF) regularly sends its members to train in our hospital for a three- to four-week period. Furthermore, foreign doctorands can complete their doctorate thesis within a time span of a few years.

The OKK is located in the northern part of the German State "Hesse" and is easily reached via the Autobahn or by the high-speed ICE-train.

To find out more about our educational program and our work as an ISAKOS Teaching Center, please contact: Kassel Orthopedic



Top: Prof. Siebert, Medical Director of the OKK, immediately before conducting arthroscopic surgery of the shoulder. Bottom: View of robot-assisted arthroplastic surgery using the CASPAR-system.

Hospital (OKK), Prof. Dr. med. Werner E. Siebert, Medical Director and Chairman, Wilhelmshoer Allee 345, D-34131 Kassel, GERMANY; telephone: +49 0561 3084-246; fax: +49 561 3084-204; e-mail: wsiebert@okkassel.de

Arthroscopy Committee

Andre Frank, M.D., *Chairman*

The Arthroscopy Committee has been working in three main directions:

1. Standardized Terminologies and Lesion Classification. The committee has designated subcommittees to work on the challenge of creating uniform international definitions. Knee, shoulder, ankle and wrist are well-advanced.

2. International Multicenter Studies.

Five multicenter studies have been initiated; data sheet and computer data basis should be available soon:

- Arthroscopy in elderly patients, A. Finsterbush
 - Randomized multicenter study comparing open and endoscopic surgical treatment of jumper's knee, B. Jakobsen, N. Van Dijk
 - Shoulder instability: Arthroscopical shrinkage, P. Hardy
 - Painful meniscectomized knee: Revision arthroscopy, A. Frank
 - Cystic degeneration of the meniscus, H. Pinar
- Three other studies will follow:
- Arthroscopic treatment of Kienbock disease
 - Arthroscopic treatment of hip osteochondromatosis
 - OCD of the condyles (grade 2 and 3)

3. Bank of Photos/Videos Concerning Arthroscopic Findings and Procedures.

The Internet has an extraordinary power concerning arthroscopic images. One of our projects would be to collect photos of arthroscopic findings and procedures (and possibly videos in the future) for educational purposes. All these data could be easily accessible on the ISAKOS Web site (or any other) and on CD-ROM.

Sports Medicine Committee

Gideon Mann, M.D., *Chairman*

In September 2000, the Sports Medicine Committee had an additional meeting during the ESSKA meeting in London and discussed the following issues:

Definition of the Sports Medicine Committee

The tendency in our committee was to avoid concrete definition and act according to ISAKOS policies without limiting thoughts or initiatives.

Connections With Sports Trauma Societies

Our committee will attempt to form connections with national sports injury societies. Accordingly, ISAKOS members are called upon to forward contact information and e-mail addresses of such societies to Dr. Hulylebroek or Dr. Mann via the ISAKOS Office.

ISAKOS Series in Sports Medicine

The issue is due to be implemented in the coming months based on the symposia and instructional courses planned for the ISAKOS Congress. Mode of publication has not yet been finalized. Any suggestions from ISAKOS members would be appreciated.

Citation Awards at ISAKOS Congress

Citation awards (not carrying financial benefit) will be presented to the best three papers and posters in sports medicine at the 2001 ISAKOS Congress. Subcommittees were selected to advance this mission.

Research in Prevention and Rehabilitation

- a) A suggestion to search for subjects, researchers and grants for research in prevention and rehabilitation was widely discussed during our meeting
- b) Any suggestions would be appreciated. Please contact Dr. Rolf or Dr. Mann via the ISAKOS Office.

Congratulations

- a) To Dr. Krahl for his position as Director of the Medical Park institution.
- b) To Dr. Rolf for his position as Director of the Sheffield Institute of Sports Medicine.
- c) ISAKOS members considering a fellowship should contact our committee for further information.

ISAKOS Thanks 2001 Congress Sponsors

ISAKOS thanks the following companies for their generous donations to the ISAKOS Congress. Their sponsorships have made the congress more affordable and accessible to our attendees; it would be impossible to have an international congress without their support.

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Sulzer Orthopedics – Sulzer Orthopedics is the orthopedic division of Sulzer Medica, a world leader in medical technology with its headquarters in Winterthur, Switzerland. Sulzer Medica had CHF 1182 Mio. turnover in 1999 with around 3,200 employees worldwide and operates in joint and fracture care, spinal implant, dental implant, heart valve,

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At the ISAKOS Meeting Sulzer Orthopedics proudly presents its innovative products for soft tissue regeneration and repair as well as the knee and upper extremities range of products.

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International Symposium Held in Riyadh, Saudi Arabia

The Security Forces Hospital in Riyadh, Saudi Arabia organized the International Symposium on Bone and Joint Surgery in the Current Decade 2000 in October.

The Knee Wet Lab Workshop covered basic arthroscopy, arthroscopic meniscal surgery and repair, and arthroscopic ACL reconstruction using patellar tendon and hamstring. There were three sessions each for six hours, with six stations attended by 54 candidates.

Dr. Charles Brown, Clinical Instructor Orthopaedics, Brigham and Women's Hospital, supervised the knee course with assistance from the international and national faculty. Dr. Brown demonstrated a master technique of PCL reconstruction using double-band technique and posterolateral corner reconstruction.

The Foot and Ankle Surgery Workshop included forefoot, hind foot reconstruction, arthroscopic plantar fascia release and ankle arthroscopy. The international faculty supervised the foot course, chaired by Thomas Chang, Professor of Podiatric Surgery, California College of Podiatric Surgery, and Dr. Kai Olms, President of Foot Foundation

for Foot Surgery, Bad Schwatau, Germany.

The Knee Wet Lab was attended by 54 candidates, and the master technique was attended by more than 200 participants. The three international faculty members supervised both courses with assistance from 15 regional and local instructors headed by Dr. Mohammad Mufti, Director of Security Forces Hospital.

ISAKOS approved the course and several ISAKOS members were included as faculty.

Security Forces Hospital is grateful to Smith and Nephew for their generous contribution as a main sponsor for the Knee Wet Lab Workshop. MicroAire and other sponsors contributed to the Foot and Ankle Surgery Workshop.

We are grateful to the international faculty, ISAKOS, the sponsoring companies and



our 15 national and regional instructors who contributed to the meeting.

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Now you can register for the 2001 ISAKOS Congress online. Just go to register.isakos.com, enter your registration information, and provide a credit card for payment. You will receive a confirmation of your registration by mail.

Save \$75 off the registration fee if you register before March 1, 2001. The deadline for pre-registration is April 1, 2001; all registrations received after April 1 will be processed on-site at the meeting in Montreux.

If you prefer to submit your registration by fax or mail, you can download the Preliminary Program and registration form from the ISAKOS Web site at www.isakos.com.

Turkish Society Holds Fifth Biannual Meeting

Gideon Mann, M.D., Mevaseret Zion, Israel

The Fifth Biannual Meeting of the Turkish Society of Sports Traumatology, Arthroscopy and Knee Surgery was held in Istanbul on October 24-27, 2000, under Dr. Omer Taser as Acting President, Dr. Aziz K. Alturfan as Honorary President and Dr. John P. Fulkerson as Honorary President.

The meeting was supported by many of the acting members of the Turkish Society and was attended by an outstanding international faculty. Technical organization was superior, and the supportive administrative team was extremely efficient and pleasant.

Many messages were conveyed during the scientific discussions, some controversial, and others widely accepted, and all accompanied by a lively and interesting discussion and audience participation.

Congratulations on an outstanding meeting!



Arthroscopic Surgery and Virtual Reality: Development of a Virtual Arthroscopic Trainer

Philippe Hardy, M.D., Boulogne, France



There is an increasing demand for education and training in arthroscopic procedures. Answering this demand presents certain challenges that are specific to arthroscopic

surgery, such as orientation, instrument handling, hand-eye coordination, and working in 3-D while looking in 2-D.

Most established surgical training methods are obsolete for different reasons: animals are far from human anatomy, plastic models lack realism, fresh cadavers are available in limited numbers, and in some countries isolated joints are prohibited. Training on patients is open to criticism and incompatible with the quality level asked by third-party payers. Virtual arthroscopy should be considered as an alternate training method for arthroscopic surgery.

Virtual reality for arthroscopic surgery teaching and development allows continuous and repetitive training at a low cost. Surgeons are able to improve their skills on a trainer instead of patients. In the future, we will be able to participate in practice sessions via the Internet, and to organize telemedicine, tele surgery and tele teaching.

The virtual arthroscopic trainers also allow evaluation – evaluation for the surgical residents in their learning curve and evaluation of practicing orthopaedic surgeons for accreditation purposes.

Virtual reality is a real-time interactive visual simulation developed in 1960 for pilot training and is used now more and more for training and developing surgical techniques and improving skills. With the virtual arthroscopic trainer it is possible to assess progress of the surgeon or the residents, and to bring more experience to the operating table with less cost and less time. Virtual reality technology until now was too expensive and impractical for medical use. New tools and new software are now available and affordable for the medical community.

This technology allows interactive, real-time training in an intelligent 3-D environment. Virtual arthroscopic trainer equipment needs a seamless graphics system, force feedback instruments and virtual arthroscopic instruments. The computer is used as a visual monitor.

Virtual reality will not replace real-life surgical training but will ensure that residents' first experience with a patient is a safe one. The virtual arthroscopic trainer can also be proposed to device manufacturers for device prototyping, evaluation and marketing. The virtual arthroscopic trainer (V.A.T.) minimizes development costs and allows functionality and ergonomics testing. For marketing the V.A.T. can be used for demonstration of new surgical devices and techniques. Universities will be involved in V.A.T. programs for procedure and device education, assessing trainees or monitoring surgeon progress in order to reach the confidence level needed to move on to patients.

Hospitals and clinics can use the V.A.T. for three main purposes: pre-operative planning, procedure innovation and patient education. Pre-operative planning will be possible by introducing patient imaging (MRI), in order to simulate the procedure on a virtual patient created with specific data. Procedure innovation includes redesign of procedure, new device development and new approach development. V.A.T. enhances patient awareness about the procedure, informs the patient about risks and benefits, and involves the patient in the decision-making process. All this information could be included in the hospital or clinic Web site.

The first problem is to recreate the anatomy. The University of Colorado investigators have worked on the coronal man project and have developed a visible human male navigator. This project was created from a set of digital images from a frozen cadaver allowing synthesis of a complete volume of anatomy. 1878 axial photographic images of the body were taken with a 1 mm interval. They were numbered from 1001 to 2878, and the computed reformatting of the 1878 axial images was performed creating coronal plane images. Prosolvia Clarus from Sweden has created an anatomical shoulder

model including the glenohumeral joint and subacromial bursa. This was fully created in the computer using 3-D graphics software. Another option could be the use of radiological imaging with volume CT acquisition, and 3-D MRI. GE medical system engineers have created a program of virtual endoscopy (bronchoscopy, vascular and neurosurgery).

The main problem is to adapt virtual anatomy to virtual arthroscopy creating a virtual articular cavity model, a virtual endoscope and virtual arthroscopic instruments. Force feedback devices allow the surgeon to get tactile information, but in arthroscopy the surgeon adapts many of his movements in response to tissue deformation seen on the monitor. Reconstruction of an articular cavity model needs 3-D graphics software. Different options can be employed: adapting existing data files (coronal man), creating new data files for articular cavity anatomy, inflating the joint before cryo-section in the position of arthroscopy.

The software has to create a virtual endoscope with variable angles such as 30° and 70°, including rotation of the arthroscope and opening angle of the lens. Virtual instruments are created such as probes, punches, shaver blades, and lasers all having a variety of shape, structure and function. Force feedback devices are available allowing the surgeon to feel the virtual environment. To create tissue deformation, a tissue stress analysis is necessary. Tissue stress analysis is included in a static and dynamic way with a contact stress analysis. This step uses finite element analysis of meniscus, labrum, ligament, cartilage, soft tissues, capsule, cuff....

The V.A.T. is also able to score the trainee's skill. Scoring of the trainee's skill is based on accuracy, ability, capability and learning progression. The training program is organized using virtual reality beginning with normal arthroscopic anatomy, manipulative skills, then presentation of various diseases, diagnostic skills, selection of treatment and surgical procedure performance. The second step is to introduce pathologies using MR, 3-D CT or ultrasound, creating a

Continued on next page

Arthroscopic Surgery and Virtual Reality

(Continued from page 9)

full virtual patient model allowing one to prepare the procedure (e.g., approach, tools). The training surgeon is able to practice the virtual procedure and then compare

the virtual procedure to the real procedure.

In conclusion, in the future, the virtual arthroscopic trainer will play a more prominent role in arthroscopic surgery teaching, device and procedure development, surgeon evaluation and patient information.

President's Message

(Continued from page 1)

ma and should work together, forgetting their past. It took more than a decade of careful planning and cooperation for them to achieve this goal. They deserve our gratitude.

Each country has its own political and clinical needs, and it would be wrong for ISAKOS to suggest how any nation should conduct itself. The role of ISAKOS is to improve the exchange of ideas and knowledge between nations, not to interfere with national or local politics. Arthroscopy, knee surgery and sports traumatology are separate specialties, and at first sight they are a disparate group. Total knee replacement has little in common with arthroscopy of the shoulder or plantar fasciitis, but some surgeons who replace the knee also reconstruct the anterior cruciate ligament (ACL), and some who replace the ACL treat athletes with foot disorders. There are genuine areas of shared interest: a cooperative grouping of all three specialties works well in Turkey, Greece and Europe, and internationally as ISAKOS.

An alternative is for the three specialties to form separate associations, but this can lead to problems of scale with small associations competing for funding, speakers, professional cooperation with industry and, most importantly, the available time of busy surgeons. If your country has separate associations with each arranging its own small meetings, and you do not have the time to attend as many as you wish, the ESSKA/ISAKOS model may be worth considering.

Small associations have their own traditions, internal politics can be intense, and sudden amalgamation may be impossible.

Yet it is not necessary to amalgamate associations to enjoy the advantages of scale, and politics need not be an obstacle to cooperation. Joint meetings held simultaneously, consecutively or with an overlap bring the same benefits without threatening any group. History has shown that while diversity is interesting, *unity is strength*.

The aim of ISAKOS is to encourage cooperation and the exchange of ideas at every level. Without communication, the individual member of a society may be lost. The focus of a society needs to lie in and within its members. For this to happen, communication and unification are of paramount importance. Please, I welcome you to write to me with your views and express your opinion, regardless of whether it presents an opposing opinion. This newsletter is your *forum!*

I find myself and others with a similar cooperative philosophy in attendance this year at the Turkish Congress. The Turkish Association, which is based on a unified model, is becoming stronger and stronger. At first glance there is disparity – revision total knee replacement, shoulder arthroscopy and the treatment of plantar fasciitis. Yet when cooperatively grouped together, there is truly shared interest and association. This cooperative model is one that works well.

In Istanbul, I find myself at the crossroads of the world. I continue to gaze at the ferries and cargo vessels of the powerful Bosphorus. By bridge, boat or even tunnel, there is constant flow of traffic between Asia and Europe. Here at the Turkish Congress, there is a cooperative flow of information between diverse topics among people with a shared interest. The Turkish society is strong, for they have unified arthroscopy,

Get Involved in ISAKOS Committees

The Committee on Committees will meet in San Francisco to form the 2001-2003 ISAKOS committees. All ISAKOS members are encouraged to participate as an ISAKOS committee member. It is necessary for committee members to attend the 2001 ISAKOS Congress in Montreux, the 2002 AAOS Annual Meeting in Dallas, Texas, the 2003 AAOS Annual Meeting in New Orleans and the 2003 ISAKOS Congress in Auckland, New Zealand. Committee members are not reimbursed for travel expenses.

If you would like to be considered for any of the following committees, please send a brief curriculum vitae by e-mail to isakos@isakos.com or by fax to +1 (925) 314-7922:

- Arthroscopy
- Communications
- Education
- Knee
- Membership
- Orthopaedic Sports Medicine
- Program
- Site Selection
- Scientific
- Strategic Planning
- Upper Extremity

Please make sure to indicate in your fax or e-mail which committee you would like to be considered for.

knee surgery and sports traumatology into one cooperative model, similar to the philosophy of ISAKOS. Unity is strength. My stay here in Turkey has further reconfirmed my belief that the cooperative model is a strong one and should be considered by all.

Anterior Cruciate Ligament Tears: Not All Patients Need Reconstruction

Nicola Maffulli, M.D., M.S., Ph.D., FRCS(Orth.), Aberdeen, Scotland, United Kingdom



Diagnosis

Unfortunately, the ability to recognize the anterior cruciate ligament (ACL) deficient knee is lacking, even among orthopaedic surgeons. The history of an acute ACL tear is

remarkably constant, as the injury is often non-contact and patients usually report a twist on the flexed knee, turning to the same side as the injured knee. Hyperextension is the next most common mechanism of injury. Although direct trauma is common in some sports, the precise mechanism is difficult to elicit. Often patients remember a pop – as there are no nociceptors in the ACL, pain is not an immediate feature in the isolated lesion. Athletes may attempt to continue to play their sport but usually stop because the knee feels insecure. Pain ensues when haemarthrosis develops; 70 percent of acute haemarthroses of the knee are associated with a tear of the ACL.

The suspicion of a haemarthrosis can be confirmed by arthrocentesis. It is mandatory to confirm the diagnosis before treatment is offered. Depending on resources, examination under anesthesia and arthroscopy can be necessary, unless MRI is readily available. This may show a peripheral tear of the meniscus or an osteochondral lesion. These constitute 30 percent of the causes of a haemarthrosis that are not a torn ACL, and can then be treated. The peripheral tear of the meniscus must be sutured, as having bled, by definition it has a blood supply and thus can heal. Osteochondral fragments from weight-bearing areas must be replaced and fixed, if this is technically possible.

In the symptomatic ACL-deficient knee, the disability is specific. Patients can run in a straight line, but when turning to the side of the lesion, the knee gives way. The giving-way can be unpleasant but is not inevitably painful. When painful, it is often associated with swelling representing damage to the

articular surface or meniscus. Locking is a symptom of an associated meniscal tear either caused by the original injury or by attrition from the shearing force associated with recurrent giving-way.

The physical signs seem to give rise to the most difficulty despite the description by Hey Groves of the sudden relocation (from the anterior subluxation position) of the lateral part of the tibia, redescribed by Galway et al. Batchelor described the test that Torg et al ascribed to Lachman.

The experienced surgeon encounters many knees in which clinical examination reveals a complete lesion of the ACL unknown to the athlete or the coach. Only with knowledge and understanding of the natural history can rational treatment decisions be made. Despite what is claimed in the literature, there is no well-conducted prospective unbiased long-term study reporting the natural history of the totally asymptomatic ACL-deficient knee.

The Dispute

In discussions with North American, Australian and Continental European colleagues, we have noted that many firmly believe the indication for ACL reconstruction is a complete tear of the ACL. I teach and practice that the main indication for surgery in skeletally mature patients is the *functional instability* (not the *laxity*) a torn ACL may cause. Unfortunately, the recent literature has developed the frightening and incorrect habit of using the terms “laxity” and “instability” as synonyms. Laxity is an objective finding (i.e., a sign), while instability is what patients may complain of following an ACL tear (i.e., a symptom).

In these countries, the indication for ACL surgery seems to be more and more just laxity, i.e., a (complete) lesion of the ACL. Laxity in the antero-posterior plane is not correlated with instability, and paradoxically, a reconstruction may totally annihilate antero-posterior laxity but still allow rotatory instability. Although there is a correlation with instrumentally or manually measured antero-posterior laxity, not all patients with antero-posterior laxity develop instability

(the authors is one such patient, who despite a very marked antero-posterior laxity due to an arthroscopically proven ACL tear, never experienced instability).

In clinical practice, one encounters high-performance athletes who have suffered from a complete ACL tear and have not undergone a reconstruction. This has been reported anecdotally and quantified recently. In soccer, for example, there is a significant percentage of asymptomatic players who exhibit antero-posterior and rotatory laxity but do not develop instability. They do not need a reconstruction. Most of the patients we see in our National Health Service practice are the symptomatic ones; therefore, the picture is biased, and it is wrong to think that all patients with a lesion of the ACL end up with destroyed knees.

There are inevitable differences between countries, and where sport is very important, more patients will apparently require an ACL reconstruction. However, the fact that a patient wants to continue to take part in high-level sport is not in itself an indication for surgery.

Patients with an ACL tear follow the “rule of thirds” (one-third does badly, one-third does well and one-third does well if they modify their activities, or badly if they continue with their potentially injurious activities). At present, with the lack of scientifically reliable predictors of instability, we offer surgery to our patients with an ACL tear only after failure of a period of six to 12 weeks of intensive rehabilitation with hamstring strengthening and proprioception training.

There is no doubt that the objective results of conservative management of ACL tears deteriorate with time²¹. The argument advanced by some that ACL reconstruction results in a lesser degree or in a slower development of degenerative joint disease is far from being proven. Even a prompt reconstruction and excellent rehabilitation do not alter the natural history of a major intra-articular derangement of the knee. A recent well-controlled prospective study from

Continued on next page

Considerations for Arthroscopic Meniscal Repair

Ron Clark, M.D., Valparaiso, Indiana, USA



Over the past three years, a number of new devices to facilitate arthroscopic meniscal repair have become available for use in many parts of the world. While suture has been used successful-

ly since the mid-1980s, the surgeon was usually obligated to make some sort of incision around the knee to either tie the suture or protect vital neural and vascular structures around the knee. The technical demands of successfully repairing the meniscus were sometimes passed over in favor of meniscectomy, which provides an immediate "successful" result.

The Bionix Arrow was the first device shown to successfully secure and repair the meniscus from an all "inside" approach¹. This was later followed by the Smith and Nephew T-Fix system that combines suture with a plastic anchor. There are now more than seven different devices available for use

in arthroscopic meniscal repair² in addition to the tried and proven methods with suture. Published reports on clinical series are only available so far with the Arrow and T-Fix devices. Reports related to complications with such devices are also beginning to appear³.

In considering which device may be most likely to affect a successful repair, surgeons should consider the strength of the device, the strength of the meniscal device interface, the accuracy of placement and the potential for complications.

Barber recently reported on the mechanical strength of meniscal repair devices and found four statistical groupings of strength². The two highest groups were the (1) double vertical stitch and the (2) single vertical stitch. The third highest group included the horizontal stitch, the T-Fix and the Biostinger. The last group included the Arrow and four other devices.

Each of the devices for meniscal repair has a unique method of insertion. The size of the insertion device may limit the ability of the surgeon to either accurately place the device into the meniscus or pass the device between the femur and tibia. Suture and needle techniques are the smallest insertion

devices, while the devices that deliver staple type implants are the largest.

After placing a meniscal fixation device, the surgeon must be able to confirm its successful placement and secure apposition of the meniscal tear. Lengthy or complex tears may be optimally repaired by utilizing both suture and meniscal repair device techniques.

Before surgeons can know which of all the devices is the best, clinical studies assessing their effectiveness will have to be completed. In the meantime surgeons should familiarize themselves completely with the use of such devices before implanting them into patients and should consider suture methods as the "gold standard."

References:

1. Albrecht-Olsen P, Kristensen G, Tormala P. Meniscus bucket-handle fixation with an absorbable Biofix tack: Development of a new technique. *Knee Surg Sports Traumatol Arthrosc.* 1993; 1:104-106.
2. Barber FA, Herbert MA. Meniscal repair devices. *Arthroscopy.* 2000; 16:613-618.
3. Oliverson TJ, Lintner DM. Biofix arrow appearing as a subcutaneous foreign body. *Arthroscopy.* 2000; 16:652-655.

Anterior Cruciate Ligament Tears

(continued from page 11)

Sweden has shown that, seven years after an ACL tear, there is no significant difference in the number of professional soccer players who had retired from the sport and no difference in the degree of degenerative joint disease between the reconstructed or conservatively managed players. Unfortunately, after the major initial trauma, the reconstruction produces even greater injury to the intra-articular structures, with a possible additive effect.

The recent studies that seem to suggest early reconstruction prevents osteoarthritis are biased, as the entry criteria were just a complete tear of the ACL, not necessarily giving symptomatic instability. If this were the case,

following the rule of thirds would mean up to a staggering two-thirds of these patients would not have needed a reconstruction!

We are fully aware of the dangers of recurrent episodes of instability on the articular cartilage and the menisci, but we stress that the patients that come to our observations are the ones who do develop instability, i.e., probably only one-third of the total, if that. More efforts should be put into identifying patients who will develop instability after an ACL tear, as they are at risk of developing secondary meniscal tears and articular cartilage lesions. Such patients should be offered early reconstruction, but the answer does not lie in reconstructing everybody with a torn ACL.

References available upon request from the author.

Have you paid your 2001 ISAKOS dues?

Reminder: ISAKOS members who do not pay their dues, do not receive their subscription to the *Arthroscopy* Journal and cannot register as a member at the 2001 ISAKOS Congress.

If you have not done so already, please remit your annual dues payment to the ISAKOS Office. Call the ISAKOS Office at +1 (925) 314-7920 to pay by credit card over the telephone, or fax your payment information to +1 (925) 314-7922.

A New Technique: Transplantation of Cartilage-Like Tissue for Cartilage Defect

Mitsuo Ochi, M.D., Ph.D., Izumo-shi, Shimane-ken, Japan



The treatment of full thickness defects of articular cartilage remains a problem for orthopaedic surgeons. It has been generally accepted that once articular

cartilage is injured and forms a defect, the defect cannot be repaired and bordering intact cartilage changes to degeneration and destroys facing intact cartilage, resulting in osteoarthritis. By promoting migration of mesenchymal stem cells, which is debridement of degenerative tissue from the lesion so that subchondral bone is exposed such as abrasion arthroplasty, subchondral drilling, and microfracture, the reparative tissue changes to fibrocartilage by about six months postoperatively, losing the biomechanical properties of normal articular cartilage.

Other attempts have been developed to repair articular defects by transplanting periosteum, perichondrium, meniscal allograft, autologous osteochondral column graft and prostheses using artificial materials. Each of these techniques to repair the cartilage defect has been only partially successful in that it may reduce pain and increase mobility, but it has gradually deteriorated with time. Although transplantation of periosteum or perichondrium has shown good short-term results, defects transplanted with these materials do not generate hyaline cartilage but rather only fibrocartilage. It often results in bone formation due to endochondral ossification. Autologous osteochondral column grafts can heal defects of hyaline cartilage, but the incongruity of

the joint surface between the graft and the host cartilage raises concerns that stress concentration will damage the graft.

In 1994, autologous chondrocytes transplantation used in the clinical reports of Brittberg and colleagues¹ raised the expectations of orthopaedic surgeons that a breakthrough in repair of damaged articular cartilage would occur. In their technique, cartilage slices were obtained by arthroscopy from an unloaded area of the femoral condyle; the associated chondrocytes increased in number in a monolayer culture after enzymatic digestion; and the chondrocytes in suspension were then injected into a cartilaginous defect and covered with a flap of the periosteum. According to their report, clinical results were satisfactory and a biopsy of the graft sites showed hyaline-like cartilage repair.

However, we are concerned with their technique in regard to the culture and transplantation procedure. We developed a new technique, which improves upon their technique in terms of 1) maintenance of chondrocyte phenotype during a long cultivation; 2) even distribution of the grafted chondrocytes throughout the osteochondral defects; and 3) low risk of leakage of grafted

chondrocytes into the defects. This technique creates new cartilage-like tissue by cultivating autologous chondrocytes embedded in atelocollagen gel for three to four weeks. We carefully selected atelocollagen gel as a three-dimensional culture material from the viewpoint of safety and non-immunogenicity, since atelocollagen gel had been used clinically for the treatment of skin wrinkles in plastic surgery and dermatology. This cultivation results in the proliferation of chondrocytes and the synthesis of an extracellular matrix consisting of chondroitin sulfate and type II collagen at transplantation.^{2,3} After three to four weeks of cultivation, the atelocollagen gel including chondrocytes had become opaque in color and had acquired a jelly-like hardness (Fig. 1).

Based on the results of basic studies,^{2,4} we have applied our technique since 1996 with the approval of the ethics committee of Shimane Medical University. After three to four weeks culture of autologous chondrocytes embedded in atelocollagen gel, a cartilage-like tissue is transplanted into a cartilage defect covered with a periosteal flap, which is sutured with the deep cambium layer facing the subchondral bone plate (Fig. 2). Two weeks

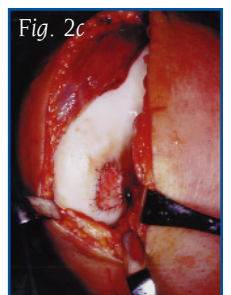
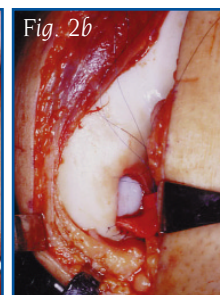
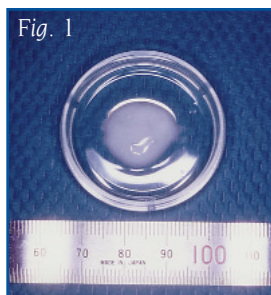


Fig. 1: The cartilage-like tissue in which chondrocytes were embedded in atelocollagen gel and cultured for three weeks. Fig. 2: Operative procedures. a. Debridement of cartilage defect. b. Fitting a periosteal flap. c. Transplantation of a cartilage-like tissue.

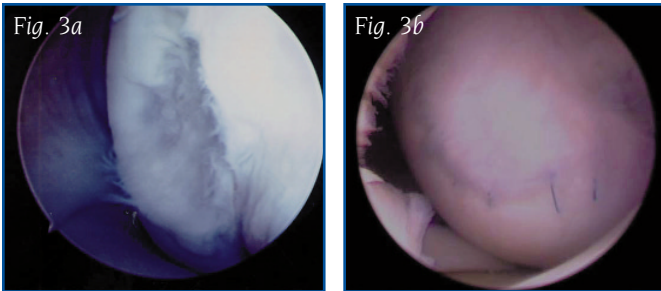


Fig. 3: Consecutive arthroscopic findings of a 15-year-old boy who had suffered from osteochondral dissecans of the right medial femoral condyle. a. At initial visit. b. Second look 2 years after the transplantation.

after transplantation, continuous passive motion of the joint was initiated. Partial weight-bearing was introduced three weeks postoperatively and was gradually increased to full weight-bearing with muscle training during the first eight weeks after surgery. We treated full-thickness cartilage defects (0.7 to 16.0 cm²) in 50 knees, one elbow and one ankle joint, ranging in age from 13 to 41 years. Clinical, arthroscopic and biomechanical results over a 2-year period indicate that this technique has good potential to treat cartilage defects.⁵ Although a more prolonged

follow-up study should be done to clarify the effectiveness of this procedure, the development of biological technology⁶⁻⁷ will resolve this problematic issue on the inability to repair cartilage within this Bone and Joint Decade (2000-2010).

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Editor's Note

(Continued from page 1)

of them had attempted arthroscopic cuff repairs and believed that the future of rotator cuff repair would lie with arthroscopic techniques; approximately two-thirds of the audience raised their hands. My initial reaction was that the vote had been somewhat

schizophrenic. This group of prominent open shoulder surgeons wanted to suppress arthroscopic cuff repair (one must assume to protect their "turf"), yet they were beginning to experiment with it because they recognized it would inevitably replace open repair.

The nature of progress is that it is relentless and always prevails. Progress is always the clear winner. Yet progress can be

both threatening and empowering. It threatens those who attempt to suppress it and empowers those who embrace it as well as those who benefit from it. If arthroscopic rotator cuff repair truly benefits patients, then patients will demand it. As demand increases, the entire profession will ultimately recognize this technique for what it is and what it represents ... *progress.*

Ad



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