Editorial by John P. Dormans & Emmanouil Grigoriou
- Paediatric trauma and the role of SICOT in an ever-globalizing environment: Can SICOT influence global trauma care?

SICOT Events
- XXVI SICOT Triennial World Congress combined with 46th SBOT Annual Meeting - Rio de Janeiro, Brazil

SICOT News
- 21st SICOT Trainees Meeting Report
- SICOT/VuMedi Webinars
- 2015 AAOS-SICOT International Surgical Skills Scholarship Program
- OrthoEvidence - your clinical resource for evidence based orthopaedics

SICOT Global Network for Electronic Learning - SIGNEL
- Article of the Month
- Case of the Month

Fellowship News
- Report of the B. Braun Aesculap/SICOT Orthopaedic Scholarship

Articles by SICOT Members
- The orthopaedic common regional project Romania-Hungary-Serbia is a model for beneficial cross-border integration for patients and doctors

Women in Orthopaedics
- Lessons of life and orthopaedics from those who have been there and done that...

International Meetings attended by SICOT
- 10th German Congress for Orthopaedics and Trauma Surgery

Industry News
- LINK
Paediatric trauma and the role of SICOT in an ever-globalizing environment: can SICOT influence global trauma care?

Children comprise more than 25% of the world’s population. With trauma being the leading cause of both morbidity and mortality in children, it’s no surprise that specialized paediatric healthcare and appropriate injury prevention continues to be on the forefront of the global medical agenda.

Firstly, our treatment approach towards paediatric musculoskeletal trauma has drastically changed within the last few years. For example, evidence supports better outcomes and financial benefits to patients and their families with:

1. Pinning of supracondylar type III fractures.
2. Flexible nails for paediatric femoral fractures.
4. Multidisciplinary approach - "Trauma Team", "Golden Hour", Paediatric trauma registries.

Secondly, commitment to injury prevention is also paramount. It was Sir William Osler, one of the four founding professors of Johns Hopkins Hospital, who in the early 1900’s eloquently said: "Prevention is the pinnacle of the physician’s art, but late treatment is what we do most often”; true even today. Historically we have gone a long way in terms of injury prevention measures: poison control, building safety (limiting hot water temperature, outlet voltage, non-accessible windows on higher floors), toy safety, road traffic safety, and child passenger safety to list a few.

Can individuals influence global trauma care? The following three examples show how SICOT members have made a difference. The first example is from the member country of India. In April 2014, the Supreme Court of India delivered a landmark judgment in response to the Public Interest Litigation plea filed by Dr Rajasekaran Shanmuganathan (President of the Indian Orthopaedic Association at the time and current SICOT Treasurer) charging the Indian Government with negligence for failure to commit themselves in combating road accidents and thereby being the cause of deprivation of the citizens to the constitutional right “to live and to live honorably and without disability”: the Court appointed an “Empowered Committee” that has been given powers to monitor the plans and actions of the Chief Secretaries of the State Government and has been charged with the responsibility of coordinating the necessary activities, monitoring the implementation of rules and making the States accountable for any inaction or lapse. It is very inspiring that an orthopaedic association was able to find a legal solution to a social problem.

Another example is Mr Michael Laurence from the United Kingdom, President of the World Orthopaedic Concern UK (WOC). Mr Laurence, working with the SICOT leadership is making great strides in bringing together the “teaching sides” with the “learning sides” while at the same time underlying the benefits and importance of this training to be done “in-situ” hoping that the local communities would benefit, rather than the “Western Centres of Excellence”. On that subject, during the XXVII Triennial Meeting of SICOT (Rio de Janeiro, Brazil, 19-22 November 2014) we look forward to an important session (“Bridging the Gap”- organized by Mr Laurence) on the discrepancy between the widely differing grades of fracture managing equipment in low- and middle-income countries (LMIC).

A third example from the author’s home Institution (The Children's Hospital of Philadelphia (CHOP)) is Dr David Spiegel’s efforts on global trauma. He serves as a consultant for the World Health Organization (WHO) and WHO’s Global Initiative for Emergency and Essential Surgical Care (GIEESC) since its inception in 2005; this organization serves to bring together a multidisciplinary group of stakeholders interested in improving the delivery of surgical services, especially for the more remote and marginalized segments of the population in LMICs.

Can SICOT influence global trauma care? These three examples of humanitarians/physicians in this ever-changing environment highlight the crucial role and responsibility of international medical societies like SICOT. The fundamental principles of advancement of the science and art of orthopaedics, improvement of patient care, and fostering of teaching, research and education should be the base of our future direction. SICOT has already made great strides through training scholarships and fellowships, education centres and diploma examinations that are offered within its member nations. However, with SICOT having members both in the so-called “developed” as well as the “developing” world, it is the moral duty and scientific obligation of each and every one of us to strengthen our relationships with other groups that serve the same goals as SICOT (Health Volunteers Overseas (HVO), World Orthopaedic Concern, etc.), support our outreach program, and volunteer in building our regional approach in order to match the “teaching sides” of our society with the needs of the “learning sides”.

References:

5. Chatterjee P. India’s Supreme Court tells government to improve road safety record. BMJ.
SICOT Events

XXVI SICOT Triennial World Congress combined with 46th SBOT Annual Meeting
Rio de Janeiro TWC 2014
19-22 November 2014 * Rio de Janeiro, Brazil

- **Registration**
  
  Congress registration is open [here](#) for all participants not residing in Brazil. Participants residing in Brazil should register [here](#).

- **Scientific Programme**

  SICOT and SBOT are pleased to announce that **Andrew J. Carr**, Nuffield Professor of Orthopaedic Surgery and Head of the Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences at the University of Oxford, and **John P. Dormans**, Chief of Orthopaedic Surgery at the Children's Hospital of Philadelphia (CHOP), will be delivering plenary lectures at the Rio meeting. [Read more...](#)

  With the experience of three successful events we are pleased to announce the **4th SICOT Educational Day** in Rio de Janeiro to be held on 19 November 2014. The theme for this year is 'Shoulder & Elbow'. We have invited expert Faculty from over 10 countries to lecture on the course. [Read more...](#)

- **Accommodation & Tours**

  Don't miss out on exclusive hotel and tour offers in Rio de Janeiro! Click [here](#) for more information.

- **Exhibition & Sponsorship**

  Don't miss this unique opportunity to promote your products and services to leading international orthopaedic surgeons, traumatologists and specialists in related fields. [Read more...](#)
21st SICOT Trainees Meeting Report
by Ashley Brown & Bassel El-Osta

London was the host of the 21st SICOT Trainees' Meeting, held on 1-2 June 2014. Having been held in Egypt, Russia and Poland previously, this was London's first time hosting the Trainees' Meeting. The Organising Committee was headed by Mr Bassel El-Osta (London), member of the SICOT Young Surgeons Committee, and Mr Ashley Brown (London), SICOT Associate Member, with five other orthopaedic trainees from around the United Kingdom, while Mr Ian Leslie, SICOT National Delegate of the United Kingdom, supervised the Committee. Read more...

SICOT/VuMedi Webinars

SICOT's mission is to spread knowledge about orthopaedics and traumatology throughout the world. Since the importance and popularity of online education is increasing every day, SICOT has been collaborating with VuMedi to provide online education to the global orthopaedics and traumatology community. This strategic cooperation with VuMedi has been initiated and managed by the SICOT Young Surgeons Committee. You will be able to participate live and interact with speakers. The lectures will also be accessible for viewing later on from the SIGNEL and VuMedi websites. More detailed information about these webinars will be published here shortly.

2015 AAOS-SICOT International Surgical Skills Scholarship Program

The American Academy of Orthopaedic Surgeons (AAOS) is pleased to announce it is accepting applications for the 2015 AAOS-SICOT International Surgical Skills Scholarship Program. Through a generous contribution from SICOT-USA, AAOS will award one scholarship to a SICOT member for the intended purpose to travel to the United States to attend a hands-on orthopaedic surgical skills course with cadaveric specimens in the Orthopaedic Learning Center in Rosemont, Illinois, USA. The scholarship visit also includes a 2- to 3-day observership at a high-volume USA hospital.

Eligible orthopaedists are invited to apply online here. The applicants are required to submit their Curriculum Vitae, an official letter from SICOT confirming that they are current members in good standing, and two letters of recommendation. The due date is 15 August 2014.

OrthoEvidence - your clinical resource for evidence based orthopaedics

At OrthoEvidence we take pride in being the global online source for timely, high quality, pre-appraised evidence based orthopaedic summaries. Our database of over 2,400 Advanced Clinical Evidence (ACE) Reports bring you the highest quality research from over 60 top orthopaedic journals. Our ACE Reports are the easiest way to consume research articles, which are designed to be 5 times faster than reading the full text. Our iOS app is coming in 2014 to put our content to the palm of your hand.

Open your OrthoEvidence account and get the best evidence delivered to your inbox – simply click this link to join via SICOT! We look forward to providing you the best evidence that matters.
Biologic augmentation of rotator cuff repair with mesenchymal stem cells during arthroscopy improves healing and prevents further tears: a case-controlled study

Philippe Hernigou, Flouzat Lachaniette, Charles Henri, Jerome Delambre, Sebastien Zilber, Pascal Duffiet, Nathalie Chevallier & Helene Rouard

Purpose The purpose of this study was to evaluate the efficiency of biologic augmentation of rotator cuff repair with iliac crest bone marrow-derived mesenchymal stem cells (MSCs). The prevalence of healing and prevention of further tears were correlated with the number of MSCs received at the tendon-to-bone interface.

Methods Forty-five patients in the study group received concentrated bone marrow-derived MSCs as an adjunct to single-row rotator cuff repair at the time of arthroscopy. The average number of MSCs returned to the patient was 51,000±25,000. Outcomes of patients receiving MSCs during their repair were compared to those of a matched control group of 45 patients who did not receive MSCs. All patients underwent imaging studies of the shoulder with iterative ultrasound performed every month from the first postoperative month to the 24th month. The rotator cuff healing or re-tear was confirmed with MRI postoperatively at three and six months, one and two years and at the most recent follow-up MRI (minimum ten-year follow-up).

Results Bone marrow-derived MSC injection as an adjunctive therapy during rotator cuff repair enhanced the healing rate and improved the quality of the repaired surface as determined by ultrasound and MRI. Forty-five (100 %) of the 45 repairs with MSC augmentation had healed by six months, versus 30 (67 %) of the 45 repairs without MSC treatment by six months. Bone marrow concentrate (BMC) injection also prevented further ruptures during the next ten years. At the most recent follow-up of ten years, intact rotator cuffs were found in 39 (87 %) of the 45 patients in the MSC-treated group, but just 20 (44 %) of the 45 patients in the control group. The number of transplanted MSCs was determined to be the most relevant to the outcome in the study group, since patients with a loss of tendon integrity at any time up to the ten-year follow-up milestone received fewer MSCs as compared with those who had maintained a successful repair during the same interval.

Conclusion This study showed that significant improvement in healing outcomes could be achieved by the use of BMC containing MSC as an adjunct therapy in standard of care rotator cuff repair. Furthermore, our study showed a substantial improvement in the level of tendon integrity present at the ten-year milestone between the MSC-treated group and the control patients. These results support the use of bone marrow-derived MSC augmentation in rotator cuff repair, especially due to the enhanced rate of healing and the reduced number of re-tears observed over time in the MSC-treated patients.

International Orthopaedics (SICOT)
DOI 10.1007/s00264-014-2391-1
Case of the Month

June 2014

Hip Lesion

Authors: Mohamed Elsagheir & Hatem G. Said
Assiut University Hospital, Assiut, Egypt

A 26-year-old male presented recently to our outpatient clinic with progressively increasing left-sided hip pain and limited ROM with no history trauma. On examination he had a palpable immobile hard swelling on the posterior aspect of the proximal femur. Range of movement was affected mainly in abduction and complete limitation of external rotation. His WBC, CRP and ESR were within normal limits.

This is a radiograph of the hip. What is your differential diagnosis?
The X-ray reveals an irregular ill-defined calcific lesion of the left hip region affecting the greater trochanter.

A differential diagnosis is:

- Myositis ossificans
- Osteochondroma (exostosis)
- Chondrosarcoma
- Secondary bone tumour
- Infection

He subsequently had a CT scan which is shown below. What is your plan for treatment?
A diagnosis of Myositis Ossificans was excluded due to the absence of trauma history, and the abnormally shaped proximal femur, which led to the diagnosis of Osteochondroma of the proximal femur.

What would your next step be?

1. Percutaneous biopsy
2. Excisional biopsy

How would you approach the lesion?

1. Anterolateral approach
2. Posterior approach
A posterior approach (Kocher-Langenbeck) was performed for the patient as the lesion was mainly posterior.

**Management**

The patient was treated surgically using a Kocher-Langenbeck approach. An irregular osseous cartilaginous lesion was found involving the back of the greater trochanter and the piriformis fossa with many loose smaller osteocartilaginous fragments. Excisional biopsy was performed, and the ROM especially his ER improved on table.

The histopathology confirmed the diagnosis of Osteochondroma with no malignant features.

**Discussion**

Osteochondroma is the most common benign bone tumor (1).
It has been reported to represent 20-50% of all benign bone tumors and 10-15% of all bone tumors (2).

Its clinical and radiological features are pathognomonic making the diagnosis straightforward (3).

Osteochondroma is usually symptomless and may only present with symptoms of a painless slowly-growing mass on the involved bone (4).

Treatment of osteochondroma depends on whether it is symptomatic, the presence of complications and on cosmetic reasons. The treatment of choice is surgery (5).

Rarely (1-2% of cases), osteochondromas give rise to chondrosarcomas. It is estimated that the risk of this complication is substantially higher in patients with hereditary multiple osteochondroma (3-20%) (6).

Secondary chondrosarcoma is an uncommon tumor that arises from a benign cartilaginous lesion (7). It appears most commonly in the pelvis and proximal femur (7).

A male predilection for secondary chondrosarcoma seems to be evident (8).

Several signs may alert the clinician to the possibility of malignant transformation, such as new onset of pain, sudden growth of a lesion, and radiological changes (7).

CT and MRI are important in demonstrating the malignant features of the tumor. Most critically, they reveal an abnormally large cartilaginous cap on the osteochondroma (7).

Secondary chondrosarcoma is not always easy to diagnose, and the histologic features alone may not be sufficient to determine that a lesion has become malignant. Most secondary chondrosarcomas are low grade.

The overlap in appearance between benign lesions and low-grade cartilage tumors has led to a high rate of inter- and intraobserver variability in diagnosis (9).

Wide surgical resection remains the mainstay of treatment for chondrosarcoma (10).

**References**

Fellowship News

Report of the B. Braun Aesculap/SICOT Orthopaedic Scholarship

Pradeep Reddy  
SICOT Associate Member - Hyderabad, India

I am very happy to inform you about my successful completion of the B. Braun Aesculap/SICOT Orthopaedic Scholarship (Image-Free Computer Navigation). I must say it was a wonderful experience all by itself, right from working with Prof Frank Lampe to attending the navigation course in Vienna also under the chairmanship of Prof Lampe.

At Hamburg, all the doctors and the whole Department of Orthopaedics were very kind to me and I have also had many worthy interactions in terms of exchange of arthroplasty knowledge. The working culture, instruments, armamentarium and, of course, the infrastructure at the hospital will definitely influence my future practice of arthroplasty.

During the Navigation Course in Vienna, I became convinced that navigation is the better way compared to the conventional way of performing knee arthroplasty. However, I fear the availability of logistics of navigation back home in India. I must say I am going back home with an improved rather than a different perspective towards arthroplasty practice.

Prof Lampe was the perfect host to me and took care of every little detail making my stay hassle free despite the storm which took place at the end of my stay in Hamburg.
I immensely thank SICOT and B. Braun Aesculap for the experience and the opportunity bestowed upon me. It has been worthy and, as thought earlier, it is a special feather in my cap.
The orthopaedic common regional project Romania-Hungary-Serbia is a model for beneficial cross-border integration for patients and doctors

Dan V. Poenaru
SICOT Active Member - Timisoara, Romania

After 1990, with the collapse of communism, a reassessment and remodelling of values had taken place and also amongst the relationships in the medical community of the countries in this part of Europe. It is somehow obvious that within Europe or one specific region one patient can benefit from medical help from a geographically closer unit that is not in the country where the patient is insured. This is why several cross-border units for emergency and/or scheduled surgery were created in several Western European countries such as between France and Germany or Belgium, France and Luxembourg. Eastern Europe was for so many years divided by local and regional conflicts that happened behind the Iron Curtain and even now there exist political movements that interfere in the patient’s well-being.

Timisoara, the capital of the Banat region of western Romania, is a strong medical centre with a University of Medicine and Pharmacy, which this year will celebrate 70 years of existence. With over twenty orthopaedic and trauma services in the departments of the region this area is well covered in terms of orthopaedic and trauma care. However, specific fields of orthopaedic care such as spine surgery, arthroscopic surgery and micro-surgery and reconstruction were concentrated in the University hospitals. This same situation happened in the neighbouring hospitals and departments from Serbia and from Hungary. A possibility of offering the best choices to the patients and offering the use of specific facilities for cross-border patients was created more than ten years ago.

The Timis County is bordering neighbours with Hungary and Serbia. Therefore, the first contacts after 1990 were made with the medical centre in Szeged (Hungary), which is 90 km heading west, and Belgrade, respectively, which is located 160 km south west of Timisoara. A series of joint scientific orthopaedic events were grounded together with the Orthopaedic Clinic in Szeged led by Prof Dr Toth Kalman. Exchanges of specialists and resident physicians were made. In my clinic, scoliosis correction surgeries have begun under the guidance of a team of orthopaedic surgeons, our colleagues in Szeged, a collaboration which has continued until today.

Cooperation with Serbia began with a cooperation protocol signed with the Faculty of Medicine in Belgrade and the Institute of Orthopaedics Banjica. The Orthopaedic & Traumatology Clinic hosts 100 beds, seven operating rooms, and one Emergency Care Unit, as well as the possibility of imaging investigations (radiographic, MRI, DXA, musculoskeletal ultrasound).

The Timis County University Clinic has a mean number of 4,200 beds, with almost 4,000 surgical interventions in orthopaedics and osteoarticular surgery, mainly consisting of traumatology (60% of all cases). The clinic is divided...
into four compartments: Arthroscopy, Spinal Surgery, Osteoarticular Surgery for haemophiliacs and Functional Recovery. The Orthopaedic Clinics of Szeged and the Banjica Institute also host 100 beds of orthopaedic and trauma care.

It is worth mentioning the fact that Timisoara and Szeged, being located near the border, have an intense traffic flow, and also a great number of car accidents. This fact also requires an intense cross border cooperation.

A great constant presence in our clinic was the late Prof Dr Zoran Vukasinovic. He introduced the triple pelvic Ganz osteotomy in our clinic, operating on a large number of children with malformations of the musculoskeletal system. We organised common scientific events and exchanged young specialists and resident physicians. We have working relationships with the Orthopaedic Clinics in Nis and Novi Sad.

In 2012 we had the pleasure of organising the Euroregional Conference in Timisoara "Modern Technologies in Orthopaedics and Traumatology" (ADORT) which enjoyed a remarkable presence of specialists from neighbouring countries but also from Russia, Germany, Israel, and France. Colleagues from the orthopaedic hospitals in Belgrade and Szeged are a common, strong and permanent presence in our institution's scientific and academic activities.

Our experience, which is briefly shared hereby, shows that in the southeast European geographical area the medical world can be united, can create bridges of cooperation and closeness, aiming for outstanding scientific and cultural activity.
Women in Orthopaedics

Lessons of life and orthopaedics from those who have been there and done that...

*Ratna Johari Maheshwari*
SICOT Young Surgeons Committee Member (Women’s Subcommittee) - India

In a tête-à-tête with Prof Evalina L. Burger, I find out what it takes to be truly worldclass.

Dr Evalina L. Burger was named to Cambridge's Who's Who list for her leadership and dedication to spine care. She was the first South African female spine surgeon to be selected for the prestigious ABC fellowship in 2000. This honour is bestowed biennially on the top 6 orthopaedic surgeons in the English-speaking world. Dr Burger has a vast experience in comprehensive spine care including pain management, tumours and infection and is well versed in traumatic conditions of the spine.

She has a keen interest in basic science and was nominated for the prestigious Russell-Hibbs award for her research in metal properties, which has subsequently led to new designs for titanium rods in scoliosis surgery for children and adults.

Dr Burger has an international reputation and has spoken and delivered papers at international meetings all over Europe, South Africa and South America.

She is currently Professor and Vice Chair, Vice Chair Clinical Affairs, Department of Orthopaedics, UC Denver, apart from being a mother and fulfilling many other roles. Truly a woman of substance who has done it all...

Please describe your current position and responsibilities.
I am responsible for the operations as well as quality improvement for the Department of Orthopaedic Surgery which consists of more than 52 providers.

What made you choose medicine as your career?
I had a calling to do this since childhood.

What attracted you to orthopaedics?
I worked as a doctor in the military and realized how much we can do for patients when they are injured.

Who influenced you along the way and what did important people in your life think about your decision to train in orthopaedics?
I was encouraged by the orthopaedic surgeons in the military hospital to specialize as they thought I showed surgical skills and talent.

What do you love most about your job?
Helping patients to resume their life with better quality.

How has your orthopaedic training prepared you for your current role and responsibilities?
I have gone more into management lately and the long nights and hard hours has prepared me excellently to understand the issues around medicine. I had additional training in executive leadership over the last 3 years.
Surgical fields especially orthopaedics (being so versatile) sometimes involves having to be decisive under conditions of uncertainty and handling your own surgical complications. What pearls of wisdom have you gathered from your experiences over the years?

Never panic. Always have a Plan B.
Talk to your patients extensively before surgery.
Trust your instincts.

What are your thoughts on work/life balance?
My work is my life and my family understands that the sacrifices we have made together also allowed us to have more opportunities. My son respects my work and career and is grateful for the vision that he has through my eyes. We spend quality time together. It was hard for me when he was small but I steered the course and could not have done it without his father!

What according to you has been the most challenging aspect of your journey so far?
Overcoming my breast cancer as a prominent surgeon 3 years ago and getting my strength back to stand in the operating room for 10 hours.

Being such a successful practitioner what is your advice to young women pursuing/wanting to pursue a career in orthopaedics?
You only have to sacrifice three things: Me, Myself and I. If you are passionate about your dreams, you can have it all, as long as you take what comes with it. This is true for musicians and other careers as well.

In your opinion what can be done to improve the gender disparity in this field?
Make sure that the female surgeons in the field are excellent and support them, so that they pave the way for the ones after us.
**International Meetings attended by SICOT**

- **10th German Congress for Orthopaedics and Trauma Surgery**

We are pleased to inform you about one of the largest congresses for Orthopaedics and Trauma worldwide: The 10th German Congress for Orthopaedics and Trauma Surgery (DKOU), which takes place on 28-31 October 2014 in Berlin, Germany, and will again attract over 11,000 congress delegates. Highlights are lectures by Dr Henrique Jones (Portugal) and Prof Francesco Benazzo (Italy). Further information about all sessions in English can be found [here](#) and any questions you may have will be answered if you write to [dkou@intercongress.de](mailto:dkou@intercongress.de). The organising scientific societies would be very happy to welcome you to Berlin!
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Editorial Department

Editorial Secretary: Hatem Said
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Rue de la Loi 26-b.13, 1040 Brussels, Belgium
Tel.: +32 2 648 68 23 | Fax: +32 2 649 86 01
E-mail: edsecr@sicot.org | Website: www.sicot.org

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