



# SICOT E-NEWSLETTER

**MARCH 2021**

**SICOT BOARD  
OF DIRECTORS**

**SICOT  
COMMITTEE  
NEWS**

**SICOT BY  
REGION**

**SICOT  
HISTORY**

**SICOT PIONEER  
NEWS**

**SICOT  
RESEARCH**

**SICOT  
REVIEW**

**SICOT  
WEBSITE**

[www.sicot.org/budapest](http://www.sicot.org/budapest)

**Abstract  
submission  
deadline:  
11 April!**



**HUNGARY  
BUDAPEST**



**41<sup>st</sup>  
SICOT  
ORTHOPAEDIC  
WORLD CONGRESS**

**15 - 18 SEPTEMBER 2021**

# TABLE OF CONTENTS

<b>Editorial</b>	<b>4</b>
Leading on a Virtual Reality, by Ashok Johari	
<b>News from the Head Office</b>	<b>6</b>
New Appointments	
<b>SICOT Board of Directors</b>	<b>7</b>
Who is Our New SICOT Treasurer?	
<b>SICOT Committee News</b>	<b>9</b>
Shoulder & Elbow Subspecialty Committee	
<b>SICOT by Region</b>	<b>11</b>
Russian Section of SICOT	
<b>SICOT History</b>	<b>13</b>
The First SICOT Annual International Conference (AIC), Paris 2001	
<b>SICOT PIONEER News</b>	<b>16</b>
SICOT PIONEER: Forging Ahead	
Best Abstract of the Month	
Upcoming Events	
<b>SICOT Research</b>	<b>20</b>
The Orthopaedic Surgeon-Scientist: A Unique Breed	
<b>SICOT Review</b>	<b>22</b>
Circular Frames	
<b>SICOT Website</b>	<b>25</b>
New Sections on the SICOT Website	
Women in Orthopaedics: A Life in Orthopaedics - Still a Challenge?	
Women in Orthopaedics: The Career of Samantha Z. Tross – UK's First Female Afro-Caribbean Orthopaedic Surgeon	
SICOT Diaries: Orthopaedic Practice in Iraq	
<b>Knowledge Hub</b>	<b>36</b>
Knowledge Exercises – Multiple Choice Questions: Osteoarthritis	
<b>SI-QUOTE</b>	<b>38</b>
<b>Editorial Team</b>	<b>40</b>



**ASHOK JOHARI (INDIA)**  
SICOT President

## Leading on a Virtual Reality

SICOT is alive and kicking! The pandemic will not blunt our enthusiasm for SICOT though the lack of face-to-face interaction with colleagues is surely disheartening! I am writing this to give you a rapid view of what has been happening over the last few months.

The SICOT Pioneers (!) led by Vikas Khanduja have been working hard to keep you busy with webinars and more recently the Tête-à-Tête. Collaborative webinars between partner societies and SICOT have augured great educational value. To diversify educational offerings, the SICOT Executive Committee agreed to utilise a Learning Management System (LMS) which would have the possibility of hosting courses, workshops, opinion polls and feedback and so on. This will become a reality in the next few months.

The Research Academy under Mohit Bhandari has been working on Awards and Grants. New awards including one for the Best Paper from a Female Researcher, Best Surgical Technique/Case Report and Best Abstract of the Year in collaboration with SICOT Pioneer have been proposed by Margaret Fok and her committee and will be actioned soon. Research Grants will be advertised shortly by Mustafa Citak and his team. We look forward to research courses and multicentric studies.

The Disaster Relief Committee was instituted and is working for collaboration between SICOT, MSF and ICRC. The committee is chaired by Patrick Herard who is also a surgical advisor for the MSF and a keen supporter of disaster management education and training. On similar lines, an Advocacy Committee has been established under Onder Aydingoz and this will also consider prevention especially for Trauma and Road Safety.

The Website Committee under Mustafa Alnaib has completed the arrangement for digital content to be available multilingually using Google Translate. So, SICOT web content can now be seen in the language of your choice! This has surely extended the reach of the website to different parts of the world especially the non-English speaking countries.

A Limb Reconstruction Subspecialty Committee has been established under Hemant Sharma. The committee set up is nearly complete with members from different parts of the world. We look forward to their activities in the near future.

The Membership Committee is headed by Philippe Hernigou and is looking at opportunities for widening the membership reach of SICOT. A task force has been set up by him to define strategies for expanding SICOT membership. We will most certainly move ahead aggressively in this direction.

SICOT finances are nurtured by the caring hands of Hatem Said. Discussions have centred on maximising safe returns on investments from SICOT reserves. A SICOT European Foundation based in Brussels is on the verge of being established paving the way for education and research activities funded through it.

The Budapest Congress is certainly on in a hybrid format. Exciting plans and programme have been laid down by Gow Thevendran, Peter Yau and Laszlo Bucsí. The plenary speakers, symposia and workshops, Educational Day, all have been finalised. Abstracts have been invited and I would say that, despite COVID, the response has been encouraging.

A fallout of the COVID pandemic has been an increasing reliance on digital media. This has allowed virtual Executive Committee meetings to be held every month speeding up some processes and decision-making. Of necessity these meetings are short and preclude long discussions which now happen by email before or after the EC meetings. We are facing the challenges thrown at us due to COVID but, rest assured, the SICOT leadership will cope with them admirably!!



# NEWS FROM THE HEAD OFFICE

## New Appointments

We would also like to welcome the new SICOT National Representatives who have joined the International Council since December 2020:

Suwailim Al Ghanami (Oman)



Manouchehr Vahidfarahmandi (Iran)



We are also pleased to announce that Marc Patterson is the new Awards Committee Chair and Maurice Hinsenkamp is the Chair of the History & Archives Committee.

SICOT has established a new Subspecialty Committee! We welcome Hemant Sharma as the new Chair of the Limb Reconstruction Committee.

Andreas Mavrogenis has been appointed as a new Editor-in-Chief for our journal, SICOT-J.

A big congratulations and thank you to all!



**30% discount for  
SICOT members  
publishing in SICOT-J**

We are pleased to announce a 30% discount on [article processing charges](#) (APCs) for members of SICOT wishing to publish in SICOT-J. In 2021, the APC for SICOT members is €350 which represents a significant reduction on the usual charge of €500 (excluding VAT where applicable).

SICOT-J is an official journal of SICOT and has been developed, as a peer reviewed open access journal, to further widen the educational impact of SICOT on the orthopaedic community. This new member

benefit will enable SICOT members to take advantage of open access publishing in SICOT-J and enable their research to be widely disseminated and read.

This SICOT member discount marks a shift towards closer ties between the society and its youngest journal and emphasises the value the society places on open access research.

If you are interested in submitting an article to SICOT-J, please visit the website to read the [instructions for authors](#) and submit your article. You can also sign up for [free email-alerts](#) to stay up to date with new articles.

# SICOT BOARD OF DIRECTORS



**HATEM SAID (EGYPT)**  
SICOT Treasurer

## Who is Our New SICOT Treasurer?

I am very pleased to have been asked to write this article for the SICOT Newsletter. I was elected as SICOT Treasurer in 2020, and it gives me great pleasure to be able to serve SICOT in this capacity. I had always heard about SICOT during my training and attended the SICOT Congresses as a trainee.

My working relationship with SICOT started when I joined the Young Surgeons' Committee (YSC) in 2007, which was a committee in its infancy with an aim to increase presence of younger minds in SICOT. I then became the Chair of the YSC in 2008 until the end of 2012. One of the reasons that led to this post was my push to create the SICOT Fun Party at the SICOT Congress in Hong Kong in 2008. At that time SICOT only had the President's Dinner, but no social activity for young doctors. My friend Peter Yau and myself helped organise the event at the Hong Kong Yacht Club, which was a great success, and it continued to be officially supported by SICOT, until it became the SICOT Congress Party in later years.

During my time as Chair of the YSC, the committee blossomed and started to recruit great young doctors from around the world to contribute to SICOT. Many of these have risen now to prominent posts in SICOT; Vikas Khanduja (Education Academy Chair), Fatih Kucukdurmaz (National Representative of Turkey and former YSC Chair), Peter Yau (SICOT Programme Vice-Chair), Ahmed Abdelazeem (SICOT Editorial Secretary), Vijay Shetty (former Associate Editor of SICOT-J) and many more great young minds who represent the young brain of SICOT and the foundation for the future of the Society.

In 2011, the SICOT fellowships programme started to expand, the Fellowship Committee was created, and I was privileged to chair it from 2011 to 2014. During that time, we created the 'SICOT meets SICOT' short-term fellowships, and the long-term fellowships programme. These later became a key educational and networking tool for SICOT members.

In 2012, and until 2017, I was elected as Editorial Secretary and member of the Board of Directors. This opportunity allowed me to spread the voice of SICOT to our members. After creating a great editorial team, we worked on evolving the SICOT Newsletter to contain different sections that would interest our readers.

In 2015, we launched SICOT-J, the open access journal of SICOT. This came after a year and a half of discussions with different SICOT committees and members and negotiations with different publishers. However, with the support of Jochen Eulert, members of the Executive Committee (EC), and my friend Marius Scarlat (Editor of the International Orthopaedics journal), the idea became a reality and I had the pleasure of being the Co-Editor-in-Chief with Jacques Caton from inception in 2015 until the end of 2020.

From 2017 to 2020, I was voted in as a Member-at-Large in the EC. This continued my previous years of presence in the EC as an 'Invited Guest' in different capacities since 2008. So you can imagine my joy, after 13 years of attending the EC, that I became an official member as Treasurer, which allows me to continue to contribute to SICOT, a society I love and treasure.

The Treasurer and Finance Council in collaboration with the EC work on planning the financial aspects of the Society. We have to strike a balance between growing the Society's assets and funds to secure our future survivorship, while at the same time spending more on achieving the Society's aims in education, research and global reach.

I plan to work hard in this new post, to grow the current SICOT resources and develop new ones, while targeting SICOT's spending to best suit the Society's goals.

We have recruited prominent members to the Finance Council and, with their help, we will work on promoting our Society to the best possible status.





**IN-HO JEON (SOUTH KOREA)**

SICOT Shoulder & Elbow Subspecialty Committee Chair

## Shoulder & Elbow Subspecialty Committee

A cornerstone of the SICOT mission and philosophy is that high-quality orthopaedic education should be accessible to surgeons regardless of their background or resources. Living in the age of an ongoing pandemic has shown how important it is to make high quality scientific information readily available. Crucially, education is able to dissipate more freely and widely than ever before, and medical specialists now have a truly global reach. It is on such a backdrop that SICOT and its committees will surely play a more active role, and I am profoundly honoured to follow in the footsteps of Dr Nuri Aydin who left an enduring impression on many aspiring shoulder and elbow surgeons, including myself. Established in 2012, the Shoulder & Elbow Subspecialty Committee has been devoted to promoting cutting-edge developments of clinical practice and research work in this field and has amassed a multi-continental coalition of accomplished surgeons.

There are a multitude of pathologies which are of interest to Shoulder & Elbow surgeons, including trauma, sports injury, degenerative disease, arthroplasty and neuropathy, to name just a few. As modern lifestyles and behaviours change and evolve, disease patterns have also altered to reflect changes in occupation and sports activities. The tools available to the physician have also diversified and improved, demanding that surgeons be proficient in everything from arthroscopy to arthroplasty. While such demand can seem daunting, organisations such as ours serve to provide the necessary knowledge and training to orthopaedic clinicians all across the world who are seeking to improve their skills.

The Shoulder & Elbow committee has always been an integral part of any SICOT Congress, and will be especially pivotal at the 41st SICOT Orthopaedic World Congress in Budapest this September, where the Educational Day will be centred on the topic of the 'Shoulder & Elbow'. Ever since this educational initiative began in Prague with the theme of the 'Hip', it has been a popular mainstay and has continued on up to the last event in Muscat, where its 'Trauma' session garnered an enthusiastic response. Our committee members and its partners are working diligently to prepare a comprehensive course where participants will be able to discuss and debate in a stimulating environment.

Last year in September 2020, the combined 'SICOT-SECEC (European Society for Surgery of the Shoulder and the Elbow): Grand Shoulder Webinar' dealing with rotator cuff surgery was held as our first live webinar, followed by a second webinar titled 'SICOT-SLAHOC: Shoulder instability' for which we partnered with the Latin America Shoulder Elbow Society, in December. This year, four live webinars inviting the European Shoulder Elbow Society, Asian Pacific Society and other regional guest societies are planned. A multimedia live surgery session and active interaction with the participants will be the first step to establish our goal of a 'massive open online course'. Our committee will try to set up a readily accessible online education programme (real time, all the time) with high quality content.

The past year has taught us that science and medicine hold the power to overcome any obstacle and has highlighted the importance of the medical community to strive for excellence through consistent research and innovation. The Shoulder & Elbow committee holds these lessons dear and is always on the lookout for additional members to join our society. The strength of SICOT lies in the diversity of its membership, and we welcome any and all readers who share our enthusiasm for fostering orthopaedic education and advancement. We eagerly anticipate the long-awaited meeting of members both familiar and new at the World Congress in Budapest.



*In-Ho Jeon and Nuri Aydin*



*SICOT Congress in Muscat 2019*

# SICOT BY REGION



## ALEXANDER GUBIN (RUSSIA)

SICOT National Representative of Russia

## Russian Section of SICOT



### Why do we need associations that unite professional communities?

- Joining forces of experts in any medical specialty, particularly in traumatology and orthopaedics, is one of the most effective ways to systematise scientific knowledge and practical approaches through discussions and joint projects. The systematic approach guarantees the ongoing progress and advance of the speciality.
- By joining the association, young doctors, who are just starting their career in a specialty, immediately receive systematised knowledge accumulated by community experts, which minimises their mistakes for the benefit of the patients.

SICOT is an organisation which successfully implements both tasks that any medical association faces, namely, the advancement of science and the training of young surgeons.

It might seem odd but the outstanding achievements of Russian traumatology and orthopaedics date back to the times when, for political reasons, communication between scientists and access to more advanced Western technologies were largely limited within the Soviet Union. Despite the limitations, the Ilizarov method, developed by Gavriil Abramovich Ilizarov in the middle of the 20th century (Figure 1), and the introduction of an uncemented, constrained total hip prosthesis with a metal-on-metal bearing surface (Figure 2a) by a Russian orthopaedic surgeon, Prof Konstantin Mitrophanovich Sivash (Figure 2b), in 1956, both became important contributions to the medical world.

*Figure 1:  
First publication in an Eastern German newspaper  
about the Siberian doctor of miracles (1974).  
Image from the book 'The Ilizarov Philosophy',  
Alexander Gubin*





*Figure 2a*

*Figure 2a:  
A total hip prosthesis invented by K.M. Sivash  
(Priorov Central Institute for Trauma and  
Orthopaedics archive)*



*Figure 2b*

*Figure 2b:  
Konstantin Mitrophanovich Sivash  
(Priorov Central Institute for Trauma and  
Orthopaedics archive)*

This can be easily explained by the lack of technological input from the outside which determined the development of our own intellectual resources and the search for our own technical solutions.

The main goal of the Russian division of SICOT is not only to adopt the best practices in traumatology and orthopaedics, but also to share our innovative ideas and latest developments with other members of the association. As we are becoming a part of the global association, we should avoid being passive observers. Instead, we are planning to actively participate in the work that contributes to the progress of the specialty. Today, Russia has both the intellectual potential and the necessary production capacities for such a contribution.

The global philosophy of SICOT implies that all SICOT national associations should interact with other associations both in their own regions and globally.

In 2020, a Memorandum of Understanding was signed between SICOT and the Eurasian Orthopedic Forum (EOF, Russia). This memorandum was entered into by EOF and SICOT for the sole purpose of education and research, through the Programme of Innovative Orthopaedic Networking, e-learning, Education and Research (PIONEER). As part of this cooperation, the first joint webinar on the application of the Ilizarov method dedicated to Gavriil Abramovich Ilizarov's 100th anniversary will be held on 24 April 2021. As a national division of SICOT, we plan to participate in major events that take place in Russia, including the Eurasian Orthopedic Forum (June 2021), the Association of Orthopaedic and Traumatologists of Russia and the Russian-Speaking Society of Orthopaedic Surgeons. We are working on the development of individual internship programmes that are already being successfully implemented with other international associations.

In 2021, we are going to celebrate the 100th anniversary of the Priorov Central Institute for Trauma and Orthopaedics, the institute which is recognised for its highest scientific and practical potential in traumatology and orthopaedics in Russia.

The work carried out by SICOT in the scientific and practical fields is critical for the cooperation with regional associations. Not less important are the ongoing discussions and development of recommendations regarding the organisation of trauma and orthopaedic services, considering the experience of different countries, patient routing, issues of age continuity in traumatology and orthopaedics, interdisciplinary issues, and so on.

# SICOT HISTORY



**LAURENT SEDEL (FRANCE)**

SICOT Conference President 2001

## **The First SICOT Annual International Conference (AIC), Paris 2001**

Paris, France, first made SICOT Congress history in 1930 as the location of the first ever Triennial World Congress (TWC) with Sir Robert Jones as Congress President. My personal relationship with SICOT started in Rio de Janeiro in the year 1980. I was mandated to give a lecture at the International Hip Society symposium with Pierre Boutin on ceramic-on-ceramic hip arthroplasty. At the time the SICOT meetings were scheduled every three years. Later on, in 1992, I replaced Yvan Kempf as the French National Delegate. I remember the different triennial meetings in Kyoto, London and Sydney. During these years, I became close to past presidents Takao Yamamuro, John C.Y. Leong and Chadwick F. Smith who led the organisation in the late 1990s and early 2000s. I also had a close relationship with the SICOT headquarters in Brussels. We had a clear vision of SICOT, a great international organisation with delegates from more than 100 countries including developing ones. During these years, at the last triennial meeting in Sydney in 1999 under the presidency of Rainer I.P. Kotz, the headquarters and delegates voted to change the rules for triennial meetings. An annual meeting was favoured and it was concluded the first Annual International Conference (AIC), would be held in Paris in 2001. I was designated as Congress President, and was to be in charge of the organisation.

With the support of the Brussels headquarters and the French Society of Orthopaedic Surgery & Traumatology (SOFOT) in Paris, we worked closely with Rosine Fievet and Maurice Hinsenkamp. As this was the first Annual International Conference of SICOT, previous records are not available online in the SICOT printed newsletter archives which feature articles from February 2004 onwards.

More than 500 abstracts were received. The abstract selection process was not organised at this time and this was really hard work: we needed to define the session schedule, then organise the abstract selection. I remember a full afternoon in a hotel lobby in the United States during the American Academy of Orthopedic Surgeons (AAOS) meeting in New Orleans, where Maurice Hinsenkamp (SICOT Secretary General at this time) and myself selected the 300 abstracts for podium and poster presentations. The selection criteria were different from those for regular scientific meetings at the time. We decided that the quality of written English and presentation were not criteria of great value. So a premium was placed on the subject and expertise of the presenter above a double blind prospective randomised study. We also decided to organise each podium session with an invited speaker to begin and introduce the subject, followed by seven shorter presentations by attendees.

As I remember, the meeting enrolled more than 1,200 orthopaedic surgeons from different countries. Attendance to the sessions was high, which was not expected in Paris, where many different activities could have been preferred. It was our mission to organise a great social programme. The banquet was held at the Natural History Museum, among galleries of animals of different species and it was a clear success. Also, a visit to the rooftop diner of the Samaritaine shopping centre gave an outstanding view of the old Parisian architecture.

It was hard work but also great fun to organise this meeting, the first one of this type. Since then, SICOT annual meetings have been the rule until last year given the postponement due to the current pandemic. We all hope normalcy returns soon.





**VIKAS KHANDUJA (UNITED KINGDOM)**  
SICOT Education Academy Chair

## SICOT PIONEER: Forging Ahead

It's been a busy year for the SICOT Programme of Innovative Orthopaedic Networking, e-Learning, Education and Research, or PIONEER as we all now know it.

These first nine months of PIONEER have been all about building a strong programme of events with a recognisable brand and universal and meaningful message to orthopaedic surgeons around the world. We hope that this has been achieved. The PIONEER branding is clear, and the PIONEER Programme Team have a fixed and effective standard operating procedure to work from so that we can continue to deliver the best content possible in the future.

To date we have held 26 webinars, featuring over 150 key opinion leaders from across the globe and a huge range of orthopaedic and traumatology topics. We have been working especially hard to make sure the webinars are as accessible as possible, and they can now be viewed on multiple platforms, and live or on-demand. Since its launch, the programme events have attracted over 25,000 views from 112 countries – now that's what you call diversity and global reach!

We have introduced new ways of interacting with the viewers, as well as having the facility to ask our faculty questions live on air, since the autumn of 2020 we have been sending out a pre-webinar poll, so that registrants can engage with some of the 'big questions' ahead of an event, and so the results can be discussed by the faculty during the webinar. Since the start of this year, submissions have also been open for free papers on all webinar topics and there has been a flurry of interest in this opportunity.

We have now signed eight memorandums of understanding with partner societies with whom we hope we will have lasting and mutually beneficial relationships. We believe that this cross-pollination of societies is a key factor in continuing to create content that is useful and relevant, as well as making it possible for us to reach a bigger audience. Our PIONEER 'Fan Club' mailing list is now almost 5,000 emails strong – a testament to how many of our registrants want to keep in touch.



At the end of 2020 we hosted a celebratory event, in which we awarded the SICOT PIONEER Awards, as voted for by the SICOT Fan Club. You can see the award winners below.

**Best Webinar**

[SICOT-AFAS-ESSKA Foot & Ankle Webinar: Acute Injuries & Return to Sport \(6 June 2020\)](#)

# Foot & Ankle: Acute Injuries and Return to Sport

*Live webinar - Saturday 6 June 2020  
15:00-16:00 (Central European Summer Time)*



**Best Talk**

Ahmed Jahwari – [3D printing techniques in spine surgery: applications and challenges \(31 July 2020\)](#)



**Best Moderator**

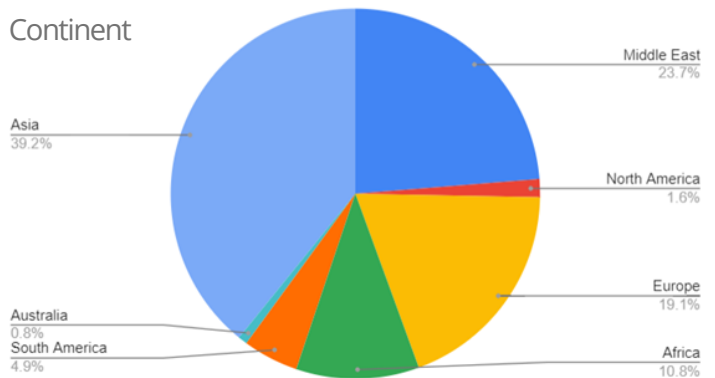
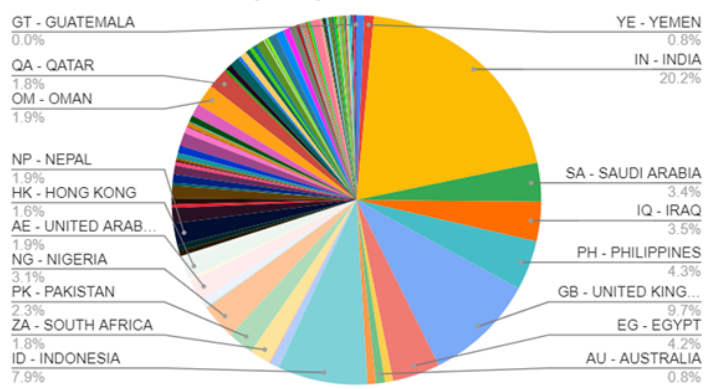
Fabio Sciarretta – [Cartilage Defects in 2020: How Do I Deal with Them? \(17 July 2020\)](#)




We are continually assessing the webinar feedback, which tells us what we're doing right and how we can improve. We are pleased to see that, overall, attendees are finding the content to be 'Excellent', and most encouragingly, over 90% said that the event in question would definitely or possibly affect their clinical practice.

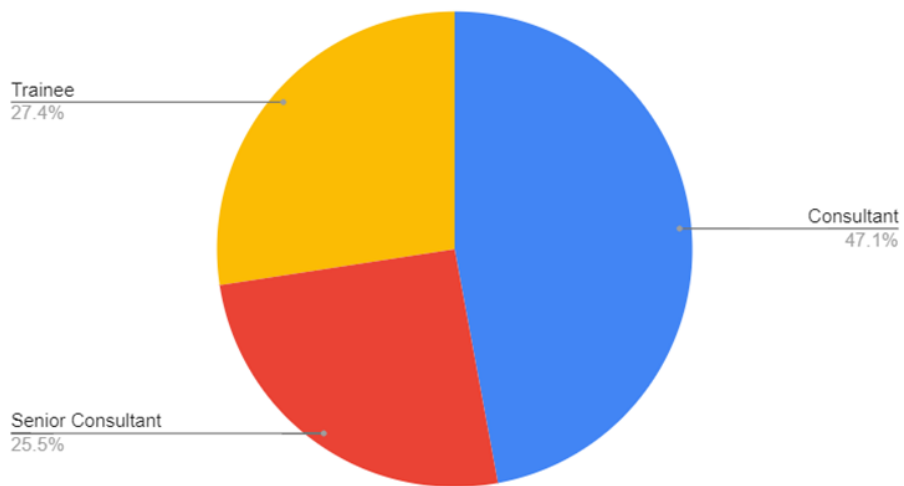
Which country are you based in?



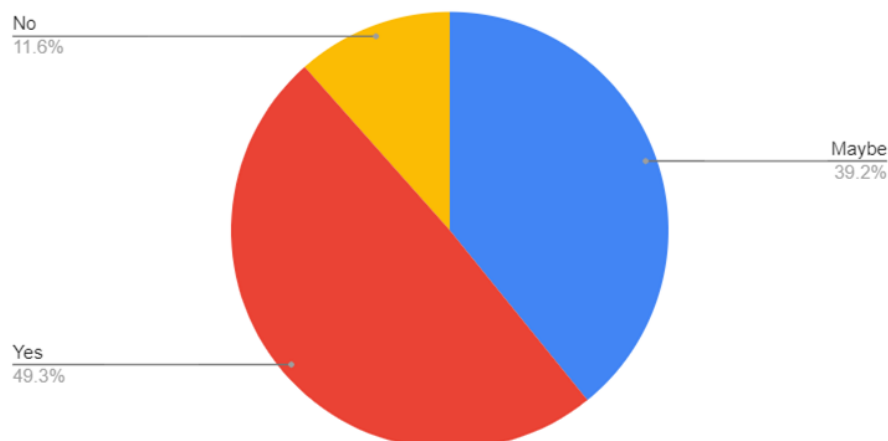


What is your level of seniority?





# Has this webinar affected your practice?



But we're not stopping at webinars – we have some very exciting plans for 2021. On Friday 19 March we held the first event in our chat show format, the **SICOT PIONEER Tête-à-Tête**, during which the hosts pick the brains of two 'technology disruptors' in orthopaedics. There are also podcasts, a new accredited training programme, an online exam and surgical technique resources in the pipeline, so please do keep an eye out for these. All of these upcoming plans and more will be supported by a brand new Learning Management System which SICOT is investing in and building. We hope to launch this in the latter half of this year.

I would like to remind you all that you can watch all of our webinars again for free on the PIONEER Playback service; please visit the [SICOT PIONEER page](#) on the SICOT website to find out more.

Finally, SICOT PIONEER has proved to be the most successful educational venture by SICOT in recent times and I am ever grateful to the Executive Committee for believing in us and to the SICOT PIONEER founding team, John Dormans, Gowreeson Thevendran, Linda Ridefjord and Rebecca White, for making it happen!

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## Best Abstract of the Month



The SICOT PIONEER series has been a real success since its launch in June 2020. With the aim to involve our members and researchers around the world, we have invited abstract submissions to coincide with the webinars, beginning January 2021. Numerous outstanding abstracts have been received and presented on the PIONEER platform. In order to commend these researchers and to encourage more members to participate, the SICOT Research Awards Committee is collaborating with the SICOT PIONEER team to honour the 'Best Abstract of the Month' starting in April 2021. Further, the authors will have the opportunity to have their abstract published in the SICOT Newsletter. They will also have the chance to compete for the coveted 'Best Abstract of the Year 2021' which will be presented at the SICOT Orthopaedic World Congress in Budapest in September 2021!

So please do not hesitate; start writing!

**Margaret Fok and Gow Thevendran**

# Upcoming PIONEER Events



Please visit [www.sicot.org/pioneer](http://www.sicot.org/pioneer) for more information!



## SICOT-UAOS: The Complex Primary Total Hip Arthroplasty

*Live webinar - Saturday 3 April 2021*

USA (East) 08:00-09:30 (EDT) / UK 13:00-14:30 (GMT+1) / Belgium 14:00-15:30 (CEST)  
India 17:30-19:00 (IST) / New Zealand (Sunday 4 April) 01:00-02:30 (NZT)



## SICOT-EOF: Celebrating a Century of Ilizarov

*Live webinar - Saturday 24 April 2021*

USA (East) 09:00-10:30 (EDT) / UK 14:00-15:30 (GMT+1) / Belgium 15:00-16:30 (CEST)  
India 18:30-20:00 (IST) / New Zealand (Sunday 25 April) 02:00-03:30 (NZT)





**AJU BOSCO (INDIA)**

SICOT Newsletter Editorial Board Member

## The Orthopaedic Surgeon-Scientist: A Unique Breed

Surgeons are well positioned to formulate and investigate distinctive scientific questions that require further understanding through scientific research, as such questions arise from their direct experience with patients at their bedside and in the operating room where surgeons spend most of their time. Surgeons are uniquely placed to make significant contributions to the understanding of the pathophysiology of surgical diseases as they have the distinctive advantage of clinically diagnosing and managing these diseases as well as confirming diagnosis through tissue sampling (1). These 'surgeon-scientists' have historically been at the forefront of fundamental discoveries that have transformed the practice of medicine. A few notable discoveries that have revolutionised medicine are Theodore Kocher's elucidation of thyroid pathophysiology, the isolation of insulin by Sir Frederick Banting, the discovery of the circular frame and the application of distraction osteogenesis by Gavril Ilizarov and Joseph Murray's work on organ transplantation (2,3).

Despite the significant contributions of surgeons towards advancements in medicine, many surgical fields have been unable to shake the stereotypes of being overtly 'non-cerebral' as compared with clinical-scientist realms such as internal medicine, pathology and neurology. And perhaps no other surgical specialty has found itself as stereotyped with the 'non-cerebral and mechanistic' phenotype as orthopaedics (4).

In spite of the pivotal role of surgeon-scientists for driving the field of surgery forward, they are confronted with several challenges that often deter them from taking this career path. As Adnan has rightly pointed out in his article, "...By linking financial compensation to clinical yield rather than research productivity we are implicitly hastening the demise of the surgeon-scientist" (5). Many orthopaedic surgeons do not believe that the surgeon-scientist model is even viable due to the financial pressures they face in their early career and the lack of support from academic institutions.

### Barriers for surgeon-scientists\*

1. Lack of funding for research in surgery
2. Lack of academic and professional support
3. Variability in the human and technical resources available over time
4. Perception that research is beyond the scope of surgeons' practice, as well as targeted focus on clinical care and increasing specialisation
5. Rising demand for operative productivity and efficiency

*\*Details on barriers for surgeon scientists have been adapted from the following article: Siddiqua A, Bhandari M. The Surgeon-Scientist: Saving an Endangered Species. OE Insights. 2021;2(1).*

Despite the fact that orthopaedics attracts some of the brightest medical students, orthopaedic surgeons are stereotyped for practising 'hammer and nail medicine'. The unfortunate reality is that many orthopaedic surgeons have internalised this rudimentary perception of the field, which can prevent them from pursuing a career in research (4). There is currently a severe shortage of orthopaedic surgeon-scientists who can formulate and conduct meaningful research in musculoskeletal care, to drive forward our understanding and management of musculoskeletal diseases.

Orthopaedic surgeons have to undergo a longer period of clinical training during which they accrue a substantial amount of financial debt. When early career orthopaedic surgeons pursue the role of a researcher, they inevitably have less time for clinical practice, which will hinder the repayment of their student debts. Balancing these competing personal and professional life interests can be a significant hindrance to pursuing academic medicine at a time in life when they also may have other increasing personal responsibilities (7).

In a survey examining orthopaedic residents' attitudes to research, 93% of the residents indicated the need for monetary incentives for research (8). During residency, residents indicated that increased funding and protected time for research would provide the strongest incentives for research, while debt relief and salary support would provide the strongest incentives for research post training (9). Inadequate institutional infrastructure as well as a lack of qualified mentors have been also identified as roadblocks for orthopaedic surgeons to conduct research (9).

Despite the presence of innumerable barriers that may discourage orthopaedic surgeons taking up a career as a clinical scientist, there are some surgeons who have successfully pursued this career path. Their journey can provide the motivation and guidance for budding young orthopods who aspire to become surgeon-scientists. The biggest takeaway from studying the journeys of different surgeon-scientists is the diversity of the paths they have taken – which emphasises there is no set formula for embarking on this career path. There is no current pathway that is regarded as the perfect way for educating surgeon-scientists (6). Mohit Bhandari, the SICOT Research Academy Chair, has outlined a road map for achieving success as a surgeon scientist (7).

Before embarking upon the journey as a surgeon-scientist one should consider certain key factors like personal and professional life priorities, financial responsibilities, one's passion to find answers to important clinical questions and most importantly if he/she has the resilience to be patient and persistently persevere towards excellence, by overcoming the barriers offered by this unique career path.

## References

1. Goldstein AM, et al. A roadmap for aspiring surgeon-scientists in today's healthcare environment. *Annals of Surgery*. 2019;269(1):66-72.
2. Thompson JC. Gifts from surgical research. Contributions to patients and to surgeons. *J Am Coll Surg*. 2000;190:391-403.
3. Erverdi N, Motro M. Brief History of Distraction Osteogenesis. In: *Alveolar Distraction Osteogenesis*. Cham: Springer, 2015.
4. Buckwalter JA, Elkins JM. The scarcity of orthopaedic physician scientists. *The Iowa Orthopaedic Journal*. 2017;37:219-224.
5. Adnan C. The surgeon-scientist: In need of resuscitation. *Academic Medicine*. 2018;93(12):1753.
6. Kodadek LM, et al. Educating the surgeon-scientist: A qualitative study evaluating challenges and barriers toward becoming an academically successful surgeon. *Surgery*. 2016;160(6):1456-1465.
7. Siddiqua A, Bhandari M. The Surgeon-Scientist: Saving an Endangered Species. *OE Insights*. 2021;2(1).
8. Ahn J, et al. The future of the orthopaedic clinician-scientist: part II: Identification of factors that may influence orthopaedic residents' intent to perform research. *The Journal of Bone and Joint Surgery*. 2010;92(4):1041-1046.
9. Atesok KI, et al. Perspective: Integrating research into surgical residency education – Lessons learned from orthopaedic surgery. *Academic Medicine*. 2012;87(5):592-597.



**KENAN SALEH BASHA (UAE)**



**SATTAR ALSHRYDA (UAE)**

SICOT Newsletter Editorial Board Member

## Circular Frames

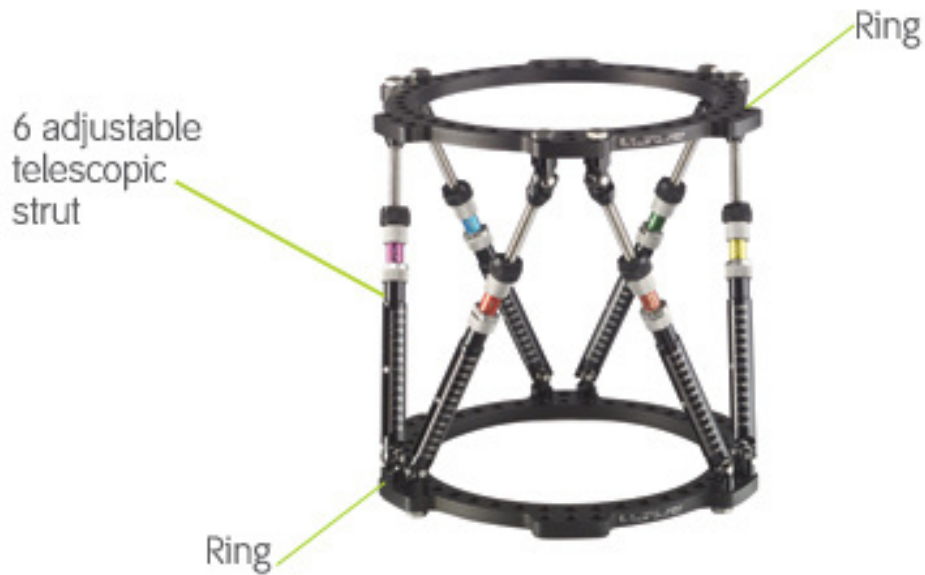
Prof Gavriil Ilizarov (1921-1992) (Figure 1) is widely considered the father of modern bone deformity correction (1). He treated complex fractures that did not heal using circular frames to compress the two fragments of broken bone. The circular frame is made of two or more rings. These rings are connected to the bone fragments using fine wires. The wires are tensioned to prevent macro movements. The rings are interconnected with threaded rods. These rings get closer to each other by dialling nuts over the connecting threaded rod. Allegedly, Prof Ilizarov noted that new bone was formed at a fracture site when one of his patients misunderstood the instructions and turned the nuts in the wrong direction causing fracture distraction instead of compression. This observation would be passed as a failure to a non-inquisitive mind. However, Ilizarov saw the great potential of this observation. He called this phenomenon 'distraction histogenesis' and he subsequently used it for limb lengthening, gradual correction of bony deformity and for bone transport to fill large bone defects (2,3).



*Figure 1: Professor Ilizarov holding his circular frame*

Ilizarov's method became known in Europe when he treated famous athletes such as Valiriy Brumel, an Olympic high jumper, and Carlo Mauri, an Italian mountaineer.

Dr Dror Paley, a Canadian orthopaedic surgeon, developed an easy mathematical method to analyse bone deformity and plan treatment, laying the ground for computer utilisation in the field of deformity correction. Dr Charles Taylor, an orthopaedic surgeon from the United States introduced the first computerised deformity correction frame based on what is commonly known in the mechanical engineering field as the Stewart hexapod platform (Figure 2). He advanced the Ilizarov frame by connecting the two rings with six telescopic struts instead of the four threaded rods. These struts can be individually lengthened or shortened based on a computerised programme prescription to move the two rings in a desired direction. The frame was named the Taylor Spatial Frame (TSF) and was made by Smith & Nephew under a patent law agreement (Figure 2).



*Figure 2: Taylor Spatial Frame*

The TSF was introduced in clinical practice in 1994 and despite its high cost in comparison with the Ilizarov frame, it has become the leading circular frame in correcting bone deformities. However, when the patent expired, three new circular frames were introduced in practice. These are the TrueLok Hexapod (TL-HEX) by Orthofix, Orthex by Orthopediatrics and the Multi-AXial correction system (MAX frame) by Synthesis (Figure 3).



*Figure 3: Images of the three frames that have been recently introduced in clinical practice*

Developers have introduced new innovative ideas to overcome the shortfalls of the TSF. Table 1 summarises some of these differences (4).

Table 1: Some important differences between the four frames\*

Features	TSF	TL-HEX	Orthex	MAX
Integrated deformity analysis software.	No	Yes	Yes	Yes
Integrated mounting parameters calculation.	No	Yes	Yes	Yes
Methods of calculating mounting parameters.	Manual. However, Trauma CAD software has a TSF interface for deformity analysis and calculation of TSF mounting parameters using the reference ring and osteotomy site on anteroposterior and lateral views. The two views are linked and cannot be unsynced.	Using own integrated software. Manual adjustment is required to identify the master tab on reference ring.	Using own integrated software. Using three calibration balls to identify the master tab on reference ring.	Using own integrated software. But use small balls on each strut proximally and distally to identify the master tab on reference ring.
Distal referencing.	Adjustment is required.	Adjustment is required.	Built into the software.	Adjustment is required.
Strut adjustment (sliding and gradual).	No	Yes	Yes	Yes
Hardware.	Struts allow gradual correction only.	Struts allow gradual and acute correction.	Struts allow gradual and acute correction.	Struts allow gradual and acute correction.
		Emergency tab kit to overcome unusual anatomical situations.	Z-bar to overcome unusual anatomical situations.	
	Holes for strut attachments are fixed.	Holes for struts attachments are fixed.	Any hole can be used.	Default and non-default holes are present.

\*Disclaimer: the authors are experts in the TSF and TL-HEX but they have not used the Orthex or MAX frame outside workshops.

### References:

1. Alshryda S, Jones S, Banaszkiwicz P. *Postgraduate Paediatric Orthopaedics: The Candidate's Guide to the FRCS (Tr and Orth) Examination* Cambridge: Cambridge University Press; 2014.
2. Ilizarov GA. *Clinical Application of the Tension-Stress Effect for Limb Lengthening*. *Clinical Orthopaedics and Related Research*. 1990;250:8-26.
3. Mehmet Çakmak, Kocaoğlu M. *Who is Ilizarov?* <http://www.ilizarov.com/en/who-is-ilizarov.php> (date last accessed 23 March 2021).
4. Basha Ama KS, Al Yammahi M, Sukeik M, et al. *Comparison of Three Circular Frames in Lower Limb Deformity Correction: A Biomechanical Study*. 2021.



**MUSTAFA ALNAIB (UNITED KINGDOM)**  
SICOT Website Committee Chair

## New Sections on the SICOT Website

The SICOT Website Committee is pleased to introduce two new sections of the SICOT website (under Publications): [Women in Orthopaedics](#) and [SICOT Diaries](#). You can read some of the articles added so far to these sections on the next few pages of this e-Newsletter.

### Women in Orthopaedics

This is a permanent feature on the website, showcasing articles and video blogs submitted by female orthopaedic surgeons from around the world promoting the profession amongst women and reflecting on challenges and opportunities.

Our launch content includes two inspiring articles by leading female orthopaedic surgeons (Patricia Fucs and Samantha Tross), introduction clip, and an amazing collaborative video by Turkish orthopaedic surgeons led by Emel Gonen.

Special thanks to Ece Nur Çınar, Temiloluwa Olufemi and Linda Ridefjord for their dedication and hard work.

### SICOT Diaries

SICOT is truly a global society where the orthopaedic world meets. As an initiative from the Website Committee for the society to get to know the countries that make up SICOT, we are launching "SICOT Diaries".

This website page is for national delegates or nominated distinguished orthopaedic surgeons from their respective countries to submit an article or short video about significant milestones in their careers and orthopaedic practice in the country they represent. It would be interesting to understand the structure and functioning of orthopaedics in individual countries as part of their healthcare. What would also be helpful is to understand the challenges facing orthopaedic practice in individual countries and how we as a society could step in to support. The theme of the articles and videos will be about orthopaedic practice, policy, funding, systems, governance, training structure and regulation rather than surgical educational content.

As this is a new and unprecedented initiative, we believe that this will go a long way not just in having a better understanding of individual member countries but also help forge partnerships through networking, improve patient care by sharing experiences and develop teaching, education and research opportunities, all at the heart of SICOT which remains the World Orthopaedic Organisation.



**PATRICIA MORAES BARROS FUCS (BRAZIL)**  
SICOT Active Member

## Women in Orthopaedics: A Life in Orthopaedics - Still a Challenge?

### The choice

Every medical student is highly impressionable yet laden with the choice of a specialty as a future career amidst loads of options. Mine was a relatively simple choice since I just followed my heart. I was really in love with orthopaedics as a medical student. I frequently visited the children's orthopaedic floor with a nurse who was my teacher during the first year and learnt about bandages, blood collection and preoperative work-up.

Hard work got me into the residency training programme and with overwhelming support from family, mentors and colleagues, I have made a steady progress till date. It has been the same medical school, the same orthopaedic department from residency with no looking back, and now on the other side as Brazil's only female full Professor in Orthopaedics.



2015 Full Professorship Exams



2015 Prof Dr Moacyr Fucs – my husband



2017 Honorary Member at Santa Casa SP



2018 SBOT President



2020 Assistants in the Clinic

## My journey

I joined the SBOT (Brazilian Society of Orthopaedics and Traumatology) in 1985 after approval in the board exams to be a full member and became an examiner 5 years later. I served on several committees and joined the board in 2009. My leadership roles include Secretary General in 2012, 2nd Vice-President in 2016, 1st Vice-President in 2017, and finally President (first female President) in 2018.

With a passion for paediatrics, I am a founding member of both the Brazilian Paediatric Orthopaedic Society (SBOP) and the Latin America Paediatric Orthopaedic Society (SLAOTI) established in 1998 and 2000 respectively. I have been a board member and served on several committees in both societies, progressing through the ranks till I became President of SBOP in 2003 and SLAOTI in 2008.

On the international scene, I joined the International Federation of Paediatric Orthopaedic Societies (IFPOS) in 2000, serving in different positions and presided over the 2004 Congress in Brazil. I worked to successfully make IFPOS the paediatric arm of SICOT and this later became the Paediatrics Subspecialty Committee in SICOT.

My SICOT history started long ago with my first fellowship at the DuPont Hospital for Children in Delaware. Thereafter, I became a SICOT member during the Montreal Congress in 1990 and it has been a very interesting journey seeing me serve in numerous positions till date. I was elected National Delegate in 1999, Examiner at the SICOT Diploma Examinations since 2004, worked on the paediatric programme since 2005 and chaired the Paediatrics Subspecialty Committee till 2020. I became SICOT's first female Executive Committee member and served 2 terms as Treasurer from 2005 to 2011.

Working in SICOT was a huge task for me because, firstly, it took some time to earn respect from others but it also provided an avenue for me to learn especially as Treasurer.

SICOT is a great society with a very important and special role in the orthopaedic world, as it joins every country, every subspecialty, all cultures and can help to spread knowledge to everyone. Again, SICOT provides an opportunity to learn more, and not only about Orthopaedics. All efforts must be employed to make SICOT stronger in every country, to share experiences, knowledge and promote the young generation of orthopaedic surgeons.





*2019 Editorial Board Meeting of International Orthopaedics*



*2005 SICOT Congress, International Council Meeting in Istanbul*



*2019 SICOT Congress in Muscat  
- Paediatric Paper Award*



*2018 International Presidents at the AAOS Annual Meeting*



2019 Congress in Bolivia



Female orthopedists' lunch during the 2018 SBOT Congress in Rio de Janeiro

## The difficulties

It was and **still is** a long journey because it is necessary to coordinate all work activities with the family and home duties. I believe we all face difficulties throughout life, although for the woman the family obligations are still greater than for the man - after all, this is part of the learning of adult life. One of the most important things I have learnt is that we need to seek and accept help from others; **this is not fragility but wisdom.**

## The challenges

We as women cannot simply wait for equality. A look at the Brazilian numbers in 2020 revealed that 496,671 doctors registered with the Federal Council of Medicine, with 247,309 being female doctors – almost equal numbers. The trend is the same world over: there are increasing numbers of female doctors. However, amongst 15,598 orthopaedic surgeons, only 983 (6.3%) are women.

In SBOT, we have 14,302 members and only 810 female members (5.6%). These figures are better than in 2018 when we had less women. Residents in Brazil are 1,967 males to 149 females. We are not different from other societies as the American Academy of Orthopaedic Surgeons (AAOS) has 6.5% female members and had its first female President in 2019 while the British Orthopaedic Association (BOA) elected the first female Vice-President last year.

Interestingly, both equality and equity are female words in Portuguese. As women in orthopaedics, we should not look for equality but strive for equity - same opportunities and same judgement from our peers. In the future, men and women from all professions (including orthopaedics) will have their work valued by knowledge and competency. When that time comes, we should not forget that we have reached this point as a result of the work begun long ago.

## My advice to young girls in Orthopaedics continues to be the same:

- Be strong in your will to make it work. Study hard to be the best you can.
- Be a good doctor, not only an orthopaedic surgeon.
- Be gentle with the patients and families, give your time and listen more.
- Be a good partner with your colleagues, you are different but with the same capability.
- Love what you do, and in your heart you will find that you belong to Orthopaedics because Orthopaedics doesn't belong to you.



## SAMANTHA Z. TROSS (UNITED KINGDOM)

SICOT Active Member

### Women in Orthopaedics: The Career of Samantha Z. Tross – UK's First Female Afro-Caribbean Orthopaedic Surgeon



At age 7, I announced to my family that I wanted to be a surgeon when I grew up. I am not sure where that idea stemmed from. My mum was a nurse and I occasionally visited her at work, though most memories are of her at the nursing school. I am sure however my curiosity about hospitals was piqued. My maternal grandmother died at home (as did a great aunt) and no doubt facing death at an early age accompanied by an insatiable desire to read, (probably read about surgery), all helped inform my decision. My parents were very supportive of the idea as with many Afro-Caribbean parents of that generation, being a doctor, lawyer, engineer or accountant were the preferred careers. I was fortunate to excel at school and never stopped chasing my dream.



My father's work with the Commonwealth Secretariat meant that he was required to leave Guyana, my country of birth, to go to Zambia and subsequently Tanzania. Knowing that he would be moving countries during his assignment and a high regard for the British education system, meant myself and my siblings were sent to boarding school in England. The separation from my parents, having to adjust to a new culture, being away from my friends and isolated from my siblings, who were in different boarding houses, was traumatic. It was during these years though that I developed self-reliance, independence and emotional fortitude. I also developed interpersonal and communication skills, all valuable for my future career, which at times has been lonely. An early lesson that out of adversity comes strength.



I was fortunate to secure a place at University College and Middlesex School of Medicine, becoming one of two hundred students in my year and the only black female in my class. There were six black boys, five of whom were exchange students from Malawi. In the year above was a single black girl, who I later joined when I decided not to do an intercalated degree. Having gone through the boarding school experience, I do not recall feeling lonely at medical school. I particularly enjoyed being in London and being able to access the cultural diversity. Anatomy was easy for me and further cemented my desire to pursue surgery. As a student during one of my attachments, I came across my first female surgeon and she was an Orthopaedic surgeon. This was very impactful. This coupled with the fact that the Orthopaedic surgeons were the friendliest I encountered during my surgical rotations (rotated through General Surgery, Neurosurgery, Plastic Surgery, Vascular Surgery and Orthopaedics), the speciality allows you to treat young, old, male and female patients, who are generally well and recover quickly and unless you work in a trauma centre, most surgery is done during sociable hours, made me pursue Orthopaedics.

Little did I realise that orthopaedic surgery is the surgical specialty with the fewest number of female consultants and that on acquiring my Consultant post in 2005, I would be the first of Afro-Caribbean origin. Had I known, it would probably not have changed my mind, as once I have made a decision, I am very single minded in the pursuit of it. However, it would undoubtedly have added pressure.



*Fellowship ceremony - Royal College of Surgeons of Edinburgh*



*Scrubbing for surgery*

During my orthopaedic training, I was the only black trainee in my region. I experienced racism and sexism but my boarding school experience and the support from mentors I acquired by my hard work and enthusiasm, helped me through. Despite the support from mentors and friends, my negative experiences began to undermine my confidence and feelings of insecurity developed. Despite my training experience being more positive than negative, with three superb white male mentors whom I will never forget, the negative experiences were more impactful on my psyche. I began to believe the orthopaedic examination was bigger than me and failed my first attempt. Having gone through the process, I realised this was not the case, enjoyed the exam the second time and was successful. As a Consultant, I still encounter racism and sexism but such occurrences are reducing. I am now more self-assured and better equipped to deal with such behaviour (I focus on internal validation rather than external and in so doing I am better at countering negativity) and society as a whole is less tolerant.

Due to my experiences, I am very involved in mentoring via various organisations; and champion diversity and inclusion. I have lectured widely on the subject and am currently involved in committees, both in the British Hip Society and Royal College of Surgeons of England to increase their diversity. I am happy to report that there are now five other black female orthopaedic consultants in the UK and growing numbers in the training programmes. I would like to think that I played some role in that by being visible and lecturing at various surgical societies. Encouragingly, the number of women overall in Orthopaedics continues to increase but still lags behind the other surgical specialties.

My career continues to go from strength to strength. I scored another first in 2018 being the first woman in Europe to perform Mako robotic hip surgery. I am currently the Lead for my department, External Examiner for the University of the West Indies Medical School in Trinidad and Associate Professor for the American University of the Caribbean. In 2019, I was invited by Mayor Sadiq Khan to give the Keynote address at the Mayor's Black History month event.



For any young woman wishing to pursue a career in Orthopaedics, I would greatly encourage it. It is a speciality that offers something for everyone, is constantly evolving and compatible with family life. I would recommend getting involved in surgical societies at your University, which allows you to build networks and exposes you to what the various specialities have to offer. Secure a mentor and don't be afraid of failure or adversity. See them as opportunities to grow. Be relentless in the pursuit of your goal but take time to enjoy the journey.



**MOHAMMED AL-BAYATI (IRAQ)**  
SICOT National Representative of Iraq

## SICOT Diaries: Orthopaedic Practice in Iraq

Orthopaedic surgery, as a specialty, evolved from general surgery around 60 years ago, thanks to a group of pioneer surgeons who chose to care only for orthopaedic patients.

Healthcare services in Iraq are provided freely to the population and the state is the policy maker, regulator and provider of resources. Orthopaedic practice is integral to the general medical system in Iraq and has been affected by the political and socioeconomic climate that influenced state planning. Iraq has been (and is still going) through troubled times which inevitably led to significant changes in priorities for orthopaedic practice due to a shortage of medical services and personnel.

Due to ever increasing demand for services, orthopaedic surgeons practiced outside official working hours of the state in personal consultation rooms which eventually led to the development of a private healthcare system.

Private clinics and hospitals are licensed and regulated by the Ministry of Health and the Iraqi Doctors Association to maintain standards of care. This system has helped in providing support to public hospitals, offering choice for patients and supporting healthcare givers financially.

Until the late sixties, access to orthopaedic consultations and procedures was restricted to a few hospitals in the capital, Baghdad, and a few other big cities around the country. In the early seventies, the government decided to encourage and support the establishment of private hospitals. Many small hospitals were built, and successfully augmented delivery of surgical services. Recently, as costs of medical and surgical supplies continue to rise, several new and well-equipped private hospitals opened. Those are now competing with or even providing more advanced services than state hospitals in certain aspects.

The pioneer orthopaedic surgeons were trained and qualified in the United Kingdom and the United States, They were keen to apply modern knowledge and techniques practiced in their training institutions. Soft tissue procedures, stabilisation by Plaster of Paris and traction for long bone fractures were widely utilised until the fifties of last century.

*Dr Kadhum Shubber (1915-2002)*  
*First qualified consultant orthopaedic surgeon in Iraq*  
*Father of orthopaedic surgery in Iraq*



Procedures like open reduction and internal fixation of closed fractures and joint replacement of the hip were introduced and became the standard treatment in the late sixties. However, hospital infrastructure, flow of supplies and nursing care were not coping with aspirations of surgeons.

During the seventies, many new modern hospitals were built around the country and many specialist orthopaedic surgeons covered most of the cities of Iraq.

### Orthopaedic Surgery During the War

The practice of orthopaedic surgery had to change rapidly and significantly during the eighties of the last century to respond and cope with the burden of war and casualties in addition to shortage of supplies and resources.

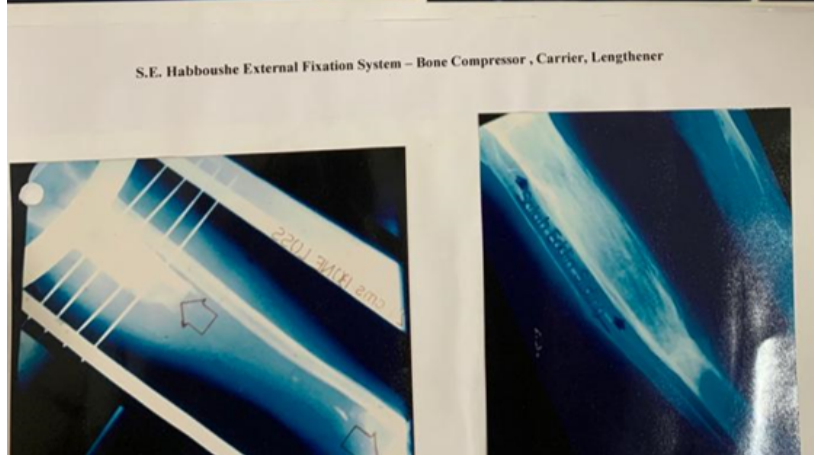
During the long years of war, Military Medical Services expanded significantly and military orthopaedic surgeons gained wide experience and developed novel methods and instruments to meet the demands of managing severe limb injuries. The multi-purpose external fixator (Salah-Eddin) and pelvic splints, promoted by Dr M. Habboush, are only examples of many.



*Major General Dr Mudhaffar P. Habboush  
Chief orthopaedic surgeon to the Army  
Co-founder of Military Orthopaedic Department 1972*



*Multi-purpose external fixator (Salah-Eddin)  
Promoted by Dr Habboush  
Manufactured in Army workshops*



The continuous flow of musculoskeletal trauma casualties resulted in a redirection of resources away from other patients and surgeons had to delay care or cancel for many non-urgent cases. Some patients chose to travel abroad for surgical procedures that were not available inside the country. The Ministry of Health set up a state-funded programme to send patients abroad if they needed complex joint replacement and spine operations.

The private practice had to grow and expand to compensate for shortages in public hospitals. Many surgeons travelled abroad for fellowships and received training on modern systems and up-to-date surgical techniques.

The long-term sequelae of war injuries like fracture malunion, nonunion and chronic osteomyelitis created a large cohort of cases that needed complex reconstruction, management and rehabilitation.

### Orthopaedic Training in Iraq

The national postgraduate specialisation programme, started in 1972 as a two-year diploma followed by a five-year fellowship in orthopaedic surgery, provided the country with a flow of specialists providing care to patients with orthopaedic conditions.

Many orthopaedic subspecialty units, run by surgeons with subspecialist interests, were formed to advance the experience and skill of surgeons and to improve services to patients. Postgraduate senior fellowships in joint replacement, spine surgery and hand surgery are examples of established subspecialty programmes. The Iraqi Orthopaedic Association also encouraged its members to gather in interest groups to promote subspecialisation among orthopaedic surgeons.

### The Present and the Future

Nowadays, as more orthopaedic operations are performed endoscopically and by minimally invasive techniques, demands on hospital beds are less than before and many operations are performed as day cases. Having said that, the execution of orthopaedic operations is frequently delayed because of a shortage of operating room capacity and supplies.

Orthopaedic practice in Iraq, progressed in the right direction. Coping with many setbacks, political and socioeconomic, Iraqi orthopaedic surgeons are providing an acceptable level of service to patients with sincerity and devotion.





**MOHAMED SUKEIK (SAUDI ARABIA)**

SICOT Newsletter Editorial Board Member

## Knowledge Exercises – Multiple Choice Questions: Osteoarthritis

### Questions

Regarding the role of orthobiologics in the diagnosis and management of osteoarthritis (OA), please answer the following questions:

**1) According to recent studies, the vast majority of OA biomarker studies were related to which joint?**

- a) Shoulder
- b) Wrist
- c) Hip
- d) Knee
- e) Ankle

**2) Among small molecules that activate endogenous molecular pathways that regulate the regeneration of cartilage, which of the following has been reported to mitigate the catabolic activity of the chondrocytes and to potentiate chondrogenesis in human mesenchymal stem cells via the core-binding  $\beta$ -Runx1 pathway?**

- a) Kartogenin
- b) Wogonin
- c) BNTA
- d) SM04690
- e) Flavonoid

**3) Which of the following is a natural growth factor that has served as a molecular target for the development of therapeutic applications for OA?**

- a) Transforming growth factor beta (TGF- $\beta$ 1)
- b) Bone morphogenetic protein (BMP)-2 and BMP-7
- c) Insulin-like growth factor I (IGF-1)
- d) Fibroblast growth factor-2 (FGF-2)
- e) Platelet-rich plasma (PRP)

**4) Which of the following has significantly higher concentrations of interleukin 1 receptor antagonist (IL-1Ra)?**

- a) PRP
- b) Bone marrow aspirate concentrate (BMAC)
- c) Whole blood
- d) Adipose-derived stem cells (ASCs)
- e) Hyaluronic acid (HA)

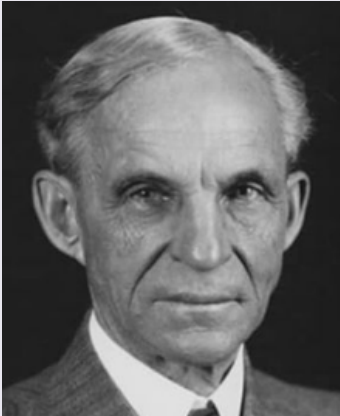
**5) Which of the following carry a number of growth factors and cytokines that may contribute to an anti-inflammatory effect within the joint?**

- a) PRP
- b) BMAC
- c) ASCs
- d) HA
- e) Stromal vascular fraction (SVF)

**Answers can be found on page 39.**



# SI-QUOTE



*"Coming together is a beginning,  
staying together is progress,  
and working together is success."*

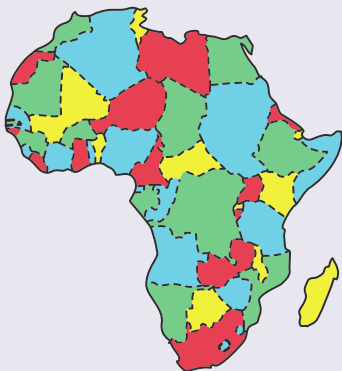
**Henry Ford (1863-1947)**

American industrialist and business magnate, founder of the Ford Motor Company

*"A team is not a group of people who work together.  
A team is a group of people who trust each other."*

**Simon Sinek (1973)**

British-American author and inspirational speaker



*"If you want to go fast, go alone.  
If you want to go far, go together."*

**African proverb**

## Knowledge Exercises – Multiple Choice Questions: Osteoarthritis

### Answers

#### 1. Answer: d)

According to recent studies, the vast majority of OA biomarker studies were related to the knee joint.

#### 2. Answer: a)

The small molecule kartogenin has attracted special scientific interest as a regulatory molecule in chondrocyte metabolism. Kartogenin has been reported to mitigate the catabolic activity of the chondrocytes and to potentiate chondrogenesis in human mesenchymal stem cells via the core-binding  $\beta$ -Runx1 pathway.

#### 3. Answer: e)

Synthetic and natural growth factors have served as molecular targets for the development of therapeutic applications for OA. Synthetic factors include TGF- $\beta$ 1, BMP-2 and BMP-7 (also known as osteogenic protein-1, OP-1; each of the TGF- $\beta$  superfamily), IGF-1, FGF-2 and FGF-18 of the fibroblast growth factor family and platelet-derived growth factor (PDGF). PRP is likely the most investigated natural growth factor for the same purpose.

#### 4. Answer: b)

IL-1Ra is an inhibitor of IL-1 $\beta$ , a cytokine implicated in progression of osteoarthritis. Importantly, BMAC has significantly higher concentration of IL-1Ra than both whole blood and PRP.

#### 5. Answer: b)

While culture-expanded ASCs, SVF treatments, and BMAC all deliver mesenchymal stem cells, they differ in the concentration of cells and the rest of their make-up. BMAC injections have a low concentration of mesenchymal stem cells (MSCs), but carry a number of growth factors and cytokines that may contribute to an anti-inflammatory effect within the joint. Injections of culture-expanded ASCs have high concentrations of MSCs, but lack the additional cytokines present in BMAC. This could contribute to the belief that ASCs may have less immunogenicity than BMAC.

### Reference:

Weber A, Bolia I, Trasolini N. Biological strategies for osteoarthritis: from early diagnosis to treatment. *International Orthopaedics* (2021) 45:335–344.

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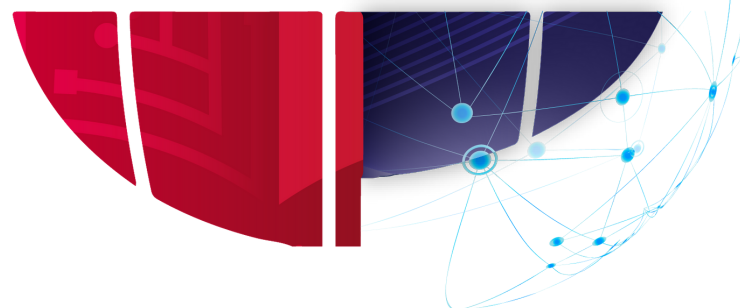
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**SICOT**  
**Rue de la Loi 26 - b.13**  
**1040 Brussels**  
**BELGIUM**

**[edsecr@sicot.org](mailto:edsecr@sicot.org)**

