

Issue No. 106



SICOT NEWS SICOT CONGRESS NEWS SICOT-ENDORSED EVENTS

SICOT BY REGION

SICOT HISTORY SICOT WEBSITE SICOT PUBLICATIONS **EXPERT** CORNER



TABLE OF CONTENTS

Editorial	4
Seven Reasons to be in Kuala Lumpur for the SICOT Orthopaedic World Congress!	
SICOT News	6
SICOT Roundabout	
SICOT Congress News	8
Scientific Programme	
Seven More Reasons for going to the SICOT Meeting in Kuala Lumpur	
SICOT-Endorsed Events	13
Ongoing Activities of the World Association against Infection in Orthopaedics and Trauma (WAIOT)	
SICOT by Region	16
Contribution of United Kingdom to SICOT	
SICOT History	20
The Italian History and the Global Network of SICOT	
SICOT Website	24
A Bouquet for SICOT Women	
SICOT Publications	26
Call for Applications	
Expert Corner	28
Perspective of an Arthroplasty Surgeon of his own Simultaneous Bilateral Total Knee Arthroplasty	
Green Theatres - Scoping Surgical Practices through an Environmental Lens	
SI-QUOTE	37
Sir Robert Hutchison	
Fditorial Team	38

EDITORIAL



ASHOK JOHARI (INDIA)SICOT President

Seven reasons to be in Kuala Lumpur for the SICOT Orthopaedic World Congress!

Welcome, dear colleagues, to Kuala Lumpur for the SICOT Orthopaedic World Congress (OWC) between the 28 to 30 September this year. Here are seven compelling reasons why you should be there:

- 1. Malaysia is enticing and Kuala Lumpur is enchanting! The city is easily accessible from most parts of the world and specially from any part of Asia. KL just rocks with fun and activity, tourist attractions and with friendly Malaysians! Every thing is a bonus to the hectic academic energy generated by the congress participants!
- 2. The SICOT OWC always sets a benchmark for quality and academic standards! Paper presentations, debates, panel discussions, case discussions, symposia, keynote lectures, plenary lectures, courses and workshops all will be aimed for surgeons to grasp better and faster. The programme caters to the young and old, inexperienced and experienced surgeons and from the developing to the developed world. The breadth of the scientific programme is amazing and great thought is always expended for this!
- 3. The Subspecialty Day, I am sure, will be a great attraction. It is aimed for the surgeons to explore their interest in specialties. It will cater for young surgeons in choosing a specialty and eventually becoming an authority!
- 4. Awards and Rewards galore! There are many congress awards, research awards, travel grants, best paper awards, and so on, to be won! The awards given out are amazing! Who knows, you may be a lucky winner!
- 5. The plenary speakers chosen are amongst the best in their respective fields and will talk on a diverse range of subjects ranging from Surgical Education and Newer Technologies, Hipology, to Digital Transformation and Artificial Intelligence Applications in Orthopaedic Rehabilitation. There will be 14 keynote speakers, authorities in their fields, and their talks will be a treat to listen to!
- 6. Gain international exposure by showcasing your work and getting recognised! SICOT represents the whole world! There is no better or faster way of getting international recognition!
- 7. Last but not least! Meeting and making friends worldwide and building lasting lifelong relationships! That in itself is a great reason to be at KL!

So, you do not have to think very hard for the reasons to be there! I have written them all! I am sure there are more reasons which I could mention but, as they say, short is sweet! See you, 28 to 30 September at KL!



SICOTPIONEER

Programme of Innovative Orthopaedic Networking, e-learning, Education & Research



Leaving a digital footprint in SICOT's educational journey.

www.sicot.org/pioneer

SICOT NEWS



ASHOK JOHARI (INDIA)SICOT President

SICOT Roundabout

SICOT Strategy Retreat

The SICOT Strategy Retreat took place on 5 and 6 May 2022 at the SICOT Head Office in Brussels. The participants were the SICOT Executive Committee and a few invitees. Discussions were held on the future of SICOT and strategy driven decisions were made to ensure that SICOT remains in its preeminent position in the Orthopaedic world. Strategy was discussed under 10 headings with leaders for each of these headings who led the discussion. The discussions were summarised to arrive at strategy points. These will next be circulated to the different councils and academies of SICOT and their constituent committees. The final draft will form a survey for circulation to the SICOT membership prior to a move for adoption of the consensus.

The Diploma SICOT Exams

After a gap of nearly 3 years, the Diploma SICOT examination will be held as a face-to-face examination at the Kuala Lumpur World Congress. A question bank has been created within the SICOT Learning Management System (LMS) and, eventually, the MCQ part of the examination could be held internationally as an online exam. I am sure that the examinees and examiners, both, are eager to see the exams taking place under the able leadership of Mr Marc Patterson, the Chief Examiner.



√ 5TH - 6TH MAY 2022, BRUSSELS →



Orthopaedic Rehabilitation Committee of SICOT

The newly established Orthopaedic Rehabilitation Committee is the latest in the list of Subspecialties that are a part of the Board of Sub-Specialties (BOSS). It is headed by Dr Alaric Aroojis, a senior paediatric orthopaedic surgeon from India. A brilliant start has been made and the committee held its first meeting dividing its agenda amongst the committee members. The ambit of this committee is very broad and this committee may pave the way for including allied specialists as members of SICOT under a different category of membership.

Merger of the Fellowship and Education Centres Committees of SICOT

Over the years it was realised that Education Centres were involved with fellowship training. The Fellowship Committee would be better able to incorporate these fellowships within its programmes and take on the responsibilities assigned to the Education Centres Committee. A merger finally has been decided upon. Prof Khaled Emara, Chair of the Education Centres Committee graciously accepted to step down from his position. For the next two years, the Fellowship Committee will have members of both these committees with eventual regularisation. Prof Vojtech Havlas continues to head the Fellowship Committee.

A Journey Through Orthopaedic History - a book by Prof Julio Ribes-Iborra

Prof Julio Ribes-Iborra, an orthopaedic historian, SICOT member and past National Delegate of Spain, wrote this book on orthopaedic history. It is based as a travelogue to cities and centres of orthopaedic importance. In the process the orthopaedic histories of different nations and different time periods have been beautifully reconstructed. He has written on the pioneers of orthopaedics and the development of orthopaedics in different countries. It makes very interesting reading and for those of us interested in the book, please write to Prof Ribes-Iborra at jribesiborra@gmail.com.

A book review by Marius Scarlat, the Chief Editor of International Orthopaedics, can be found in the journal.

About the author



Julio Ribes-Iborra is M.D., Ph.D. by the University of Valencia (Spain) and specialist in Orthopaedic Surgery and Traumatology. He increased his studies of this specialisation in the Hôpital Necker-Enfants Malades of Paris and in the Texas Scottish Rite Hospital for children of Dallas (Texas).

He has successively practised his career in the University Clinic Hospital of Valencia, the Dr. Peset University

Hospital of Valencia, and finally in the University Hospital La Ribera in Alzira (Valencia), in this latter as head of the Orthopaedics Department for twenty-two years.

In the teaching field he has been associate professor in the Surgery Department of the Faculty of Medicine of Valencia and professor (AVAP accreditation), in the Catholic University of Valencia.

He occupied the presidency of scientific associations like SOTOCAV (Valencia Association of Orthopaedic Surgery and Traumatology), and the OTC (Orthopaedic & Trauma Care, previously AIOD), Spanish chapter. He has presided the Organising Committee of the "52 SECOT National Spanish Congress" held in Valencia and currently is the Spanish Representative (National Delegate) of SICOT with headquarters in Belgium.

He also has published many articles in national and international journals. He is the author of a book about prognostics in osteosarcoma and different chapters in books about the speciality. He has been deputy editor of the Revista Española de Cirugía Osteoarticular (RECO) and corrector of EORS. He has written two medical history books about the speciality of Traumatology and Orthopaedic Surgery.

On this occasion and in the latter years of his professional career, he illustrates us with an attractive entitled and enjoyable work about some aspects of the history of the Trauma and Orthopaedic Surgery speciality, fruit of several notes and references that the author has recompiled throughout his professional life.

A journey through orthopaedic history

(From balneotherapy to orthopaedic surgery)

Julio Ribes-Iborra



ι

SICOT CONGRESS NEWS



MARGARET FOK (HONG KONG)
SICOT Scientific Programme
Chair



GOW THEVENDRAN (SINGAPORE)SICOT Education Academy
Chair

Scientific Programme

As the Scientific Programme and Education Academy Chairs of SICOT, we would like to welcome you to the SICOT Orthopaedic World Congress in Kuala Lumpur, September 2022.

This congress will be extra-special and indeed anxiously awaited as we all converge in Kuala Lumpur, once more after a three-year hiatus, with a desperate desire for face-to-face networking and academic galore. In anticipation, the Programme Committee has curated an exciting two-day programme with three impressive plenary speakers including Prof Shafi Ahmed from United Kingdom (Oncology), Prof Edward Lemaire from Canada (Rehabilitation) and Prof Michael Millis from the United States (Hip Preservation). There will be 8 rooms running concurrent sessions represented by 14 renowned keynote speakers from different specialties and over 100 excellent international symposia faculty from all over the world. 13 partner societies including AO SDSTF, ARTOF, DMIS, EBJIS, ESSKA, Hull Deformity, ICRS, IODA, IOF-ESCEO, Tech-No bones, SOFCOT, WAIOT and WOC will also be joining us to celebrate this event.

In addition, this will be the first year that SICOT introduces the Pre-Congress Subspecialty Day. Different specialty committees have designed dedicated specialty programmes for registrants who would like to learn more from superspecialists in a particular area.

Malaysia is a multi-ethnic and multi-religious country with a diverse population. It is a true melting pot of a myriad of cultural traits, akin to SICOT and the Orthopaedic World Congress. We champion diversity, equality, and inclusion. This year, more than any other time in the past, we have gone the extra mile to ensure faculty representation is truly diverse, taking into account ethnicity and gender.

We look forward to catching up in person in Malaysia, truly Asia! The string of social and networking events alongside the academic platter will ensure everyone will have something memorable to look forward to. Selamat Datang ke Malaysia!



Keynote Speakers - Thursday, 29 September





08:05-10:05 Gregory Bain



New concepts in training of the shoulder surgery



08:05-10:05 Peter Devane



Evidence based medicine: a myth? Tales from thirty years of hip surgery



14:15-15:45 James Calder



Achilles rupture: less surgery, more rehab



16:20-17:50 Claude Martin



Injuries: making a difference in low resource countries



16:20-17:50 Andrew Chin



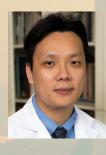
Current updates in minimally invasive surgery of the wrist



08:05-10:05 Joo Han Oh



Shoulder injuries in throwing athletes: how to prevent



08:05-10:05 Chee Kidd Chiu



Spinal fixation in osteoporotic bone



08:05-10:05 Michael Pearse



To Be Confirmed

Keynote Speakers - Friday, 29 September





08:05-10:05 Deborah Eastwood



Guiding growth



08:05-10:05 Ang Swee



To Be Confirmed



08:05-10:05 Vikas Khanduja



The past, present and future of arthroscopic surgery of the hip



08:05-10:05 Marc Swiontkowski



Arthroscopically assisted tibial plateau
ORIF: it is time for a large multicenter RCT



10:40-12:10 Guenter Lob



Successful prevention - a great chance for orthopaedic societies



08:05-10:05 Satoshi Toh



Minimally invasive approaches in the hand and wrist





PHILIPPE HERNIGOU (FRANCE) SICOT President Elect

Seven More Reasons for going to the SICOT Meeting in Kuala Lumpur

Meet your Colleagues at the SICOT Meeting in Kuala Lumpur

The hybrid 2021 World Congress in Budapest was a success, with good participation in the face to face version. If you could not travel to Budapest, your last in-person involvement for SICOT was three years ago in Oman (2019)! So, it is time to see you again face to face with your colleagues after years of COVID.

The SICOT 2022 World Congress programme will help attendees reach peaks in orthopaedics with scientific sessions, interactive lectures, courses, and workshops focused on the latest breakthroughs in orthopaedics across all specialties. Have a look at the presentation of the meeting by the Congress President Suresh Sivananthan on the Congress website: https://sicot.eventsair.com/kuala-lumpur/

Confirm your Member Engagement in Kuala Lumpur

With SICOT membership, take control of your orthopaedic knowledge and career by creating a roadmap that fits your skills. Continue to access webinars, exam preparation, and peer-reviewed publications of International Orthopedics and SICOT-J. SICOT's mission is to provide you with the knowledge, education, clinical tools, and professional support that allows you to meet all the musculoskeletal field's challenges, improve your surgical skills, and achieve professional goals for career success.

Has your membership lapsed? The Head Office staff can work with you to reinstate your SICOT Membership so that you can regain access to your status and benefits.

Customise your Specialisation Needs with BOSS

The future of orthopaedics lies with the subspecialties. Our President, Ashok Johari, proposed a Board of Sub-Specialties (BOSS) for SICOT. This Presidential Vision, where subspecialties are a thrust area for SICOT, will become a reality in Kuala Lumpur with, for the first time, a Subspecialty Day with all the specialties and the beginning of the programme for Specialisation. The best international specialty experts will represent SICOT subspecialties in BOSS, organised by Francesco Falez and Vaibhav Bagaria. The Board of Sub-Specialties will represent all subspecialties and, in the future, will prepare for Education in Specialty and Master in Specialty, with different programme levels:

Level 1 - Member Engagement

Level 2 - SICOT exam

Level 3 - Specialty

Level 4 - Master in Specialty

Take part in the Subspecialty Day that will open the Orthopaedic World Congress on Wednesday 28 September

Wednesday 28 September marks the first annual Subspecialty Day where all specialties are present simultaneously. This unique feature of the SICOT annual meeting offers attendees a unique opportunity to exchange information and interact with one another while learning about the latest developments in their particular area of interest.

Earn additional continuing medical education credits and connect with professionals who share your specialty interest. Exchange experiences and ideas while learning about the latest developments to ensure superior patient care with programmes presented by Chairs of specialties. Participants must be registered for the SICOT 2022 annual meeting to attend the Subspecialty Day. It also provides a unique opportunity to discuss with the Malaysian Society of Hip and Knee Surgery.

The different subspecialties will present programmes with the presence of two new subspecialties: the SICOT Limb Reconstruction Subspecialty Committee and the SICOT Orthopaedic Rehabilitation Subspecialty Committee. Topics range from international mission work to practice management, and from translational research to contemporary insights and best practices. Sessions will include scientific papers, discussions, case-based presentations, debates, and surgical videos.

Meet the Editors of International Orthopaedics and SICOT-J

International Orthopaedics synthesises up-to-date information on the management of musculoskeletal conditions, reflecting the current state of orthopaedic science, practice, and patient care. The journal publishes review articles, research articles, clinical trials, and special issues for the benefit of all the orthopaedic surgeons at each level of their careers, from residents to researchers and professionals interested in healthcare. The journal is under the leadership of Marius Scarlat, Editor-in-Chief, who will be present in Kuala Lumpur to discuss the best way to submit articles during two sessions.

SICOT-J publishes original research and review articles. SICOT-J also is an excellent opportunity for authors worldwide to have their papers published in a SICOT journal. The open-access format allows all medical professionals with an internet access to read and learn from authors around the globe.

Discuss with the Industry

SICOT recognises the industry's importance in achieving its mission of providing the highest quality of musculoskeletal care for patients and actively seeks opportunities for the industry to engage with members and the entire Board of SICOT. The industry has been a crucial source of support for SICOT. The relationship between SICOT and Industry will continue to flourish under new regulations and changing patient care standards.

And visit KL!

- 1. Go up the Petronas Twin Towers and KLCC Park
- 2. Climb Menara Kuala Lumpur TV Tower
- 3. Stroll around Merdeka Square
- 4. Visit Chinatown and Sri Mahamariamman Temple
- 5. Try the delicious local food
- 6. Do some shopping
- 7. Join a KL sightseeing tour
- 8. Enjoy a drink with a rooftop view
- 9. Pay a visit to the National Mosque of Malaysia and Islamic Arts Museum
- 10. See the Sultan Abdul Samad Building



SICOT-ENDORSED EVENTS



THAMI BENZAKOUR (MOROCCO)WAIOT 2nd Congress Honorary President

Ongoing Activities of the World Association against Infection in Orthopaedics and Trauma (WAIOT)

The ongoing activities of the World Association against Infection in Orthopaedics and Trauma (WAIOT) in its Fifth Anniversary with a focus on the 2nd WAIOT World Congress in Cairo, Egypt, 1-2 September 2022.

On behalf of Prof Hernan del Sel, President of the World Association against Infection in Orthopaedics and Trauma (WAIOT), and of Prof Mohamed Fadel, Congress Chair, it is our honour and privilege to invite you to the 2nd WAIOT Congress to be held on 1-2 September 2022 in Grand Nile Tower Hotel, Cairo, Egypt.

After a very successful first version of this event, and after the ease of the restrictions for the pandemic, we are very excited to meet you in person this year for a very promising Congress. WAIOT 2022 will be carried out in a hybrid format, so whoever is not able to travel and attend in Cairo, will still have the chance to attend online. We are expecting around 500 attendees at the Congress venue and over 500 virtually who will be able to benefit from international CME accreditation provided by the Congress.

WAIOT is the first and the largest scientific association focused on research, prevention and management of Musculo-Skeletal Infection (MSI) and on biofilm- and implant-related infections in Orthopaedics and Trauma.

Founded in Vienna in 2017, WAIOT now counts more than 2,200 members from more than 108 countries and it is still growing. It is worth noting that, as pointed out in a recent WAIOT article in International Orthopaedics [1], bone and joint infections represent a tremendous "silent epidemic", which is causing every year thousands of deaths and disabilities throughout the world.

One of the main missions of WAIOT is hence to increase the knowledge and awareness regarding this largely neglected and underestimated problem among health professionals and governmental authorities and institutions.

In order to accomplish this task, WAIOT is keen on bringing international experts together at an annual meeting to conduct a very rich scientific programme that updates orthopaedic trauma stakeholders with the most recent researches and approaches in prevention, diagnosis and management of musculoskeletal infections.

WAIOT is also open to a cooperation with existing institutions and societies focused on MSI, with a special reference to SICOT. In line with this vision, WAIOT has participated with a very well attended symposia at all SICOT Orthopaedic World Congresses since its foundation (Figure 2).



Figure 1: WAIOT 2nd World Congress in September 1-2, 2022 in Cairo, Egypt



Figure 2: WAIOT Symposium at the SICOT OWC, Montreal, 2018

Moreover, we are in the process of improving our mutual relationships on the subject of infections prevention and management. The WAIOT 2022 Scientific Committee is working on continuing the WAIOT mission of increasing and sharing the knowledge on bone and joint infections and supports education and training in the field of musculoskeletal infections throughout the world. Over the last few years, WAIOT has been collaborating with lectures, symposia or courses with other important associations or congresses such as: AAOT, AAOS, DKOU, LRS, AROM, IAC, EOA, ORTHOCON, TRAUMACON, SMACOT, and so on.

Our Executive Committee and Board of Directors have been very active with articles and editorials on ortho-trauma infections published in high impact factor journals and special issues [2, 3, 4].

For anyone who is willing to join the WAIOT community, this can be easily done online at https://www.waiot.world/registration. In line with the inclusive WAIOT perspective, registration is free of charge for all physicians and healthcare professionals.

We also cordially invite you to attend the 2nd WAIOT Congress, which will be held on 1-2 September 2022 in Cairo, Egypt.

The programme, which is particularly rich this year, will focus on Osteomyelitis in the Paediatric and Adult age, Tuberculosis, Rare and Viral Bone Infections, Fracture-Related and Post-Traumatic Bone and Joint Infections, Bone Defects and Non-Union Management, Peri-Prosthetic Joint Infection Prevention and Management.

On the topic of Spine Infections, there will be a long and extremely full Symposium, in partnership with AOSpine. Moreover, another outstanding Symposium on Orthoplastic and Diabetic Foot Management has been scheduled, organised in cooperation with the Limb Reconstruction Society (LRS), and, last but not least, a further special Symposium will be held together with the World Orthopaedic Concern (WOC) association.

Throughout the Congress, WAIOT recommendations and golden rules on the management of musculoskeletal infections will be provided by experts from all over the world.

Many hotels of various categories surround the congress venue at walking distance with competitive prices. After the scientific engagements, Cairo will offer all of us its superb sights both downtown and out of town, featuring impressive landscapes and thousands of years of history.

The Local Organising Committee aims to share with you its experience and sociocultural heritage and to consolidate friendship and cooperation. We also really appreciate your support and contribution.

Looking forward to seeing you all in beautiful Cairo!

References:

- 1. Romanò, Carlo Luca et al. "Loud and silent epidemics in the third millennium: tuning-up the volume." International orthopaedics vol. 44,6 (2020): 1019-1022. doi:10.1007/s00264-020-04608-8.
- 2. Bozhkova, Svetlana et al. "The W.A.I.O.T. Definition of Peri-Prosthetic Joint Infection: A Multi-center, Retrospective Validation Study." Journal of clinical medicine vol. 9,6 1965. 23 Jun. 2020, doi:10.3390/jcm9061965
- 3. Agashe, Vikas M et al. "Diagnosis of Osteoarticular Tuberculosis: Perceptions, Protocols, Practices, and Priorities in the Endemic and Non-Endemic Areas of the World-A WAIOT View." Microorganisms vol. 8,9 1312. 28 Aug. 2020, doi:10.3390/microorganisms8091312
- 4. Drago, L., Clerici, P., Morelli, I., Ashok, J., Benzakour, T., Bozhkova, S., Alizadeh, C., Del Sel, H., Sharma, H. K., Peel, T., Mattina, R., & Romanò, C. L. (2019). The World Association against Infection in Orthopaedics and Trauma (WAIOT) procedures for Microbiological Sampling and Processing for Periprosthetic Joint Infections (PJIs) and other Implant-Related Infections. Journal of clinical medicine, 8(7), 933. https://doi.org/10.3390/jcm8070933



SICOT BY REGION



VIKAS KHANDUJA (UK) SICOT Active Member



ANDREW QUAILE (UK)SICOT Active Member



MARC PATTERSON (UK)
SICOT Active Member

Contribution of United Kingdom to SICOT

SICOT was founded in 1929 but only one UK orthopaedic surgeon was present, Sir Thomas Fairbank. Although Sir Robert Jones and Sir Harry Platt were involved in the preliminary discussions, Sir Harry Platt and the British Orthopaedic Association were not convinced of the need for a separate International association of surgery and said so! Nevertheless, SICOT was born and Sir Robert Jones (1929-1933) was elected to be the first President and was Congress President for the first meeting in Paris in 1930. He outlined that the main function of the international society was concerned with the advance of orthopaedic surgery in its wider sense and that principle remains relevant to this day.

The second Congress was held in 1933 at the Royal Society of Medicine and the Royal College of Surgeons in London and Sir Harry Platt (who had been less than enthusiastic about SICOT in the first place) became the second UK SICOT President from 1951-1954. Bryan McFarland (1960-1962) was the third UK President. It is hoped that we will not have to wait as long for our next UK representative!

The last Congress held in the UK was in London in 1984 with Congress President John Sharrard helped by Paul Aichroth, George Bentley, and Tony Hall. This Congress was the first Congress wherein strict oral paper selection occurred ensuring top quality and manageable levels of presentations. Glasgow has been put forward as a future venue for the Annual Congress.

Tony Hall was elected Secretary General in 1993. He was the first Secretary General who was not Belgian (it used to be a requirement for one member of the executive to be a Belgian national). He was also invited to organise the SICOT Diploma Examination which was held for the first time in Cairo in 2003 and has been held every year since except for the Covid affected last couple of years. Many UK orthopaedic surgeons have examined for the Diploma including Frank Horan (who with Tony Hall held senior positions on the editorial committee of International Orthopaedics), Mike Laurence, Geoffrey Walker and Ian Leslie who has also acted as official auditor. Andrew Quaile continues to serve the Journal in the capacity of Deputy Editor and took over from Tony Hall the responsibility for primary editing of the articles into comprehensible English. He has contributed two special issues to date and several Editorials whilst occasionally examining for the Diploma and actively training the reviewers for International Orthopaedics.

Marc Patterson has been the Chief Examiner of the SICOT Exam since Tony Hall retired. The examinations have been conducted on an annual basis to very high standards and governance and SICOT has constantly strived to improve the quality of the SICOT Diploma Exam assisted ably by Assistant Examiner Vikas Khanduja. The exam is now moving to an electronic and virtual format and it is hoped to release it prior to the annual meeting in Kula Lumpur. Marc Patterson is also the Vice President of the European Region and sits on the Executive Committee as the First Vice President. He is also Chair of the SICOT Congress Awards Committee which is responsible for helping young surgeons to attend the Annual Congress to present their research.



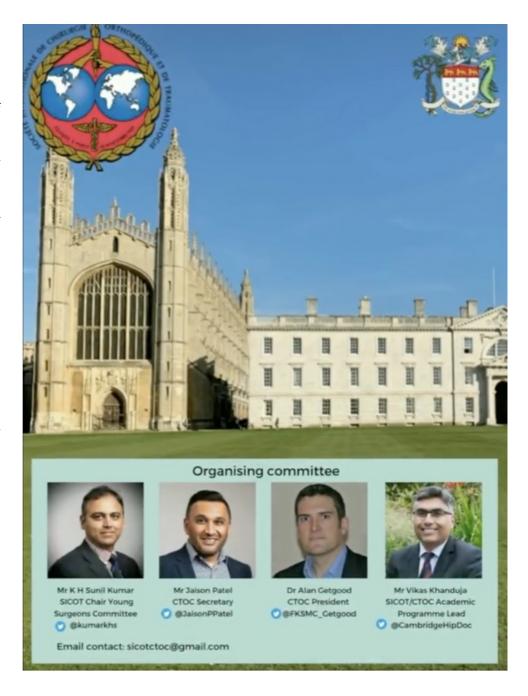




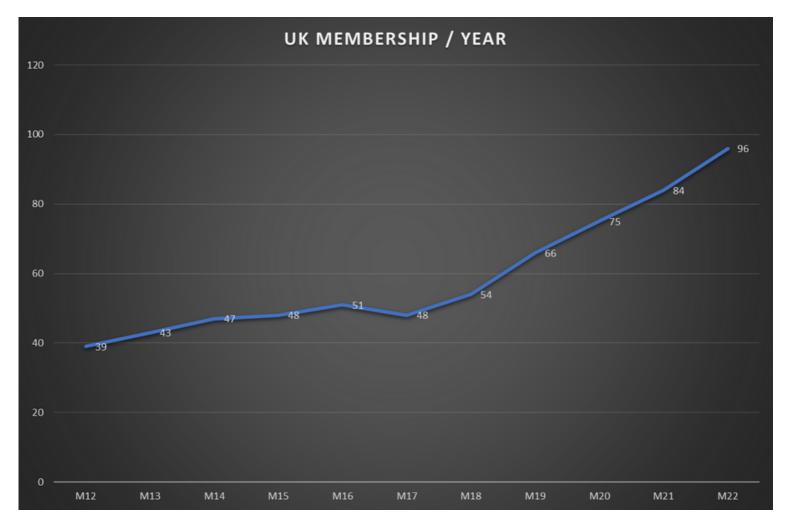


Vikas Khanduja has also been an active member of SICOT since the time he was a senior trainee and has worked hard on improving SICOT Education over the last decade. He has contributed to the organisation in the capacity of a Member of the Young Surgeons Committee, Educational Day Committee Chair, Chair of the Sports and Arthroscopy Committee, Programme Committee Chair, Chair of the Education Academy, SICOT PIONEER Founder Member and Assistant Examiner. He has been a trailblazer in bringing new technology to the organisation and has been able to build efficiency in the system by introducing innovative ideas for global Education which included: the Educational Day, EventsAir portal to manage our congresses better, a formal syllabus for the SICOT exam, electronic viva questions for each aspect of the exam, the new annual scientific programme with a new brand, launch of SICOT PIONEER, and finally development of the SICOT LMS. He has also been able to nurture and advance young, midcareer orthopaedic surgeons who are the future of SICOT. Vikas Khanduja was also responsible for hosting the SICOT Executive Meeting on the 90th Anniversary of SICOT in 2019, wherein the same atmosphere was replicated in Queens College, Cambridge as in 1929 at the Hotel Crillon in Paris (page 17).

The other members from the UK who contributed to Leadership positions include Mr Ajay Malviya as the Research Education and Mentorship Chair, Mr Sunil Kumar as the Chair of the Young Surgeons Committee and Mr Khaled Sarraf as the Scientific Programme Co-Chair and member of the Task Force for digitalising the SICOT Diploma Exam. Mr Malviya has been involved in conducting a series of webinars on Research Methodology on SICOT PIONEER and is planning a Research Methodology Day in the Annual Meeting in Kuala Lumpur. Mr Sarraf has been working hard behind the scenes and is the force behind the task force which is responsible for digitalising the SICOT Diploma Exam. He is also actively involved in delivering the scientific programme for the annual meeting in KL. Mr Kumar amongst other contributions planned the 27th Trainees Meeting Cambridge which was held conjunction with the Cambridge Trauma and Orthopaedic Club on 30 and 1 July this year: https://www.sicot.org/cambridge-2022



UK has contributed immensely to shaping SICOT's strategy as a global society and its growth and continues to do so. The Membership from the UK has continued to grow exponentially over the last decade and that is largely due to the efforts of these leaders contributing to the society and encouraging junior members to see the value in joining and contributing to a diverse, international society.





SICOT HISTORY



FRANCESCO FALEZ (ITALY)
SICOT Active Member

The Italian History and the Global Network of SICOT

The Italian History

As an Italian, I am absolutely proud to be part of SICOT considering that Prof Vittorio Putti (Figure 1) from the Rizzoli Insitute in Bologna was one of the founders of the Society.

In 1929 with Lovett, Albee, Spitzy and Ombredanne he gave life to their dream: to create an opportunity for the dissemination of orthopaedic knowledge among the many countries of the world in an historical moment when orthopaedics had recently become a surgical specialty independent from general surgery.

Vittorio Putti was the President of the 3rd Congress in 1936 when it took place partly in Bologna and partly in Rome (Figures 2 and 3). The reason why the congress was held partly in Rome was because Queen Elena di Savoia in September 1936 inaugurated the Institute of Orthopaedics directed by Prof Riccardo Dalla Vedova in the University of Sapienza which, beside the Rizzoli Institute, at that time was a place of reference for the treatment of musculoskeletal disorders in the country and Putti could not avoid to do so.

In his opening speech, Vittorio Putti addressed the participants from many countries around the world saying: "I imagine this is the way you have chosen to show me your appreciation for the success of this Society which I have been the first and the most convinced promoter of. In this regard, let me point out something which may be of some relevance in the history of our Society".

Following Vittorio Putti, many other Italians contributed to what he and others had imagined and with the presidency of Casuccio in the 1970s the collaboration between SICOT and Italy became even stronger, so much so that many were the roles they held inside the Society, including the one of great importance covered by Prof Lamberto Perugia as a member of the Editorial Board of the official journal International Orthopaedics. He greatly contributed to its growth and diffusion, not even imagining what the digital evolution of communication would be in the years to come and how knowledge could be shared in real time even thousands of kilometres away.

In the following years the Orthopaedic World Congress has been held around the many countries affiliated to SICOT covering all five continents to maintain the international spirit on which it has been founded.

80 years later, in 2016, the OWC was again in Rome with great impact on the scientific organisation and participation, counting during the three days of the scientific programme more than 3,000 submitted papers, 34 symposia, 11 industry sponsored workshops, 4 hands-on courses and more than 2,000 participants, proving once again how Italy actively participates in SICOT life.

Today, Italy's role in SICOT is undoubtedly demonstrated by the many roles covered among the various committees, such as knee arthroplasty, infections, and hand surgery, the active coordination of the cadaver labs, and, last but not least, the uninterrupted presence for over 20 years of the Editorial Board of the International Orthopaedics journal always ensuring qualified scientific information and giving space to manuscripts from all over the world.

But the gaze is always turned to the future and, therefore, to a collaboration on large-scale issues for a Society that must follow and adapt to great changes and face global and common challenges: major traumas, osteoporosis, infections, fragility fractures and other issues. Italy will support SICOT in dealing with these issues, by supporting those countries where there is little access to education and training and using all possible virtual methods of connection, probably even via a "metaverse" in the future, but never forgetting that SICOT has been founded as, and should continue to represent, a place where we can grow stronger together and are able to create relationships, collaboration and friendship between orthopaedic surgeons of "different countries, different cultures, and different geographic locations".





Figure 1



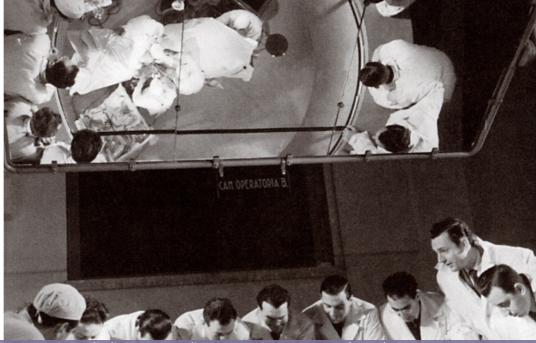


Figure 2: Università "La Sapienza" Rome - Istituto di Clinica Ortopedica 1936 - Live Surgery at the 3rd SICOT Congress





Figure 4: Rome, September 2016 - SICOT 36th OWC - International Council

The Global Network

After attending the Joint Congress of the Egyptian Pelvis & Hip Society and the Italian Hip Society in Cairo, which was brilliantly organised by Ahmed Abdelazeem and Franco Benazzo with the aim of strengthening relations between the two countries, the words of Vittorio Putti and all the other founders who started SICOT in 1929 came to my mind. They had already then perceived the importance of a global network for a fair dissemination of orthopaedic science.

They would have never imagined how much the way of communicating and training would change over the decades to come and how easy it would become to have the dissemination of information in real time and to reach orthopaedics in the most remote regions of the globe, without the need for them to deal with transfers that are sometimes very complex due to eco-financial and bureaucratic problems (the cost of travelling and obtaining visas from countries of origin or destination).

In this way SICOT has undoubtedly always wanted to keep up and over the years it has implemented its own virtual learning tools with the development of webinars and courses online and the establishment of a complex system such as PIONEER in order to stay in contact with its members and with those even in the most remote corners of the world.

However, we cannot help but read between the words of our founders a clear message of "personal interaction" to build relationships between the many participants with the establishment of friendships that are consolidated over time and give rise to collaborations between centres and the possibility of constructively sharing different experiences and cultures.

An example of this is precisely the recent joint congress I attended among two societies from different countries, both very linked to SICOT. Beyond the stimulating and intense cultural exchange and mutual clinical knowledge, where there were no teachers or students, everyone was ready to make others' experiences their own. The greatest added value was precisely the possibility of bringing together people who have created or consolidated interpersonal relationships and this offered not only the opportunity to deepen their knowledge but also to expand their borders and horizons making new friends.

We must not and cannot forget that for many East and Middle Eastern countries SICOT represents not only the access gate to higher levels of knowledge, for advanced technologies of consolidated paths, which today can also be acquired through the numerous educational platforms activated by most companies in the sector with intense programmes dedicated to the various fields and new technologies in the orthopaedic science, but also, and primarily, a place where one can meet key opinion leaders from all over the world face to face and with them establish constructive talks outside the formalism of other scientific societies more oriented towards highly advanced countries. This offers them the opportunity to create that personal networking which is fundamental for a true professional growth.

In a world that is opening up to virtual multi-sensory experiences such as the introduction of the "metaverse" utilising our avatars, we will be increasingly tempted to leave the conference halls in order to not move from one end of the world to the other, having still the feeling of meeting other participants. However, our training cannot and must not be limited to virtual experiences, which are certainly of great help, but they must represent a part of it, not replace it.

For this reason SICOT wants to keep the interest in the Orthopaedic World Congress alive, as a key moment of meeting between all those who care about our discipline. This also goes for the appropriately named "SICOT meets SICOT" face to face fellowship programmes and many other training moments where the real experience is not only the presence but also the ability to create relationships, collaboration and friendship between different orthopaedic surgeons around the world.

SICOT WEBSITE



ECE NUR ÇINAR (TURKEY)SICOT Associate Member

A Bouquet for SICOT Women

As a junior doctor who aspires to be an orthopaedic surgeon, being part of SICOT has always been a dream. As a SICOT member, I received an email saying that the Website Committee was looking for a video maker for their team. I had a huge inner debate before I applied for this position. Since I was still too junior with very little orthopaedics experience, I wasn't sure how I would be perceived. But then I asked myself, why not give it a shot? I checked previous SICOT videos, and I had a bit of experience in poster making. So as the next step, I worked on copying the previous videos. On my application, my message was, 'Yes, I have little experience in this, but I can do what you already have and am hungry to do more'. I still remember how excited I was when I saw Mustafa Alnaib's (SICOT Website Committee Chair) email saying he would interview me. After the interview, I got the position, and I was asked to start working with the amazing Temiloluwa Olufemi from Nigeria who is the lead of the Women in Orthopaedics platform.

The Beginning of the Challenge

The platform was new, and we had to promote it. I had to make videos on serious subjects but make them elegant and engaging to keep our attention. I started learning Doodly and Final cut Pro, which I hadn't used before. I started experimenting by watching free YouTube tutorials and educating myself in video-making. I used Garageband and even composed my background music for one of our videos. All these first-time experiences were huge steps for me initially, but as I continued completing each video, the result of that creation process was just priceless. That satisfaction of creating something from scratch which was unique has been my reward.

Creation of the logo



SICOT
Women In Orthopaedics

Like all brands, our platform needed a logo as well. Personally, I like the SICOT PIONEER logo, but I was meticulous not to copy it. Instead, I wanted it to have women in its core with the elements of SICOT.

The **moon** symbolises femininity as it reflects the rhythm of time and embodies the cycle.

The **wheat** is a well-known representation of reproductivity and resurrection. In the year 2021, it is unbelievable that we still have to think, talk, or even defend women in surgical branches. Orthopaedics is also famous for being one of the surgical branches with very few female trainee numbers. So, this could represent resurrection and the end of an era without many women in orthopaedic surgery.

I had the universal medicine logo between the moons on the initial logo, but then, during feedback, the team thought less is more and removed it.

I placed the wheat on the sides and placed the **bones with flowers** at the bottom to give it **a shape of a bouquet** representing my gift to the women in orthopaedics - a logo which looks like a bouquet from a distance but with the symbols of women in orthopaedics.

The 'three' vertical lines are symbolic as well. Number 3 represents many meanings in symbolism such as harmony, wisdom and understanding or simply the 'past, present, and future'. Vertical lines suggest strength and stability, and are often connected with religious feelings and dignity as they may be described as stretching from the earth to the heavens. Therefore, the logo is connected to the SICOT Women in Orthopaedics with three vertical lines.

In terms of **colours**, I used SICOT colours to show where we belong. Additionally, Temiloluwa suggested royalty colours, so I added gold and burgundy to show royalty and confidence. So that's how our Women in Orthopaedics logo was created.

Opportunities for everyone

As a junior doctor, being part of SICOT has been my honour. I started my journey with the Women in Orthopaedics platform, where I met strong and inspirational female leaders in orthopaedic surgery from all around the world. That was followed by SICOT Diaries and our first hybrid international conference in Budapest 2021. Thanks to SICOT, I had the opportunity to meet and work with figures in orthopaedics.

I know that commitment is hard while you have family commitments, full-time work, exams, projects, and a part-time MSc. However, meeting all these senior people who have travelled the road before you and seeing how they remain hardworking, gives you more strength to carry on. Every time you do one thing, you learn something new and overcome yourself. SICOT and Women in Orthopaedics enable us to connect with others, learn from each other, and, more importantly, challenge us to become a better version of ourselves. Therefore, I invite you all to join SICOT no matter who you are, your gender, or how junior you are.

The dream is to grow our SICOT family with people from all around the world, from all different backgrounds and preferences, to connect us all for a better Trauma and Orthopaedic Surgery World.

"Come, come, whoever you are,
Wanderer, worshipper, lover of leaving,
Ours is not a caravan of despair.
Even if you have broken your vows a thousand times
It doesn't matter
Come, come yet again, come"
RUMI

SICOT PUBLICATIONS



AHMED ABDELAZEEM (EGYPT)
SICOT Editorial Secretary

Call for Applications

SICOT e-Newsletter

We are calling for new members of the Newsletter Editorial Board – Corner Editors.

1. What is the SICOT Newsletter?

The SICOT Newsletter is "the tongue" by which the Society decision-makers talk, and "the face" the society components show to the outside world. Currently, It comes out four times a year in an electronic format.

2. What are its corners?

COLLICI

Editorial

SICOT Congress News

SICOT Committee News

News from the Head Office

SICOT Events

SICOT by Region

SICOT Expert Corner

SICOT History

SICOT Publications SICOT Education SICOT Research SICOT Review

SI-QUOTE

Goal/Description

Introductory article.

Updates and advertising of the annual Congress.

Updates on the past and current activities as well as the future of different committees.

Updates from the SICOT Head Office, for example new appointments and structural changes.

Advertise and update the worldwide events organised and endorsed by SICOT.

SICOT is a global organisation having several regional representatives and national delegates

for over 100 countries. This section advertises and talks about their activities and future.

Scientific corner for the SICOT experts to share their experience and knowledge. All experts

are invited to write and publish here. Subspecialties are invited to share their expert opinion.

Shares the history of our organisation using part of the book by Charles Sorbie or inviting one

of the previous presidents of SICOT congresses to share congress memories and photos.

News from the chief editors of the International Orthopaedics journal and SICOT-J.

Covers news/updates about the SICOT Education Academy.

Covers news/updates about the SICOT Research Academy.

Reviews various SICOT activities that could benefit members, for example books, fellowships,

apps, centres, papers, and so on.

Collects inspiring quotes.



3. What is the job description for corner editors?

"No one can do everything, but everyone can do something, and together we can change the world." - Ronald J. Sider

- Full responsibility for his/her section for one year.
- Formulation of a yearly plan for the corner sequence and articles with the help of the Editorial Secretary who is the main coordinator between different corners, avoiding repetition.
- Collection of the articles required by contacting the targeted authors and inviting them.
- Dividing the articles according to his/her requested plan.
- · Revising the articles.
- Reporting directly to the Editorial Secretary.
- Protecting the corner theme and goal.
- Putting forward future plans for upgrading and expansion.
- Prepared to cover other corners when needed.

4. How to apply?

Please send your CV and an application letter (one page) to hq@sicot.org. We look forward to working with you!



EXPERT CORNER



RAJU VAISHYA (INDIA)SICOT Active Member

Perspective of an Arthroplasty Surgeon of his own Simultaneous Bilateral Total Knee Arthroplasty

"A positive attitude causes a chain of reaction of positive thoughts, events, and outcomes. It is a catalyst and it sparks extraordinary results." - Wade Boggs

It's been a privilege to practice joint replacement surgery for the last 35 years, since joining the erstwhile postgraduate orthopaedic surgical training programme of the Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, UK in 1987. Since then I have had the opportunity to perform thousands of knee and hip arthroplasties in patients with clinical indications. As I travelled my surgical career, I was acutely aware that I may also require knee arthroplasty in my lifetime, due to a strong family history of knee osteoarthritis. It came true recently when I underwent a bilateral simultaneous total knee arthroplasty (TKA). The sequence of events started four years ago when I twisted my left knee whilst playing lawn tennis with consequent meniscal and articular cartilage injuries. Somehow, the condition got neglected due to various professional and family commitments, and subsequently due to the ongoing COVID-19 pandemic for the last two years. However, recently my left knee had started to give me significant pain, limping, and over the last four months, progressively affecting my Quality of Life (QOL).

With a unique perspective of being able to understand the condition of the knee accrued over a lifetime. I had made up my mind to get the knee replaced at the earliest opportunity. However, the right knee came to know about it, started behaving like the left one, and did not want to be left alone. Hence I decided to get both of these replaced to have a better QOL and to be able to perform my professional duties as a surgeon without any hindrances.

There were two crucial questions in my mind: a) where should these surgeries be done and by whom? and b) should I go for a bilateral simultaneous TKA or in a staged manner? I pondered about these for some time and found the answers to both these questions:

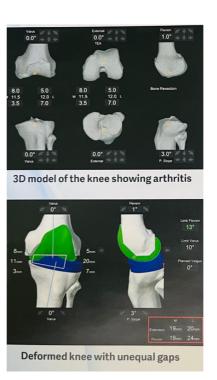
a) Logically, I decided that these should be replaced by an expert in Arthroplasty with a large experience and with the latest available technology. Hence, I chose a trusted friend and a highly experienced Arthroplasty Surgeon, Dr AV Gurava Reddy [1]. I went to him for my both knee surgeries in Hyderabad, more than 1,500 kilometres away from my home in Delhi. Moreover, I wanted to be away from the limelight in my local place. I feel like a patient, time and distance should not be a barrier to approaching a confident, well-experienced surgeon providing good clinical outcomes to his patients. In Dr Gurava Reddy I had the dual confidence in his ability as a surgeon and professional capabilities as a doctor who would look after me. These two things are crucial. I discussed this with my family members and close friends, who as ever provided the full support I needed during this journey.

b) Technically, I have believed in the practice of undertaking bilateral simultaneous TKA in my professional career, in carefully selected patients, who are motivated, medically fit (with good cardiac function), and have no or minimal medical comorbidities, irrespective of their chronological age [2]. Since I met all these clinical criteria, with only mild hypertension (controlled with medicine) to manage peri-operatively, I decided to go for a single staged simultaneous TKA. This I believe offered me several advantages such as single anaesthesia, a one-stop process of hospital admission and rehabilitation journey, coupled one-time leave from the work and the need for family support and so on.

I underwent bilateral simultaneous TKA, aided by the Robotic Assisted Haptic Arm of Mako (TM) (Stryker, USA) [3] system. The surgery was performed under general anaesthesia, using a pneumatic tourniquet, and no post-operative wound drains were inserted. The procedures went well and I was mobilised with assistance, after six hours of the surgery giving a boost to my inner confidence. An Adductor canal block, Pregabalin, and Paracetamol provided me with adequate pain relief to undergo the peri-operative exercise regime. The postoperative radiographs showed a good alignment of the knees and well-fitting prostheses (Figure 1), following a well-planned pre-operative templating (Figure 2). However, there was a minor hiccup on the 3rd postoperative day (POD) when my Haemoglobin dropped from a pre-operative value of 13.2gm% preoperative to 8.2gm% in the post-operative check. To support an effective rehabilitation process and physiotherapy, one unit of blood was transfused to me. Locally, a diffuse ecchymosis around the wounds revealed later on, possibly due to increased capillary fragility (that my father also had), could perhaps explain the drop in my Haemoglobin. All of my bleeding profile and coagulation parameters were otherwise normal. The ecchymoses slowly vanished over three weeks. The pain in my knees was manageable with a Visual Analogue Score (VAS 2-3/10), but I did experience stiffness and 'heaviness' after resting. There was hypersensitivity around the knee and the legs were restless for about three weeks, where I needed to change the position of the knees frequently which led to disturbed sleep and mild irritability, briefly. I also had mild initial flexion deformity (of about 5-10 degrees) in both the knees. However, an intense rehabilitation regime involving stretching of the hamstring, calf muscles, and strengthening of quadriceps muscles prevented any extension lag.



Figure 1: Postoperative radiographs of both knees showing good knee alignment and well fitted and appropriately sized prostheses



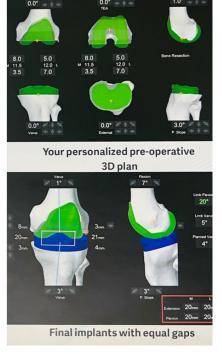


Figure 2: Preoperative surgical planning of the left knee by the Robotic software

My progress was good following the surgery and on the 4th day, I could get out of bed and walk about 4x200 metres, without any walking aids, and learned to climb stairs also. On the 5th postoperative day, I was invited to give a talk on "Why and How to Publish?" to their big team, so as to motivate them toward Research and Publication. It was very well attended (Figure 3) and lasted for more than an hour. I could stand for the whole duration!!!

The accelerated physiotherapy programme, Cryotherapy, and a good diet helped me to recover faster, along with the tremendous support of my family members, especially my better half. I now believe that, though a well-performed TKA is essential for a good outcome, additionally, you need to be motivated, strong-minded, and able to do intense rehabilitation post-operatively. I have experienced that there is obvious quadriceps inhibition postoperatively, but also the hamstrings become dominant at the same time, leading to knee flexion deformity. The flexion deformity hampers the rhythmic gait and if not corrected initially may remain permanent. It was painful to stretch the pliable knee contracture and was an effort to build by the quadriceps muscles to abolish the extensor lag. However, I knew it is crucially needed and remembered the aphorism 'no pain, no gain'. There are reports of significant proportions of 'unhappy knees' after TKA and several reasons elucidated for these [4,5].

I feel that the Robotic Assisted TKA offers several benefits in terms of lesser pain, minimal tissue damage, precise bone cutting, and accurate placement of the implants (which should increase the longevity of the artificial joint). Moreover, it offers the significant advantage of preoperative surgical planning, and high accuracy through the efficient use of combined technologies of navigation, minimal invasion, and precise control technology [6,7,8,9].

After my bilateral simultaneous TKA, I could travel back home in one week, with an outstanding farewell from the operating team and the rehabilitation team (Figure 4). I resumed my professional work soon after, initially by seeing the patients in the outpatient department on the 11th POD and I conducted my first operating list.

So far, I have had the experience of TKA as a surgeon, but now after my own surgery, I have a different perspective of it as a patient. Justin Bieber said, "Two people can look at the same thing and see it differently". I now believe that well-performed surgery is only the 'half battle won' and as a patient one needs an intense motivation, willingness to participate in the rehabilitation process, coping with pain, and tremendous family support. Consequently, to make the TKA surgery a highly successful operation these factors can be a lifetime investment! I hope that my personal experience of undergoing a bilateral TKA would help my other colleagues including their patients come to an informed decision about the potential and benefits of partaking in such a simultaneous procedure in one sitting for knee arthritis.





Figure 4: Farewell at the time of discharge from the hospital

References:

- 1.A. V. Gurava Reddy. Wikipedia. Last accessed on 21st May 2022. https://en.wikipedia.org/wiki/A._V._Gurava_Reddy
- 2. Vaishya R., Vijay V & KC Kapil M. Simultaneous bilateral total knee arthroplasty in elderly greater than 70 years old. J Clin Orthop Trauma 9 (2): 107-111 (2018).
- 3. Mako robotic-Arm assisted surgery. Last accessed on 21st May 2022. https://www.stryker.com/us/en/portfolios/orthopaedics/joint-replacement/mako-robotic-arm-assisted-surgery.html
- 4. Mathis D., Hauser A., Amsier F & Hirschmann M. Identification of pain patterns in unhappy patients after total knee arthroplasty. Orthop J Sports Med 8(9) (Suupl 7); doi: 10.1177/2325967120S00533 (Sep. 2020).
- 5. Nakono N., Shoman H., Olvarria F., Matsumoto T., Kuroda & Khanduja V. Why are patients dissatisfied following a total knee replacement? A systematic review. International Orthopaedics 44, 1971-2007 (2020)
- 6. Chen, X., Deng, S., Sun, M-L&He, R. Robotic arm-assisted arthroplasty: The latest developments. Chinese J Traumatology 25 (3): 125-131 (May 2022).
- 7. Tompkins, G.S., Sypher, K.S., Li, H-F., Griffin, T.M & Duwelius, P.J. Robotic Versus Manual Total Knee Arthroplasty in High Volume Surgeons: A Comparison of Cost and Quality Metrics. J Arthroplasty Dec. 2021: DOI: https://doi.org/10.1016/j.arth.2021.12.018.
- 8. Mavrogenis, A.F & Scarlat, M.M. Surgeons and Robots. International Orthopaedics (SICOT) 43, 1279-1281 (2019). DOI: 10.1007/s00264-019-4345-7.
- 9.St Mart, J-P & Goh, E.L. The current state of robotics in total knee Arthroplasty. EFFORT Open Rev 6: 270-79 (2021). DOI: 10.1302/2058-5241.6.200052.



FATIMA ALI MAZAHIR SICOT Active Member

Green Theatres - Scoping Surgical Practices through an Environmental Lens

The healthcare sector is the fifth-largest emitter of greenhouse gases globally, with a carbon footprint equivalent of 4.4% of the global net emissions [1]. Surgical procedures amongst these remain a major contributor, with an annual carbon footprint of a theatre suite of a single teaching hospital in UK equivalent to the annual energy use of more than 2,000 homes [2]. Operating rooms (ORs) contribute disproportionately to these emissions through the release of anaesthetic gases into the atmosphere, use of energy-intensive medical equipment, excessive water utilisation, use of single-use plastic-based disposables, special lighting, and a 24-hour operating schedule. Added emissions are generated indirectly through the transport of waste to treatment facilities, the incineration of hazardous waste, and the release of methane gas from landfills [3]. This environmental footprint reverberates with the economic impact. Findings extrapolated from a case study conducted a department of plastic surgery at an NHS trust hospital revealed a sum of unused albeit wasted consumables equivalent to £412,420 per year across the entire trust [4]. With a projected increase in the scale of surgical procedures to an annual 143 million by 2030 [5], conscious efforts to establish environmentally sound and cost-effective surgical practices without compromising sterility and patient care quality standards are the need of time.

Envisioning a Green Operating Room

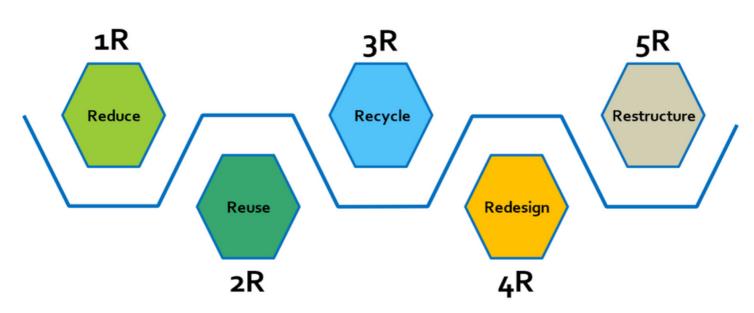
The vision of green operating rooms is pillared on three distinct albeit interconnected pathways of Act, Collaborate and Amplify [6], that ensures sustainability remains the core principle in procurement, delivery, utilization and disposal of surgical products and services via ensuring efficient multi-level stakeholder engagement and by sharing the successful outcomes with integral, regional, and international partners, the impact can be amplified across borders.

Act	Sustainability	Reduction in Fossil Energy Use Reducing the Carbon Footprint by Alternative Energy Resources Sustainable Procurements of Clinical & Non-Clinical Goods Efficient Reutilization and Waste Management Pathways
Collaborate	Stakeholders	Government & Legislative Bodies Industrial Partners Scientific & Research Bodies Educational Authorities & NGOs
Amplify	Parents & Communities Regional Partners International Partners	

Strategies towards Green Operating Room Practices-Implementing the 5R Framework

The strategic 5R framework [7] adapted to the context of surgical practices [8] is presented below to summarise evidence-based solutions for reducing the carbon footprint generated in the operating rooms.

The 5R Framework



1R - Reduce:

The primary pillar is the judicial use of single-use plastic-based materials, particularly the personal protective equipment (PPE). This can be effectively achieved by formulating and implementing guidelines for the rational use of PPE driven by environmental benefits without compromising healthcare staff safety. Furthermore, educating the staff about importance of hand hygiene and the harmful effects of PPE use on the climate is the need of the hour.

2R - Reuse:

Encouraging utilisation of reusable materials over disposables has proven to be both cost-effective and environmentally friendly [9,10]. The reuse and reprocessing strategies should be regularised via legislative policies that ensure confirmed decontamination and functionality assurance after multiple treatments. Regulatory policies on the reuse of materials used within the ORs will assure quality standards and is of paramount importance in gaining trust and compliance of use by the healthcare staff [11].

3R - Recycle:

The majority of the plastic-based materials used within the OR settings can be recycled [3,12,13]. The major obstacle of efficiently recycling the OR's plastic waste, is inappropriate sorting of hazardous from the non-hazardous waste, rendering up to 90% of the OR waste inappropriately as hazardous and hence ending into the incineration pathways [3]. Employment of energy-smart waste segregators and transport systems for sorting, decontamination, and transport to recycling sites will have an overall positive impact on the economy by incorporating the recycled medical plastic waste into circular business models.

4R - Redesign:

Decoupling the plastic synthesis from fossil-based fuels to more sustainable plant-based resources via Bioplastics is an emerging technology for curbing plastic-induced pollution [14]. The greatest challenge with regards to broader application of Bioplastic-based solutions designed for healthcare is their thermal stability for fabrication and potential for deformation. Its application within the healthcare systems, although still under study, show a promising future.

Additive manufacturing techniques including 3D-printing is another evolving modality with specific applications within the surgical domains. By reducing waste generation, limiting, and localising the supply chains, lower specific energy consumptions, additive manufacturing can potentially reduce energy usage by 25% by the end of 2050 [15]. Within specific context of orthopaedic surgery, 3D-printing has shown some promising results by decreasing the operating time, blood loss, fluoroscopy time and reduced postoperative pain with better functional scores for surgeries in spine and lower limb [16].

5R - Restructure:

With 20-30% of a hospital's waste being contributed by its ORs, energy-efficient management of this waste remains an ongoing challenge. Hazardous OR waste treatment constitutes up to 86% of the waste costs and is mostly gotten rid of by incineration, emitting 3 kilos of CO2 for each kilo of hazardous waste [3]. Installing energy efficient waste management systems that effectively sort out hazardous from non-hazardous waste and incorporates thermal, chemical, irradiative, and biological processes for disposal and treatment of this waste ensures sustainability within the ORs.

Special Contextual Considerations- Carbon Footprint of Minimally Invasive Surgeries

Although the choice of surgical modality is an individual surgeon's decision, it is important to view this choice as a determinant of the carbon footprint of a healthcare process.

For instance, robotic surgeries provide surgeons with a more meticulous surgical dissection, this precision comes with a significant environmental cost. A study by Wood *et al* report 40.3 kg CO2 equivalents/patient by a robot-assisted laparoscopy for endometrial cancer staging, representing a 38% increase over that of a conventional laparoscopy and a 77% increase over laparotomy [17].

Data-driven sustainable surgical strategies need to be devised to minimise the carbon footprint of advanced surgical modalities while providing safe, high-quality, and cost-effective care to the patients.

Conclusion

The scale of surgical procedures is increasing parallel to the rising trends of global climate crisis. Healthcare facilities and regulatory authorities must make conscientious efforts for development of climate-safe and sustainable operating room management through best practices, monitoring, and enforcement of policy and regulations for a sustainable healthcare future.

References:

- 1. Healthcare without Harm. Healthcare's Climate Footprint 2019. Available from: HealthCaresClimateFootprint_092319.pdf. [Accessed 29th May 2022].
- 2. MacNeill AJ, Lillywhite R, Brown CJ. The impact of surgery on global climate: a carbon footprinting study of operating theatres in three health systems. The Lancet Planetary Health. 2017 Dec 1;1(9):e381-8.
- 3. Wyssusek KH, Keys MT, van Zundert AA. Operating room greening initiatives–the old, the new, and the way forward: a narrative review. Waste Management & Research. 2019 Jan;37(1):3-19.
- 4. Queen Alexandra Hospital. Quality and Productivity: Proposed Case Study: Think Twice, Ask Once. London: National Institute for Health and Care Excellence; 2017 Jan.
- 5. Meara JG , Leather AJ , Hagander L , Alkire BC , Alonso N , Ameh EA et al. Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development. Lancet 2015;386:569–62
- 6. European Children's Hospital Organization. Children's Hospitals Green Promise. 2020. Available from: Microsoft Word Children's hospitals green promise final.docx (echohospitals.org). [Accessed 29th May 2022].
- 7. Mazahir, Fatima Ali and Al Qamari, Ali Mazahir. "Personal protective equipment (PPE) and plastic pollution during COVID-19: strategies for a sustainable environment" Reviews on Environmental Health, vol., no., 2022. https://doi.org/10.1515/reveh-2022-0024
- 8. Guetter CR, Williams BJ, Slama E et al. Greening the operating room. Am J Surg 2018; 216: 683–688.
- 9. Rizan, C, Reed, M, Bhutta, M. Environmental impact of personal protective equipment distributed for use by health and social care services in England in the first six months of the COVID-19 pandemic. J R Soc Med 2021;114:250–63. https://doi.org/10.1177/01410768211001583
- 10. Rowan, N, Laffey, J. Unlocking the surge in demand for personal and protective equipment (PPE) and improvised face coverings arising from coronavirus disease (COVID-19) pandemic implications for efficacy, re-use and sustainable waste management. Sci Total Environ 2021;752:142259. https://doi.org/10.1016/j.scitotenv.2020.142259
- 11. Chang CWD, Brenner MJ, Shuman EK, Kokoska MS. Reprocessing standards for medical devices and equipment in otolaryngology: safe practices for scopes, speculums, and single-use devices. Otolaryngol Clin N Am 2019; 52: 173–183.
- 12. McGain, F, Clark, M, Williams, T. (2008) Recycling plastics from the operating suite. Anaesthesia and Intensive Care 36: 913–914.
- 13. McGain, F, Jarosz, KM, Nguyen, M. (2015) Auditing operating room recycling: A management case report. A and A Case Reports 5: 47–50.
- 14. Patrício Silva, A, Prata, J, Walker, T, Campos, D, Duarte, A, Soares, A, et al.. Rethinking and optimising plastic waste management under COVID-19 pandemic: policy solutions based on redesign and reduction of single-use plastics and personal protective equipment. Sci Total Environ 2020;742:140565. https://doi.org/10.1016/j.scitotenv.2020.140565.
- 15. Verhoef LA, Budde BW, Chockalingam C, Nodar BG, van Wijk AJ. The effect of additive manufacturing on global energy demand: An assessment using a bottom-up approach. Energy Policy. 2018 Jan 1;112:349-60.
- 16. Ling Hong Lee. 3D Printing in Orthopedic Surgery. SICOT E-Newsletter. 2022 Mar. Issue 105.
- 17. Woods DL, McAndrew T, Nevadunsky N et al. Carbon footprint of robotically-assisted laparoscopy, laparoscopy and laparotomy: a comparison. Int J Med Robotics Comput Assist Surg 2015; 11: 406–412



Ortho | specialty specific | journals + standards + guidelines + general | medical journals | Search →

Start your search at orthosearch.org.uk

Search a large collection of specialty specific journals and orthopaedic papers in general medical journals, pre-prints, standards, guidelines and multimedia, to get reliable and relevant results every time.

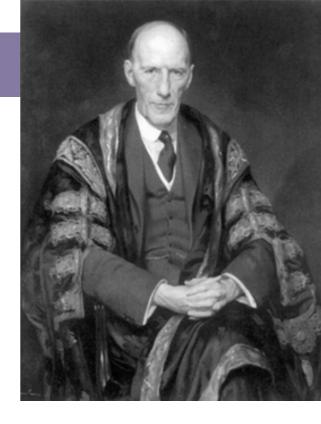


SI-QUOTE

Sir Robert Hutchison

Sir Robert Hutchison (28 October 1871 – 20 April 1960) was a Scottish physician and paediatrician, who is well known as the original editor of the medical books, Clinical Methods and Food and the Principles of Dietetics.

He was a consultant paediatrician at the Hospital for Sick Children, Great Ormond Street, London and general physician at the Royal London Hospital. He served as President of the Royal Society of Medicine and the Royal College of Physicians.



From inability to let well alone; from too much zeal for the new and contempt for what is old; from putting knowledge before wisdom, science before art and cleverness before common sense; from treating patients as cases; and from making the cure of the disease more grievous than the endurance of the same, Good Lord, deliver us.

Those of us who have the duty of training the rising generation of doctors...must not inseminate the virgin minds of the young with the tares of our own fads. It is for this reason that it is easily possible for teaching to be too 'up to date'. It is always well, before handing the cup of knowledge to the young, to wait until the froth has settled.

The scientific truth may be put quite briefly; eat moderately, having an ordinary mixed diet, and don't worry.

EDITORIAL TEAM



AHMED ABDELAZEEM (EGYPT)
SICOT Editorial Secretary



LINDA RIDEFJORD (BELGIUM)SICOT Executive Director



AJU BOSCO (INDIA)
SICOT by Region / SICOT Research



MOHAMED SUKEIK (SAUDI ARABIA) Knowledge Hub



SATTAR ALSHRYDA (UNITED ARAB EMIRATES)SICOT Review / SI-QUOTE



TEMILOLUWA OLUFEMI (NIGERIA)SICOT Committee News / SICOT History

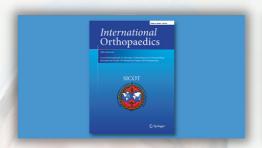


Join the World Orthopaedic Organisation!

Find out more about SICOT at www.sicot.org

SICOT, the Société Internationale de Chirurgie Orthopédique et de Traumatologie, is an international non-profit association incorporated under Belgian law. SICOT's mission is to promote the advancement of the science and art of orthopaedics and traumatology at an international level, in particular for the improvement of patient care, and to foster and develop teaching, research and education. It maintains the philosophy that orthopaedic education should be available, accessible and appropriate for surgeons no matter their background, culture or resources. In 2019, SICOT celebrated its 90th birthday!

Benefits of SICOT Membership



International Orthopaedics® Journal

Stay connected to your profession: receive free of charge the SICOT Journal, International Orthopaedics®, and the SICOT Newsletters.



SICOT-J Journal

SICOT members get a 30% discount when they publish in SICOT-J, a peer reviewed open access journal.



SICOT Events

Benefit from reduced registration rates at SICOT scientific meetings and rub shoulders with the most eminent world specialists.



Fellowships

Take advantage of the SICOT fellowships to further your education and career at international level.



Awards

Be eligible for the SICOT awards granted to surgeons to reward them for their scientific achievement or to help them attend the Congress by supporting them financially.



Diploma Examination

Test your core clinical knowledge and competence and apply for the Diploma Examination.



SICOT PIONEER Videos

Gain full access to the wide selection of videos available on our virtual platform, SICOT PIONEER.



OrthoEvidence

Become eligible for a free Premium Account with OrthoEvidence, which is the global source for summarised, high quality orthopaedic research from around the globe.



Clinical Orthopaedics and Related Research® Journal

Get free access to the Clinical Orthopaedics and Related Research® journal.



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

edsecr@sicot.org







