BEST OF ESSR
25 YEARS OF EXCELLENCE IN MUSCULOSKELETAL IMAGING
On behalf of the members of the Executive Committee of the ESSR, it is my great privilege to announce the celebration of 25th anniversary of the foundation of this society.

The first meeting in Bonn in 1993 was held by a small group of visionary radiologists who realized that bone radiology was turning into a complex field of multimodality imaging with MRI, ultrasound, DXA, 3D and hybrid techniques. With the annual meetings, they created a forum for motivated radiologists who were happy to exchange their experiences and research results about how to use these high-resolution techniques in the imaging of sports, arthritis, soft tissue and bone tumours, and osteoporosis.

The recipe of excellence in education and research, exchange of new ideas, attractiveness of the venues of annual meetings throughout Europe and mutual friendships appealed definitely to musculoskeletal radiologists. The number of participants and members of the society increased steadily with today more than 1700 members and the ESSR being among the largest radiological societies in Europe.

The different subcommittees on all aspects of musculoskeletal imaging are very active in defining new projects, exchange of scientific knowledge and providing state-of the art education. Since many years, ESSR has its own European Diploma in Musculoskeletal Radiology, which might help boosting the career of young MSK radiologists.

Today, we are also very fortunate to cooperate fruitfully with many national and international partner societies.

Furthermore, I am very happy that the ESSR invests in the youth by the recent creation of a “young club”. Thanks to this new educational forum dedicated to young colleagues, the future of ESSR is assured.

The management of ESSR is in excellent hands and we are very lucky to rely on the daily professional advice provided by the ESSR office.

Therefore, we are confident that the future of MSK imaging is bright and we look forward to the next 25 years of excellence.

Filip M. Vanhoenacker | ESSR president 2017-2018
MEET & COOPERATE
ESSR 1993 I Bonn/DE
The first meeting in Bonn was more a meeting of interested people. They agreed to build up a skeletal society in Europe.

ESSR 1994 I Berlin/DE
The meeting in Berlin ran together with the meeting of the International Skeletal Society (ISS). First official presentations have been done, the ISS was of great help with organisational ideas.

ESSR 1995 I Paris/FR
The meeting in Paris had about 50 participants. It was a one day meeting with a small group of presenters.

ESSR 1996 I Salzburg/AT
The meeting took place in Salzburg on November 8-9. The aim was to have a first “real” congress and already 250-300 delegates did attend the meeting. Abstracts from this meeting can be found in European Radiology 1996 (50+ scientific presentations, 30+ scientific exhibits)

In the evening there was a wonderful social gathering of all participants in a castle in the city, Prof. Kainberger giving a brilliant speech about the salt and Salzburg.

“At the end we had the feeling that ESSR has now really grown up and was no more a baby! It could grow further!” (Herwig Imhof)
The highlights of the 1999 meeting in Edinburgh included a combined meeting with a national society (the BSSR) for the first time, and the first dedicated ultrasound course at an ESSR meeting.

The 8th Annual Meeting of ESSR was held in Budapest on October 5 and 6 in 2001. Participants arrived from 29 countries and we had have three parallel sessions. We organized hands on ultrasonography courses using parallel three equipments. The opening ceremony started with the greeting of the State President, than Children’s Coir of the State Opera presented Bartok and Kodaly songs.
ESSR 2002 I Valencia/ES
It was the first monographic course of our society dedicated to the spine including all our sections and we also had the support of other medical specialties.
It was supported by a young faculty that has currently risen to important positions in this society.
We managed to combine innovation together with our most classic folklore in an open and friendly environment.

Francisco Aparisi Rodriguez

ESSR 2003 I Aarhus/DK
The 10th ESSR Annual Meeting was held in Aarhus/DK, June 13-14th, 2003.
Presidents Niels Egund and Anne Grethe Jurik accompanied by a local organizing committee in addition to the ESSR faculty.
The main topic of the educational course was “Inflammatory joint disorders” supplemented by scientific presentations and a preceding “Hands-on courses in ultrasound” in addition to a “Bone densitometry workshop”.
All participants were offered a visit to Moesgaard Museum where the results of a new radiological examination of a well preserved bog body, the Grauballe Man were demonstrated.

ESSR 2004 I Augsburg/DE
The ESSR at that time on the verge of becoming a large and important Radiological Subspecialty Society but still an “ESSR family”.

Klaus Bohndorf
2004 | 2005
The “Spanish group” and the Congress President celebrate the incoming 2005 ESSR President Francesco Aparisi.

ESSR 2006 | Bruges/BE
ESSR 2006 in Bruges, Belgium provided a complete overview of imaging of the knee covering anatomy, (sports) injuries, joint degeneration and arthritis, metabolic diseases, bone and soft tissue tumors, and imaging techniques, with special focus on MRI. There was a special focus session on whole body MRI, featuring the beginning of this new technique that would become important in multifocal musculoskeletal diseases such as neurofibromatosis, hereditary multiple exostoses, metastases and bone marrow imaging.

ESSR 2007 | Izmir/TR
It was a big pleasure for Izmir to embrace the whole precious ESSR family in June 1-2, 2007. This meeting was one of unique events about radiology in Turkey that includes 405 participants from 44 different countries around the world sharing their experiences in musculoskeletal radiology and nourishing their friendship.

Remide Arkun
ESSR 2008 | Galway/IE
In 2008 the ESSR, British Society for Skeletal Radiology and Faculty of Radiologists of the Royal College of Surgeons in Ireland held a joint meeting in Galway, Ireland. Over 400 people attended. The theme was “Ligaments, Languages and Linkages”. As congress president, for me, the highlight among the varied presentations and entertainments was a Bayer-Schering Pharma lecture by the late Professor Helen Carty on Natural History and Flower of the Burren.

Left to right: Professor Peter McCarthy (Dean, Faculty of Radiologists), Professor Helen Carty, Dr David O’Keeffe, Congress President ESSR 2008

ESSR 2010 | Lille/FR
It was my great pleasure to organize the 17th ESSR meeting in Lille, France, in June 2010, which included a fantastic scientific programme focused on “Ankle and foot”. The welcome reception was held at the Musée des Beaux-Arts, and the gala dinner at the Chambre de Commerce et d’Industrie of Lille, at the end of which I became President of the ESSR.

ESSR 2012 | Innsbruck/AT
The congress was held from June 28-30, 2012, in Innsbruck, Austria. The scientific programme of the congress was focused on Hand & Wrist and attracted more than 500 participants from Europe, the Arabic countries, the United States of America and Australia.

ESSR 2013 | Marbella/ES
ESSR took place in sunny Marbella, Spain, at the Palacio de Congresos located in the center of the city.

Anne Cotten

Left to right: Professor Peter McCarthy (Dean, Faculty of Radiologists), Professor Helen Carty, Dr David O’Keeffe, Congress President ESSR 2008
ESSR 2015 I York/UK
22nd Annual Congress of the ESSR, York/UK, June 18-20th 2015
Congress Presidents: Andrew Grainger & Philip Robinson, Leeds/UK
Theme: Shoulder
- Congress venue York Barbican Centre
- 729 delegates from Europe and further afield
- Invited speakers from around the World
- 49 scientific presentations
- 151 electronic posters
- ESSR/ISS Best Scientific Paper: S. Bensler, “Is there a difference in treatment outcomes between epidural injection patients receiving particulate versus non-particulate steroids?”
- ESSR Tumour Prize: T. Geith, “Bone biopsy using an optical navigation system and comparison to fluoroscopic guidance”

ESSR 2017 I Bari/IT
In 2017, the ESSR moved towards south to Italy. Situated on the Adriatic coast and overlooking the sea, Bari is the largest and most important city of Apulia. Its old town, heart of the city and compendium of cultural and artistic events, has retained its ancient Medieval plan with the awesome church of San Nicola, one of the most striking examples of Apulian Romanesque architecture, the old walls overlooking the sea, and the Swabian Castle. During that meeting, the ESSR Young Club was established and a first meeting between national MSK societies and groups took place.
The title image of this year’s Annual Meeting shows the city of Amsterdam with characteristic facets. What was your idea behind the selection of this picture?

Monique Reijnierse: It makes me smile! These drawings (there are two different images and congress posters) give a colourful original impression of the city of Amsterdam with playful details. The more you look the more you see. It is an attractive invitation to the upcoming meeting.

The main topic is “Muscle and Nerve”. Why is this currently a hot topic in the research and education of musculoskeletal imaging?

MR: New developments in both ultrasound and magnetic resonance imaging provide high detailed anatomy. Even the smallest nerves can be visualised. Therefore knowledge of nerve anatomy, how to optimise your imaging and how to interpret pathology is essential. On the other hand, larger field view is achieved with whole body imaging, using CT and MRI. These techniques can be applied in your practice with the possibility of molecular imaging as well.

Research focusses on the early and specific detection of nerve and muscle pathology, including tumors and trauma, with the use of new MR sequences, MR neurography and MR spectroscopy.

Imaging of muscle injury is an important topic in sports, in professionals as well as “amateurs” of all ages. Questions focus on return to play. Age specific injuries like bony avulsions or muscle tendon junction pathology can be differentiated and clinicians rely on state-of-the-art imaging to treat their patients. Loss of muscle quality, seen as muscle atrophy and fatty infiltration, can be present in neurologic diseases or in case of nerve entrapment. But muscle loss effects daily life in elderly as well and sarcopenia is high on the agenda of vital aging. Radiology plays an important role to diagnose muscle loss but also to quantify this.

As a guest editor of Seminars in Musculoskeletal Radiology I had the honor to invite ten colleagues to write an article on hot topics in a special issue on “Muscle and Nerve”, which will be available at the ESSR meeting.

What will be new at this meeting?

MR: The popular ultrasound workshop has expanded: there is a resident course in Shoulder ultrasound on Wednesday and a full day hands-on Nerve ultrasound workshop on Thursday. The last places are available for the shoulder workshop, the nerve-day is already fully booked. New is a Webinar with EULAR (the European meeting of rheumatologists) on the
early detection of rheumatologic diseases. Two radiologists and two rheumatologists will address the clinical use of MRI and the audience is invited to contribute to the discussion. In addition you can attend a case based practical workshop on axial spondyloarthritis using your own computer.

And we are digital this year! You can download ESSR 2018 from the appstore: showing the program, the speakers, daily updates with pictures and movies. The PDFs of the lectures will be available on the App as well.

Musculoskeletal radiology is a very innovative field of imaging with new diseases, new imaging techniques and especially an expansion of the clinical applications. How can all this be put in a 2 day congress program?

MR: That is a challenge indeed. This is only possible thanks to my colleagues who accepted to contribute as a speaker and the members of the subcommittees who provided me with excellent topics. We succeeded to make an attractive parallel program in two rooms and two lunch symposia, combining refresher courses and scientific sessions. As a delegate you can choose the topics you are most interested in. So if you did not get a ticket for the nerve workshop, you can still attend the “Masterclass on Nerves” during lunch on Friday.
COMING UP:
2019-2022

ESSR 2019
MUSCULOSKELETAL
RADIOLOGY
JUNE 26-29, LISBON/PORTUGAL

In June 2019 we will be delighted to welcome you all in sunny Lisbon for our annual ESSR meeting in Portugal.

The scientific program will focus on Hip and advanced imaging and we will be reviewing the most significant advances in musculoskeletal imaging with an emphasis on the hip joint, artificial intelligence and other cutting-edge topics. Pre-congress will include an ultrasound workshop and “learn with the Masters” advanced reading tutorials.

An excellent opportunity for us to begin our meeting making new friendships, new scientific collaborations and having a glance at the future of MSK radiology with AI.
The annual ESSR meeting 2020 (June) is going to be held in Stockholm, Sweden. The main topics will be Sports and Tumours, including interventions. In order to highlight Scandinavian radiology, the congress committee consists of radiologists from Denmark, Finland, Norway and Sweden.

The annual ESSR meetings have high educational and scientific quality, and very importantly a friendly international social atmosphere. Open subcommittees of ESSR are also publishing guidelines in different fields of musculoskeletal radiology and are important platforms for research and diagnostic collaboration. The meeting 2020 in Stockholm is planning to have collaboration with SSR (Society of Skeletal Radiology, which is the North American MSK-society). Excellent scientific papers fitting in a refresher course session might be presented as such.

The Ultrasound course is as in previous years, planned on the day before the congress and for the US course delegates a possibility is planned to practice and increase their US skills for free on available machines on the first congress day.

Stockholm is also called the Nordic Venice, with its canals, lakes and Baltic sea archipelago. The midsummer is a traditional celebration.

The congress committee and I welcome you to participate in ESSR Stockholm 2020. We also think that an extension of the visit to Stockholm/Scandinavia is worth the cost.
“Cracovia urbs celeberrima” as a medieval adage had it, meaning “Krakow – the most glorious of towns”. We look forward to meeting you all there, in the fair city of kings, Nobel laureates and a hundred festivals, on 10-12 June 2021.

The meeting will focus on the Wrist and Hand related injuries and disorders and will comprehensively cover all aspects – from wrist and hand anatomy through the wide spectrum of pathologies, including:

- evaluation of painful wrist and hand
- wrist ligaments and TFCC, wrist instabilities
- wrist and hand bones pathologies
- tendinopathies and neuropathies
- finger ligament and tendons
- miscellaneous conditions of the wrist and finger’s disorders

With the participation of orthopaedic surgeons we will discuss imaging and modern treatment approaches, hints and tricks, understand needs and expectations.
I look forward to welcoming you in early June 2022 in the Hanseatic university city of Rostock next to the Baltic Sea coast. A homely city, Middle Age architecture or a magical coastal landscape, paintings, theatre and large ships, Rostock has something on offer for everyone. The city harbour is also a perfect location for a stroll with old and modern ships and restaurants right next to the water. The University of Rostock is the oldest university in the Baltic Sea region and was founded in 1419. Tradition and innovation is the university’s motto, which can also serve the ESSR annual meeting reflecting the continuously changing imaging algorithms and technical innovations in musculoskeletal radiology, which in fact is the oldest field of radiology given the fact that the very first X-ray was performed in Würzburg of the hand of Wilhelm Conrad Röntgen’s wife Bertha in 1895.

The meeting will focus on **Systemic Skeletal Disorders and Post-Treatment Imaging.** Regarding systemic skeletal disorders, all aspects will be covered such as pathophysiology, clinical presentation, imaging appearance, differential diagnosis, and therapy. For the second focus of the ESSR annual meeting, special aspects of the modern treatment procedures and the principal questions the radiologist has to answer following musculoskeletal interventions will be addressed. Thus, we learn about the treatment approaches, hints and tricks, and understand needs and expectations of our clinical partners, such as orthopaedic and trauma surgeons and our musculoskeletal interventionalists. Moreover, also speakers from German national societies related or neighboring to the field of musculoskeletal radiology such as the German Society of Medical Physics in Radiology, the German Society of Nuclear Medicine, and the German Society of Ultrasound in Medicine will be invited.

The large number of participants coming together at the ESSR annual meetings clearly demonstrates that academic medicine is a great way of bringing people together to share their ideas and experiences and this independently of different nationalities and traditions. Also, often long-lasting scientific collaborations and friendships start from these meetings and the common interest in musculoskeletal radiology. I hope for an interesting and inspiring meeting as well as an enjoyable stay in Rostock. I am sure you will enjoy your participation!
The Winter School aimed to create a relaxed environment to provide an overview of MSK Radiology, offering specific skills in the field of imaging. The course was endorsed by European Society of Musculoskeletal Radiology (ESSR) and Italian Society of Medical Radiology (SIRM). The course included morning frontal lectures from faculty members and, in the afternoon, hands-on US and case presentations to be discussed with participants.

Giuseppe Guglielmi, ESSR President 2015-2016
The ESSR supports all aspects of musculoskeletal radiology and strongly endorses the concept of subspecialisation. The state of development of radiologic subspecialisation is however quiet inhomogeneous throughout Europe. Whereas musculoskeletal radiology already represents a recognized subspecialty in some countries, this process is still at an earlier state or is even just up to begin in others. The national societies/groups of musculoskeletal radiologists have an important, but nevertheless difficult task in this critical and forward-looking development. The ESSR wants to assist them on their way by offering cooperation in a strong European-wide alliance, fostering the exchange of musculoskeletal specialists, increasing their visibility by acting as a partner in national educational and scientific projects, providing a forum for exchange of experience between their representatives and, last but not least, strengthening the personal ties among musculoskeletal radiologists all over Europe.

The ESSR has started official cooperation with an increasing number of national societies of musculoskeletal radiology to offer their members reduced fees with all advantages of a full ESSR membership.

At the 2017 Annual ESSR Meeting in Bari, for the first time an official meeting of the national societies/groups took place. The next meeting of their representatives is scheduled for the ESSR Congress 2018 in Amsterdam on Saturday, June 16, 13:30-15:00.

Klaus Wörtler, ESSR President 2016-2017
INITIATIVES IN COOPERATION WITH THE EUROPEAN SOCIETY OF RADIOLOGY (ESR)
The European Society of Radiology (ESR) Subspecialties and Allied Sciences Committee (SASC) unites all subspecialties within clinical radiology and major allied disciplines in Europe. The committee is made up of the presidents of each of the ESR’s Subspecialties and Allied Sciences Member Societies, including the ESSR president.

This intensive cooperation with ESR, as one of the largest and most powerful radiological societies in the world is of utmost importance to empower the visibility and impact of musculoskeletal (MSK) radiology across Europe.

ESSR has an important voice in the selection process of chairpersons and members of the MSK Subcommittee being responsible for the annual educational and scientific programme of the ESR’s annual European Congress of Radiology (ECR).

This has resulted in a very high participation rate of our society in past annual ECR meetings.

This fruitful mutual cooperation contributed to the overall success of the MSK part of the annual ECR congress as well as to our own annual ESSR meeting. As a result, both meetings became the rendezvous for all European MSK radiologists.

Furthermore, ESSR has signed an affiliation with the leading European journals *European Radiology*, *Insights into Imaging* and *European Radiology Experimental*. This affiliation has created new opportunities for further reinforcement of the scientific and educational impact of the MSK community (see “Cooperation with Journals” in this brochure).

By continuous development of common strategies, we strongly believe that our liaison with ESR may contribute to the harmonization of training and education in MSK imaging, collaboration in research and handling of professional and safety issues in our subspecialty.

This European spirit of collaboration may help strengthening existing cooperation with national MSK societies in many countries (see contribution “National Societies/Groups in Europe” in this brochure).

Filip Vanhoenacker, ESSR President 2017-2018

ESR iGuide is a clinical decision support system for the European Society of Radiology’s imaging referral guidelines, offering an efficient, traceable and reliable way of supporting the request of the most appropriate imaging exams in daily practice. ESR iGuide provides users with guidelines and recommendations based on the latest medical evidence, available as a stand-alone web portal or seamlessly integrated into electronic referral workflows.

ESR iGuide was launched in 2014 as part of the ESR’s mission to ensure that patients across Europe receive radiological services of the highest quality and safety. The lack of adherence to imaging referral guidelines must be addressed in order to improve appropriateness in medical imaging in Europe. User-friendly CDS solutions are an effective and proven way to achieve this. ESR iGuide supports referring physicians in selecting the most appropriate imaging exams for their patients by giving feedback on the appropriateness and relative radiation dose of different procedures. The system can be tailored to users’ needs, providing feedback for each and every request or running in the background alerting referrers only if an inappropriate exam is selected.

GUIDELINES
The ESR works with the American College of Radiology (ACR) to adapt the ACR’s well-established Appropriateness Criteria for use in ESR iGuide in Europe. ESR experts review and adapt the content for ESR iGuide based on the clinical scenarios and indications with the ACR Appropriateness Criteria for ten topics:

- Breast Imaging
- Cardiac Imaging
- Gastrointestinal Imaging
- Musculoskeletal Imaging
- Neurologic Imaging
- Paediatric Imaging
- Thoracic Imaging
- Urologic Imaging
- Vascular Imaging
- Women’s Imaging

For the 2018 ESSR iGuide content version the ESSR nominated Dr. Christoph Schäffeler to join the ESR working group on imaging referral guidelines to review the musculoskeletal (MSK) imaging topics. From 2015 to 2017, the MSK topic area was led by Prof. Iain McCall, a honorary member of the ESSR. The appropriateness of each imaging exam is scored on a scale of one to nine, with ratings divided into three categories. The ESR’s standard European guidelines can be localised according to national or institutional requirements, for example by taking
into account criteria such as the availability of certain types of equipment. The ESR’s working group periodically releases new ESR iGuide content versions in cooperation with ACR through the rapid response committee.

ESR iGUIDE PORTAL
Since the European Congress of Radiology 2018, the ESR’s guidance for appropriate medical imaging is generally available through the stand-alone ESR iGuide web portal. Providing users with indication-driven and procedure-driven workflow options, the portal is the easiest way to consult the entirety of the ESR’s imaging referral guidelines. The portal also gives users the option to track their decision support sessions in their dashboard, or to save their sessions as PDF documents or via email, and it includes a content feedback option to send comments to the ESR expert working group.

The portal is a permanently free service for all ESR radiologist members, accessible via the ESR membership account. All other individuals can sign up for free use of the portal until September 30, 2018. Thereafter, individual subscription options are available for continued portal access. In addition, the ESR offers the option of institutional or country-wide licences for multiple users.

INTEGRATED CDS
ESR iGuide can be seamlessly integrated into electronic health records (EHRs) and other computerised physician order entry (CPOE) software to unlock the full benefits of actionable CDS guidance at the point of patient care. CDS alerts can be tailored and targeted to a healthcare organisation’s needs, while data analytics functionality facilitates performance improvement to streamline clinical workflows, ensure patient safety, and raise the quality of care.

Pilot implementations of ESR iGuide in Europe started in 2016, and hospitals in several European countries have reported significant improvements in the appropriateness of imaging referrals, while unnecessary or duplicate examinations are avoided.

GET IN TOUCH
myesr.org/esriguide | eu-affairs@myesr.org

Christoph Schäffeler, ESSR Councillor 2017-2019
STRUCTURED REPORTING

BETWEEN STANDARDIZATION AND PERSONALIZATION

With structured reporting templates, the narrative or free text reports are being stepwise replaced with the aim to improve the completeness, the unambiguous communication and big data mining. The ESSR is involved in the structured reporting initiative of the European Society of Radiology (ESR) and the Radiological Society of North America (RSNA) and is aware of the paramount importance of increasing the impact of radiology reports for value-based care. Radiological subspecialty societies play a crucial role in the development, the approval and the implementation of a clinically useful structure, an appropriate terminology, and formalized clinical decision models.

The goal is a continuous update of the structure and terminology for musculoskeletal diseases within the frame of general standards of reporting. The schemes should be applicable to all anatomic regions of the extremities, the trunk and the spine. Musculoskeletal imaging is a very dynamic and continuously evolving field, thus requiring a flexible IT-solution of reporting templates. New knowledge, especially from guidelines and quantification systems with imaging biomarkers or radiomics, can be expressed as key data elements and be brought directly to the point of care.
Personalization of patient-centered reports and a highly efficient workflow in report generation are other fundamental principles. In summary the added value of a structured and integrated report has to be higher than that of a narrative report. The demand on a perfect clinical integration of our reports is high and reporting templates should be developed and approved by musculoskeletal radiologists in close collaboration with experts in orthopaedics, sports medicine, rheumatology, osteology and rehabilitation medicine.

Starting point of the ESSR structured reporting initiative will be the update of templates for bone densitometry, as in this „small world“ all aspects of the above mentioned goals can be considered and tested for a future roll-out of integrated imaging reports.
THE BROAD FIELD OF MUSCULOSKELETAL RADIOLOGY
OSTEOPOROSIS, BODY COMPOSITION AND REHABILITATION

Osteoporosis is among the musculoskeletal diseases with the highest impact. Beyond osteoporosis, bone metabolism is affected in a number of different disorders, whether primarily or secondarily involving musculoskeletal tissues. As knowledge expands, awareness of the link between bone and muscle and other tissues (e.g. adipose tissue) increases. A bone-fat axis has become evident, as well as interactions with muscle biology and functions. Although several endocrinological pathways and crossroads are still a hot topic for researchers, body composition analysis has burst into clinical practice. Sarcopenia and sarcopenic obesity are fundamental concepts today. The need for “special” techniques to study and to understand metabolic disease has led imaging methods and techniques in metabolic bone disease research to become more and more sophisticated. On the other hand, the wide prevalence of the disease has directed efforts towards finding the easiest methods to be applied to the general population. Quantitative evaluations have been of utmost importance since the very establishment of this field of musculoskeletal radiology.

Twenty years ago the Osteoporosis subcommittee was established at the European Society of Musculoskeletal Radiology (ESSR). The most authoritative scientists and radiology clinicians in the field leaded the subcommittee during the years, pushing research, international cooperation, promoting change or awareness in clinical practice, and teaching. The subcommittee proposed to change its name in 2014, and this became effective with a renewed “Osteoporosis & Metabolism” (O&M) subcommittee. This reflects the evolution and awareness of the importance of what has just briefly mentioned above.

Today, the aims of the O&M subcommittee are still the same and the following principles will be reinforced:
1. Young colleagues will be encouraged to learn about metabolic disease, and not to forget the pivotal role of radiologists in this field, beyond spreading the awareness and knowledge of metabolic related topics among general radiologists.
2. The link to other subcommittees and diseases will be reinforced.
3. Interaction with other other societies, especially orientated towards other clinical specialties dealing with metabolic diseases, will be supported.
4. Events and sessions at congresses will be organised to include both research and clinical practice topics.
5. Common research projects will be proposed and pursued, including support to projects to participate in competing calls.
6. Editorial activity will keep on updating current knowledge.
7. Guidelines for controversial clinical topics or for topics in need of an update will be proposed, developed, and published.

After 20 years, a master, a dear and deeply respected member of our subcommittee passed away. Prof. Judith Adams, past chairperson of the Osteoporosis subcommittee, deserves more than a special tribute, and will remain forever a leader for this subcommittee.
IMAGING SPORTS INJURIES IS CHALLENGING, INTERESTING, AND EVOLVING

Over the last decades, interest and level of participation in both competitive and recreational sports activities have significantly increased.

Increasing sports participation inevitably leads to a greater number of various sports-related injuries. With sports-related injury ever increasing, and technology rapidly expanding in the areas of diagnosis and treatment of musculoskeletal diseases, a continual revisiting of the latest in technology is critical for the sports radiologist. Advances particularly in the areas of magnetic resonance imaging, diagnostic ultrasound, computed tomography with multiplanar and 3-dimensional reconstructions, as well as digital radiography offer a plenty of diagnostic options in patient evaluation and the possibility to document subtle findings has been pushed forward enormously. All those radiological tools give wild range of different information about patient. The “radiological” information in addition to the patient history and physical examination must be interpreted with a firm foundation and understanding including the facts about the availability, indications, contraindications, sensitivity, specificity, and even the cost implications of the great spectrum of diagnostic options. Imaging in sports is an important link between sports medicine and imaging sciences stimulating each other within interdisciplinary clinical management.

The group of experts with interest in sports and “feel” for the athlete as well as interest in the musculoskeletal radiology founded the subcommittee for Imaging in Sports. The subcommittee for Imaging in Sports was founded with the intention to promote the various aspects of specific indications, of standardized techniques of investigation, and of the better understanding of imaging findings.

The subcommittee activities take place in several directions:

POSTGRADUATE COURSES AND MEETINGS

PROMOTION OF INTERDISCIPLINARY ACTIVITIES
Contacts with specialists in other fields of sports medicine are regarded as a key-issue of the Subcommittee. As an example, there are courses with rheumatologists (Cracow 2014, 2015, 2016) and with sports physicians (Amsterdam 2016). It is common that on Subcommittee Meetings and Courses orthopedic and trauma surgeons take a part in educational programme.

STANDARDIZATION OF IMAGING PROCEDURES
Following a suggestion made by N. Egund an initiative to standardize specialized imaging investigations in sports medicine are in progress. The expectations of sports medicine physicians and orthopedic surgeons are rising regarding image quality and precision of diagnosis. Subcommittee members from various countries in Europe coordinated by Ara Kassarjian (Spain) are made “Sports Subcommittee Guidelines of MR Imaging of Sports Injuries” that cover entire musculoskeletal system and is available on ESSR web site.

SCIENTIFIC ACTIVITIES
Since 1996, during the Annual Meetings of the ESSR a scientific session entitled “Imaging in Sports” is held every year as a part of ESSR Congress Programme. Imaging findings in various sports-related diseases are discussed. Especially young researchers in this field are encouraged to submit the results of their research work for presentation during these sessions.

BOOK PROJECTS
In the short history of the subcommittee, publishing activity also played an important role. Subcommittee members are the authors of the following editions: Sports Injuries in Children and Adolescents, Sport Traumatology Imaging , MR Imaging of the Knee (2013), MRI of the Hip (2015), MRI Foot and Ankle (2016), MRI of the Shoulder (2017), MRI of Elbow (2018). In the final preparation is next book: MRI of Wrist, Hand & Fingers.

In all these years the activities of the Subcommittee were coordinated by the Subcommittee chairpersons: Carlo Faletti (Italy), Mario Padron (Spain), Josef Kramer (Austria), Mariam Shahabpour (Belgium) and Igor Boric (Croatia).
The group was founded in 2005, with Suzanne E. Anderson (Sydney/AU & Baden/CH) as the first subcommittee chair, and “Pater” Mark Davies, Hans Bloem, and Daniel Vanel, and a great group of enthusiastic colleagues with representatives from many European countries who had a particular interest and expertise in imaging of musculoskeletal tumours, bone and soft tissues.

After Suzanne, until present four chairpersons with a three years term followed this mission and promoted and enriched the musculoskeletal tumour imaging diagnostics. Joan C. “Kai” Vilanova (Girona/ES) 2006-2009, Carla S.P. van Rijswijk (Leiden/NL) 2009-2012, Iris-M. Noebauer-Huhmann (Vienna/AT) 2012-2015, and Marc-André Weber (Rostock/DE) 2015 till now. Starting from June 2018, Radhesh Lalam (Oswestry/UK) has been elected as chairman for the period 2018-2021. The subcommittee meets regularly at the ECR and the ESSR annual conferences to discuss various issues regarding tumour imaging, biopsy sampling and treatment. The subcommittee has always been open and inclusive to new and younger members and there is now a great mixture of stalwarts and rising stars. It is very rewarding to see the subcommittee has grown from a group of friends sitting around a table to a membership of over 65 colleagues from nearly all European countries. The subcommittee meetings are usually extremely well attended most of the times with standing-room only demonstrating the interest and ongoing activity of the Subcommitteee.

The intention of the group was also to promote both educational and research issues in bone and soft tissue tumours and to support and encourage young members in their clinical and scientific work. We thus have set up the ESSR annual tumour prize for best tumour-allied scientific lecture or poster presentation to honour and support tumour work on the annual meeting. The educational and research work included support for quality tumour boards, standardization of imaging algorithms, better understanding of imaging findings, as well as multicentre studies and book projects, for instance:


Also, books such as Musculoskeletal Imaging 2nd edition by Thomas Pope, Hans Bloem, Javier Beltran, William Morrison, and David John Wilson have been published in 2014 with the contribution of several of the Tumour Subcommittee members.

As another major achievement, two consensus documents of the ESSR Tumour subcommittee have been published, one for bone tumours and one for soft tissue tumours:

Moreover, two special issues on bone and soft tissue tumours in Seminars of Musculoskeletal Radiology are currently under preparation with members of the ESSR Tumours Subcommittee as invited authors and guest-editors will appear in late 2019 and early 2020.

Initially the subcommittee supported the ESSR annual meeting with refresher course sessions focusing on bone and soft tissue tumours, which are frequently visited and highly appreciated by the participants. This commitment of course continues, and now it is fantastic to see that there are dedicated ESSR Tumour Educational Courses and Summer Schools apart from the tumour sessions of the ESSR annual meeting and the ECR.

Let me finish with the words of Suzanne E. Anderson: “In the retrospective, what was fantastic at the time was we all thought yes, it was a great idea to have a Tumour Subcommittee and it was supported by ESSR Executive Committee immediately. It really was about friends helping friends and the need to support all with some structure and quality to improve radiology diagnosis, clinical team communication and patient care. Interested members came from all over Europe and the world, with a European address, and were all accepted, all had a common interest in tumours and attitude, how can we actively contribute. Some worked in very isolated circumstances back then and to have a team there via the ESSR tumour group, was highly valued.” Thus, onwards and forwards to this great team.

Marc-André Weber
The year 2018 which marks 25th anniversary of establishing ESSR is also the 15th year of the existence of the Arthritis Subcommittee of the ESSR, which was formed on the initiative of Professor Franz Kainberger in 2003.

Since its establishment in 2003, the subcommittee’s subsequent chairs have invariably been distinguished specialists in the field, namely Doctor Philip O’Connor (2003-2007), Professor Anne Grethe Jurik (2007-2015) and Professor Claudia Schueller Weidekamm (2011-2015), replaced in 2015 by Professor Iwona Sudoł-Szopinska, who is holding the position at present.

Radiology has always been one of the cornerstones of management in patients with arthridites. Over the past decades, imaging of rheumatologic diseases has been seen to make spectacular advances, particularly due to the constant technological improvements of cross-sectional modalities. Combined with new developments in the fields of immunology, molecular biology, genetics and histopathology, this has furthered our understanding of the pathologic phenomena underlying the images, and thus increased our ability to diagnose earlier and more specifically.

On the clinical and diagnostic levels, increased emphasis has been placed on a variety of issues, particularly early diagnosis in patients with inflammatory arthropathies, but also treatment monitoring, identification of disease remission, and disease and treatment complications. However, in very early stages of these diseases an accurate diagnosis remains challenging, because of the lack of sufficiently specific features. In subclinical synovitis, the role of radiological imaging remains unclear, with imaging remission criteria still waiting to be defined. The same applies to paediatric population, where only recently single research groups have started to develop semi- and quantitative diagnostic criteria. Unfortunately, even though we already know a lot, a whole number of issues has yet to be resolved.

From its very beginning, the subcommittee has welcomed broad-minded, enthusiastic, highly driven radiologists in its ranks, keen to advance the knowledge and diagnosis of rheumatic diseases through determined research and education.

Over the recent years, numerous important initiatives have been launched.

Since 2015, the subcommittee has held Seminars in MSK Radiology in Brussels and Sports & Arthritis MSK Conference in Poland, both cyclical international events accredited for the ESSR Diploma. Also, through its members’ contribution, special educational content has been regularly published in Seminars in Musculoskeletal Radiology, e.g. “Imaging and interpretation of axial spondyloarthritits: the radiologist’s
perspective – consensus of the Arthritis Subcommittee of the ESSR in 2014”, “Recommendations of the ESSR Arthritis Subcommittee for the Use of Magnetic Resonance Imaging in Musculoskeletal Rheumatic Diseases in 2015” and “Recommendations of the ESSR Arthritis Subcommittee on Ultrasonography in Inflammatory Joint Disease in 2016”. In 2018, the Subcommittee developed the MRI Protocols in Rheumatology. All the above reference materials are available on the ESSR website, to promote good practices and support continuous education in the area of rheumatic radiology. In line with the Mission of the ESSR, the Arthritis Subcommittee website additionally offers a list of almost 300 publications by the members of the subcommittee, all devoted to arthritis.

Also, two focus-on issues of Seminars in Musculoskeletal Radiology have been published to date, dedicated to imaging diagnostics in rheumatology, i.e. Advanced Imaging in Arthritis (Guest Editors Andrew J. Grainger and Philip J. O’Connor) and MSK Imaging in Rheumatology (Guest Editors Iwona Sudol-Szopinska and Adam Greenspan). Both highlight the importance of imaging in the current approach to a rheumatic patient, confirm the beauty of classic radiography, and present the achievements of other imaging techniques, such as Ultrasound, MRI, CT, optical imaging, or scintigraphy.

Every year during the Annual ESSR Meeting the subcommittee presents up-to-date lectures during a rapid-fire session, highlighting the role of different imaging techniques in rheumatology. In 2018, as a result of our networking with other specialists and societies, a webinar will be held jointly with EULAR, with contributions by specialists from both societies. The subcommittee keeps growing, and it now comprises 44 members from 17 countries, enthusiastic and highly motivated to participate in the Subcommittee’s future activities and initiatives. The focus in the following years will shift to developing recommendations and guidelines on MRI in juvenile idiopathic arthritis, quantification studies in rheumatology, on osteoarthritis and on WBMRI in rheumatology. Successful diagnostics and treatment are made possible by the interdisciplinary collaboration of radiologists, rheumatologists, immunologists, molecular biologists, orthopedic surgeons, as well as specialists in other fields. Thus, we are currently especially keen to foster cooperation with all medical professionals active in furthering the development of musculoskeletal radiology with the specific aim of benefiting patients with rheumatic diseases.

Iwona Sudol-Szopinska
Since the moment radiology was born and for several years, peripheral nerves could not be assessed reliably using imaging. This was mainly due to the low density of these structures, which could not be efficiently evaluated using x-rays. The advent of computed tomography did not change the situation too much, as first systems had low spatial resolution and, however, peripheral nerves could be poorly differentiated from the surrounding soft tissues. The advent of ultrasonography (US) and magnetic resonance imaging (MRI) definitely modified the approach to the assessment of peripheral nerves and their pathologic conditions. Despite being able to effectively assess soft tissues, however, the initial prototypes of US and MR systems were not particularly efficient and we needed to wait for the last portion of the Twentieth Century to start applying these technologies reliably to the evaluation of peripheral nerves.

Some distinguished members of the ESSR played a pivotal role in the context of peripheral nerve imaging. Since the advent of high-frequency, superficial probes, US has been used in the evaluation of peripheral nerves. The pioneers in this field were Enzo Silvestri and Carlo Martinoli in Genova, Italy, who in 1995 used US in the evaluation of ex-vivo bovine sciatic nerves, showing that US had the capability of reproduce the histological arrangement of peripheral nerve fibers. Since then, US in the evaluation of peripheral nerves experienced dramatic improvements mainly in terms of new technologies and, therefore, of diagnostic performance. In particular, superficial probes capable of reaching frequencies up to 24 MHz are now
commercially available. These give the possibility of a very high spatial resolution and very detailed images in the first 1-1.5 cm from the skin, which is ideal for peripheral nerve imaging. Additional tools such as elastography have been reported as promising in increasing diagnostic performance of US in the evaluation of peripheral neuropathies.

We similarly needed to wait the late Eighties to assist to the first applications of MRI in peripheral nerve imaging, with the appearance of sparse case reports and the progressive introduction in clinical practice. Some of the initial studies were performed by Koenraad Verstraete, who has been President of the ESSR in 2011-2012. One of the great advantages of MRI versus US has been traditionally the possibility of evaluating even subtle muscle edema, which is a very early sign of nerve pathology, and is visible even in those cases where nerve morphology is not already affected. Nowadays, peripheral nerve imaging on MR can rely on high-resolution neurography, a technique which is based on very heavy T2-weighted fat suppressed imaging, and on diffusion tensor imaging (DTI), which allows the measurement of the diffusivity of water molecules along nerve axons. What’s more important, these techniques have been shown to reduce unnecessary surgery for nerve pathology more than 15%.

In conclusion, technical and knowledge advancements allowed improving nerve imaging over the last twenty years. In the future, our challenge will be not only to reach even higher diagnostic performances in this context, but mainly demonstrate that all these tools really play a pivotal role in improving patients’ management.
TECHNOLOGIC ADVANCES
Significant advances have been achieved in musculoskeletal injection procedures during the past two decades, supported by the rapid development of imaging technology. Particularly ultrasound guided MSK interventions evolved as a major diagnostic but also as a therapeutic tool. However, these procedures require additional training and expertise not always provided in residency training programs. As a consequence of these recent developments in radiological practice a new ESSR sub-committee, Imaging guided MSK intervention, was installed in 2014. The purpose of this sub-committee is to spread knowledge: to develop, teach and distribute guidelines.

Nevertheless the small number of sub-committee participants managed to organize an intervention subcommittee session at the ESSR congresses, and to edit a book “Image-guided Intra- and Extra-articular Musculoskeletal Interventions: An Illustrated Practical Guide” printed by Springer-Verlag in May 2018 and available on the actual ESSR meeting. This comprehensive book covers diagnostic and therapeutic intra- and extra-articular injection procedures for all joints and musculoskeletal regions.

The newly edited book will be used to develop an ESSR MSK intervention “how to do it” website.

Evidence-based clinical guidelines will be available on the website. Those clinical guidelines shall be systematically developed by sub-committee members to support radiological decision making for specific intervention procedure based on a summary of relevant literature on specific medical problem. As a part of the guidelines developing process the faculty of the Intervention sub-committee and interested ESSR members are preparing a multicentre randomized controlled trial ‘US-guided Percutaneous needle tenotomy and Physiotherapy in Patients with Lateral Elbow Tendinopathy’. Five European centre should participate and we applied for the support of ESSR.

In the same context is with contribution of the Intervention sub-committee faculty a two days “Hands on cadaver US guided MSK intervention course: theory and practice” developed since 2014 and hosted in Antwerp, Belgium.
The technological advances in cross-sectional imaging allow highest resolution and lowest radiation burden imaging. Furthermore the use of new acquisition techniques (i.e. dual energy CT (DECT) imaging, high field 3 and 7 Tesla MRI) and new ways of assessing the acquired data by novel post-processing algorithms (metal artefact reduction CT, DTI of nerves and muscles) brings a new future to radiology, the future of biochemical tissue characterization. I will go into some detail, without trying to be fully covering the topic, painting the challenges for tomorrow’s MSK radiology.

Radiological Imaging has been qualitative by nature and history. It is a radiologist’s bread and butter and clinically very relevant. The field of quantitative imaging was mainly explored by physicists and research focused radiologists. Nowadays the translation of these quantitative techniques from laboratory to clinical practice is part of my academic responsibilities. This translation includes on the one hand the implementation of the novel techniques into clinical routine to improve patient care, and on the other hand support of scientific research in this area. Such translation of innovative imaging and quantification technologies into clinical practice is crucial for the advancement of MSK radiology.

For MSK imaging a new horizon is there to be explored. The assessment of Body Composition is one of the challenges. By whole body assessment the status of muscles is easily collected (Figure 1). Since correlations between sarcopenia and patient condition is a topic of research on clinical intervention: Fit for Surgery is the adagio. Whole Body Dixon Imaging allows for the development of non-invasive muscle status assessment. Sarcopenia is easily quantified.

Historically, quantitative chemical shift imaging (QCSI) is used to quantify the fat fraction in the bone marrow of patients with skeletal storage disorders such as Gaucher’s disease, where the bone marrow is replaced by Gaucher cells (glucocerebrosidase-loaded macrophages). This fat fraction quantification is important to assess the disease status and therapy response, and QCSI is the best method currently available for accurate calculation of the fat fraction in the bone marrow (Figure 2).

High resolution imaging on high field magnets (3T is common practice, 7T is novel) and novel coil development allow the non-invasive biochemical assessment of cartilage structure,
content and lesions. The use of T2 maps and T1rho imaging potentially gives information on early cartilage damage by measuring GAG content reduction in cartilage of large joints (i.e. knee) but also in small joints (ankle, wrist). Prospective studies on clinical relevance are ongoing, correlation with arthroscopy is sought.

For those patients that do not undergo MRI, the use of dual energy techniques in CT scanning allows for improved tissue characterization and quantification even after injection of contrast agent. We call this the MRIfication of CT. Examples that are currently well researched and established as non-invasive tissue characterisation are imaging of Gout (Figure 3).

Newer initiatives are sought within the MSK domain. Initial studies are performed on the detection of bone marrow edema by use of DECT. Figure 4 shows a fat suppressed MRI and corresponding DECT in a patient with active Charcot’s disease. Although first results are promising, this technique is not ready for routine clinical use.

The use of post-processing algorithms becomes increasingly important in MSK cross-sectional imaging. The exploration of biochemical quantitative imaging will be part of MSK radiology routine work in the near future. In our opinion, centralisation of these techniques is best organized within the radiology department, and in our institution this is facilitated by a dedicated Musculoskeletal Imaging Quantification Center (MIQC).

Figure 1.
A unique whole body MRI acquisition protocol based on Dixon chemical shift imaging has been introduced by the Musculoskeletal Imaging Quantification Center (MIQC). The protocol provides a water image (left) and a fat image (right) of the patient from shoulder to toes, enabling screening for both inflammatory foci and fatty infiltration.

Figure 2.
Quantitative chemical shift imaging (QCSI) provides a fat image and a water image, and enables calculation of the fat fraction in tissue such as bone marrow, which is an important quantitative biochemical biomarker to assess the disease status and therapy response.

Figure 3.
Volume rendering of a Dual Energy CT scan of the feet. Gout, visualized in green, is readily identified as biochemically deviating using the additional dual energy information.

Figure 4.
Fat suppressed MRI (left) and corresponding Dual Energy CT (right) in patient with active Charcot’s disease.
The first X-ray taken by W. C. Röntgen was an radiograph of the hand of his wife in 1895. Since then musculoskeletal radiology has evolved with many technological advances, such as classic tomography, already surpassed by computed tomography, ultrasonography, angiography and magnetic resonance imaging. Now software applications and imaging informatics ensure a technological innovation with better and faster diagnosis.

Basic applications provide quick measurements of angles, distances and volumes, e.g. in full leg and full spine radiographs or for preoperative joint evaluation before placement of a prosthesis. 3-D postprocessing and volume rendering tools allow cartilage segmentation, tumor volume analysis, robot-assisted surgery, image fusion (e.g. ultrasound with MR), manufacturing of custom made prosthesis with optimal fitting, etc.

There are many advanced applications in musculoskeletal radiology, e.g. programs that provide quantitative analysis of cartilage (DGEMRIC) or quantification of trabecular bone, useful for assessment of bone quality and fracture risk. Other programs are very accurate in classification of osteoporotic vertebral fractures or for bone age determination. Dual-energy CT applications allow to detect bone marrow edema and uric acid deposits. Software for analysis of tumor vascularization and perfusion in dynamic contrast-enhanced MR automatically calculates different parameters such as slope, maximum enhancement, wash-in and wash-out rate, volume of interstitial space and transfer constants between blood plasma and interstitial space. Post-processing of diffusion imaging provides information on tissue water content and cellular density of bone and soft tissue tumors and bone marrow diseases. Diffusion-tensor magnetic resonance imaging offers great potential for understanding structure-function relationships in skeletal muscle, but also for evaluation of cruciate and other ligaments.

Besides these advanced applications, structured reporting has evolved from the first level (structured format with paragraphs and subheadings, with sections for clinical information, the examination protocol, radiological findings and a conclusion to highlight the most important findings), via a second level with a consistent organization (for example, a knee MRI describes all relevant anatomic regions such as cruciate ligaments, menisci, collateral ligaments, and so on, with an internal logical order) to a third level, which directly addresses the consistent use of
dedicated terminology, namely standard language, for which the website radreport.org can be useful.

We are moving into the era of ‘network medicine’, where efficient communication between radiologists, expert musculoskeletal radiologists and clinicians will occur through GDPR (EU General Data Protection Regulation) compliant secure messaging apps for medical team players, like Siilo (https://www.siilo.com/), where all information is sent and stored fully encrypted, separate from other data on your mobile phone. These apps allow to create threaded case conversations and export them to the electronic health record. There is full respect for privacy by blurring patient pictures. Drawing of arrows for clarification improves communication with colleagues. For difficult cases, the radiologist will instantly find connections in his protected chat list, communicate with colleagues from his organization via the network tab, and connect with expert musculoskeletal radiologists outside of his network by searching the app’s verified user base.

The next step will come from Artificial Intelligence, which is expected to automatically capture and classify pathological findings from the images (e.g. meniscal or rotator cuff tear, fracture, scoliosis, osteoporosis, ..), to collect quantitative data and to transfer them directly into a structured report.

Nevertheless, for personalized medicine, dedicated musculoskeletal radiologists will always be needed, because of a high number of normal variants, and the very variable and sometimes aspecific presentation of many musculoskeletal diseases!
INTRODUCTION

Medical Research is fundamental for to learn more about human health, in particular to find better ways to prevent and treat diseases. The development of new medical treatments and therapies would not be possible without research.

Indeed, medical research studies are done to learn about and to improve current treatments or diagnostic procedures. Research in Radiology is an important way to improve the care and treatment of people worldwide through better usage of new and existing imaging modalities and interventional image-guided procedures.

ESSR Research is an important part of ESSR activities with several activities aimed at creating of an environment and infrastructure that strengthens musculoskeletal radiology research. In several years ESSR Research has been represented by several lectures and scientific presentations in ESSR and ESR congresses.

The wide representation of ESSR research is well demonstrated by the number of musculoskeletal papers published every years in European Radiology, Insights into Imaging and in the newborn European Radiology Experimental. In addition ESSR Research Committee supports young Researchers with the Young Investigator Grant and senior Researchers with an environment to discuss and improve future research activities.

We, as ESSR, strongly believe in Medical and Radiological research and we are happy to offer ESSR as an opportunity to develop and improve research skills on musculoskeletal imaging.

Reference: https://guides.library.harvard.edu/healthresearch & https://www.essr.org/society/committees/
Seminars in Musculoskeletal Radiology has a long history of providing in-depth review articles and has been the official journal of the ESSR since 2013. The journal’s impact has steadily risen to 1.374 in 2016 and it continues to publish ESSR guidance and consensus statements. Seminars In Musculoskeletal Radiology draws on radiological excellence globally to produce issues that provide expert topic reviews from both research and practical perspectives, explaining the background of pathology and techniques, which proves valuable to both junior and senior colleagues. Originally delivering 4 issues each year this has been expanded to 5 since the affiliation with ESSR to include an issue that focuses on the topic for the corresponding annual ESSR Scientific meeting. Future plans include an additional 6th issue targeting up to date hot topics from our premier meetings.
RECOMMENDATIONS OF THE ESSR ARTHRITIS SUBCOMMITTEE FOR THE USE OF MAGNETIC RESONANCE IMAGING IN MUSCULOSKELETAL RHEUMATIC DISEASES

Iwona Sudol-Szopinska, MD, PhD Anne Grethe Jurik, MD, DMSc Iris Eshed, MD Jans Lennart, MD Andrew Grainger, MRCP, FRCP Mikkol Østergaard, MD, PhD, DMSc Andrea Klausner, MD Anne Cotten, MD, PhD Marius C. Wick, MD Mario Maas, MD, PhD Falk Miese, MD Niels Egund, MD Nathalie Boutry, MD Mitja Rupreht, MD, PhD Monique Reijnierse, MD Edwin H. G. Oei, MD, PhD Reinhard Meier, MD, PhD Phil O’Connor, MD Antoine Feydy, MD, PhD Vasco Mascarenhas, MD Athena Plagou, MD Paolo Simoni, MD Hannes Platzgummer, MD Winston J. Rennie, MBBS Adam Mester, MD James Teh, MD Philip Robinson, MB ChB, MRCP, FRCP Giuseppe Guglielmi, MD Gunnar Aström, MD Claudia Schueller-Weiderkamm, MD

This article presents the recommendations of the European Society of Musculoskeletal Radiology Arthritis Subcommittee regarding the standards of the use of MRI in the diagnosis of musculoskeletal rheumatic diseases. The recommendations discuss (1) the role of MRI in current classification criteria of musculoskeletal rheumatic diseases (including early diagnosis of inflammation, disease follow-up, and identification of disease complications); (2) the impact of MRI on the diagnosis of axial and peripheral spondyloarthritis, rheumatoid arthritis, and juvenile spondyloarthritis; (3) MRI protocols for the axial and peripheral joints; (4) MRI interpretation and reporting for axial and peripheral joints; and finally, (5) methods for assessing MR images including quantitative, semiquantitative, and dynamic contrast-enhanced MRI studies.


DUAL-ENERGY CT: BASIC PRINCIPLES, TECHNICAL APPROACHES, AND APPLICATIONS IN MUSCULOSKELETAL IMAGING (PART 1)

Patrick Omoumi, MD, MSc, PhD Fabio Becce, MD Damien Racine, MSc Julien G. Ott, MSc Gustav Andreisek, MD, MBA Francis R. Verdun, PhD

In recent years, technological advances have allowed manufacturers to implement dualenergy computed tomography (DECT) on clinical scanners. With its unique ability to differentiate basis materials by their atomic number, DECT has opened new perspectives in imaging. DECT has been used successfully in musculoskeletal imaging with applications ranging from detection, characterization, and quantification of crystal and iron deposits; to simulation of noncalcium (improving the visualization of bone marrow lesions) or noniodine images. Furthermore, the data acquired with DECT can be postprocessed to generate monoenergetic images of varying kiloelectron volts, providing new methods for image contrast optimization as well as metal artefact reduction. The first part of this article reviews the basic principles and technical aspects of DECT including radiation dose
ADVANCED MR IMAGING OF PERIPHERAL NERVE SHEATH TUMORS INCLUDING DIFFUSION IMAGING

Theodoros Soldatos, MD, PhD Stephen Fisher, MD Sirisha Karri, MD Abdulrahman Ramzi, MD Rohit Sharma, MD Avneesh Chhabra, MD

Peripheral nerve sheath tumors (PNSTs) are neoplasms derived from neoplastic Schwann cells or their precursors. Whereas benign PNSTs are relatively common and considered curable lesions, their malignant counterparts are rare but highly aggressive and require early diagnosis and treatment. MR imaging has been the modality of choice for noninvasive evaluation of PNSTs. This article discusses the features of PNSTs in conventional and advanced MR imaging, and it emphasizes the features that help differentiate benign and malignant variants.

TOTAL HIP ARTHROPLASTY: MR IMAGING OF COMPLICATIONS UNRELATED TO METAL WEAR

Alissa J. Burge, MD

Hip arthroplasty is one of the most common and successful orthopedic procedures performed for the treatment of advanced osteoarthritis. Due to the high prevalence of these implants within the population, complications related to hip arthroplasty are commonly encountered by clinicians and radiologists alike. Knowledge of the diagnostic imaging options available for evaluation of these implants, as well as of the expected range of normal and pathologic findings following hip arthroplasty, is crucial in allowing the radiologist to formulate an appropriate imaging strategy and accurately interpret the subsequent imaging findings.


IMAGING OF INDIVIDUAL ANATOMICAL RISK FACTORS FOR PATELLAR INSTABILITY

Tobias J. Dietrich, MD Sandro F. Fucentese, MD Christian W. A. Pfirrmann, MD, MBA

This review article presents several pitfalls and limitations of image interpretation of anatomical risk factors for patellar instability. The most important imaging examinations for the work-up of patients with patellar instability are the true lateral radiograph and transverse computed tomography (CT) or MR images of the knee. Primary anatomical risk factors are an insufficient medial patellofemoral ligament (MPFL), patella alta, trochlear dysplasia, increased distance from the tibial tuberosity to the trochlear groove (TTTG), and torsional limb parameters. Limitations of the Caton-Deschamps index are related to the clear identification of the patellar and tibial articular margin. Classification of trochlear dysplasia according to the Dejour system on radiographs and MR images revealed a weak reliability. The comparability of TTTG values obtained on CT and MR images at various flexion angles and different varus alignments of the knee is limited. Thus MRI performed with a dedicated knee coil may underestimate the TTTG distance compared with CT images. Increased lateral patellar tilt is a consequence of primary anatomical risk factors rather than an independent anatomical risk factor for patellar instability. The pretest likelihood of a torn MPFL on MR images is very high after an acute episode of lateral patellar dislocation.

Surgical restoration of the patellofemoral joint stability addresses the complex multifactorial biomechanics by a custom-made management such as MPFL reconstruction, sulcus-deepening trochleoplasty, as well as medialization and distalization of the tibial tubercle.

Quantification of anatomical risk factors for patellar instability in each person is important for highly individual treatment.

The three journals of the ESR family are three faces of the same coin, although they have different aims and features. *European Radiology* is the oldest and most established journal: with an impact factor of 3.967 in 2016, it ranks at 16/127 place among all radiological journals, being also the third-ranked general radiological journal indexed by ISI. It published high-quality original articles but also state-of-the-art reviews on hot topics. *Insights into Imaging* has a different aim, being more devoted to publish educational papers and guidelines or official statements by the ESR and its affiliated societies. We are waiting for impact factor attribution, which has been requested two years ago. Last but not least, *European Radiology Experimental* is our youngest journal. As the name says, it is devoted to publish studies standing between radiology in the experimental setting and basic science. This is also a very good journal to publish proof-of-concept or explorative studies, which may be seminal to future, more clinical applications. Importantly, both *Insights into Imaging* and *European Radiology Experimental* are gold open access journals, which means that papers can be accessed and downloaded for free by everyone. Publication in these two journals is encouraged by the ESR which kindly sponsors the article processing charges for all its members who are corresponding authors.

**WHICH IS THE STATUS OF MUSCULOSKELETAL RESEARCH IN THE ESR JOURNALS?**

Musculoskeletal research in ESR journals is very well represented. In 2017, *European Radiology* published 14 papers, *Insights into Imaging* six papers, and *European Radiology Experimental* three papers on MSK research. Notably, of six papers published in *Insights into Imaging*, two are related to the ongoing project about guidelines evaluation, promoted conjointly by ESSR and EuroAIM. In 2018, *European Radiology* has already published 13 papers on musculoskeletal radiology and two further papers originated by ESSR: one is about the recent survey on MRA performed among all ESSR members (click here to access the paper) and the second is the 2017 update on the clinical indications of musculoskeletal ultrasound promoted by the Ultrasound Subcommittee.
WHICH IS THE RELATIONSHIP BETWEEN ESSR AND ESR JOURNALS?

*European Radiology* is one of the official journals of ESSR. For this reason, ESSR has the right to have one member in the Advisory Board of the journal. I have been appointed to this role in 2017 and this is the second year I carry out this task. My role is to represent ESSR in the Editorial Board, bringing in the inputs of the Executive Committee and providing suggestions aimed to improve the performance of the journal: it is a very delicate role! Then, personally, I am also member of the Editorial Board of *Insights into Imaging* and *European Radiology Experimental*, where the role is to help the Editor-in-chief to run the journals, mainly with paper assessment and revision. I think that ESR journals, each with different specificities, are very good places to publish for all ESSR members. After the ESSR 2017 meeting in Bari, Professor Sardanelli, Editor-in-chief of *European Radiology Experimental*, invited some of the best oral presentations to submit their work to the journal: this is certainly a way to strengthen the relationship between our Society and the ESR journals.

Luca Sconfienza
In order to encourage research on musculoskeletal topics by young researchers, the European Society of Musculoskeletal Radiology (ESSR) has decided to create two research grants that will be awarded to young researchers to develop their projects in the field of musculoskeletal diagnostic and interventional imaging.

**2017**

- **Accuracy, repeability and multicenter reproducibility and of a comprehensive five-minute MRI scan combining quantitative compositional and semi-quantitative morphological knee OA assessment** *(Suzanne Eijgenraam)*

- **Fatty infiltration and muscle strength of the iliopsoas muscle after proximal femur fracture with dislocation of the lesser trochanter: Prospective study** *(Malwina Kaniewska)* – an interdisciplinary study, radiology and orthopedic surgery.  
  *The Orthopaedic Team: Dr. Matthias Schenkel, Dr. Karim Eid*  
  *The Radiology Team: Dr. Malwina Kaniewska, Prof. Rahel A. Kubik-Huch, Prof. Suzanne E. Anderson*

- **Molecular Lumbar Intervertebral Disc changes in young Patients with functional Scoliosis due to Leg Length Difference at Baseline MR imaging and after specific Spine Exercises** *(Christoph Schleich)*
2016

Ultrasound-guided percutaneous tenotomy of biceps tendon as an alternative to arthroscopic tenotomy in patients (Carmelo Messina)

The effect of anterior tibial translation, femoral tunnel and ACL graft inclination on clinical outcome and degenerative changes (Žiga Snoj)

Quantitative muscle ultrasound as an imaging biomarker for frailty syndrome (Rebeca Mirón Mombiela)

2015

Quantitative evaluation and visualization of spinal nerve roots in patients with lumbar spinal stenosis using advanced diffusion tensor imaging techniques. (Andrei Manoliu)

Piriformis syndrome: A cross sectional imaging study and evaluation of therapeutic outcome (Evangelia Vassalou)

2014

MR T2 mapping to evaluate the effect of ultrasound-guided intra-articular injection of hyaluronic acid (HA) on articular cartilage (Giulio Ferrero)

Follow-up of recurrences of limb soft tissue sarcomas in patients with localized disease: performance of ultrasound (Bianca Bignotti)

2013

Effects of Vitamin D on anatomy, structure and genic expression profile of thigh muscles in the elderly (Alberto Tagliafico)

One-year survey of three different ultrasound (US)-guided percutaneous treatments for de Quervain’s disease: a randomized controlled trial. (Davide Orlandi)
FOCUS EDUCATION
INTRODUCTION ON THE DIPLOMA

In 1978, Prof. Dr. Herbert Pokieser and myself finished the first Austrian “Rad. Lehrzielkatalog”, published by the Austrian ministry of health.

Based on this experience and the upcoming of several European radiological subspecialty societies (neuro, paediatric, head and neck and, relatively late, MSK), the teaching “problem” became evident in the late 80’s and 90’s.

The questions came up, how much should be taught in general radiology, what should be known to subspecialized radiologists, what are the standards and which political consequences will have such a subspecialization.

Pacemakers in favour of subspecialization came usually from the United States (like me) or Great Britain. Both had a long history in subspecialization standards while many European National societies were absolutely against such a development. But nevertheless, within the EAR (later ESR), groups of interested radiologists started with Education Committees and they discussed subspecialty teaching.

This discussion started also within the ESSR since about 1995/96. It was clear, that this was one of the most “burning” problems and a cornerstone of the ESSR fundamentals. Our aim was to receive a more homogenous European subspecialisation.

Finally, in 2003 our ESSR Diploma started.
THE ESSR DIPLOMA

Subspecialisation is a key to the future of radiology and represents one of the cornerstones of the ESR’s work.

In order to harmonise standards of knowledge among European subspecialty societies, the European Society of Musculoskeletal Radiology (ESSR) has recently changed the architecture of the requirements for the Diploma in Musculoskeletal Radiology, creating a new scheme with more robust content, better structure and featuring eligibility criteria according to the guidelines of the European Training Curriculum (ETC) for Subspecialisation in Radiology (Level III). The European Diploma in Musculoskeletal Radiology is awarded to certified radiologists who have satisfied specific criteria related to continuing education and practice in musculoskeletal radiology. Basically, it aims at confirming specific competences in performing, interpreting and reporting conventional radiography, ultrasound, MR imaging (including arthro-MR imaging), CT (including arthro-CT) examinations, and image-guided interventional procedures related to the musculoskeletal system.

Drawing up a competence profile for a musculoskeletal radiologist is challenging given the heterogeneity in the typology of work across different countries in Europe. Among ESSR members, only a few work in orthopaedic hospitals, many perform MR imaging but not MR-arthrography, many (even experts) do not perform ultrasound, and their practice is essentially based on MR imaging or vice versa. Others are general radiologists interested in the musculoskeletal area but with limited access to some modalities.

In addition, many musculoskeletal radiologists don’t examine the spine because this job is performed by neuroradiologists. The situation appears to be very different compared to other subspecialty societies where the typology of examinations is much more homogeneous among their members. Based on these considerations, the architecture of the examination to earn the diploma has been designed to be as inclusive as possible while remaining, at the same time, a serious check of theoretical knowledge in the field. In three years of experience, the pass rate of the exam has been 87%, with the level of difficulty ranging from moderate to difficult as reported by candidates. Interestingly, 25% of them applied from non-EU countries and approximately 50% came from countries that do not adopt subspecialisation or in which a structured postdoctoral training programme in musculoskeletal radiology is not established yet. In these countries, the European Diploma may have a role in fostering subspecialisation, assisting radiologists in
the promotion of their skills, and as proof of experience in musculoskeletal imaging when dealing with other clinical colleagues and with the general public.

Advantages of a European Diploma in Musculoskeletal Radiology are many. Although the diploma cannot replace any national board certificate, it may contribute in strengthening the candidate’s CV, thus helping to build up a career profile in musculoskeletal radiology.

Overall, we strongly encourage applying for the European Diploma in Musculoskeletal Radiology.

References and more information can be found at https://essr.org/diploma

Text submitted to ECR Today 2018 by Filip Vanhoenacker and Carlo Martinoli
Learning efficacy, i.e. gaining optimal knowledge in the shortest possible time, is what drives medical education. The ESSR has started several projects for offering high quality educational material online. Essential components are case-based learning, multimedia presentations, and interactivity between learners and presenters. All this is offered in a smart environment optimized for use with mobile devices. The ESSR education committee is taking strong efforts to guarantee highest content quality and highest learning efficacy. Experts in medical didactics with practical teaching experience are acting as advisors and bring the latest trends into our society for implementing new educational formats.

The e-learning materials have been recently converged to eESSR, the society’s educational platform, which is continuously expanding. Get access at www.essr.org/education/.

**REFRESH**
Starting with the Annual Meeting in Bari in 2017, highlighted lectures are filmed and may be viewed on demand after the meetings.

**CUTTING EDGE RESEARCH**
Browsing through electronic posters is an excellent way to get an impression of latest research results or a concise summary of advances in imaging technologies and its implementation in clinical practice. Posters from the ESSR Annual Meetings are stored on EPOS, the Electronic Presentation Online System of the European Society of Radiology (ESR). All posters are permanently available for your viewing pleasure and free of charge.

The ESSR Congress App provides access to all presentations of the Annual Meetings in pdf format.
WEBINARS
After the live sessions, the webinars may be viewed on the ESSR educational platform. They contain interactive lectures given by opinion leaders in their field, clinical case vignettes, and practice tips. The learning objectives are oriented on the requirements of the ESSR Diploma and the musculoskeletal part of the ESR board examination.

CASES, CASES, CASES
„MSK Radiology4U“ is an App filled with more than 3000 cases developed and administrated by the radiology team at the Royal Orthopedic Hospital Birmingham, UK and may be accessed via the ESSR homepage. The ESSR Young Club has started to build up a case collection.

JOURNALS
„Seminars in Musculoskeletal Radiology“ is the society’s official journal, free online access is included in the membership. Special online subscription rates are offered for the journal „Skeletal Radiology“. The open access articles of these journals are listed on our educational platform.
ESSR started as a small society when skeletal radiology was a very small subspecialty in radiology and now has become one of the largest radiological societies; partly of course because of its scientific and educational level but not least important because of being an extraordinary open and friendly society.

Junior radiologist are very welcome by all the members, making feel everyone part of a big family. This wonderful and unique relaxed atmosphere allows liaisons between different radiologists within Europe. The multicentre cooperation exchanging knowledge has produced fruitful educational and scientific material in the past and will continue in the future. All members are encouraged to participate in one or more subcommittees and become active.

ESSR meetings offer both a scientific and human dimension, the opportunity to discuss new ideas, establish collaborations, to find different perspectives, be exposed to the latest research, but also meet old friends and make new ones.

Fortunately despite of the size of our actual society the spirit of friendship continues and will remain.
An early enthusiasm for the anatomy of the human body and its depiction on various forms of imaging has influenced the decision to become a radiologist. With a simultaneous fascination for the biomechanics of exercise and a personal sports background, the decision between radiology and orthopedics was ultimately difficult at the end of medical school.

During my training as a radiology resident in Munich I had the great fortune to meet such excellent musculoskeletal radiologists as Simone Waldt and particularly Klaus Wörtler ahead of a whole group of radiologists interested in MSK imaging. From them I have been able to learn what a decisive impact one can have as a subspecialized MSK radiologist on the treatment of patients with musculoskeletal disorders. The education there and the fruitful cooperation with the clinical colleagues as well as interesting research opportunities are, until now, the basis of my passion for the imaging of the musculoskeletal system.

What I personally appreciate is that musculoskeletal radiology still has a high degree of morphological radiology with interpretation based on the knowledge of imaging technique, anatomy, and biomechanics.
Dear Colleagues, Dear Friends.
The story of me becoming an MSK radiologist goes a little far behind.
It all started with the Anatomy Classes. These were during the first years of the Medical School so I was very enthusiastic and worked really hard in order to get to know Anatomy well, as I believe all of us do. My special interest in Anatomy was bones and muscles, the system that helps us stand.
At the 4th year of Medical School I decided I wanted to become a Radiologist. At that time, among all distinguished Professors, there was a really different one: the Professor of Radiology. That was still the era of what was called ‘Classic Radiology’ with just few radiologists dealing with Ultrasonography and only too few with the emerging CT and MRI technology. So, our Professor with just limited means was able to help and guide with great success the demanding clinicians. Among the teams he had deal with was the very competitive teams of Rheumatologists and of Orthopaedic Surgeons. That was the time of discovering the beauty and power of Basic Knowledge.
During residency, I had the chance to specialize in a Hospital with all available technology for the time. It was the time when almost everybody was impressed by Neuroradiology or by Interventional Radiology. Still, I thought I was more towards MSK Radiology. Related to MSK, I have been taught that all starts with anatomy. I was shown a structured way of approaching an exam, any type of exam. I was taught to retrieve knowledge of biomechanics and mechanisms of injury or to have in mind a list of pathologic entities in order to reach the diagnosis when coming across something that looks abnormal. So MSK radiology seemed to me a little bit like…mathematics where one has to use knowledge and a reasonable way to come to a conclusion. That was the time of moving from Basic to Advanced.
Finally, I made my decision a little bit by chance and possibly by necessity. In the hospital I was working there have been quite a few orthopaedic teams, one of which dealing with athletes. No other colleague of mine in radiology wanted to work with the orthopaedic surgeons. So, I started working with them and soon I discovered I was happy to do so as well as to participate in their meetings and even join them in the operating rooms.
I should not forget that at the period of decision-making a big fan of a prominent sports club of my country and I was equally interested in big sports events world-wide. So eventually, I was interested in sports injuries, diagnosis and monitoring. I felt I would be happy to be part of the team that would take care of the injured athlete.
I am really happy I have made the decision to become an MSK Radiologist. I still enjoy MSK Radiology. I still think MSK Radiology is a little mathematics and I still think MSK Radiologists are more interesting and fun than all other Radiologists!
THE ESSR OFFICERS

EXECUTIVE COMMITTEE (2017-2018)

President: Filip Vanhoenacker (Belgium)
Past President: Klaus Wörtler (Germany)
President Elect: Franz Kainberger (Austria)
Vice President: Alberto Vieira (Portugal)
Treasurer: Mario Maas (Netherlands)
Secretary: Eva Llopis (Spain)
Councillors: Maria Tzalonikou (Greece), Christoph Schäffeler (Switzerland), Antoine Feydy (France)

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2014-2015 Marco Zanetti (Switzerland)   2002-2003 Adam Mester (Hungary)
2013-2014 Ian Beggs (United Kingdom)    2001-2002 Mark Davies (England)
2012-2013 Mario Padron (Spain)          2000-2001 Daniel Vanel (France)
2011-2012 Koenraad Verstraete (Belgium) 1999-2000 Herwig Imhof (Austria)
2010-2011 Anne Cotten (France)          1998-1999 Iain Watt (United Kingdom)
2009-2010 Carlo Masciocchi (Italy)      1997-1998 Vladimir Jevtic (Slovenia)
2008-2009 Remide Arkun (Turkey)         1996-1997 Alain Chevrot (France)
2007-2008 Apostolos Karantanas (Greece) 1995-1996 Max Reiser (Germany)
2006-2007 Hans Bloem (Netherlands)      1993-1995 Holger Pettersson (Sweden)
TREASURER

2016-2019  Mario Maas (Netherlands)
2013-2016  David Wilson (United Kingdom)
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1993-1997  Herwig Imhof (Austria)

SECRETARY

2015-2018  Eva Llopis (Spain)
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HONORARY MEMBERS

2018 Anne-Grethe Jurik (Denmark)
2018 Jürg Hodler (Switzerland)
2017 Josef Kramer (Austria)
2016 Johan Bloem (Netherlands)
2015 Carlo Faletti (Italy)
2014 Klaus Bohndorf (Germany)
2013 Francisco Aparisi Rodriguez (Spain)
2012 Judith Adams (United Kingdom)
2011 Maximilian Reiser (Germany)
2010 Iain McCall (United Kingdom)
2009 Alain Chevrot (France)
2008 Vladimir Jevtic (Slovenia)
2007 Herwig Imhof (Austria)
2006 AM De Schepper (Belgium)

2005 Jean Garcia (Switzerland)
2005 Holger Pettersson (Sweden)
2004 Sandor Forgacs (Hungary)
2004 Iain Watt (United Kingdom)
2003 Jurgen Freyschmidt (Germany)
2002 Mario Cammisa (Italy)
2001 Paul Butt (United Kingdom)
1999 Wolfgang Dihlmann (Germany)
1999 Harry Genant (United States of America)
1998 Clement Faure (France)
1997 Dennis Stoker (United Kingdom)
1997 Walter Bessler (Switzerland)
1996 Friedrich Heuck (Germany)
Case collection by ESSR young club aims to provide radiological cases with high educational impact in the field of musculoskeletal imaging. The cases are formatted in an interactive way to enhance the reader interest. Format of the cases has been set in order to proceed step by step in a logic-wise approach to reach the proper diagnosis mimicking real-work scenarios.

Continuing the societies mission in promoting education and research in musculoskeletal disease, the ESSR live webinars are a refreshing free new educational tool aimed for radiologists and resident members of the ESSR, whatever their stage may be. Easily accessible from almost any mobile or desktop device, short didactic lectures are streamed live, offering interactive talks by recognised leaders in their particular field. The Young club offers the opportunity to budding young residents with an interest in musculoskeletal radiology to take part through case contribution, case discussion, live quiz, question/answer sessions as well as practical tips on various topics in musculoskeletal radiology. I am humbled to have been given the opportunity to help in co-moderating the sessions, facilitating in topic choice and participating in the development of such a valuable, exciting, new teaching resource for residents worldwide.
ANNUAL MEETING – INCLUSION OF YOUNG CLUB SESSION/LECTURES

Are you a young radiologist? Join us at the most exciting European Musculoskeletal Radiology Meeting!

The ESSR annual meeting is experiencing a renovation and great news are expected for the next annual meeting in Lisbon. One of the main novelties is the inclusion of young dedicated sessions.

With an increasing number of youth radiologists interested in the musculoskeletal field the next ESSR 2019 will have three new young dedicated sessions powered by the recently created Young Club:

I Learning with the Masters: Where you will have the opportunity to learn with the experts. These sessions will cover some basic topics that all radiologists needs to know;
I Learning with the Peers: Educational dedicated sessions presented by young radiologists;
I Young Researcher Session: Young radiologists are encouraged to present their scientific work.

Grab this opportunity to share your expertise with a huge international audience in the beautiful city of Lisbon.
To celebrate this 25th anniversary, we are deeply honoured and grateful to have the opportunity to talk to professor Maximilian Reiser (Munich, Germany), who was one of the founding members of ESSR.

When and how was the idea born to set up a European MSK meeting?

Maximilian Reiser: In the late 80-ies of the last century Prof Josef Lissner and other eminent European radiologists decided to “reinvent” the European Congress of Radiology as a modern and innovative forum for the advancement of our discipline in Europe. At the same time the iron curtain came down and communication with eastern European radiologists greatly intensified- an exciting and stimulating period. Prof. Holger Petterson and I were encouraged by the ECR leadership to think about a MSK subspeciality society. So we assembled MSK radiology experts from all over Europe and decided to create the European Society of Musculoskeletal Radiology (ESSR) and to organize annual meetings, the first of which was organized by me in Bonn, the former capital of Western Germany (until 1989).

What were the main objectives at the time?

MR: The objectives of the newly founded society and of the first ESSR-congress were to promote MSK radiology, to provide information and education and to enhance the exchange of ideas and strengthen personal ties among European MSK-radiologists. These general ideas and visions have not changed over the years. The structure and the organization of the ESSR congresses, however, have become much more sophisticated, professional and elaborate.

What are -to your opinion- the major improvements in MSK radiology?

MR: Magnetic resonance imaging (MRI) was a real “game changer” which allowed to visualize the soft tissues, the joints and the bone marrow which could only be indirectly depicted using radiography. With MRI even new diseases, such as the bone marrow edema syndrome could be identified. Another disruptive innovation was and is ultrasound diagnostics of the MSK system which also allows for highly precise interventions. Both new modalities made MSK radiology an indispensable discipline in the management of diseases and traumatic injuries of the bones, joints and vertebral column.

How could ESSR contribute to exchange knowledge in MSK imaging in Europe?

MR: ESSR is one of the most active and successful
speciality societies in European radiology. The annual congress attracts more and more participants. The traditional means of communication, however, are more and more supplemented (but not replaced) by electronic media and direct interaction via social media. Webinars are another effective and highly accepted means to enhance knowledge and to strengthen cooperation, to offer job opportunities and to build up networks.

What would be your advice for young radiologists to build up a career in MSK radiology?

MR: My first advice would be: MSK radiology is a fascinating field of radiology which will become more and more important due to demographic changes as well as increasing mobility and physical activity of people. So please consider to become MSK radiologist. You will not regret it!

In the near future it will no longer suffice to be excellent in interpreting and reading radiological exams and in performing interventions. You should also become professional in healthcare economy and IT, so that you will be able to cope with the challenges of quantitative imaging, radiomics and artificial intelligence. Cooperation with clinicians and empathetic communication with patients play also a crucial role and have to be part of your professional development.

To your opinion, what are the main future targets that our society should focus on?

MR: In my role as dean of our medical faculty, as president of the German and European societies of radiology and as editor in chief of European Radiology I found that radiology in general and also MSK radiology has major deficits in initiating and performing multi-center trials, focusing on healthcare outcomes and cost-effectiveness. Therefore, data published in highly ranked journals proving the value of radiological procedures are sparse. To my opinion, ESSR should encourage and coordinate such studies which are vital for our discipline.

Finally, is the future bright for MSK radiologists?

MR: President Abraham Lincoln said that “the best way to predict the future is to create it”. I sincerely believe that the future of MSK radiology and MSK radiologists offers huge promises and potential. To achieve this hard work and dedication are required.
Membership of the Society is open to all European radiologists who have a prime interest in musculoskeletal radiology. By this it is assumed that they will be spending at least 50% of their time working in the sub-speciality and would almost certainly have published fairly extensively in this field. In addition, radiologists from outside of the continent of Europe can be considered for corresponding membership by the same criteria.

- Representation of musculoskeletal radiology on a European level
- Reduced registration fees at the Annual Meetings of the Society
- Free online access to Seminars in Musculoskeletal Radiology (Thieme)
- ESSR Newsletter
- Special online subscription rates for “Skeletal Radiology” (Springer)
- Special online and print subscription rates for “Skeletal Radiology” (Springer)
- Special print subscription rates for “Seminars in Musculoskeletal Radiology” (Thieme)
- Young investigator research grants
- Access and membership in the ESSR Young Club
- Personal ESSR Account with access to Member’s Directory, etc.
- ESSR Diploma in musculoskeletal radiology
- ESSR Webinars
- Educational material in musculoskeletal radiology
- Membership certificate
- ESOR exchange programme for fellowships

Become part of the ESSR family!
### Members

1779

### Gender

- Female 33%
- Male 67%

### Profession

- Radiologist 89%
- Radiology resident 9%
- Other profession* 2%

*Anaesthesiologist, Hospital executive, Internist, Nuclear medicine physician, Orthopaedist/Orthopaedic surgeon, Physician, Radiographer/Radiological technologist, Rheumatologist, Student

### Country Distribution

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