General information and Course programme of the
5th MUSCULOSKELETAL SONOGRAPHY COURSE FOR RHEUMATOLOGISTS
-BASIC LEVEL-
3rd MUSCULOSKELETAL SONOGRAPHY COURSE FOR RHEUMATOLOGISTS
-INTERMEDIATE LEVEL-

This course has been scientifically endorsed by **EULAR**
Course opening
Thursday, November 19th,
2020. - h 12 00
Course closing
Saturday, November 21st,
2020. - h 15 00

Participants
The number of participants is limited to 30.

Official language
English

Congress Venue:
Hotel Sheraton, Kneza Borne 2, 10000 Zagreb, Croatia

Reservations: phone: +385 1 48 111 55, Fax: +385 1 48 189 14, E-mail: zagreb@atlantis-travel.hr, www.atlantis-travel.hr

Scientific Organizer:
Prof. Annamaria Iagnocco,
Professor of Rheumatology,
Dipartimento Scienze Cliniche e Biologiche – Università degli Studi di Torino Turin, Italy

Executive director of the Course:
Porin Perić, MD, PHD,
Professor, Department of Rheumatology, Clinical Hospital Center, Zagreb, Kišpatićeva 12, 10000 Zagreb, Croatia, e-mail: porin.peric@gmail.com

Organizing Secretariat:
Croatian Society for Rheumatology
Šubićeva 9, 10000 Zagreb, Croatia
Phone: +385 1 2388-171, Fax: +385 1 2388-289 e-mail: porin.peric@gmail.com www.reumatologija.org

Scientific Director
Prof. Annamaria Iagnocco

Executive director of the Course
Prof. Porin Perić, MD, PHD

Faculty
The speakers will come from major European musculoskeletal ultrasound research centers and are rheumatologists mostly involved in previous EULAR courses. The contacted faculty is:

Peter Balint, Hungary; Hilde Berner-Hammer, Norway; Nemanja Damjanov, Serbia; Christian Dejaco, Italy; Annamaria Iagnocco, Italy; Zunaid Karim, UK Nadica Laktasić Žerjavić, Croatia; Mihaela Micu, Romania; Francesco Porta, Italy; Porin Perić, Croatia; Goran Radunović, Serbia; Wolfgang Schmidt, Germany; Violeta Vlad, Romania

Instructors
Mislav Cerovec, Croatia; Darija Granec, Croatia; Tatjana Kehler, Croatia; Kristina Kovač, Croatia; Nadica Laktasić-Žerjavić, Croatia; Miroslav Mayer, Croatia; Mihaela Micu, Romania; Tomislav Nenadić, Croatia; Francesco Porta, Italy; Porin Perić, Croatia; Goran Radunović, Serbia; Violeta Vlad, Romania

ORGANIZATION AND COMMITTEE

GENERAL INFORMATION

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Naslovna fotografija: Pixabay. Autor: Arvid Olson
### Musculoskeletal Sonography Course for Rheumatologists, Zagreb 2020

**OBJECTIVES**

- To learn technical characteristics and setting of ultrasound equipments for rheumatology
- To learn basic normal musculoskeletal ultrasonographic anatomy (MSUS)
- To learn basic pathological MSUS findings
- To learn the systematic standardized sonographic scanning method of each anatomical region, according to the EULAR guidelines
- Applications, indications and limitations of MSUS in rheumatology
- Image documentation
- Basics of Colour and Power Doppler application to detect synovial and entheseal inflammation

**MAIN TOPICS**

- Ultrasound physics and technology, technical characteristics of ultrasound equipments in rheumatology, applications, indications and limitations of MSUS
- MSUS anatomy, artefacts and misinterpretation in MSUS
- Standardized sonographic scanning method of each anatomical region (shoulder, elbow, wrist and hand, hip, knee, ankle and foot) according to the EULAR guidelines

**WORKSHOP**

- Practical handling of the ultrasound system settings
- Supervised identification of musculoskeletal sonoanatomy
- Supervised standardized sonographic scanning of the shoulder, elbow, wrist and hand, hip, knee, ankle and foot
- Supervised hands-on scanning of patients with basic musculoskeletal lesions
- Supervised assessment of the basic sonographic symptoms or inflammation severity in grades

**TIMETABLE**

- Musculoskeletal Sonography Course for Rheumatologists, Basic Level, consists of 20 hours of activities within 3 days (lectures: 30% of total time; practical training on models and/or patients with musculoskeletal disorders: 70%)

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**Institutional Organizer:**
Clinical Hospital Center Zagreb, Department of Rheumatology, University of Zagreb, Croatia.

**Scientific Indorsement:**
European League Against Rheumatism (EULAR)
Croatian Medical Association
Croatian Society for Rheumatology

This course has been scientifically endorsed by EULAR.
## Scientific Programme

### Thursday, November 19th, 2020

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 - 14:00</td>
<td>Registration</td>
</tr>
<tr>
<td>12:00 - 13:30</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00 - 14:15</td>
<td>Welcome A. Iagnocco, B. Anić, P. Perić</td>
</tr>
<tr>
<td>14:15 - 14:30</td>
<td>Entering test of knowledge</td>
</tr>
<tr>
<td>Chairpersons: P. Balint, P. Perić</td>
<td></td>
</tr>
<tr>
<td>14:30 - 15:00</td>
<td>History and basic physics of MSUS, Ch. Dejaco</td>
</tr>
<tr>
<td>15:00 - 15:20</td>
<td>Coffee break</td>
</tr>
<tr>
<td>15:20 - 16:00</td>
<td>Normal tissue and joint anatomy, US and correlative gross anatomy and histology, P. Balint</td>
</tr>
<tr>
<td>16:00 - 16:25</td>
<td>Artifacts and misinterpretation in MSUS, Hilde Berner-Hammer.</td>
</tr>
<tr>
<td>16:25 - 16:50</td>
<td>Technical characteristics and setting of ultrasound equipments for rheumatology, A. Iagnocco</td>
</tr>
<tr>
<td>16:50 - 17:10</td>
<td>Coffee break</td>
</tr>
<tr>
<td>17:10 - 18:40</td>
<td>Workshop: Supervised practical handling of the ultrasound machine settings, Normal MSUS anatomy, F. Porta, P. Perić</td>
</tr>
<tr>
<td>Chairpersons: F. Porta, P. Perić</td>
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<tr>
<td>18:40 - 19:10</td>
<td>Reporting ultrasound findings and diagnosis, F. Porta</td>
</tr>
<tr>
<td>19:10 - 20:30</td>
<td>Workshop: Supervised reporting of ultrasound findings and diagnosis</td>
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<tr>
<td>20:30</td>
<td>Dinner</td>
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### Friday, November 20th, 2020

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
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</thead>
<tbody>
<tr>
<td>09:00 - 09:40</td>
<td>Sonographic semiology (tendinosis, tenosynovitis, partial and complete tendon tear, enthesopathy, bursitis, calcifications, articular cartilage lesions, cortical abnormalities and joint synovitis), N. Damjanov</td>
</tr>
<tr>
<td>09:40 - 10:20</td>
<td>Enthesitis and enthesopathy, V. Vlad</td>
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<tr>
<td>10:20 - 10:40</td>
<td>Coffee break</td>
</tr>
<tr>
<td>10:40 - 11:10</td>
<td>Standardized scanning of the hip: normal and basic pathological findings, M. Micu</td>
</tr>
<tr>
<td>11:10 - 12:30</td>
<td>Workshop: Supervised scanning technique of hip, Normal and basic pathological findings, Z. Karim</td>
</tr>
<tr>
<td>12:30 - 13:00</td>
<td>Standardized scanning of the knee: normal and basic pathological findings, Z. Karim</td>
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### Programme Time

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
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<tbody>
<tr>
<td>13:00 - 14:20</td>
<td>Workshop: Supervised scanning technique of knee, Normal and basic pathological findings, W. Schmidt</td>
</tr>
<tr>
<td>14:20 - 15:30</td>
<td>Lunch</td>
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<tr>
<td>Chairpersons: W. Schmidt, P. Perić</td>
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<tr>
<td>15:30 - 15:50</td>
<td>Standardized scanning of the shoulder: normal and basic pathological findings, W. Schmidt</td>
</tr>
<tr>
<td>15:50 - 18:00</td>
<td>Workshop: Supervised scanning technique of shoulder, Normal and basic pathological findings</td>
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<tr>
<td>20:00</td>
<td>Dinner</td>
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</tbody>
</table>
Saturday, November 21st 2020.

**TIME** | **PROGRAMME**
---|---
13:30 - 14:00 | Test of knowledge
14:00 - 15:00 | Lunch and certificate issuing

**Chairpersons:** N. Laktašić-Žerjavić, P. Perić

09:00 - 09:20 | Standardized scanning of the wrist and hand: normal and basic pathological findings. P. Perić
09:20 - 09:40 | Standardized scanning of the elbow: normal and basic pathological findings. N. Laktašić-Žerjavić
09:40 - 11:00 | Workshop: Supervised scanning technique of wrist and hand. Normal and basic pathological findings
11:00 - 12:00 | Workshop: Supervised scanning technique of wrist and hand. Normal and basic pathological findings
12:00 - 12:20 | Coffee break
12:20 - 12:40 | Standardized scanning of the ankle and foot: normal and basic pathological findings. G. Radunović

**OBJECTIVES**
- To review the systematic standardized sonographic scanning method of each anatomical region, according to the EULAR guidelines
- To learn colour and power Doppler physics, application, indications and limitations
- To learn definition, ultrasound presentation and quantification of synovitis, synovial hypertrophy, effusion, erosion, tendinopathy, tenosynovitis, enthesitis and degenerative lesions
- To assess, quantify and/or score joint lesions
- To learn basic skills to perform sonographic-guided musculoskeletal injections
- To understand the role of musculoskeletal US in clinical and research practice

**MAIN TOPICS**
- Role of colour and power Doppler in rheumatology
- Colour and power Doppler physics and technology
- Applications, indication and limitations of colour and power Doppler in rheumatology
- Use of colour and power Doppler settings colour and power Doppler artefacts
- Ultrasound presentation of synovitis, effusion, erosions, tendinopathies, tenosynovitis, enthesitis and degenerative lesions
- Use of colour and power Doppler to detect synovial and enthesal inflammation

**INTERMEDIATE COURSE PATHOLOGIES**
- Joint synovitis, synovial hypertrophy, tenosynovitis
- Tendon calcification, enthesopathy, tendinosis, paratenonitis
- Tendon subluxation/luxation Intrasubstance tendon lesions, tendon impingement
- Complete tendon tear, partial tendon tear
- Bone erosions, osteophytes
- Ganglia and cysts
- Articular cartilage lesions, peri- and intra-articular microcrystal deposit
- Ligament, muscle, cartilage, fibrocartilage and synovial calcification
WORKSHOP
- Practical handling of the ultrasound machine settings and use of colour and power Doppler technology
- Supervised scanning of the patients with inflammatory and degenerative joint disease focused on detection of synovitis, effusion, erosions, tendinopathies, tenosynovitis, enthesitis and degenerative lesions.
- Supervised basic sonographic-guided musculoskeletal injections
- EULAR Competency Assessment system for the MSUS intermediate courses, which consists of the following requirements:
  - Participants should have attended the EULAR introductory US online course, a EULAR basic MSUS course or a EULAR scientifically-endorsed basic MSUS course.
  - Prior to acceptance to the course, applicants should send to the Faculty members a total of 6 normal examinations of each joint region in one PowerPoint file (i.e. shoulder, elbow, wrist & hand, hip, knee, ankle & foot), according to the EULAR Guidelines for Musculoskeletal Ultrasound in Rheumatology (Ref. Backhaus M, et al. Ann Rheum Dis 2001).
  - Images should be presented in a power point file. Important: Each slide should include: - One imaged structure each in longitudinal and transverse plane - A legend with the anatomic area, imaged structure and scanning planes - Parameters of the ultrasound machine - Identity of the person scanned should be removed.
  - The Faculty members need to provide assessment and feedback. Applicants might need to be asked to repeat the ultrasound examinations and submit the images again for assessment by the Faculty.
  - Upon approval of the assessment, the applicant needs to be asked to register for the course.
  - The organization and procedures for the above process should be provided by the convenor/organiser of the MSUS intermediate course.
  - Participants should be asked to bring a total of 60 normal ultrasound examinations (each in a power point presentation) on a USB stick to the course. The Faculty reserves the right to randomly request and audit the full set of ultrasound examinations from each participant.

Scientific organizers of this intermediate MSUS course have previously organized 2 Basic-level MSUS courses scientifically endorsed by EULAR in the previous 5 years (2015, 2017).
MUSCULOSKELETAL SONOGRAPHY COURSE FOR RHEUMATOLOGISTS
INTERMEDIATE LEVEL
Zagreb, November 19th - November 21st 2020.

**Friday, November 20th 2020.**

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
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<tbody>
<tr>
<td>09:00 - 10:20</td>
<td>Workshop: Supervised hands-on scanning of patients with inflammatory and degenerative joint disorders. How to detect and quantify synovitis (including Power Doppler), cartilage and bony lesions.</td>
</tr>
<tr>
<td>10:20 - 10:30</td>
<td>Coffee break</td>
</tr>
<tr>
<td>Chairpersons: A. Iagnocco, P. Balint</td>
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<tr>
<td>10:30 - 11:00</td>
<td>Basic US lesions: synovitis, bony cortex and cartilage. Definition, detection and quantification. (H. Berner-Hammer)</td>
</tr>
<tr>
<td>11:00 - 12:00</td>
<td>Basic US lesions: tendinopathies, tenosynovitis. (A. Iagnocco)</td>
</tr>
<tr>
<td>12:00 - 12:30</td>
<td>Workshop: Supervised hands-on scanning of patients with inflammatory and degenerative joint and periarticular soft tissues disorders. How to detect and quantify musculoskeletal lesions</td>
</tr>
</tbody>
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**Saturday, November 21st 2020.**

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAMME</th>
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<tbody>
<tr>
<td>09:00 - 09:25</td>
<td>Chairpersons: P. Peric, G. Radunovic</td>
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<tr>
<td>09:25 - 09:50</td>
<td>Standardized scanning of the inflammatory and degenerative hand and wrist. (H.Berner-Hammer)</td>
</tr>
<tr>
<td>09:50 - 10:15</td>
<td>Role of US in the diagnosis of crystal arthropathy. (Ch.Dejaco)</td>
</tr>
<tr>
<td>10:15 - 10:40</td>
<td>Standardized scanning of the inflammatory and degenerative hour. (W. Schmidt)</td>
</tr>
<tr>
<td>10:40 - 11:00</td>
<td>Coffee break</td>
</tr>
<tr>
<td>11:00 - 11:40</td>
<td>Workshop: Supervised hands-on scanning of patients with inflammatory and degenerative hand, and wrist</td>
</tr>
<tr>
<td>12:00 - 12:20</td>
<td>Workshop: Supervised hands-on scanning of patients with inflammatory and degenerative knee, ankle and foot</td>
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<tr>
<td>12:30 - 13:15</td>
<td>Basic skills in sonographic-guided artrocentesis. (N. Damjanov)</td>
</tr>
<tr>
<td>13:15 - 14:30</td>
<td>Workshop: Basic skills in sonographic-guided arthrocentesis</td>
</tr>
<tr>
<td>14:30 - 15:00</td>
<td>Exit test of knowledge and closing remarks</td>
</tr>
<tr>
<td>14:00 - 15:00</td>
<td>Lunch and certificate issuing</td>
</tr>
</tbody>
</table>
Registration fees:
This 3-day course fee will be 1000 EUR per participant (lodging and food is included in the course price). It is recommended to make reservation of accommodation directly to Atlantis Travel agency:
Email: zagreb@atlantis-travel.hr
Phone: +385 1 48 111 55
Fax: +385 1 48 189 14
Registration deadline: September 30th 2020.

Registration fee includes:
• Admission to all conference sessions
• Conference KIT
• Conference session materials
• Certificate of attendance and CME certificate
• Coffee breaks and lunches, as specified in the program

Registration instructions:
To register for the Course you must fill in the form and send it, together with the payment of the registration fee to the Organizational Secretariat.

No registrations will be made without payment of the registration fee.

The Organizational Secretariat will inform the participant that he or she has been registered for the Course.

Methods of payment:
The registration fee may be paid by bank transfer. Kuna and foreign currency account of Atlantis Travel.

The copy of bank transfer must be sent together with the registration form to the Organizational Secretariat. No registration will be made without payment.

Cancellations:
The Secretariat must be informed in writing of any cancellations. Eighty percent of the sum paid will be refunded for cancellations made before September 30th 2020. No money will be refunded for cancellations made after that date.
General information and Course programme of the

5th MUSCULOSKELETAL SONOGRAPHY COURSE FOR RHEUMATOLOGISTS
- BASIC LEVEL -

3rd MUSCULOSKELETAL SONOGRAPHY COURSE FOR RHEUMATOLOGISTS
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For more information, please visit the web sites:

www.reumatologija.org | www.eular.org | www.atlantis-travel.hr

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