

EULAR 24th EULAR Sonography Course Basic, Intermediate and Advanced Musculoskeletal Ultrasound (MSUS) in Rheumatology

Sunday 11th – Wednesday 14th June 2017
Madrid, Spain



eular

fighting rheumatic & musculoskeletal
diseases together



ORGANISATION AND COMMITTEE

Scientific organisers

Esperanza Naredo

Ingrid Möller

Jacqueline Uson

Faculty

Carlos Acebes, Spain; **Marina Backhaus**, Germany; **Peter Balint**, Hungary; **David Bong**, Spain; **George AW Bruyn**, The Netherlands; **Paz Collado**, Spain; **Maria Antonietta D'Agostino**, France; **Nemanja Damjanov**, Serbia; **Andrea Delle Sedie**, Italy; **Eugenio de Miguel**, Spain; **Emilio Filippucci**, Italy; **Walter Grassi**, Italy; **Hilde Berner Hammer**, Norway; **Annamaria Iagnocco**, Italy; **Sandrine Jousse-Joulin**, France; **David Kane**, Ireland; **Zunaid Karim**, UK; **Juhani M Koski**, Finland; **Ingrid. Möller**, Spain; **Esperanza Naredo**, Spain; **Wolfgang Schmidt**, Germany; **Marcin Szkudlarek**, Denmark; **Lene Terslev**, Denmark; **Ana Rodríguez**, Spain; **Jacqueline Uson**, Spain; **Richard J Wakefield**, UK.

Special Guest Faculty

Michael Benjamin, UK; **Jose Antonio Bouffard**, USA; **Luna Gargani**, Italy; **Lasse Løvstakken**, Norway; **Carlo Martinoli**, Italy; **Philippe Peetrons**, Belgium; **Ximena Wortsman**, Chile.

Hands on Tutors

Maria Alcalde, Spain; **Cristina Bohorquez**, Spain; **Carmen Cerón**, Colombia; **Mario Chávez**, México; **Andreas Diamantopoulos**, Norway; **Cristina Estracht**, UK; **Ayman Fahim**, UAE; **Daniela Fodor**, Romania; **Cristina Macía-Villa**, Spain; **Peter Mandl**, Hungary; **Mihaela Micu**, Romania; **Rodina Liceva Nestorova**, Bulgaria; **Diana Pietado**, Spain; **Giorgio Tamborrini**, Switzerland; **Violeta Vlad**, Romania; **Esther Vicente**, Spain.

Organising secretariat

The 24th EULAR Sonography Course will be run simultaneously at three levels, basic, intermediate and advanced, each of them being a combination of lectures and hands-on scanning of models and/or patients with musculoskeletal disorders in small groups with experienced tutors. The course has been designed following the recommendations for the



content and conduct of EULAR musculoskeletal ultrasound courses (Naredo E, Bijlsma JWJ, et al. Ann Rheum Dis 2008; 67:1017-22).

Organising secretariat

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GENERAL INFORMATION

Course venue

Hotel Meliá Avenida América

Calle Juan Ignacio Luca de Tena, 36, 28027 Madrid, Spain

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melia.avenida.america@melia.com

Course opening

Sunday 11th June 2017 at 14.15 hrs

Course closing

Wednesday 14th June 2017 at 12.30 hrs

Participants

- Maximum number of participants in total: 150
- Maximum number of participants per course: 50

Official language

English

Registration fee

1900 € (VAT included) including:

Sunday, 11 June 2017

- Full access to the 24th EULAR Sonography Course



- 1 night accommodation at the Meliá Avenida América hotel in single room, breakfast included
- Afternoon coffee break
- Dinner

Monday, 12 June 2017

- Full access to the 24th EULAR Sonography Course
- 1 night accommodation at the Meliá Avenida América hotel in single room, breakfast included
- Morning & Afternoon coffee breaks
- Lunch & Dinner

Tuesday, 13 June 2017

- Full access to the 24th EULAR Sonography Course
- 1 night accommodation at the Meliá Avenida América hotel in single room, breakfast included
- Morning & Afternoon coffee breaks
- Lunch & Dinner

Wednesday, 14 June 2017

- Full access to the 24th EULAR Sonography Course
- Morning coffee break

A fee for local participants without hotel accommodation is available upon request and includes all above listed items without the accommodation at the Meliá Avenida América hotel



COURSE DESCRIPTION

The **BASIC COURSE** will focus on learning ultrasound physics, image acquisition, normal sonoanatomy, the standardised examination techniques and ultrasound findings in basic pathology. Basic course is recommended for participants with little or no experience in MSUS. Completion of the EULAR On-line Introductory Ultrasound Course is highly recommended before participating in a EULAR basic-level course and is a formal requisite for the EULAR Competency Assessment in MSUS in Rheumatology (http://www.eular.org/edu_course_ultrasound_competency_assessment.cfm).

Learning objectives

- To know the application, indications and limitations of MSUS in rheumatology.
- To know the ultrasound physics and technology.
- To identify the sonographic pattern of the different musculoskeletal tissues.
- To recognize musculoskeletal artefact and pitfalls.
- To hold the probe, to optimize B-mode settings of the ultrasound equipment and to acquire ultrasound images.
- To identify MSUS anatomy of each major anatomic area (i.e. shoulder, elbow, wrist and hand, hip, knee, ankle and foot).
- To learn the systematic standardised scanning technique for each major anatomic area (i.e. shoulder, elbow, wrist and hand, hip, knee, ankle and foot).
- To document images and to report ultrasound findings and diagnosis.
- To detect and identify basic MSUS abnormalities (e.g. joint effusion and synovial hypertrophy, tenosynovitis, enthesopathy, complete tendon tear, calcifications, bursitis, bone erosions and osteophytes, cartilage damage).

The **INTERMEDIATE COURSE** will focus on a wide spectrum of rheumatic and musculoskeletal pathologies. Previous performance of a minimum of 10 standardised MSUS examinations of each joint region (i.e. shoulder, elbow, wrist & hand, hip, knee, ankle & foot) and attendance to a basic MSUS course (either a EULAR MSUS course, a EULAR scientifically endorsed course, or a national MSUS course) is highly recommended before participating in a EULAR intermediate-level course and mandatory for successfully completing the EULAR intermediate-level course (EULAR Competency Assessment in MSUS in Rheumatology; http://www.eular.org/edu_course_ultrasound_competency_assessment.cfm).

Learning objectives

- To know the Doppler physics, technology, settings and artefacts.
- To know the application, indications and limitations of Doppler in rheumatology.
- To identify the spectrum of rheumatic and musculoskeletal abnormalities in each anatomic area (e.g. joint synovitis, tenosynovitis, enthesopathy, tendinosis,



paratenonitis, tendon sub/luxation, tendon impingement, tendon tears, bone erosions, osteophytes, ganglia and cysts, articular cartilage lesions, peri- and intra-articular microcrystal deposit, soft tissue calcifications).

- To detect and quantify synovial, tenosynovial, and enthesal inflammation.
- To detect and quantify structural joint damage (i.e. bone, tendons, cartilage).
- To perform sonographic-guided periarticular and intra-articular injections.

The **ADVANCED COURSE** will focus on advanced technological aspects, research, complex anatomic areas and difficult pathologies, paediatric rheumatic diseases, overuse and sport related disorders, and nonmusculoskeletal organs involved in rheumatic diseases such as skin, nail, lung, salivary glands, vessels, and nerves. Previous performance of a minimum of 200 pathological MSUS examinations and attendance to an intermediate MSUS course (either a EULAR MSUS course or a EULAR scientifically endorsed course) is highly recommended before participating in a EULAR advanced-level course and mandatory for successfully completing the EULAR advanced-level course (EULAR Competency Assessment in MSUS in Rheumatology; http://www.eular.org/edu_course_ultrasound_competency_assessment.cfm).

Learning objectives

- To update evidence-based knowledge and emerging research fields on MSUS in rheumatic and musculoskeletal diseases.
- To score intra-articular and periarticular inflammatory activity and structural joint damage.
- To know advanced use of Doppler modes.
- To assess complex anatomic areas and difficult abnormalities.
- To assess abnormalities related to rheumatic diseases in the skin, nail, lung, salivary glands, vessels, and nerves.
- To know the role of MSUS in paediatric rheumatic diseases.
- To assess overuse and sport-related lesions.
- To know technological ultrasound advances.

Course certification

A certificate of attendance will be supplied to all participants and certificates corresponding to each level according to the EULAR Competency Assessment in MSUS in Rheumatology will be supplied to all participants having successfully completed the courses (http://www.eular.org/edu_course_ultrasound_competency_assessment.cfm)

Course evaluation

You will be kindly asked to evaluate the courses with respect to educational content, course organisation and venue. It is mandatory to fill out the online survey.



PROGRAMME

Lecturers to be announced – please check the website regularly for programme updates

Sunday 11th June 2017

Time	Session
12.00-14.15	Registration
14.15-14.45	Welcome. Objectives and content of the course. EULAR Competency assessment in MSUS
14.45-15.15	History, development, and physics of MSUS. Technical characteristics of US equipments appropriate for rheumatic and musculoskeletal diseases
15.15-15.45	US pattern of the different musculoskeletal tissues (i.e. tendons, muscles, ligaments, nerves, articular cartilage, joint space, joint recesses, joint capsules, and bone profile)
15.45-16.15	Holding the probe. B-mode settings optimization. B-mode artefacts and pitfalls
16.15-16.30	Coffee break
16.30-17.00	Education in MSUS
17.00-18.30	Workshop (models). Supervised practical handling of the probe and B-mode settings. US appearance of musculoskeletal tissues and structures (i.e. tendons, muscles, ligaments, nerves, articular cartilage, joint space, joint recesses, joint capsules, and bone profile). B-mode artefacts and pitfalls
18.30-19.00	Basic MSUS abnormalities: definitions and findings (i.e. joint effusion and synovial hypertrophy, tenosynovitis, enthesopathy, tendon rupture, bursitis, calcifications, bone abnormalities, cartilage damage)
19.30	Dinner

Monday 12th June 2017

Time	Session
8.30-9.15	Application, indications, and limitations of MSUS in rheumatic and musculoskeletal diseases
9.15-9.45	Documentation of US images and report of US findings



9.45-10.45	Standardised scanning of the elbow (20 min.). Live demo (20 min.). Basic pathological findings (20 min.)
10.45-11.15	Coffee break
11.15-13.00	Workshop. Supervised standardised scanning of the elbow (models). Basic pathological findings (patients)
13.00-14.30	Lunch
14.30-15.30	Standardised scanning of the knee (20 min.). Live demo (20 min.). Basic pathological findings (20 min.)
15.30-16.30	Standardised scanning of the hip (20 min.). Live demo (20 min.). Basic pathological findings (20 min.)
16.30-17.00	Coffee break
17.00-19.00	Workshop. Supervised standardised scanning of the hip (models). Basic pathological findings (patients)
19.30	Dinner

Tuesday 13th June 2017

Time	Session
8.30-10.30	Workshop. Supervised standardised scanning of the knee (models). Basic pathological findings (patients)
10.30-11.00	Coffee break
11.00-12.00	Standardised scanning of the wrist and hand (20 min.). Live demo (20 min.). Basic pathological findings (20 min.)
12.00-13.00	Standardised scanning of the ankle and foot (20 min.). Live demo (20 min.). Basic pathological findings (20 min.)
13.00-14.30	Lunch
14.30-16.30	Workshop. Supervised standardised scanning of the wrist and hand (models). Basic pathological findings (patients)
16.30-17.00	Coffee break
17.00-19.00	Workshop. Supervised standardised scanning of the ankle and foot (models). Basic pathological findings (patients)
19.30	Dinner

Wednesday 14th June 2013

Time	Session
8.30-10.00	Standardised scanning of the shoulder. Live demo. Basic pathological findings



10.00-10.30	Coffee break
10.30-12.15	Workshop. Supervised standardised scanning of the shoulder (models). Basic pathological findings (patients)
12.15-12.30	Closing Remarks

Intermediate course

Sunday 11th June 2017

Time	Session
12.00-14.15	Registration
14.15-14.45	Welcome. Objectives and content of the course. EULAR Competency assessment in MSUS
14.45-15.15	Doppler physics and technology. Doppler setting optimization. Doppler artefacts and pitfalls
15.15-15.45	Applications, indications and limitations of Doppler in rheumatic and musculoskeletal diseases
15.45-16.15	B-mode and Doppler synovitis and tenosynovitis. Definition, detection, quantification, and pitfalls
16.15-16.45	Coffee break
16.45-18.30	Workshop. Supervised practical handling of Doppler US machine settings and Doppler artefacts. Supervised hands-on scanning of patients with synovitis and tenosynovitis
18.30-19.00	US tendon lesions (e.g. tendinosis, tears, sub/luxation, impingement). Definition, detection, quantification, and pitfalls
19.30	Dinner

Monday 12th June 2017

Time	Session
8.30-9.15	B-mode and Doppler enthesopathy and dactylitis. Definition, detection, quantification, and pitfalls
9.15-9.50	US bone abnormalities. Definition, detection, quantification, and pitfalls
9.50-10.10	US cartilage abnormalities. Definition, detection, quantification, and pitfalls
10.10-10.45	US assessment of crystal arthropathies (e.g. gout, CPPD disease)
10.45-11.15	Coffee break



11.15-13.00	Workshop. Supervised hands-on scanning of patients with enthesopathy, dactylitis, tendon lesions, bone and cartilage abnormalities, and crystal arthropathies
13.00-14.30	Lunch
14.30-15.10	US diagnosis of hip pathology (20 min.). Live demo (20 min.)
15.10-15.50	US diagnosis of knee pathology (20 min.). Live demo (20 min.)
15.50-16.30	US diagnosis of elbow pathology (20 min.). Live demo (20 min.)
16.30-17.00	Coffee break
17.00-19.00	Supervised hands-on scanning of patients with elbow, hip and knee inflammatory and degenerative diseases
19.30	Dinner

Tuesday 13th June 2017

Time	Session
8.30-9.30	US diagnosis of wrist and hand pathology (40 min.). Live demo (20 min.)
9.30-10.30	US diagnosis of ankle and foot pathology (40 min.). Live demo 20 min.)
10.30-11.00	Coffee break
11.00-13.00	Workshop. Supervised hands-on scanning of patients with wrist/hand and ankle/foot inflammatory and degenerative diseases
13.00-14.30	Lunch
14.30-16.00	US diagnosis of shoulder pathology (60 min.). Live demo (30 min.)
16.00-16.30	How to write and publish a paper on MSUS
16.30-17.00	Coffee break
17.00-19.00	Workshop. Supervised hands-on scanning of patients with shoulder inflammatory and degenerative diseases
19.30	Dinner

Wednesday 14th June 2013

Time	Session
8.30-10.00	US-guided periarticular and intra-articular injections (60 min.). Demo (30 min.)
10.00-10.30	Coffee break
10.30-12.15	Workshop. Supervised US-guided injections
12.15-12.30	Closing Remarks

Advanced course



Sunday 11th June 2017

Time	Session
12.00-14.15	Registration
14.15-14.45	Welcome. Objectives and content of the course. EULAR Competency assessment in MSUS
14.45-15.15	US in rheumatoid arthritis: evidence update and research agenda
15.15-15.45	US in spondyloarthritis (including psoriatic arthritis): evidence update and research agenda
15.45-16.15	US in osteoarthritis: evidence update and research agenda
16.15-16.45	Coffee break
16.45-17.30	Use of Doppler modes in rheumatic and musculoskeletal diseases; update, advances and challenges
17.30-19.00	Workshop. Supervised US assessment and discussion of patients with rheumatoid arthritis, spondyloarthritis, and osteoarthritis
19.30	Dinner

Monday 12th June 2017

Time	Session
8.30-9.15	Role of MSUS in paediatric rheumatic diseases; performance and indications
9.15-9.45	Complex anatomic areas (scanning) and difficult US abnormalities (diagnosis) in the shoulder and elbow
9.45-10.15	Complex anatomic areas (scanning) and difficult US abnormalities (diagnosis) in the wrist and hand
10.15-10.45	Complex anatomic areas (scanning) and difficult US abnormalities (diagnosis) in the hip and pelvis region
10.45-11.15	Coffee break
11.15-13.00	Workshop. Supervised hands-on scanning and discussion of patients with difficult US diagnosis in the upper limb
13.00-14.30	Lunch
14.30-15.30	Complex anatomic areas (scanning) and difficult US abnormalities (diagnosis) in the knee, ankle and foot
15.30-16.30	US in vasculitis: scanning and applications (30 min.). Live demo (30 min.)
16.30-17.00	Coffee break



17.00-19.00	Workshop. Supervised hands-on scanning and discussion of patients with difficult US diagnosis in the lower limb
19.30	Dinner

Tuesday 13th June 2017

Time	Session
8.30-9.30	Anatomy of the synovial recesses, synovial sheaths, entheses, and bursae: how to enhance our ultrasound skills through anatomy knowledge
9.30-10.30	US assessment of overuse and sport-related lesions
10.30-11.00	Coffee break
11.00-12.30	Workshop. Supervised hands-on scanning and discussion of patients with overuse and sport-related lesions
12.30-13.00	US assessment of atherosclerosis
13.00-14.30	Lunch
14.30-15.10	US assessment of lung in rheumatic diseases
15.10-15.40	US assessment of skin and nail in rheumatic diseases
15.40-16.00	US assessment of salivary glands in rheumatic diseases
16.00-16.30	US assessment of peripheral nerves in rheumatic diseases
16.30-17.00	Coffee break
17.00-19.00	Workshop. Supervised hands-on scanning of nonmusculoskeletal organs in patients with rheumatic diseases
19.30	Dinner

Wednesday 14th June 2017

Time	Session
8.30-9.30	Physical/technical limitations of B-mode and Doppler US that can impact on current MSUS performance/diagnostic capability and potential developments that can enhance MSUS performance/diagnostic capability
9.30-10.00	How to write and publish a paper on MSUS
10.00-10.15	Coffee break
10.15-12.15	Practical assessment. Faculty discussion Each participant will perform a 10 minute MSUS examination including documentation and report of two different anatomic areas with basic abnormalities supervised and assessed by the teachers
12.15-12.30	Closing Remarks