

Evaluation of ultrasound examinations

EULAR Competency Assessment in MSUS in Rheumatology

1 Procedure for assessment of normal ultrasound examinations (applicants for intermediate EULAR MSUS Course):

- Applicants should upload on the course registration tool a total of 6 normal examinations of each joint region in one Power Point 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).
Submission of all images is mandatory for course application.
- 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
- Faculty members will provide assessment and feedback. Applicants might be asked to repeat the ultrasound examinations and submit the images again for assessment by the faculty.
- Upon approval of the assessment the applicant will be asked to register for the course and pay the applicable registration fee.
- After this process, the applicant is also eligible to apply for a EULAR bursary.
- Participants should 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.

2 Procedure for assessment of the pathological ultrasound examinations (applicants for advanced EULAR MSUS Course):

- Applicants should upload 30 pathological ultrasound images each in both longitudinal and transverse plane of each joint region (i.e. shoulder, elbow, wrist & hand, hip, knee, ankle & foot) in one Power Point file from the full range of conditions included in the basic and intermediate level (Appendix 1).
Submission of all images is mandatory for course registration. 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 (pathologic) area, imaged structure and scanning planes
 - Description of the lesion and ultrasound diagnosis
 - Parameters of the ultrasound machine
 - Identity of the person scanned should be removed
- Faculty members will provide assessment and feedback. Applicants might be asked to repeat the ultrasound examinations and submit the images again for assessment by the faculty.
- Upon approval of the assessment the applicant will be asked to register for the course and pay the applicable registration fee.
- After this process, the applicant is also eligible to apply for a EULAR bursary.
- Participants should bring a total of 200 pathological 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 trainee.

Please note that the requirement of performing normal and pathological ultrasound images can be replaced with the achievement of level 1, 2 or 3 of MSUS Competency in Rheumatology as stated by EFSUMB (European Federation of Societies for Ultrasound in Medicine and Biology). Ref. Terslev L, et al. *Ultraschall in Med*; published online May 21, 2013; www.efsumb.org/guidelines. If this is the case, the participants should provide the certificates of EFSUMB competency during the application process.

3 Procedure for the practical exam (advanced EULAR MSUS Course):

- Participants having successfully completed the prior requirements (i.e. evaluation of normal and pathological MSUS images) and who are attending the advanced EULAR MSUS Course are eligible to take the practical exam.
- The exam will consist of the ultrasound scanning and evaluation of two anatomic areas (i.e. shoulder, elbow, wrist, hand, hip, knee, ankle, or foot) of a patient with any rheumatic disease within a maximum of 15 minutes.
- Two Faculty members will assess the participants on the following: 1) probe holding; 2) ultrasound machine settings adjustment; 3) scanning technique; 4) identification of anatomic structures; 5) description of ultrasound findings; 6) final ultrasound diagnosis.
- Faculty members will provide a score from 0 to 5 (0=very poor; 1=poor; 2=fair; 3=good; 4= very good; 5= excellent) for each assessed item. A score of ≥ 3 for each item will be necessary to successfully pass the practical exam. In case of a score < 3 , only a certification of attendance will be handed out. To achieve the competency level 1, the participant will need to re-take the advanced course.

4 Procedure to gain competency necessary to teach MSUS (Course for Ultrasound Trainers in RH)

- Achieve level 1 competency (as above)
- Attend the EULAR Course for Ultrasound trainers and successfully pass the theoretical and practical exam

Appendix I: Basic and intermediate course pathologies

Joint effusion

Grey scale and Doppler joint synovial hypertrophy and tenosynovitis

Grey scale and Doppler enthesopathy

Bursitis

Tendinosis

Paratenonitis

Tendon subluxation/luxation

Intrasubstance tendon lesions

Complete tendon tear

Partial tendon tear

Bone erosions

Osteophytes

Enthesophytes

Ganglia and cysts

Articular cartilage lesions

Peri- and intra-articular microcrystal deposit

Tendon, ligament or muscle calcification