



**MUSCULOSKELETAL ULTRASOUND COURSE FOR RHEUMATOLOGIST -  
BASIC LEVEL**

*SCIENTIFIC PROGRAMME*

**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 enthesal 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
- Basic pathological sonographic findings ( tendinosis, tenosynovitis, partial and complete tendon tear, entesopathy, bursitis, calcifications, articular cartilage lesions, cortical abnormalities and joint synovitis).
- Reporting US findings and diagnosis

**WORKSHOP** (Maximum 6 participants per tutor)

- 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 assesment of the basic somographic symptoms or inflammation severity in grades

The Course will follow the Recommendations for the Content and Conduct of EULAR MSUS courses (Naredo E, et al, Ann Rheum Dis 2008: 67:1017-22), which include Specific theoretical and practical curriculum.



*Day 1/ 14. Jan. 2015*

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- 12:00-14:00      **Registration**
- 12:00-13:30      **Lunch**
- 13.30-13.45      **Welcome and Introduction: A. Iagnocco, A. Batalov**
- 13.45-14.15      **Entering test of knowledge: R. Nestorova, A Batalov**

**Chairpersons: P. Balint, P. Todorov**

- 14:15-14.45    *History and basic physics of MSUS. D. Fodor*
- 14.45 -15.15    *Technical characteristics and setting of ultrasound equipments for rheumatology. A. Iagnocco*
- 15:15-15.45    **Coffee break**
- 15.45 - 16:15    *Normal tissue and joint anatomy. US and correlative gross anatomy and histology. P. Balint*
- 16:15-16.45    *Artifacts and misinterpretation in MSUS. A. Khalil*
- 16.45-18.30    **Workshop: Supervised practical handling of the ultrasound machine settings. Normal MSUS anatomy.**

**Chairpersons: F.Porta, A. Batalov**

- 18.30-19:00    *Reporting ultrasound findings and diagnosis. R. Nestorova*
- 19:00-20:00    **Workshop: Supervised reporting of ultrasound findings and diagnosis.**
- 21.00            **Dinner**



Day 2/ 15.Jan.2016

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**Chairpersons: N. Damjanov, Tz. Petranova**

- 09:00-09:30 *Sonographic semiology (tendinosis, tenosynovitis, partial and complete tendon tear, entesopathy, bursitis, calcifications, articular cartilage lesions, cortical abnormalities and joint synovitis) . N. Damjanov*
- 09.30-10:00 *Enthesitis and enthesopathy. P. Todorov*
- 10:00-10:30 *Coffee break*
- 10:30-11:00 *Standardized scanning of the hip: normal and basic pathologic findings. M. Micu*
- 11:00-12.15 *Workshop: Supervised scanning technique of hip. Normal and basic pathological findings*
- 12.15-12.45 *Standardized scanning of the knee: normal and basic pathological findings F. Porta*
- 12.45 – 14.15 *Workshop: Supervised scanning technique of knee. Normal and basic pathological findings*
- 14.15-15.30 *Lunch*

**Chairpersons: E. Naredo, R. Nestorova**

- 15.30-16.00 *Standardized scanning of the shoulder: normal and basic pathological findings. E. Naredo*
- 16.00 -16.30 *Standardized scanning of the elbow: normal and basic pathological findings. Tz. Petranova*
- 16:30-19.00 *Workshop: Supervised scanning technique of shoulder and elbow. Normal and basic pathological findings*
- 20:30 *Official Dinner*



*Day 3/ 16.Jan.2016*

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**Chairpersons: D Fodor, A. Batalov**

09:00- 09:30 *Standardized scanning of the wrist and hand: normal and basic pathological findings. V. Vlad*

09:30:10:00 *Standardized scanning of the ankle and foot: normal and basic pathological findings. G. Radunović*

10:00-10:30 *Coffee break*

10:30- 13.00 **Workshop:** *Supervised scanning technique of wrist, hand, ankle and foot. Normal and basic pathological findings.*

13.00-13.20 *US in arthritis: from inflammation to structural damage lesions. E. Naredo*

13.20-13.40 *US in inflammatory and degenerative rheumatic diseases. A. Iagnocco*

13.40-14.10 *Test of knowledge R. Nestororva. A. Batalov*

14.10–14.20 . *Closing Remarks A. Iagnocco, A. Batalov*

14.20-15:00 *Certificate issuing*