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RECOMMENDATION

Educational recommendations for the conduct, content and format of EULAR musculoskeletal ultrasound Teaching the Teachers Courses

A Iagnocco,[1] L Terslev,[2] M Backhaus,[3] P Balint,[4] G A W Bruyn,[5] N Damjanov,[6] E Filippucci,[7] H B Hammer,[8] S Jousse-Joulin,[9] D Kane,[10] J M Koski,[11] P Mandl,[12] I Möller,[13] P Peetrons,[14] W Schmidt,[15] M Szkudlarek,[16] J Vojinovic,[17] R J Wakefield,[18] M Hofer,[19] M A D'Agostino,[20] E Naredo[21]

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AI and LT contributed equally.

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For numbered affiliations see end of article.

Correspondence to
Dr A Iagnocco;
aiagnocco@tiscali.it

ABSTRACT

Objective: To produce educational guidelines for the conduct, content and format of theoretical and practical teaching at EULAR musculoskeletal ultrasound (MSUS) Teaching the Teachers (TTT) Courses.

Methods: A Delphi-based procedure with 24 recommendations covering five main areas (Duration and place of the course; Faculty members; Content of the course; Evaluation of the teaching skills; TTT competency assessment) was distributed among a group of experts involved in MSUS teaching, in addition to an advisory educational expert being present. Consensus for each recommendation was considered achieved when the percentage of agreement was >75%.

Results: 21 of 24 invited participants responded to the first Delphi questionnaire (88% response rate). All 21 participants also responded to the second round. Agreement on 19 statements was obtained after two rounds.

Conclusions: This project has led to the development of guidelines for the conduct, content and format of teaching at the EULAR MSUS TTT Courses that are organised annually, with the aim of training future teachers of EULAR MSUS Courses, EULAR Endorsed MSUS Courses, as well as national and local MSUS Courses. The presented work gives indications on how to homogenise the teaching at the MSUS TTT Courses, thus resolving current discrepancies in the field.

Key messages

What is already known about this subject?

Some discrepancies are currently present in the conduct, content and format of EULAR TTT Courses.

What does this study add?

The present recommendations represent an educational support to the organisers of TTT courses in order to insure high level and homogeneous training.

How might this impact on clinical practice?

This model will also be recommended to the organisers of national and local MSUS courses.

INTRODUCTION

Education is a key area of commitment for EULAR and a pillar of EULAR activities, of which musculoskeletal ultrasound (MSUS) plays an important part. Within the last decades, a high number of MSUS Courses have been organised due to the increasing demands in the field. Attendance to MSUS Courses has become a target educational activity for most rheumatologists worldwide. The MSUS Teaching the Teachers (TTT) Courses have a relevant role in this context because they are organised annually with the aim of training future teachers of EULAR MSUS Courses, EULAR Endorsed MSUS Courses, and also of national and local MSUS Courses. EULAR MSUS TTT Courses represent an appreciated activity of EULAR. However, after a few years running the EULAR MSUS TTT Courses, some discrepancies in different educational aspects have emerged, particularly concerning the content of the lectures, as well as the formal aspect of them, the percentage of dedicated scanning time by the faculty/by the participants, and the distribution of time among participants. All these aspects require a standardised format for theoretical and practical teaching, thus including different educational aspects.

The objective of the presented project has been to produce a manual as well as educational recommendations for the conduct, content and format of theoretical and practical teaching at EULAR MSUS TTT Courses, in terms of rhetoric and educational aspects, to ensure high level and homogenous training.

METHODS

Study design

This project has been submitted to both the EULAR Standing Committee on Education and Training, and the EULAR Standing Committee on Musculoskeletal Imaging by two co-convenors (AI and LT). The project involved a selected panel of 24 experts (rheumatologists and radiologists) from Europe (Austria 1; Belgium 1; Denmark 2; Finland 1; France 2; Germany 2; Hungary 1; Ireland 1; Italy 3; Norway 1; Serbia 2; Spain 2; The Netherlands 2; the UK 2) who represented the faculty of the EULAR MSUS Courses, along with an educational advisory expert (Germany). All the experts had solid experience in the field of educational activities at EULAR MSUS Courses. Their participation in the project was therefore recommended for guaranteeing the presence of opinion leaders in the field who would contribute significantly to the development of a high-level product. The indications and concepts included in the manual are reported in the present educational recommendations for the conduct, content and format of EULAR MSUS TTT Courses.

Questionnaire design and content

The methodology followed the standard EULAR operating procedures for developing recommendations.[1] This methodology was also applied for developing recommendations for the content and conduct of EULAR MSUS Courses.[2] Once the project was approved, a literature search was performed, which showed that only one paper in the field was present.[2] A Delphi-based procedure was then initiated in order to obtain agreement on a core set of recommendations.

The Delphi questionnaire was subsequently circulated among the selected panel of rheumatologists and radiologists, experts in MSUS teaching. They were asked to respond within 1 month and email reminders were sent to the non-responders after 3 weeks. The questionnaire consisted of 24 statements developed by a core group of five experts coordinated by the two co-convenors. The statements covered five main areas (Time, duration and place of the TTT Course; Faculty members; Content of the course including lectures and practical parts, as well as the distribution between theoretical and practical aspects; Evaluation of the teaching skills, including the lectures and live demos given by participants; TTT competency assessment, including the types of certificates to be provided) and were circulated among the panel of experts. The participants were asked to rate their level of agreement or disagreement for each statement according to a 1–5 Likert scale, where 1='Strongly disagree'; 2='Disagree'; 3='Neither agree nor disagree'; 4='Agree'; 5='Strongly agree'. Space for additional free comments was also included at the end of each statement.

STATISTICAL ANALYSIS

In the Delphi process, group agreement with the issue under consideration was defined as total cumulative agreement >75% (a score of 4 or 5 on the Likert scale). Only when statements achieved a score >75% was it considered that the group had reached a consensus and the category defined as appropriate. Only the statements satisfying these requirements were used for defining the EULAR Manual for the conduct, content and format of the MSUS TTT Courses.

RESULTS

Delphi exercise

Twenty one of 24 invited participants responded to the first Delphi questionnaire (88% response rate). All 21 participants also responded to the second round of the Delphi questionnaire (100% response rate).

As mentioned above, the Delphi exercise contained five main areas (1) duration and place of the TTT Course, (2) the specialty of faculty members, (3) the content of the course, (4) the evaluation of the teaching skills of the trainees and (5) competency assessment of the trainees. The first round of the Delphi exercise had 24 statements grouped under these five headings. It was possible to add comments for each statement. The statements were based on the existing TTT MSUS Courses that have been running since 2012.

In the first round, agreement was obtained for all areas except the distribution between theoretical and practical content of the courses and for the final certificates (the three statements addressing the distribution of time between the theoretical and practical content achieved 20–75% agreement and the two statements addressing the certificate received 40–70% agreement). These two questions were then addressed in a second Delphi round, in which further questions were made elaborating the question that received the highest agreement in the first round combined with comments made.

The results for the conduct, content and format of the courses are reported in table 1.

DISCUSSION

We present a series of 18 pragmatic recommendations on the conduct, format and content of MSUS TTT Courses, based on a high degree of expert consensus.

As a generally accepted methodology by EULAR, the Delphi approach was chosen for creating these recommendations,[2–4] with the aim to serve as an educational tool to ensure homogenous and high-level training of coming teachers in MSUS.

Table 1 Conduct, content and format of the EULAR TTT Courses

Area	Recommendations
1. Duration and Place	▶ The TTT should be placed just prior to the EULAR Congress and linked to the EULAR sonography course (100%) ▶ The duration of the TTT should be 1½ day (95%)
2. Faculty members	▶ The faculty of the TTT Course should mostly include rheumatologists highly qualified in MSUS and highly involved as faculty members in the EULAR sonography courses, but may include other colleagues highly qualified in the field of teaching (76%)
3. Content of the course	▶ The theoretical part of the TTT Course should include teaching on how to prepare and deliver educational material in MSUS Courses (90%). ▶ The theoretical part of the TTT Course should include teaching on how to organise a MSUS Course (100%) ▶ The lectures on how to organise a course given by the Faculty members of the TTT Course should contain subjects on preparing a programme according to EULAR guidelines, financial aspects, recruiting models/patients and testing participants (90%) ▶ The practical part of the TTT Course should include teaching on how to conduct a practical session in MSUS Courses (100%) ▶ The distribution between the practical and theoretical content in the TTT should be 50–60% practical and 40–50% theoretical (100%)
4. Evaluation of teaching skills	▶ The participants should demonstrate their teaching skills by giving a representative lecture on a topic included in the EULAR basic level course and conducting a practical session on basic scanning technique during the TTT course (90%) ▶ The presentations sent prior to and given during the TTT Course by the participants of the TTT Course should include their own US images (100%). ▶ The presentations sent prior to and given during the TTT course by the participants of the TTT Course should include didactic anatomical images (86%) ▶ The presentation sent prior to and given during the TTT Course by the participants of the TTT Course should show scanning techniques, and normal and basic pathological US findings at the assigned anatomic area or at different joint sites if applicable (86%) ▶ When demonstrating practical teaching skills, the participants should interact with other participants, ask open questions and actively guide them in a positive way (100%)
5. TTT competency assessment	▶ Two types of certificates can be provided to the TTT Course participants: certificate of attendance to those who participate in the whole course but do not pass the competency assessment and certificate of successful competency assessment for those who pass the assessment (95%) ▶ The certificate of successful competency assessment for the TTT Course will be provided if the participants fulfil the following: (1) attendance to the full course; (2) successful assessment of theoretical and practical skills by the Faculty members (100%) ▶ The competency assessment for the TTT Course should be performed during the course by assessing theoretical and practical skills of the participants by the Faculty members (81%) ▶ The competency assessment for the TTT Course should include assessment of theoretical and practical skills of the participants during the course by the Faculty members and a final examination on teaching capabilities (76%) ▶ The TTT Faculty members will provide—before the course—feedback on the presentations sent prior to the course on the presentation that the participants will deliver during the course (76%)

The obtained agreement in per cent is shown in brackets.
MSUS, musculoskeletal ultrasound; TTT, Teaching the Teachers.

Though some flexibility in the organisation of courses is necessary, there was an unmet need for clear recommendations, ensuring comparable training and competencies among TTT MSUS Course participants, which has now been achieved. The recommendations address not only the composition of the faculty and the framework of the course, including organisation (areas 1 and 2), but also examine the content of the courses, and may serve as a supplement to other related recommendations in this field.[2 5–7]

The central aspect of the TTT MSUS Course is the practical training, however, the theoretical training (area 3) plays an important role, as demonstrated by the agreement reached after the second Delphi round. The organisers can choose to send out didactic material in advance, leaving more time for practical training within the recommended timeframe.

There is a growing number of EULAR endorsed MSUS basic courses. It is, therefore, of utmost importance that the teachers in these courses have equal qualifications

thereby providing comparable training and competencies beneficial for the clinical use of US. The acquisition of this competence is required in the new programme developed by EULAR (http://www.EULAR.org). After qualifying, the TTT MSUS Course the participants will receive a certificate of competency allowing them to organise EULAR endorsed courses (area 5). For this reason, recommendations on how the participants should be judged, based on their teaching skills demonstrated during the course (lecture and practical demonstration), are central for ensuring comparable evaluation of their qualifications at the end of the course.

CONCLUSION

The manual will offer a homogeneous educational model in the field of teaching MSUS and will be relevant to all rheumatologists willing to organise future EULAR TTT MSUS. This model will also be recommended to the organisers of national and local MSUS Courses. The current guidelines give indications on how to achieve homogeneous teaching at MSUS TTT Courses, thus solving current discrepancies in the field.

Author affiliations
[1]Ultrasound Unit, Rheumatology Department, Sapienza Università di Roma, Rome, Italy
[2]Centre of Rheumatology and Spine Diseases, Rigshospitalet-Glostrup, Copenhagen, Denmark
[3]Department of Internal Medicine, Rheumatology and Clinical Immunology, Park-Klinik Weissensee Berlin, Academic Hospital of the Charité, Berlin, Germany
[4]3rd Rheumatology Department, National Institute of Rheumatology and Physiotherapy, Budapest, Hungary
[5]Department of Rheumatology, MC Groep Hospitals, Lelystad, The Netherlands
[6]Institute of Rheumatology, Belgrade University School of Medicine, Belgrade, Serbia
[7]Clinica Reumatologica, Università Politecnica delle Marche, Jesi (Ancona), Italy
[8]Department of Rheumatology, Diakonhjemmet Hospital, Oslo, Norway
[9]Department of Rheumatology, Cavale Blanche Hospital, Brest, France
[10]Trinity College Dublin, Dublin, Ireland
[11]Mikkeli Central Hospital, Mikkeli, Finland
[12]Division of Rheumatology, 3rd Department of Internal Medicine, Medical University of Vienna, Vienna, Austria
[13]Instituto Poal de Reumatologia, Barcelona, Spain
[14]Radiology Department, Free University of Brussels, Hopitaux Iris Sud, Brussels, Belgium
[15]Immanuel Krankenhaus Medical Center for Rheumatology Berlin, Buch, Germany
[16]Department of Rheumatology, University of Copenhagen Hospital at Køge, Køge, Denmark
[17]Department of Pediatric Rheumatology, Faculty of Medicine, University of Nis, Nis, Serbia
[18]Department of Rheumatology, Leeds Institute of Rheumatic and Musculoskeletal Medicine, Chapel Allerton Hospital, Leeds, UK
[19]Diagnostic Radiologist, Department for Medical Education, H Heine University, Duesseldorf, Germany
[20]APHP, Hôpital Ambroise Paré, Rheumatology Department, Boulogne-Billancourt, France
[21]Department of Rheumatology, Hospital GU Gregorio Marañón. Complutense University, Madrid, Spain

Contributors All the authors contributed to the manuscript. AI and LT shared first authorship with equal contribution to this paper.

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