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## Closing the gap between objective measures and self-report in fibromyalgia

### SP0185 DIVERGENCES BETWEEN OBJECTIVE AND SELF-REPORTED PHYSICAL FUNCTION IN FIBROMYALGIA

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In fibromyalgia (FM), intolerance to physical activity, with increased pain and experience of early muscle fatigue, is a predominant feature. Furthermore, shorter endurance times and higher perceived effort during physical activity compared with healthy controls are characteristic. However, there are discrepancies between physical functioning as perceived by the patients and as measured objectively or during performance tests. For example, in 840 FM patients and 122 healthy controls, we found reduced muscle strength in approximately 50% of the FM patients. However, the patients with subnormal muscle strength did not self-report worse symptoms or more physical disablement than those with normal muscle strength. Much like central sensitization of pain, it has been suggested that impaired sensory-motor interaction is present in FM, which may be a cause for observed discrepancies between perceived and objective signs of muscle fatigue. That is, the sensory inputs to the central nervous system during a physical activity are over-interpreted, leading to amplified sensations of fatigue and discomfort normally associated with exhausting muscle work.

To illuminate this we conducted a controlled experiment, in which FM patients and health controls completed a muscle exhaustion test, while objective measures of muscle fatigue were collected by electromyography in parallel with reporting of perceived muscle fatigue. The results suggest that among FM patients, central nervous system processes normally associated with muscular fatigue were present, yet without any evidence of peripheral muscle fatigue. The study supports a hypothesis about abnormal sensory-motor interaction among FM patients that can explain the discrepancies between perceived and observed physical disability in FM.

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### SP0186 COGNITIVE FOG: SUBJECTIVE AND OBJECTIVE UNDERSTANDINGS OF THE SYMPTOM OF DYSCOGNITION

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Dyscognition refers to the complaint that a person's ability to perform thinking tasks is impaired. This complaint is colloquially known as "brain fog". It is a major symptom of a variety of disorders and associated with considerable work and social disability for those experiencing it. However, attempts to demonstrate objective cognitive impairment in persons reporting "brain fog" have not been straightforward. In this lecture, the symptom of cognitive dysfunction will be described from the patient's point of view, using fibromyalgia as a disease model. The cognitive tests used to determine objective alterations in cognitive ability will be reviewed, the amount of objective impairment demonstrated in fibromyalgia will be placed into clinical context, and the "disconnect" between what the experience of dyscognition is and the cognitive content measured by modern testing will be discussed. The poor relationship between the magnitude of subjective dyscognition and objective cognitive performance will be examined, including evidence gleaned from neurological imaging studies. In conclusion, the experience of cognitive fog is not well captured by current testing paradigms. Subjective complaint is a poor predictor of objective cognitive performance. The neuronal mechanisms responsible for the experience of cognitive fog may be separate from those required to perform cognitive tasks.

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### SP0187 ASSOCIATIONS OF PAIN-RELATED COGNITIONS WITH THE DISCORDANCE BETWEEN SUBJECTIVE AND OBJECTIVE PHYSICAL FUNCTION IN FIBROMYALGIA: THE AL-ÁNDALUS PROJECT

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**Background:** In fibromyalgia, there is a disagreement between patients' self-reports and performances; i.e., subjective and objective status, respectively.

**Objectives:** First, to test the discordance between subjective and objective measures of physical function. Second, to determine whether catastrophizing and self-efficacy are independently associated with this discordance.

**Methods:** Four hundred and five fibromyalgia females and 193 age-matched female controls. Participants filled out the Pain Catastrophizing Scale, Chronic Pain Self-efficacy Scale, and physical functioning subscales of the Revised Fibromyalgia Impact Questionnaire (FIQR) and Short Form-36 (SF-36) health survey. Objective physical function was measured with a battery of performance-based tests (e.g., 6-min walk test). Subjective and objective physical function were expressed as deviation from the general population in standard deviation (SD) units using means and SD of the control group.

**Results:** Fibromyalgia participants reported a worse physical function than performed ( $p < .001$ ). We found a consistent association of higher catastrophizing with greater discordance between subjective and objective physical function. A significant association of higher self-efficacy with lower discordance was only found when subjective physical function was reported on the SF-36 but not on the FIQR.

**Conclusions:** Although both are markedly impaired, subjective physical function is more impaired than objective physical function in fibromyalgia. Catastrophizing is associated with this discordance. In rehabilitation settings, physical function of fibromyalgia females should be evaluated by both subjective and objective assessments to fully understand their physical function.

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### SP0188 THE DRUGS DON'T WORK

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This presentation will depict the journey of Louise, a previous school teacher and a single mother of two, living with Fibromyalgia as well as multiple other diagnoses. Louise will discuss her feelings around being diagnosed with Fibromyalgia, how this was communicated to her and what this meant for her career and family life. Following this, Louise will share her journey through the secondary care as a Fibromyalgia patient, and her own search for answers and cure to Fibromyalgia in an attempt to salvage her life and independence, prior to accepting that this is a long-term condition which will require self-management and perseverance. In addition, Louise will share her thoughts on pain and fatigue in Fibromyalgia, and how the "drugs don't work".

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## Interactive cases from the HOT and WIN sessions

### SP0189 HOT SESSION: INTERACTIVE CLINICAL ASPECTS AND CASES ON VASCULITIS TREATMENT

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The systemic vasculitides are characterized by inflammation of blood vessels resulting in end organ, or tissue damage or necrosis. They are defined by the Chapel Hill nomenclature according to the calibre of the predominantly affected vessels. Other forms of vasculitis not defined by a predominant vessel size are also recognized (e.g. Behcet's syndrome). Large vessel vasculitides include giant cell arteritis and Takayasu arteritis; medium vessel vasculitides includes Kawasaki disease and PAN; small vessel vasculitides are divided into: immune complex small vessel vasculitis and anti-neutrophil cytoplasm antibody (ANCA) - associated vasculitis (AAV). The immune complex group, with moderate to marked vessel wall deposits of immunoglobulin and/or complement, is represented by anti-glomerular basement membrane disease, cryobulinaemic vasculitis, hypocomplementaemic urticarial vasculitis (anti-C1q vasculitis) and IgA vasculitis (Henoch-Schönlein). By contrast, AAV has few or no immune deposits and is associated with (in most cases) the presence of ANCA specific for myeloperoxidase (MPO-ANCA) or proteinase 3 (PR3-ANCA). Depending on their clinical presentation and ANCA specificity, AAV is divided into three major variants: granulomatosis with polyangiitis (GPA) (Wegener's granulomatosis), microscopic polyangiitis (MPA) and eosinophilic granulomatosis with polyangiitis (EGPA) (Churg-Strauss syndrome). In some cases, vasculitis is relatively trivial and may lead to minor, often asymptomatic clinical features such as splinter haemorrhages. However, in severe forms of ANCA associated vasculitis, the consequences of rapid onset of ischaemia and occlusion of blood vessels can lead to organ failure and death.

The multisystem involvement in most forms of vasculitis can be a real challenge. Patients may present to different specialists resulting in diagnostic delay. The investigation of patients with suspected vasculitis should follow on from a careful history and examination to determine the likely diagnosis. The differential diagnosis is very wide. It is important to correctly identify patients with vasculitis as early as possible, but it is also important to rule out more common causes. In acutely unwell patients, the differential diagnosis depends on the combination of clinical features. Vasculitides tend to involve multiple organ systems. In fact, the more organ systems affected, the more likely it is that the patient has vasculitis.

We will review some examples of cases with what might appear to be unusual clinical features which form a more consistent pattern. Initial treatment is generally straightforward, but the evaluation of patients during the course of their illness is often difficult due to variation in disease, as well as drug toxicity, damage and co-morbidity. We will discuss examples of patients where relapse is suspected but not always confirmed.

In this overview we will summarise current practice in vasculitis, illustrated by cases to provide a clinical context in which to interpret and implement evidence based management of vasculitis

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## Suffering in silence. Optimizing the management of psychological well-being for people with RMDs

### SP0190 FACTS AND FIGURES: HOW MENTAL HEALTH CARE ADDRESSES THE PSYCHOLOGICAL BURDEN OF RMD'S IN EUROPE

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It is recognised that patients have to make behaviour changes and psychological adjustments to address the impact of inflammatory arthritis on their lives. Challenges include fluctuating pain, fatigue and flares of disease activity, and emotional consequences. Meeting these challenges effectively requires patients to engage in medical management, role management, and emotional management. For some patients this can be a struggle, and the rheumatology team can be a valued source of support.

This session will examine patient perspectives on the psychological impact of inflammatory arthritis and the role of the rheumatology team in meeting the associated support needs. It will look at the relationship between psychological distress, well-being and self-management, and will highlight patients' views on the characteristics of patient-centred, collaborative care. It will look at factors that influence psychological impact, adaptation and self-management; present data from patients on ways in which well-being and self-management can be enhanced or diminished through clinical interactions with the rheumatology team; and will consider the implications for clinical practice, including the training needs of the rheumatology team.

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## Showcasing the EULAR Online Course for Health Professionals

### SP0191 PRINCIPLES OF NON-PHARMACOLOGICAL MANAGEMENT OF REGIONAL MUSCULOSKELETAL DISORDERS

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The two main components of non-pharmacological management of regional musculoskeletal disorders are a thorough assessment followed by rehabilitative care.

Assessment includes a careful history, level of daily activities and participation, including occupation, rehabilitative care to date, possible presence of psychosocial problems, sports and hobbies. Special attention must be given to patient's expectations and personal objectives. A systemic enquiry is also important, as regional pain may be due to an underlying medical condition. Clinical examination consists of observation of posture, mobility, and whether there is evidence of wasting, asymmetry, deformity, or muscle imbalances. Palpation of soft tissue and bony structures follows to identify areas of tenderness, lumps, myofascial trigger points, tendon crepitus. Assessment of active and passive movements in all planes follows looking for specific restrictions. Examination is not restricted to the site of pain; as for example upper limb pain syndromes may be referred from the neck. In some patients further medical investigation is necessary when a thorough history, examination, and ultrasonography do not provide sufficient diagnostic information. This may involve blood tests, plain radiography, CT or MRI. Rehabilitative care is a customized process, which aims to achieve an optimal functional outcome and participation in all aspects of life. Active rehabilitation and a gradual return to normal activities are key points in successful treatment of regional pain syndromes. Progressive exercise is a fundamental part of the treatment of most regional musculoskeletal complaints. The goal is to work towards full, specific, pain free functional activity. In myofascial pain syndromes and non specific arm pain in particular, there is a need for review of postural issues and ergonomics and building aerobic fitness. In addition, providing information to the patient about the nature of the condition, beneficial and negative habits

and activities, self help exercises, expected response to treatment and outcome should all be part of the approach to these patients. Psychological interventions may complement rehabilitative care. Cognitive and behavioral methods focus on changing the patient's interpretation and reaction to pain. The main assumption of a behavioral approach is that pain and pain disability are influenced by somatic pathology and also by psychosocial factors (eg, patient's attitudes and beliefs, psychological distress and illness behavior). Consequently, the behavioral treatment of regional musculoskeletal disorders does not primarily focus on removing an underlying organic pathology, but on the reduction of disability through modification of environmental contingencies and cognitive processes.

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### SP0192 PRINCIPLES OF NON-PHARMACOLOGICAL MANAGEMENT OF RHEUMATIC DISEASES

*T. Vliet Vlieland on behalf of Dr. Keegan Knittle, Professor Jo Adams and Dr. Mwidi Ndosu. Orthopaedics J11-R, Leiden University Medical Center, Leiden, Netherlands*

**Background and aims:** Rheumatic and musculoskeletal diseases (RMDs) have a major impact on patients' lives. Apart from symptoms such as pain, stiffness and fatigue, many patients may experience limitations in daily activities and participation in society. Rheumatology health professionals (HPs) play a pivotal role in the improvement and maintenance of patients' functioning, a crucial aspect of patients' quality of life. To ensure the quality of care, HPs need to be appropriately trained. For this purpose, one module of the EULAR online course for HPs is dedicated to HPs' interventions related to various RMDs.

**Methods:** Using the same methodology, expertise and technology used in other EULAR online courses, the following components of the module were developed: A Main Text, Interactive Clinical Cases, Indepth Discussions and two Assessment sets.

**Results:** First, 4 learning aims were formulated: After completing the module, the student a. Has an overview of interventions commonly provided by HPs in the treatment of patients with RMDs; b. Demonstrates appropriate understanding of opportunities and limitations of the various interventions employed by HPs on the individual patient level; c. Can properly advise and support patients regarding self-management strategies including e.g., appropriate medication usage, exercises, the application of joint protection and energy conservation, the usage of orthoses and adaptive equipment or other; and d. Can make a substantiated decision on when to refer a patient to another health professional, a physician or a multidisciplinary team. Second, a wide range of modalities, such as exercise therapy, self-management support, cognitive behavioural therapy, the provision of orthoses, assistive devices or physical modalities were described. These were further applied and/or explained by means of Interactive Clinical Cases and Indepth Discussions (Patient education and Physical Activity Interventions).

**Conclusions:** A module of the EULAR Online course for HPs specifically describes and explains HPs' interventions employed in the management of people with various RMDs. Its contents will be updated according to new clinical and scientific insights. Moreover, it will be adapted to the educational needs of HPs, by taking into account the comments of the students and perspectives from HPs across Europe.

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### SP0193 PRINCIPLES OF NON-PHARMACOLOGICAL MANAGEMENT OF FIBROMYALGIA

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Having fibromyalgia greatly impacts person's mental and physical wellbeing, his activities of daily living, and the society at large. Despite scientific progress to unravel the aetiology of fibromyalgia syndrome, no cure is yet available. The management of fibromyalgia comprises both pharmacological and non-pharmacological treatment option to alleviate the symptom burden of the disease. The recently published EULAR revised recommendations for the management of fibromyalgia<sup>1</sup>, proposes that the management of fibromyalgia should take the form of a graduated approach with the aim of improving health-related quality of life. It should focus first on non-pharmacological treatment, including education, self-management and physical therapy with graded physical exercises. In this talk a brief overview of the current evidence regarding non-pharmacological care in fibromyalgia will be given. The importance of patients' self-management, (tailored) interventions to support self-management, and its dissemination and implementation in clinical practice will be highlighted.

**References:**  
[1] Macfarlane GJ, et al. EULAR revised recommendations for the management of fibromyalgia. *Ann Rheum Dis* 2017;76:318–328.

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