# EULAR recommendations for the health professional's approach to pain management in inflammatory arthritis and osteoarthritis

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## Aims / Objectives

- Why is pain important?
- Overview of EULAR evidence
- EULAR Principles
- Recommendations
- Cases
- Conclusion

# Why is pain important?

- Predominant symptom in inflammatory arthritis (IA) and osteoarthritis (OA)
- 5 million GP appointments a year
  - Patients with pain see their doctor 5x as often as those without
- Loss of working days
- Wider personal & social impact

# Pain management support

- Reduce pain
- Increase function & wellbeing
- Reduce individual and societal costs

## What influences pain?

- Illness beliefs
- Mood
- Avoidance behaviour
- Obesity
- Sleep disturbance
- Pattern of rest & activity throughout the day

## EULAR Pain Guideline

- Literature review of systematic reviews conducted by multidisciplinary task force
- Evaluate evidence regarding effects on pain of multiple modalities
- Recommendations based on reviewed evidence & expert opinion
- 186 systematic literature reviews
- Types: IA, RA, SpA
- No systematic reviews on pain for PsA

# Overview of randomised trials

# Education

| Treatment modality<br>Disease<br>Specific treatment modality | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| **Education and self-management** | | | |
| RA | 8 | o/+ | ⊕⊕ |
| SpA | 1 | o | ⊕⊕ |
| OA-general | 6 | o/+ | ⊕⊕⊕ |
| OA-hand/wrist | 1 | o | ⊕ |
| OA-hip/knee | 4 | + | ⊕⊕⊕ |
| OA-knee | 4 | + | ⊕⊕⊕ |

# Orthotics

| Treatment modality<br>Disease<br>Specific treatment modality | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| Orthotics | | | |
| RA | | | |
| Orthotic gloves | 2 | o/+ | ⊕⊕ |
| Splints | 5 | o/+ | ⊕⊕ |
| Insoles | 8 | o/+ | ◐◐ |
| Orthopaedic shoes | 3 | + | ⊕⊕ |
| Padded hosiery | 1 | + | ⊕ |
| OA-hand/wrist | | | |
| Orthotic gloves | 1 | o | ⊕ |
| Splints | 8 | + | ◐◐ |
| OA hip | | | |
| Insoles | 1 | + | ◐ |
| OA-knee | | | |
| Braces | 10 | ?/+ | ⊕⊕ |
| Sleeves | 1 | + | ⊕⊕ |
| Elastic bandages | 2 | + | ◐◐ |
| Taping | 3 | ?/+ | ⊕⊕ |
| Orthoses in general | 1 | + | ⊕⊕ |
| Insoles | 15 | ?/+ | ⊕⊕ |
| Orthopaedic shoes | 1 | + | ⊕⊕ |
| Cane | 1 | + | ⊕⊕ |

# Psychological interventions

| Treatment modality<br>Disease<br>Specific treatment modality | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| Psychological interventions | | | |
| RA | | | |
| Cognitive–behavioural therapy | 7 | + | ⊕⊕⊕ |
| Biofeedback | 1 | + | ⊕⊕ |
| SpA | | | |
| Cognitive–behavioural therapy | 1 | o | ⊕ |
| OA-general | | | |
| Cognitive–behavioural therapy | 1 | + | ⊕⊕⊕ |
| Psychosocial and coping interventions | 1 | + | ⊕⊕⊕ |
| Relaxation techniques | 1 | + | ⊕ |
| OA-hip/knee | | | |
| Relaxation techniques | 1 | + | ⊕ |
| OA-knee | | | |
| Biofeedback | 1 | o | ⊕ |

## Weight / multimodal treatment

| Treatment modality<br>Disease<br>Specific treatment modality | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| **Weight management** | | | |
| RA | 2 | + | ⨁◯ |
| SpA | 1 | + | ⨁ |
| OA-hip/knee | 2 | + | ⨁⊖⨁ |
| OA-knee | 10 | o/+ | ⨁⊖⨁ |
| **Multimodal treatment** | | | |
| RA | | | |
| Comprehensive occupational therapy | 1 | o | ⊖⨁ |
| OA-hand/wrist | | | |
| Multidisciplinary therapy | 1 | o | ⊖⨁ |
| OA knee | | | |
| Comprehensive physical therapy | 1 | o | ◯◯◯ |

## Physical activity / exercise

| Treatment modality<br>Disease | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| **General exercise** | | | |
| RA | 5 | o/+ | ⨁⨁ |
| SpA | 6 | + | ⨁⨁ |
| OA-general | 6 | + | ⨁⨁⨁ |
| OA-hand/wrist | 4 | o/+ | ⨁⨁ |
| OA-hip/knee | 11 | + | ⨁⨁⨁ |
| OA-hip | 11 | o/+ | ⨁⨁ |
| OA-knee | 18 | + | ⨁⨁⨁ |
| OA-foot/ankle | 2 | + | ⨁⨁ |
| **Aerobic exercise** | | | |
| RA | 3 | o/+ | ⨁⨁ |
| OA-general | 3 | + | ⨁⨁⨁ |
| OA-hip/knee | 2 | o/+ | ⨁⨁ |
| OA-hip | 1 | o | ⨁ |
| OA-knee | 9 | + | ⨁⨁⨁ |

## Physical activity / exercise

| Treatment modality<br>Disease | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| **Strength and resistance** | | | |
| RA | 2 | o/+ | ⊕⊕ |
| OA-general | 3 | + | ⊕⊕⊖ |
| OA-hand/wrist | 2 | o/+ | ⊕⊕ |
| OA-hip/knee | 4 | + | ◐◐◯ |
| OA-hip | 3 | + | ⊕⊕ |
| OA-knee | 14 | + | ⊕⊕⊖ |
| **Tai chi, yoga, qigong, whole body vibration** | | | |
| RA | 3 | ?/+ | ⊕ |
| OA-general | 6 | o/+ | ⊕ to ⊖⊕ |
| OA-hand/wrist | 3 | + | ⊕ |
| OA-hip/knee | 1 | o/+ | ◐◐ |
| OA-knee | 12 | o/+ | ◐ to ◯◐ |

## Miscellaneous therapy

| Treatment modality<br>Disease | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| **Acupuncture** | | | |
| RA | 5 | o/+ | ◐◐ |
| OA-general | 4 | o/+ | ⊕⊕ |
| OA-hand/wrist | 3 | o/+ | ⊕ |
| OA-hip/knee | 2 | + | ⊕⊕ |
| OA-hip | 1 | o | ⊕⊕ |
| OA-knee | 16 | + | ⊕⊕⊖ |
| **Balneotherapy and massage** | | | |
| RA | 3 | o/+ | ⊕⊕ |
| SpA | 2 | o/+ | ⊕ |
| OA-general | 5 | o/+ | ⊕ to ⊕⊖ |
| OA-hand/wrist | 3 | + | ⊕ |
| OA-hip/knee | 2 | o/+ | ◐ |
| OA-knee | 8 | + | ◐◐ |
| **Thermotherapy** | | | |
| RA | 4 | o/+ | ⊕⊕ |
| OA-general | 1 | o | ⊕ |
| OA-hand/wrist | 3 | o/+ | ⊕⊕ |
| OA-knee | 4 | o/+ | ⊕⊕ |

# Miscellaneous therapy

| Treatment modality<br>Disease | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| **Ultrasound, radiotherapy and diathermy** | | | |
| RA | 3 | + | ⊕⊕ |
| OA-general | 2 | o/+ | ⊕⊕ |
| OA-hip/knee | 2 | ?/o | ⊕⊕ |
| OA-knee | 12 | o/+ | ⊕⊕ to ⊕⊕⊕ |
| **Electromagnetic therapy** | | | |
| RA | 2 | o/+ | ⊕⊕ |
| OA-general | 1 | + | ⊕⊕⊕ |
| OA-hip/knee | 3 | + | ⊕⊕ |
| OA-knee | 18 | ?/+ | ⊕⊕ to ⊕⊕⊕ |
| **Laser therapy** | | | |
| RA | 3 | + | ⊕⊕ |
| OA-general | 2 | o/+ | ⊕⊕ |
| OA-hand/wrist | 4 | o | ⊕⊕ |
| OA-knee | 7 | o/+ | ⊕⊕⊕ |

# Miscellaneous therapy

| Treatment modality<br>Disease | Reviews (n) | Direction of effect | GRADE quality of evidence |
|---|---|---|---|
| **Magnet therapy** | | | |
| OA-general | 1 | o/+ | ⊕⊕ |
| OA-hand/wrist | 2 | o/+ | ⊕⊕ |
| OA-knee | 2 | o | ⊕⊕ |
| **Manual therapy/joint mobilisation** | | | |
| OA-hand/wrist | 4 | + | ⊕⊕⊕ |
| OA-hip/knee | 1 | o/+ | ⊕⊕ |
| OA-hip | 1 | + | ⊕⊕ |
| OA-knee | 1 | + | ⊕⊕ |
| **Diverse** | | | |
| OA-general (healing, qigong, chiropractic) | 1 | o/+ | ⊕ |
| OA-hand/wrist (leeches, copper bracelets) | 2 | o/? | ⊕ |

# Summary

- Uniformly positive – physical activity & psychological interventions
- Certain disease groups:
  - Education (OA hip, knee)
  - Orthotics (orthopaedic shoes (RA, OA knees); splints (OA hands); knee orthoses (OA knees)
  - Weight (RA, SpA, OA of hip/knee)
  - MDT

# Pharmacological therapies

No systemic reviews identified by EULAR guidance but:

- Analgesics
  - Paracetamol, codeine, opiate-like
- NSAIDs
- Intra-articular injections (e.g. steroids)
- Neuropathic agents

- Task forces recommend:
  - 1st line: paracetamol
  - topical NSAID/capsaicin (OA, certain joints)
- Intra-articular injections (OA, IA)
- **Aim to achieve a more manageable, predictable level of pain NOT complete abolition of pain**

# Pharmacological therapies

- Opioids effective for acute pain & in palliative care
- "Strong" opioids in chronic non-malignant, non-palliative pain NOT strongly supported by medical evidence
- British Pain Society: doses >60mg BD of morphine or equivalent unlikely to bring any additional benefit
- Some patients derive time-limited benefit (review at least every 6 month)
- If patients are not reporting improvement in function, even if pain reporting reduced, strong opioids should be gradually reduce (to lowest effective dose) and stopped where possible
  - Long-term risks (constipation, immune, fertility, dependence)

# Sleep interventions

No systemic reviews identified by EULAR guidance but:

- Some RCTs shown CBT improved insomnia & pain in OA
- Another study CBT / placebo - improved sleep & pain reduction @ 6 month
  - CBT group: significantly greater reductions in wake after sleep onset
    - Reflects sleep fragmentation and can predict decreases in clinical pain
- Sleep (data from non-rheumatic meta-analysis)
  - Behaviour interventions (inc. self-help) improve sleep outcomes
    - Face to face > 4 sessions more effective than self-help

## EULAR Principles:

- The assessment and treatment process should be guided by a patient-centred framework.

- Patient-centred care
- Care that is respectful & responsive to patient preferences/ needs
- Patient values to guide decision making
  - Adherence / compliance
- Validation of patient's pain experience
  - Trust / engagement

## EULAR Principles:

- The health professional should understand that (any type of) pain encompasses multiple and mutually interacting biological, psychological and social factors that include but are not limited to pain severity, peripheral (inflammation and joint damage) and central neurophysiological processes, physical (dis)ability, resilience and vulnerabilities (emotions, cognitions, behaviour, lifestyle), social factors (work, support, facilities, economic), sleep quality, obesity and other health risks (eg, smoking, alcoholism).

- Bio / psycho / social
- All factors interactive & reciprocating

## EULAR Principles:

- The health professional should have basic knowledge of the pathology, treatment and sequelae of inflammatory arthritis and osteoarthritis.
- The health professional should be able to differentiate between localised and generalised pain and should know that these types of pain may coexist.

- What is generalised / widespread pain?

## EULAR Principles:

- The health professional should have basic knowledge of the pathology, treatment and sequelae of inflammatory arthritis and osteoarthritis.
- The health professional should be able to differentiate between localised and generalised pain and should know that these types of pain may coexist.

- What is generalised / widespread pain?

- Pain present in both sides of body & above and below the waist

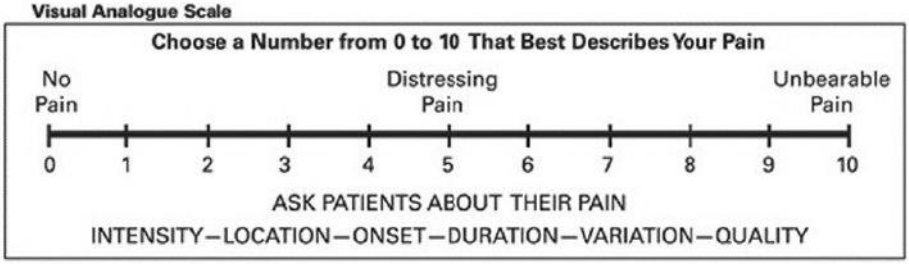
# EULAR Recommendations:

**Table 4** EULAR recommendations for the health professionals' approach to pain management in inflammatory arthritis and osteoarthritis

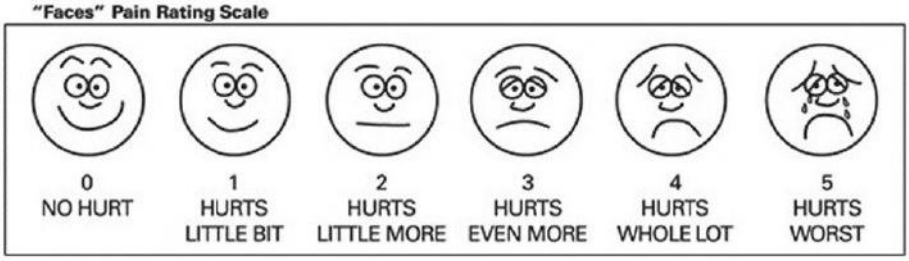
| | Level of evidence | Strength of recommendation | Level of agreement task force: mean (SD) |
|---|---|---|---|
| 1. Assessment by the health professional should include the following aspects (the assessment is brief or extensive depending on factors such as available time, whether it is a first or regular consultation, and the needs of the patient): | 4 | D | 9.3 (0.8) |
| Patient's needs, preferences and priorities regarding pain management and important activities, values and goals in daily life. | | | |
| Patient's pain characteristics including severity, type, spread and quality. | | | |
| Previous and ongoing pain treatments and the perceived efficacy. | | | |
| Current inflammation and joint damage as sources of pain, and whether these are adequately treated. | | | |
| Pain-related factors that might need attention: (a) the nature and extent of pain-related disability, (b) beliefs and emotions about pain and pain-related disability, (c) social influences related to pain and its consequences, (d) sleep problems and (e) obesity. | | | |
| 2. The patient should receive a personalised management plan with the aim of reducing pain and pain-related distress and improving pain-related function and participation in daily life. This plan is guided by shared decision-making, the expressed needs of the patient, the health professional's assessment and evidence-based treatment options. A stepped-care approach may include, in step 1, education and self-management support (recommendation 3); in step 2, one or more treatment options by a specialist if indicated (recommendations 4 to 9); or, in step 3, multidisciplinary treatment (recommendation 10). | 4 | D | 9.0 (0.8) |

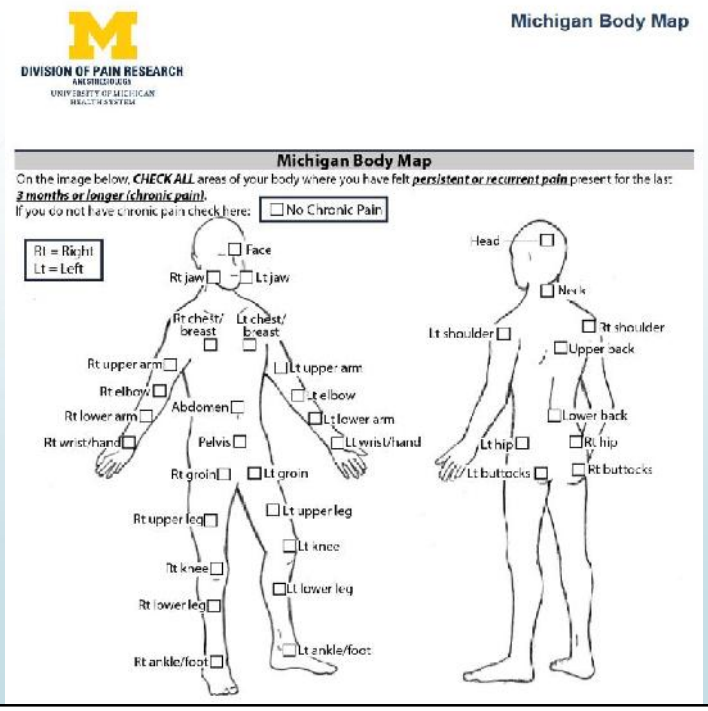
**Figures: Tools Commonly Used to Rate Pain**

**Visual Analogue Scale**




**"Faces" Pain Rating Scale**



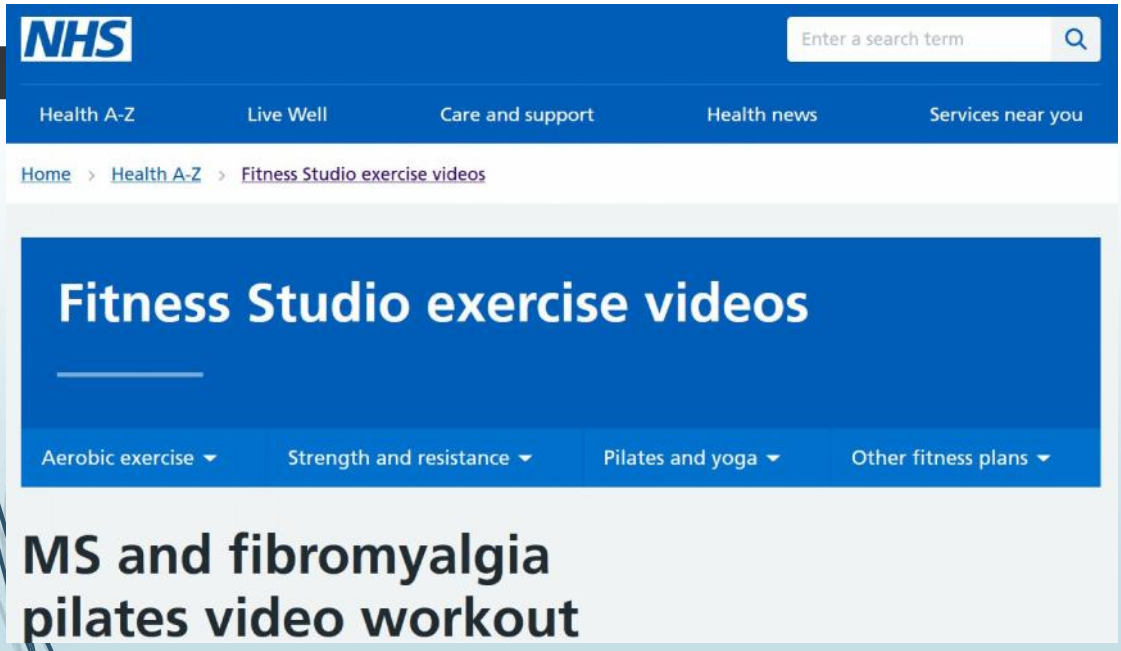


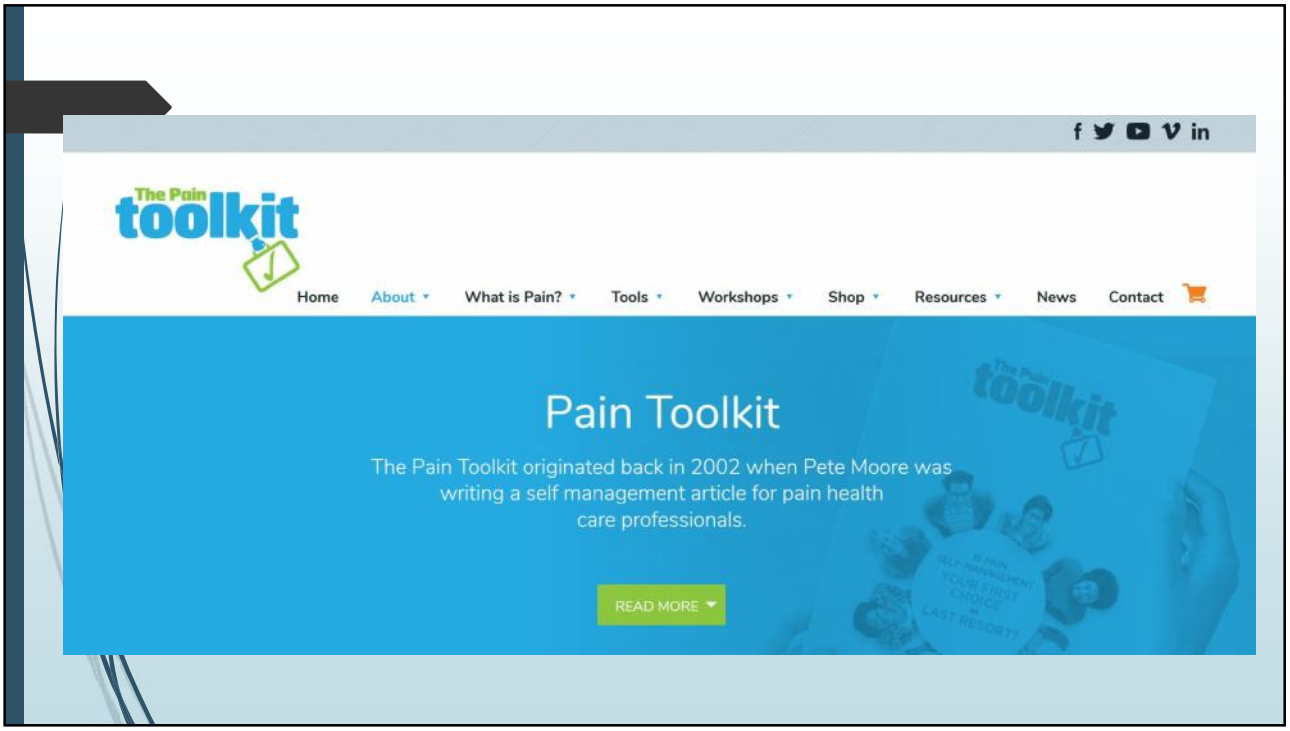

## EULAR Recommendations:

- Education (brochure, online, self-management)
- Physical activity
- Orthotics
- Psychological / social interventions
- Sleep interventions
- Weight management
- Pharmacological
- MDT

# EULAR Recommendations:

- **Education**
  - Materials
  - Psycho-education
  - Self-management
- **Physical**
  - Physiotherapy
    - Graded exercise
    - Strength training
  - +/- CBT



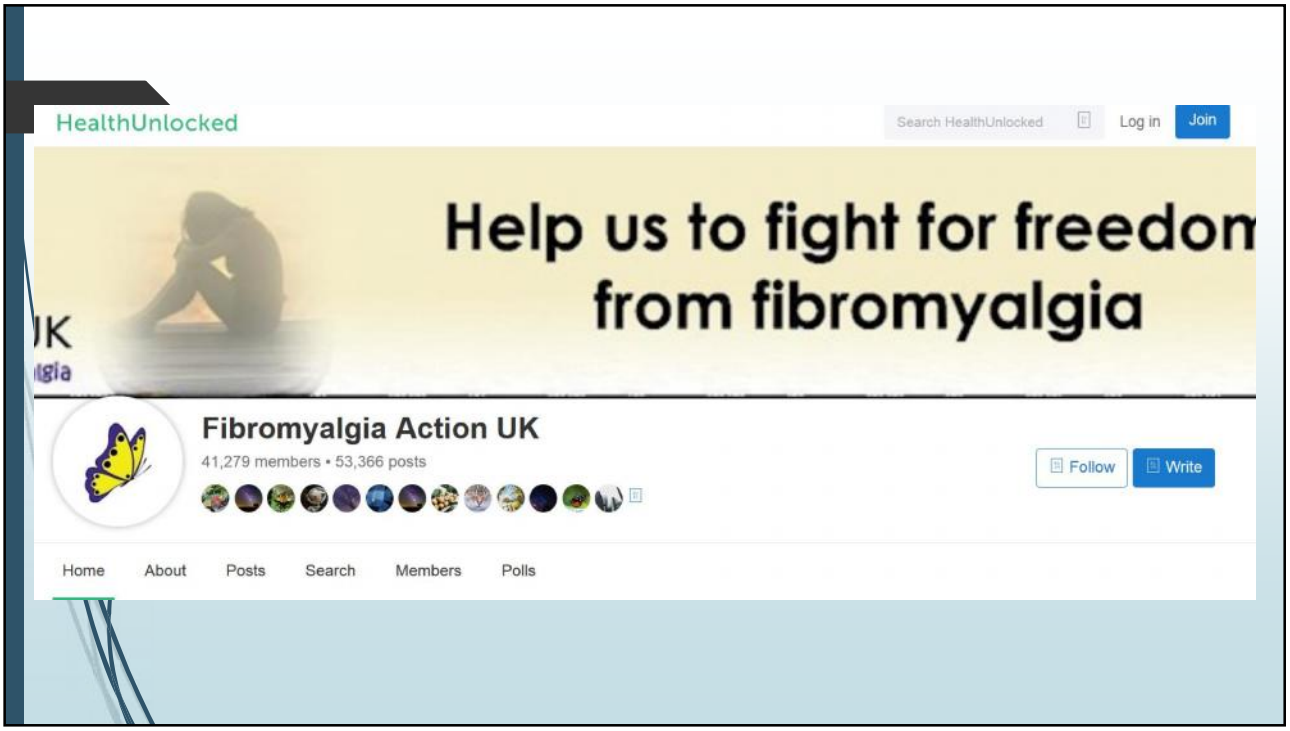



## EULAR Recommendations:

- **Orthotics**
  - Splints, brace, glove, sleeve, insoles, shoes
  - Living aids
  - Assistive device
  - Ergonomics
  - Occupational therapist

# EULAR Recommendations:

- **Psychological / social**
  - Psychologist
  - Social worker
  - Self management support programme
  - CBT
  - MDT
  - Involve GP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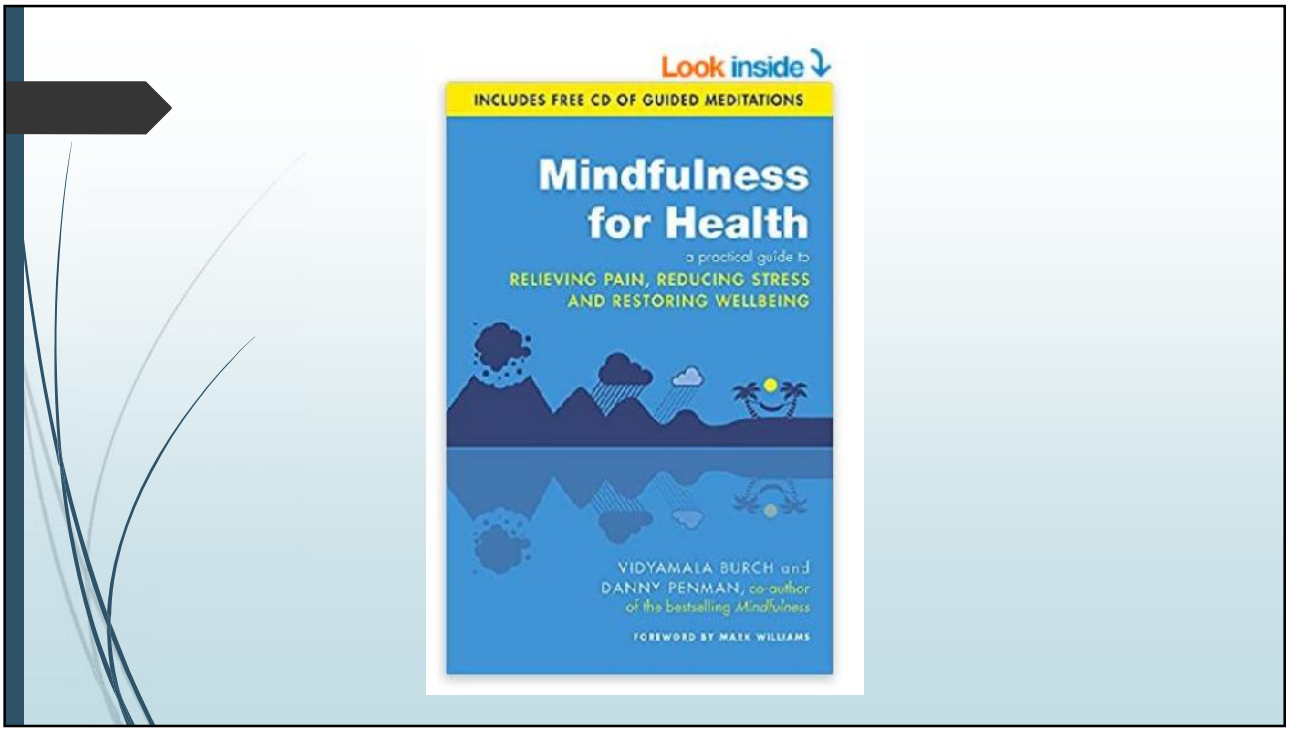
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FOREWORD BY MARK WILLIAMS

## EULAR Recommendations:

- **Sleep interventions**
  - Enquire cause
  - If severe: sleep clinic/therapist
- **Sleep hygiene:**
- get up at the same time every morning
- try to relax before going to bed
- try to create a bedtime routine, such as taking a bath and drinking a warm, milky drink every night
- avoid caffeine, nicotine and alcohol before going to bed
- avoid eating a heavy meal late at night
- make sure your bedroom is a comfortable temperature, and is quiet and dark
- avoid checking the time throughout the night

## EULAR Recommendations:

- **Weight management**
  - Education
  - Dietician

**Recommendation**

**Overarching principles**
Patient-centered framework
Biopsychosocial perspective
Knowledge of inflammatory arthritis and osteoarthritis
Differentiate localized and generalized pain

↓

**Assessment**
Patients' needs, preferences, priorities
Pain characteristics
Previous and ongoing pain treatments
Inflammation and joint damage
Pain-related (biopsychosocial) factors that might need attention

↓

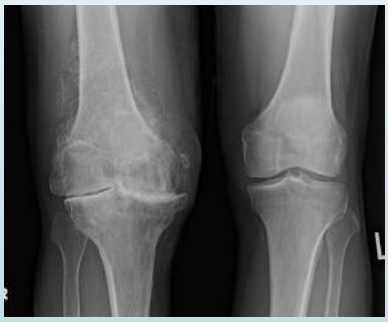
**Treatment**
Personalized pain management plan including one or more treatment options (shared decision making)
Stepped approach: Education → Specific treatment options → Multidisciplinary treatment

- Physical activity and exercise
- Orthotics
- Psychological and social interventions
- Sleep interventions
- Weight management
- *Pharmacol. & joint-specific management*

Handout with guide to pain management in inflammatory arthritis and osteoarthritis.

# Case 1

- 72F Betty
- Right left knee pain worsening over 5 years
  - Crepitus on bending, cannot kneel down; unsure if wants surgery



# Case 1

- Medication:
  - Paracetamol 1g QDS
  - Codeine too constipating
  - NSAID gels mild benefit
  - What next?

# Case 1

- Medication:
  - Tramadol?
  - Butrans patch?
  - Morphine tablets?
  - Neuropathic agent?
  - Capsaicin gel?
  - Surgery?

# Case 1

- MDT approach:
- Options? Interested in complementary therapy?

# Case 1

- MDT approach:
- Education / ARUK Leaflet
- Physiotherapy / strengthening exercise
- Orthotics: Sleeve. Elastic bandage
- Acupuncture
- Balneotherapy
- Massage
- Manual therapy

# Case 1

- Decides to have surgery
- "What about a steroid injection" due to long waiting list?

# Case 1

- Decides to have surgery
- "What about a steroid injection" whilst waiting?
- Need at least 3 month gap due to infection risk
- What are hyaluronic acid injection?

# Case 1

- Decides to have surgery
- "What about a steroid injection" whilst waiting?
- Need at least 3 month gap due to infection risk
- What are hyaluronic acid injection?
  - Controversial as mixed evidence, can take up to 3 months to have any effect

# Case 2

- 46F Susan
- Seropositive rheumatoid arthritis (2011)
- Secondary fibromyalgia (2017)
- Troubled by foot pain with mild deformity, less mobile, poor sleep, weight gain, mood labile, BMI 29
- Plan from last appointment: "likely fibromyalgia now predominant factor with chronic rheumatoid deformity in feet, see after bone scan ?any active inflammation"
- Tenderness of all small joints of hands/feet/hips/knees. No synovitis on examination.
- Normal CRP/ESR
- US feet: No morton neuroma, no active inflammation seen.
- NM bone scan: No evidence of an active inflammatory arthropathy.

## Case 2

- Medication:

- Methotrexate 20mg PO / week; Hydroxychloroquine 200mg BD, Folic acid 5mg / week
- Co-codamol 30/500 TT QDS
- Amitriptyline 10mg ON
- Citalopram 20mg OD

- What options available?

## Case 2

- Medication:

- Methotrexate 20mg PO / week; Hydroxychloroquine 200mg BD, Folic acid 5mg / week
- Co-codamol 30/500 TT QDS
- Amitriptyline 10mg ON
- Citalopram 20mg OD

- ?Escalate to tramadol
- ?Neuropathic agent / up-titrate amitriptyline

## Case 2

- MDT approach:
- ARUK Exercise sheets
- Education, ARUK Fibromyalgia leaflet
- 8 month wait for pain management programme!
- What else in the meantime?

## Case 2

- MDT approach:
- ARUK Exercise sheets
- Education, ARUK Fibromyalgia leaflet
- NHS Fitness Studio website – exercise videos / Tai Chi DVD
- Foot symptoms – Orthopaedic shoes / insoles
- CBT
- Sleep hygiene
- Weight loss
- Self help: Paintoolkit.org, fibromyalgia UK forum
- Mindfulness (book, e-learning), Wellbeing service

# Conclusions

- Recognise bio/psycho/social approach to pain management
- Consider all holistic options available approach to IA / OA whether single or multiple joint involvement
- Pain medication only a small part of overall management
- Give patient a personalised plan prior to any pain management programme
  - Physical therapy (consider for all)
  - Psychological therapy (consider for all)
  - Orthotics, sleep, weight ((depending on area involved)
  - Complementary (commonest acupuncture, balneotherapy, massage)

# Any questions?