Sussex MSK Partnership Central

NHS

Fibromyalgia

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Sussex MSK Partnership is brought together by

BICS Brighton & Hove Integrated Care Service

Sussex Community NHS Foundation Trust

Sussex Partnership NHS Foundation Trust

HORDERHEALTHCARE

FMS Epidemiology

- FMS affects about 2% of the UK population
- Females outnumber males in a ratio of 7:1
- Huge incremental healthcare costs especially prior to diagnosis
- Most common age group is between 45–60
- But can occur at any age, even in children
- No distinction between ethnic or social groups
- Spontaneous remission is uncommon

WHAT CAUSES FMS

- Altered central pain processing – pain centralisation dysfunction of the hypothalamic-pituitary-adrenal (HPA) axis
- Sleep disturbance – loss of non REM sleep
- Genetic factors
- Depression there is an association but wether primary or secondary is unknown
- Trigger factors ? No real evidence- infections, physical trauma, etc

Pain Amplification

Peripheral sensitisation

Increase in the following:

- Substance P
- Nerve growth factor
- Glutamate

Central sensitisation

Subsequent activation of the n-methyl-d-aspartate (NMDA) receptors

The *influence* of the descending inhibition pathway from the brain is severely *diminished* by decreased levels of serotonin and noradrenaline, further augmenting the state of pain amplification.

Features of FMS?

- **Widespread muscular pain**
- **Generalised stiffness**
- **Persistent fatigue**
- **Non-refreshing sleep**

NB Patients with FMS do not look ill and may not appear clinically weak

Onset can be sudden or gradual, traumatic or non
Traumatic

Symptoms can wax and wane but seldom disappear

Cold and humid weather, poor sleep, and physical or mental stress may aggravate symptoms while warm and dry weather, moderate physical activity,
adequate sleep, and relaxation usually improves symptoms

In FMS:

Associated Symptoms

- Numbness & tingling
- Cold sensitivity
- Headaches
- TMJ dysfunction
- Raynaud's symptoms
- Restless legs
- Dysmenorrhoea
- Irritable bladder
- Irritable bowel
- Cognitive dysfunction
- Exercise intolerance
- Anxiety and reactive depression

Differential Diagnosis

- Polymyalgia rheumatica
- Regional myofascial pain
- Hypothyroid
- ME/CFS
- Systemic lupus
- Lyme disease
- Osteoarthritis
- Connective tissue disease
- Joint hypermobility

ARC 1990 Classification Criteria

- **Presence of chronic (for longer than three months) widespread continuous pain**
- **All quadrants (plus axial skeleton)**
- **Pain in at least 11 of 18 points**

(Accurate manual tender point examination force of 4kg (patient must say it hurts……)

- The presence of a second clinical disorder does not exclude the diagnosis of fibromyalgia

- Although quick and easy to do, 25% of patients diagnosed as having fibromyalgia did not have 11 tender points (2)

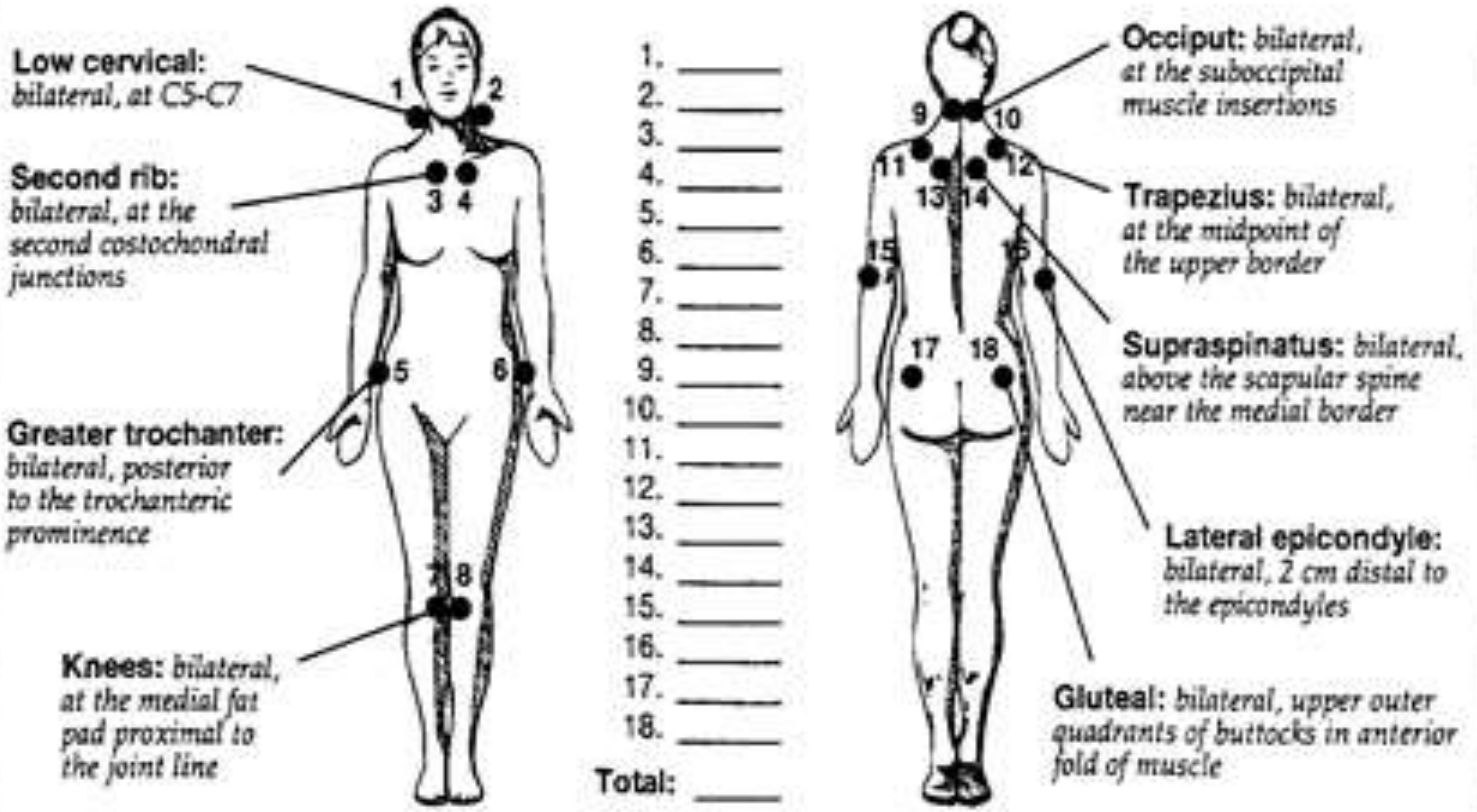
There are no laboratory tests available to aid the diagnosis of FMS

ARC 2010 Classification Criteria

- The 31 point questionnaire
- No tender-point count
  - the widespread pain index (WPI) – scores number of painful regions out of 19
  - a symptom severity score (SS) – for fatigue, unrefreshing sleep, and cognitive symptoms
- Must have (WPI) ≥7 and (SS) scale score ≥5 or WPI 3 - 6 and SS scale score ≥9.
- symptoms have been present at a similar level for at least 3 months.
- the patient does not have a disorder that would otherwise explain the pain (3)

Tender Points for Diagnosis of Fibromyalgia

Severity Scale: **A.** Very Painful **B.** Somewhat Painful **C.** Mildly Irritating



Anatomic location of tender points according to the American College of Rheumatology 1990 classification criteria for fibromyalgia.

Barriers To Diagnosis

An accurate diagnosis can take an average of five years

Often missed because symptoms are vague and generalised

Laboratory tests negative – multiple referrals

Other diseases do not rule out an FM diagnosis

What Happens to Patients?

- Unhelpful life style adaptations
- Deconditioning cycles
- Time off work/loss of employment
- Social deprivation
- Economic deprivation
- Negative psychological impact
- Sick roles and ‘helpful’ relatives

Diagnosis

- A definitive diagnosis as soon as possible can lead to more focussed and successful treatment reducing the stress of the unknown
- Avoids lengthy investigation
- Acknowledge the individual's experience and description of pain explaining the link between poor sleep and pain
- Fibromyalgia is not a diagnosis of exclusion. Most physicians rely on a combination of symptoms and normal blood testing to diagnose FM with less than 10% using criteria
- Patients treated in primary care settings and those with recent onset of symptoms generally have a better prognosis

Examination history and assessment linked to pathway

- Duration of pain
- Rate and frequency of deterioration and symptoms
- Pain level – Visual Analogue Score (0 -10) may be helpful
- PMH/Comorbidities/Peri- menopausal
- Function: ADL's
- Organ specific symptoms to exclude: systemic disease, depression, Anxiety, PHQ9 GAD7 may be helpful
- Non-specific weight-loss, fevers, sweats, fatigue, can't sleep, concentration, mood
- Yellow flags (psycho-social): Work, relationships, leisure, QOL
- Requires full examination including lymph nodes, breasts and thyroid

Investigations

Consider the following if symptoms are persistent/severe:

Urine dipstick – to investigate renal disease / involvement

FBC, U&E, LFT, random glucose, thyroid function, CRP/ESR, bone profile, PSA

CK, chest x-ray

EULAR evidence based recommendations for the management of fibromyalgia syndrome

“Optimal treatment requires a multidisciplinary approach with a combination of non-pharmacological and pharmacological treatment modalities tailored according to pain intensity, function, associated features such as depression, fatigue and sleep disturbance in discussion with the patient”

Management

Generally expectant and supportive, review as necessary.

At each review, check and re-check for:

- Inflammatory joint pain (new)
- More than 30 minutes stiffness in early morning

If all tests are ok:

- Patient education and advice
- Simple analgesics in line with agreed formularies / NICE guidance
- Psycho-social support
- Consider vitamin D supplementation

Non pharmacological management

Strong evidence:

- Heated pool treatment with or without exercise is effective in Fibromyalgia Improves pain
- Individually tailored exercise programmes including aerobic exercise and strength training Improves pain
- Cognitive behavioural therapy may be of benefit to some patients with Fibromyalgia. Improves pain, fatigue mood and physical function
- Other therapies such as relaxation, rehabilitation, physiotherapy and psychological support may be used depending on the needs of the individual patient.
- Mindfulness Improves pain

Education

Education combined with multidisciplinary approaches to management, can improve pain, sleep disturbance, fatigue, and quality of life.

Improves pain, sleep, fatigue, and quality of life

We are working towards increasing integrated approaches between pain/fibromyalgia service

Complementary therapy

- Four out of 10 people in the UK use complementary medicine at some point in their lives
- Over £450 million a year is spent on acupuncture, chiropractic, homeopathy, hypnotherapy, medical herbalism and osteopathy
- 60 % of people with arthritis and musculoskeletal conditions, try complementary therapy

Medication

<u>NOT</u> the first line of treatment

but can be helpful in certain situations and mainly symptomatic

Treat with caution

Medications Evidence

- Strong evidence :
  - Amitriptyline, 25-50 mg at bedtime
  - Pregabalin, 450 mg/day
  - Gabepentin, 1600-2400 mg/day
  - Duloxetine, 60-120 mg/day

- Modest evidence :
  - Tramadol, 200-300 mg/day
  - SSRIs (fluoxetine, sertraline)
- Weak evidence: pramipexole, gamma hydroxybutyrate, growth hormone, 5-hydroxytryptamine, tropisetron, s-adenosyl-methionine

No evidence

opioids, NSAIDS, benzodiazepene

and nonbenzodiazepene

hypnotics, melatonin, magnesium,

DHEA, thyroid hormone, OTCs

Medication

- Step-wise approach to analgesia (normal analgesic ladder but avoiding NSAIDS and strong opioids)
- SSRIs, usually citalopram or sertraline
- Low dose amitriptyline or nortriptyline at night
- Gabapentin: titrate to lowest effective dose
- Monitor response: Pain level Consider: Visual Analogue Score, PHQ9, GAD7 and ADLs

Referral thresholds

- MSK service Nurse consultant if symptoms persist 6-12 weeks or marked deterioration
  - No synovitis and normal investigations or red flags
- MSK Specialist/rheumatology OT for functional difficulties
- Treat or refer to other specialty for abnormal investigations
- MSK Rheumatologist if diagnostic uncertainty and raised ANA

MSK service

- Reassessment
- Patient education
- Medications management
- 1:1 session / CBT
- FMS SMP
- PMP
- MDT input
- Pain tool kit

- Outcome tools
- FIQ
- SF 36
- VAS pain
- GAD 7
- PHQ9

Outcomes of SMP

Baseline			Follow up		
GAD7	PHQ9	FIQR	GAD7	PHQ9	FIQR
14	14	73	12	10	55
11	19	84	3	7	81
19	28	80	11	14	50
11	9	66	6	8	58
9	14	73	4	7	45
13	22	72	DNA	DNA	DNA
18	21	77	DNA	DNA	DNA
10	19	92	DNA	DNA	DNA
10	16	74	DNA	DNA	DNA
16	20	48	3	3	15

Case Study

- **Victoria 40**

- **Pain everywhere worsening since childbirth**
- **Difficulty sleeping – can't get comfortable, wakes easily**
- **Walks with stick back pain**
- **Headaches**
- **Fatigue**

What would you do? – investigations etc

- ESR FBC U&E all normal
- No red flags or signs of synovitis or systemic symptoms

- Diagnosed with FMS
- Information?
- Medication?
- Referral?

What We Did

Lifestyle

- Reassessment
- Discussed taking several positive steps to pace activities whilst exercising.
- Cognitive exercises during discussion – re positive thinking.
- Sleep hygiene information.
- Fibromyalgia self management programme.

Medication

- Talked through rationale for regular simple analgesia and night time Amitriptyline already started by GP - didn't want an SNRI.
- Amitriptyline 10mg at night, Zapain 30 and 500 up to two at night, Paracetamol two; Up to three times a day.

Summary

- **Fibromyalgia is a common chronic pain syndrome characterized by widespread pain, tenderness, and generalized hypersensitivity to painful stimuli.**
- **Pain, fatigue, and sleep disturbance are present in most patients with this condition.**
- **The pathophysiology is not well understood. Central sensitisation, abnormalities in descending inhibitory pain pathways, neurotransmitter release, neurohumoral dysfunction, and psychological abnormalities are suggested aetiological mechanisms.**
- **Diagnosis is based on the clinical criteria set out by the American College of Rheumatology, physical examination, and exclusion of other causes for symptoms attributed to fibromyalgia.**
- **Current evidence suggests treatment of this syndrome should be individualized and include pharmacological and non-pharmacological therapies.**

Multiple joint pain

Multiple joint pain

- A common presentation in general practice
- There are many causes of multiple joint pain
- The physical and psychological impacts of conditions like RA cost the UK health economy £8 billion per year
- Early diagnosis of RA improves outcomes of disease
- Research is on going to look the benefits of this approach with inflammatory conditions

How many would you see?

A typical practice of 10,000 over 1 year

these are the numbers of different diagnoses that you are likely to see.

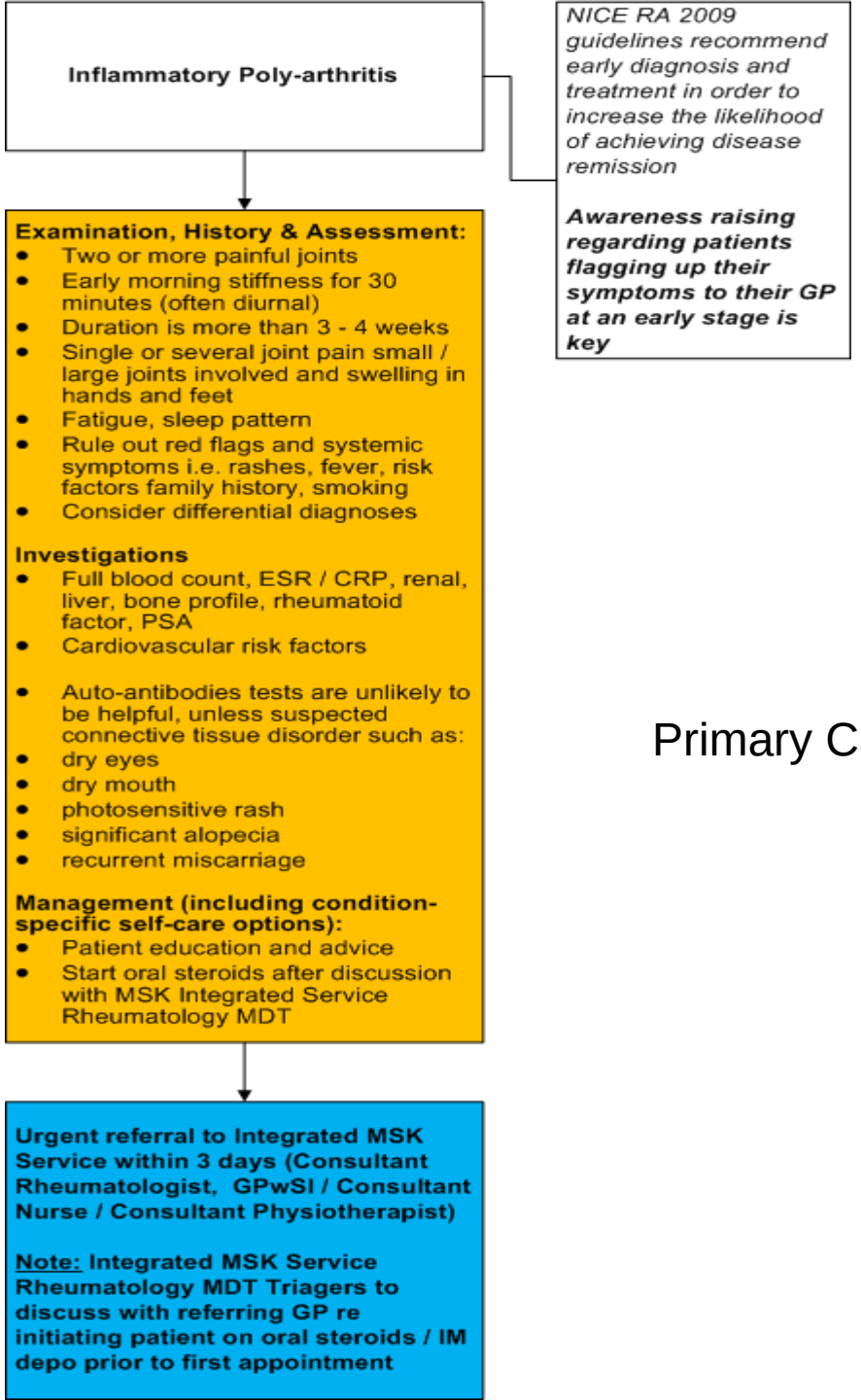
- OA 180
- RA 25
- Psoriatic arthritis 4
- AS 3

Easily missed conditions

- **Early inflammatory arthritis: rheumatoid arthritis** May present initially with joint pain and/or fatigue with no examination findings
- **Early inflammatory arthritis: psoriatic arthritis** May have only one area affected with subtle findings, e.g. dactylitis (sausage toe or finger), or periarticular inflammation such as enthesitis, e.g. presenting with Achilles pain
- **Connective tissue disease** Symptoms may be non-specific, including fatigue and arthralgia
- **Gout: acute** Marked overlying joint erythema often confused with cellulitis
- **Gout: chronic** Gouty tophi on hands in the elderly easily confused with signs of osteoarthritis such as Heberden's nodes
- **Polymyalgia rheumatica** May present with shoulder **or** hip pain initially leading to other diagnoses such as soft tissue problems or frozen shoulder

Inflammatory disease is …

Less likely	More likely
Pain after use or end of the day	Pain worse in the morning >30 minutes
Morning stiffness less than 30 minutes	Pain worse after rest/in morning
No night time pain	Night time pain
No systemic symptoms	Systemic symptoms
Chronic symptoms	Acute/subacute presentation



Primary Care Pathway

Case study

- Simon 57 works as a carpenter
- Pain both hands hips and left knee for the last few months
- BMI 36
- Symptoms worse morning and evening
- Knee stiffness main problem helped by movement. Swollen DIP 2 and three right hand
- Diagnosis?

Case study

- OA
- Core interventions via GP
- Weight loss
- Exercise information provision
- Simple pain relief
- After several months knee pain worse

? refer

Outcome

- Did not want surgery
- Referred to MSK for physiotherapy for knee

Fibromyalgia Quiz

- Please complete the quiz