The Office of Lifelong Learning, the Division of Rheumatology & the Physician Learning Program

Rheumatology Revealed: Updates on Common Diseases and Referral Tips for Family Physicians | Pearls for practice

Overview of Fibromyalgia for Family Physicians
Dr. Mena Bishay

Epidemiology

- **2-3% prevalence worldwide**
- **3rd most common MSK disease after chronic lumbar pain and osteoarthritis**
- **Female:Male 3:1**
- **Average age of onset 30-55 yrs old, but can develop at any age**

What is Fibromyalgia ?

- **Chronic widespread pain syndrome**
- **Noninflammatory**
- **Nonautoimmune**

What is Fibromyalgia?

- **Recent research has characterized it as a disorder of pain regulation and central sensitization.**
- **Brain imaging studies have shown several perturbations of pain processing and regulation that amplify pain or decrease pain inhibition**
- **Some of these include greater neuronal activity in pain-processing brain regions, exaggerated pain responses to experimental stimuli (sensitization), changes in brain morphology, regulation of peripheral or brain receptors, and altered levels of pain-related neuropeptides and neurotransmitters (for example, substance P, brain-derived neurotrophic factor, glutamine, and dopamine).**
- **These changes may extend to processing of other sensory input, potentially explaining other bothersome symptoms, such as fatigue, sleep disruption, cognitive problems, and depression.**

Bair MJ, Krebs EE. In the Clinic®: Fibromyalgia. Ann Intern Med. 2020;172(5):ITC33-ITC48. doi:10.7326/AITC202003030

Clinical Features

- **Pain is the primary symptom**
- **Diffuse or multifocal**
- **Wax and wane/ Migratory**
- **Often accompanied by dysesthesia or paresthesias**
  - **Pt descriptors may include burning, numbness, tingling**
- **Discomfort when touched or with tight clothes**
- **Morning stiffness (usually less than 60 minutes)**
- **Sleep disturbance and fatigue**
  - **Varies widely patient to patient**
  - **Fatigue may be physical or mental**
  - **Sleep disturbance may be insomnia or frequent waking**
  - **Non-restorative sleep highly prevalent**

Clinical features- Comorbidities

- **Psychiatric comorbidities**
  - **Anxiety**
  - **Depression**
- **Cognitive dysfunction (aka the Fibro-Fog)**
  - **Associated with memory deficits**
  - **Can be impacted by psychiatric comorbidities**

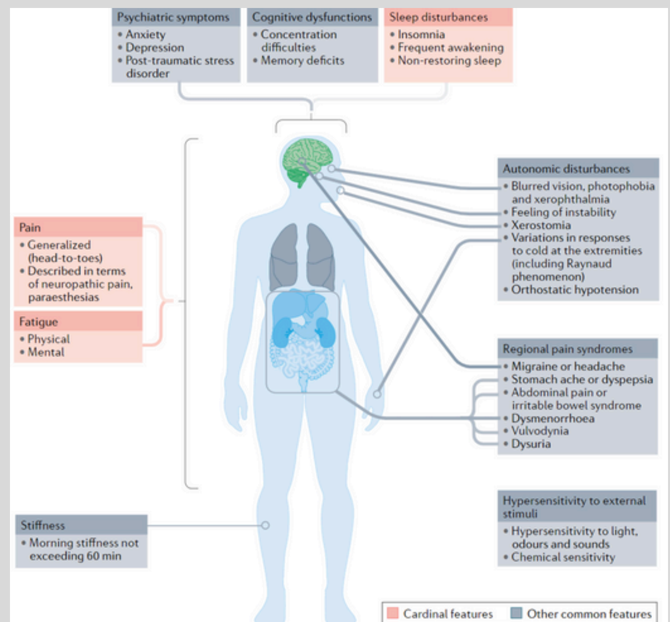

Fig. 2 | **Principal fibromyalgia symptoms.** Fibromyalgia has a complex symptomatology. Symptoms can be are divided in two groups: cardinal features (shown in pink), which include the most characteristic fibromyalgia symptoms that are pivotal for a diagnosis according to the latest criteria, and other common features (shown in in grey).

Sarzi-Puttini, P., Giorgi, V., Marotto, D. *et al.* Fibromyalgia: an update on clinical characteristics, aetiopathogenesis and treatment. *Nat Rev Rheumatol* 16, 645–660 (2020). https://doi.org/10.1038/s41584-020-00506-w

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Differential diagnosis

- Diagnosis may be challenging due to heterogeneity of clinical presentation
- Broadly, may include rheumatologic, neurologic, infectious, or endocrine conditions
- Thorough history and physical exam is usually sufficient to distinguish fibromyalgia from other conditions

Differential diagnosis comparison vs other rheumatologic conditions

Osteoarthritis
- Primarily joint pain
- Mechanical pattern of symptoms
- X-ray changes to joint

VS

Fibromyalgia
- Pain not limited to joints
- Pattern of symptoms vary
- No imaging changes

Rheumatoid arthritis
- Symmetrical polyarthropathy
- Inflammatory pattern symptoms
- Synovitis
- Deformities
- Lab abnormalities RF, CCP, CRP
- X-ray abnormalities

VS

Fibromyalgia
- Not limited to joints
- Pattern of symptoms variable
- No synovitis/swelling
- No deformities
- No associated serology

Polymyalgia rheumatica
- Achiness and stiffness hips/shoulders
- Difficult ROM
- Elevated CRP/ESR
- Age > 50
- Possible associated GCA

VS

Fibromyalgia
- Pain typically extends beyond just shoulder and hip girdles
- No change to ROM
- No elevated CRP/ESR
- Any age

Inflammatory myopathy (ex dermatomyositis)
- Weakness is main symptom +/- myalgias
- Elevated CK
- Rash
- Serology

VS

Fibromyalgia
- No loss of muscle power
- Exam may exhibit breakaway weakness
- Normal CK
- No rash

Neuropathy
- Usually dermatomal/localized
- Paresthesia
- Numbness +/- weakness
- NCS/EMG

VS

Fibromyalgia
- Diffuse
- May describe paresthesias
- No objective numbness or weakness

Infection
- Lyme
- Viral hepatitis
- Influenza

Endocrine
- Hypothyroid
- Hyperparathyroid

Malignant
- Metastatic
- Lymphoma

Sleep apnea

Side effect of some medications
- Statins
- Aromatase inhibitors
- Bisphosphonates

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Diagnostic Criteria-2016 revision

A patient satisfies modified 2016 fibromyalgia criteria if the following 3 conditions are met:

- **Widespread pain index (WPI) > 7 and symptom severity scale (SSS) score > 5 OR WPI of 4–6 and SSS score > 9.**
- **Generalized pain, defined as pain in at least 4 of 5 regions, must be present. Jaw, chest, and abdominal pain are not included in generalized pain definition.**
- **Symptoms have been generally present for at least 3 months.**
- **A diagnosis of fibromyalgia is valid irrespective of other diagnoses. A diagnosis of fibromyalgia does not exclude the presence of other clinically important illnesses.**

Wolfe F, Clauw DJ, Fitzcharles M-A, et al. 2016 Revisions to the 2010/2011 Fibromyalgia Diagnostic Criteria. Semin Arthritis Rheum. 2016;46:319-329. http://dx.doi.org/10.1016/j.semarthrit.2016.08.012

Fibromyalgia

Today's Date: ______________ DD/MM/YYYY

Name: ______________ ULI/PHN: ______________

Using the following scale, indicate for each item the level of severity **over the past week** by checking the appropriate box.

0 = No problem
1 = Slight or mild problems; generally mild or intermittent
2 = Moderate; considerable problems; often present and/or at a moderate level
3 = Severe; continuous, life-disturbing problems

Fatigue	0		1		2		3	
Trouble thinking or remembering	0		1		2		3	
Waking up tired (unrefreshed)	0		1		2		3	

(A) Score: ______________

During the **past 6 months** have you been bothered by any of the following symptoms?

Pain or cramps in lower abdomen		Yes		No
Depression		Yes		No
Headache		Yes		No

(B) Score(Yes=1, No=0): ______________

Please indicate below if you have had **pain or tenderness over the past 7 days** in each of the areas listed below. Please make an **X** in the box if you have had pain or tenderness. Be sure to mark both the right side and the left side separately.

Shoulder		Left		Right	Upper Leg		Left		Right
Hip		Left		Right	Lower Leg		Left		Right
Jaw		Left		Right	Upper Arm		Left		Right
Lower Arm		Left		Right					

Chest		Yes		No	Abdomen		Yes		No
Lower Back		Yes		No	Upper Back		Yes		No
Neck		Yes		No					

No pain in any of these areas		Yes		No

(C) Score (Each X =1): ______________

TOTAL SCORE (A+B+C): ______________

Overall, were the symptoms listed above generally present for at **least 3 months**? Yes / No

Physical Exam

- **Identify widespread joint and soft tissue tenderness**
- **Assess for and rule out other systemic conditions (thinking about DDx)**
- **Tender point exam (next slide) is no longer part of diagnostic criteria due to significant inter-observer and intra-observer variability**

Lab testing

- **No specific lab testing for fibromyalgia**
- **Lab evaluation has a limited role and should be kept to a minimum**
- **Testing is aimed at ruling out other conditions if suspected**
- **Autoantibody testing - only if features of a rheumatologic disease**
  - **ANA 1:80 positive in 15% of the healthy population**
- **Screening with RF and anti-CCP not recommended**
- **If DDx ?hypothyroid → TSH; if ?inflammatory myositis → CK**
- **No characteristic imaging findings for fibromyalgia**

Specialist Consultation

- **Should be reserved for those with atypical symptoms which may suggest an alternate diagnosis**
- **Not required to confirm the diagnosis of fibromyalgia**

Management

- **"Patients treated by community-based primary care clinicians have a better prognosis than those seen in tertiary referral centers"**

Fitzcharles M-A, Ste-Marie PA, Goldenberg DL, et al. Canadian Guidelines for the Diagnosis and Management of Fibromyalgia Syndrome. 2012

Management

Key Pillars

- **Education**
- **Sleep**
- **Exercise**
- **Pharmacotherapy**

Key Pillars

- **Education**
  - **Imperative that the patient knows this is a REAL disease**
    - **Legitimize their suffering**
    - **Let them know it is not a damaging disease**
  - **Internal locus of control**
    - **They have a main role in managing their disease**
- **Sleep/Cognitive Behavioural therapy/Mindfulness/Meditative movement (yoga, tai chi)/Hydrotherapy**

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Management-cont

Key Pillars

- **Exercise**
  - **<u>Most important strategy</u> — strong recommendation**
  - **Aerobic or weight bearing/ Land or aqua based**
  - **Supervised/graduated program**
- **Pharmacotherapy**
  - **Duloxetine***
  - **Amitriptyline**
  - **Tramadol - use with caution**
  - **Pregabalin*/gabapentin**

*Health Canada approval for Fibromyalgia

Community Resources

- **AHS**
- **<u>FibroFocus</u>**
  - **Virtual clinic based out of Calgary**
  - **Referral form available on website**

Alberta Health Services

Fibromyalgia Community Resources

Your doctor or health care provider has told you that you have Fibromyalgia.

Where can you go for more information and support?

Alberta Health Services has some wonderful programs to help support you to:

- Learn about Fibromyalgia.
- Manage your life with fibromyalgia
- Find out about the benefits of physical activity and exercise.

The three programs below will help you with each of these three areas.

1) <u>Fibromyalgia Education</u>
   This group session will give you information about fibromyalgia. The information will be provided by a team of health care providers including a rheumatologist. This is a doctor with specialized knowledge and experience in this area. Classes are offered at various locations across the Edmonton Zone. **You can register directly by calling 780-401-BOOK.**
2) <u>Chronic Pain Self-Management</u>
   Better Choice, Better Health Chronic Pain Self Management Program is a six week workshop series that provides information and tools to help you manage your chronic pain condition. The workshops are held at various locations across the Edmonton Zone. **You can register directly by calling 780-401-BOOK.**
3) <u>Supervised Transitional Exercise Program (STEP)</u>
   STEP Forward is an 8 week exercise program that is designed to meet individual needs. It will focus on improving strength, balance, coordination and function. **You can register directly by calling 780-735-3483.** <u>Click here</u> for more information.

- All of these sessions are free. You can call directly to choose the dates and locations that work best for you.
- You can also bring a family member or other support person with you. Just mention that when you call to register.

Talk to your family doctor or health care provider if you have any questions or concerns.

Table 3 Recommendations

Recommendation	Level of evidence	Grade	Strength of recommendation	Agreement (%)*
Overarching principles				
Optimal management requires prompt diagnosis. Full understanding of fibromyalgia requires comprehensive assessment of pain, function and psychosocial context. It should be recognised as a complex and heterogeneous condition where there is abnormal pain processing and other secondary features. In general, the management of FM should take the form of a graduated approach.	IV	D		100
Management of fibromyalgia should aim at improving health-related quality of life balancing benefit and risk of treatment that often 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, sleep disturbance and patient preferences and comorbidities; by shared decision-making with the patient. Initial management should focus on non-pharmacological therapies.	IV	D		100
Specific recommendations				
Non-pharmacological management				
Aerobic and strengthening exercise	Ia	A	Strong for	100
Cognitive behavioural therapies	Ia	A	Weak for	100
Multicomponent therapies	Ia	A	Weak for	93
Defined physical therapies: acupuncture or hydrotherapy	Ia	A	Weak for	93
Meditative movement therapies (qigong, yoga, tai chi) and mindfulness-based stress reduction	Ia	A	Weak for	71–73
Pharmacological management				
Amitriptyline (at low dose)	Ia	A	Weak for	100
Duloxetine or milnacipran	Ia	A	Weak for	100
Tramadol	Ib	A	Weak for	100
Pregabalin	Ia	A	Weak for	94
Cyclobenzaprine	Ia	A	Weak for	75

*Percentage of working group scoring at least 7 on 0–10 numerical rating scale assessing agreement.

<u>Macfarlane GJ, Kronisch C, Dean LE, et al. EULAR revised recommendations for the management of fibromyalgia. Ann Rheum Dis. 2017;76(2):318-328. doi:10.1136/annrheumdis-2016-209724</u>

Prognosis

- **Chronic condition**
- **Symptoms may wax/wane over time**
- **Can be triggered by physical trauma, surgery, infection, or significant psychological stress**
- **Work disability**
  - **41.5% in patients with fibromyalgia**
  - **36.8% in RA and 23.7% in OA**
- **Increased likelihood of poor outcomes:**
  - Female - Low SES - Unemployment -Depression
  - Abuse history - Catastrophizing - Excess somatic concerns -Obesity

Clinical Pearls

- **Fibromyalgia is a chronic widespread pain syndrome**
- **Often associated with comorbid conditions including fatigue, depression/anxiety, IBS, etc**
- **Diagnosis is primarily clinical**
- **Management is multimodal, with emphasis on self-management strategies and pharmacotherapy**

Additional References

- <u>Wolfe F, Clauw DJ, Fitzcharles M-A, et al. 2016 Revisions to the 2010/2011 Fibromyalgia Diagnostic Criteria. Semin Arthritis Rheum. 2016;46:319-329. doi:10.1016/j.semarthrit.2016.08.012</u>
- <u>Bair MJ, Krebs EE. In the Clinic®: Fibromyalgia. Ann Intern Med. 2020;172(5):ITC33-ITC48.</u>
- <u>Sarzi-Puttini P, Giorgi V, Marotto D, Atzeni F. Fibromyalgia: an update on clinical characteristics, aetiopathogenesis and treatment. Nat Rev Rheumatol 2020 1611. 2020;16(11):645-660. doi:10.1038/S41584-020-00506-W</u>
- <u>Wolfe F, Clauw DJ, Fitzcharles MA, et al. The American College of Rheumatology preliminary diagnostic criteria for fibromyalgia and measurement of symptom severity. Arthritis Care Res. 2010;62(5):600-610. doi:10.1002/acr.20140</u>