



Arthritis Talks: Fibromyalgia, arthritis and pain

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Webinar tips

- Use the **Q&A** section to ask the presenters your questions. Some of the questions will be chosen for the live question period at the end of the webinar.
- Click on the **Chat** box to connect with other participants and the Arthritis Society's chat moderator.
- If you have further issues, email arthritistalks@arthritis.ca

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Overview

[1]

The connection between fibromyalgia and arthritis



[2]

Types of chronic pain



[3]

Treatment options for fibromyalgia



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Q

What is the connection between arthritis and fibromyalgia? Is fibromyalgia a type of arthritis?



Let's understand arthritis vs. fibromyalgia

- ▼ Arthritis refers to a change in the anatomy of a joint, either due to inflammation as in rheumatoid arthritis or due to cartilage change as in osteoarthritis
- ▼ Fibromyalgia is the term used to explain a syndrome of pain in the musculoskeletal system that may occur in the absence of any anatomical abnormality
- ▼ BUT...fibromyalgia can also exist in patients with arthritis

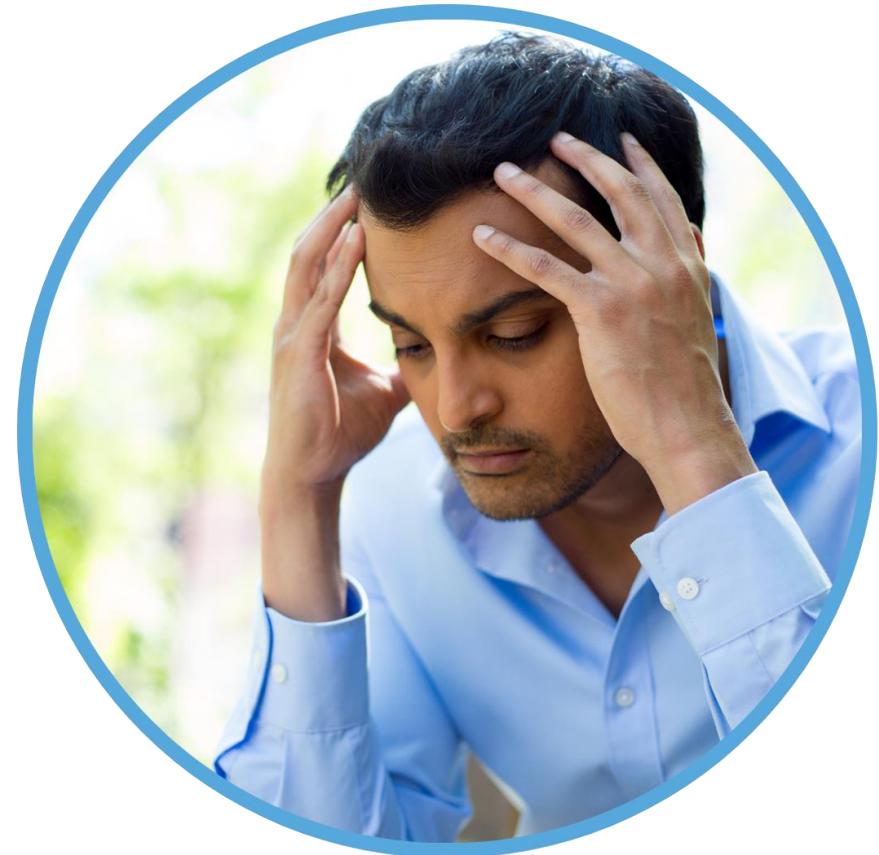
Q

Are there different types of chronic pain?

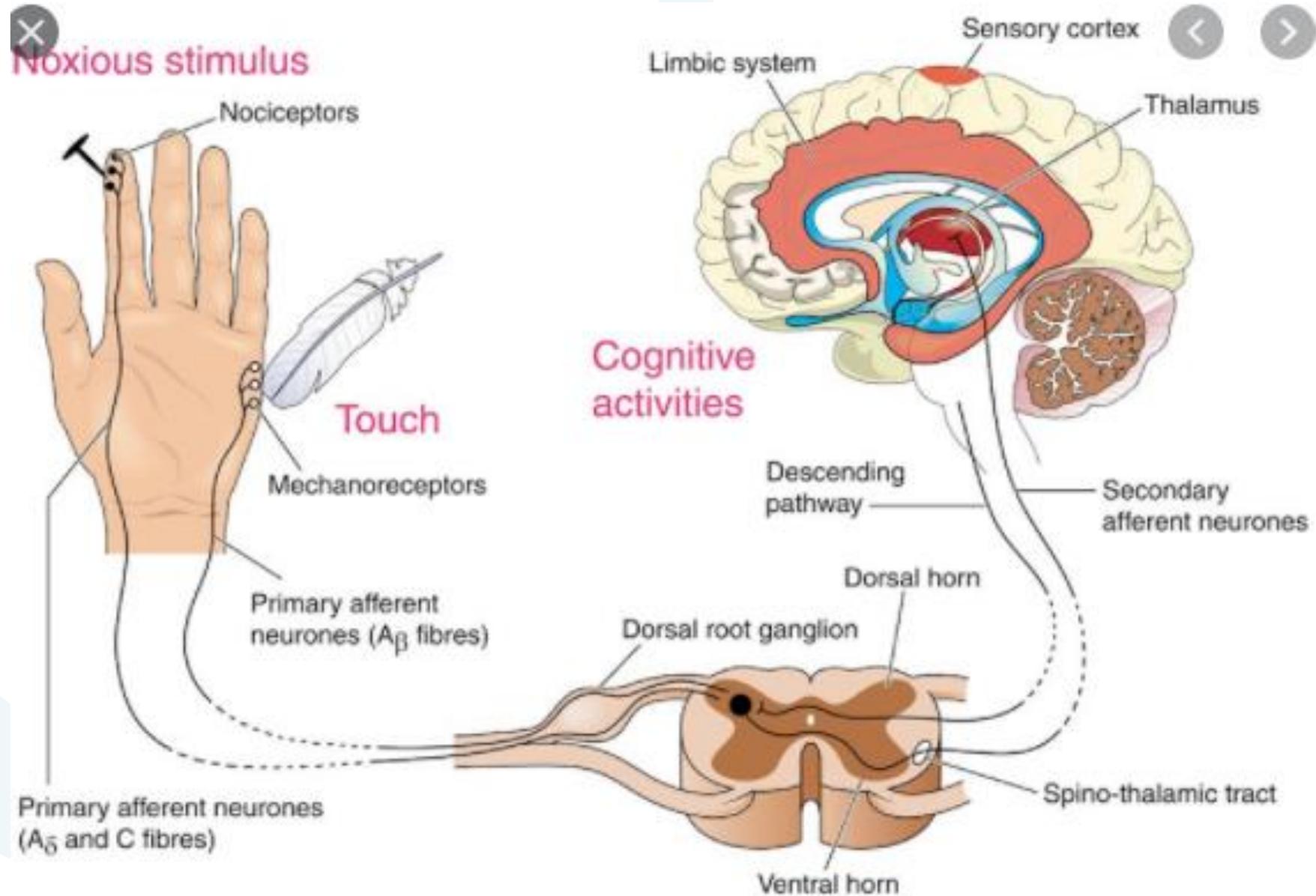


Chronic pain

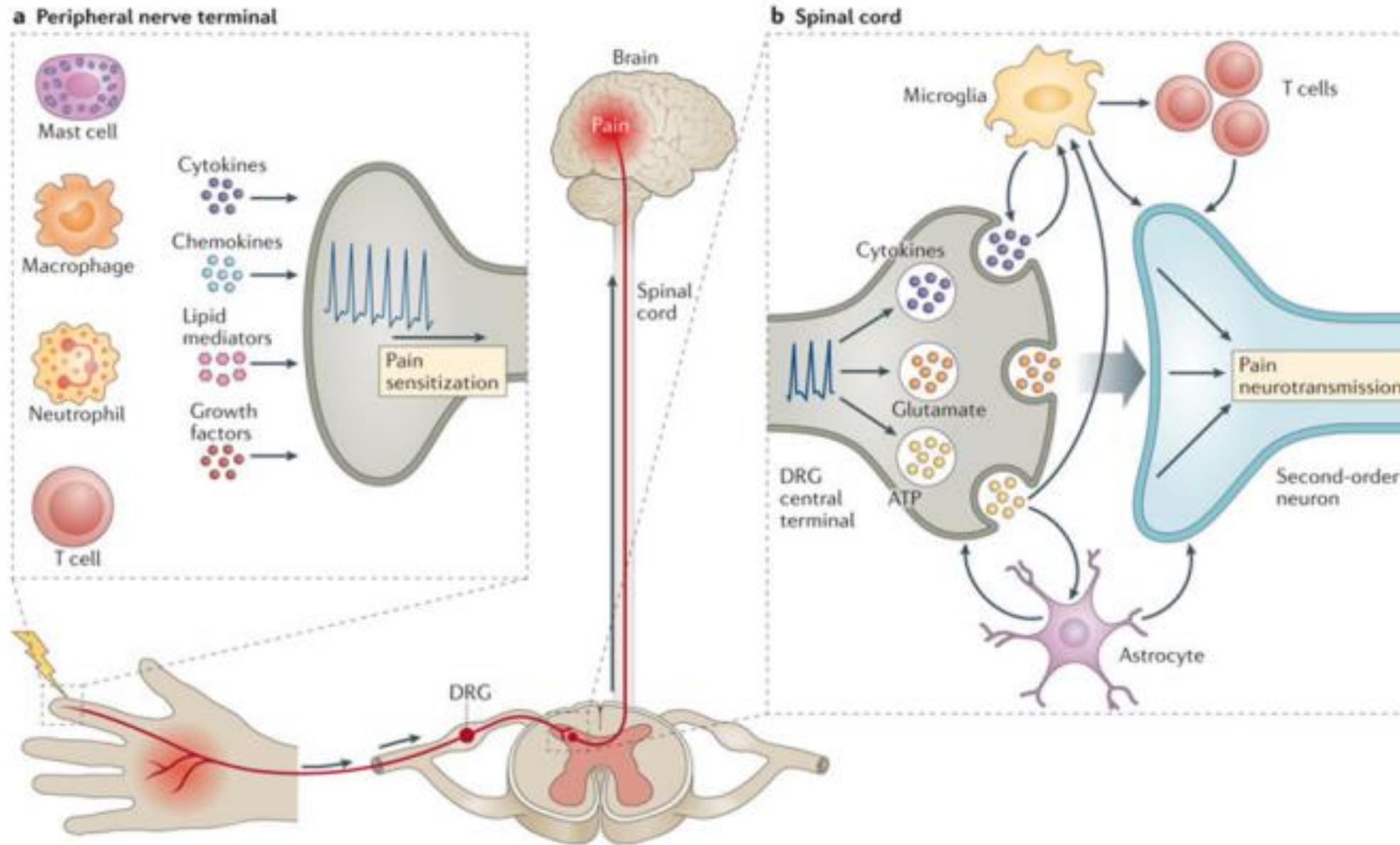
- ▼ Pain is an unpleasant physical and emotional experience
- ▼ Associated with fatigue, sleep disturbance, mood effects, cognitive function
- ▼ Impacts quality of life



The complexity of pain



Nerves talk to each other via molecules



Three mechanisms of pain

We now know they can overlap

▼ **Nociceptive**



▼ **Neuropathic**



▼ **Nociplastic**
The new 3rd mechanism of pain



Fibromyalgia is the prototype of nociplastic pain ...the nervous system is fired up



Nociplastic pain as the mechanism of 5 overlapping chronic primary pain conditions



**Chronic
widespread
pain/
fibromyalgia**

**Chronic
musculoskeletal
pain**

**Chronic
headaches &
facial pain**

**Chronic
visceral pain**

**??? Complex
regional pain**

Fibromyalgia criteria 2019



Core criteria

- ▼ **Chronic widespread pain (6/9 sites)**
- +**
- ▼ **Moderate to severe**
- ▼ **Fatigue ±**
- ▼ **Unrefreshed sleep**

1. Arnold L et al. J of Pain 2019

Q

Why do some people experience nociplastic pain?



How does nociplastic pain arise?

- ▼ **Genetic predisposition (in 1/3 of patients)**
- ▼ **A trigger in 30% of cases**
- ▼ **Nervous system changes**
- ▼ **Contextual factors**
 - Psychosocial factors
 - Previous adverse events, physical and psychological

The concept of top-down or bottom-up mechanism of nociplastic pain

Top down
Arises centrally in central nervous system



Bottom up
a peripheral trigger

20-50% of patients with inflammatory arthritis have ongoing pain ...remaining pain, secondary fibromyalgia



20% of osteoarthritis patients have more generalized pain



The vicious cycle of pain

- ▼ Pain does not occur alone
- ▼ With nervous system derived symptoms
 - Fatigue
 - Sleep disturbance
 - Cognitive changes
 - Mood effects



Fitzcharles et al. Lancet (in press)

Q

How is nociplastic pain diagnosed?



How to diagnose fibromyalgia/nociplastic pain

- ▼ **The story of the pain experience is critical**
 - Character of pain
 - Moves around
 - Can be affected by stress, weather
- ▼ **Examination is usually normal, but some may have subtle findings**
- ▼ **No laboratory test to confirm the diagnosis**

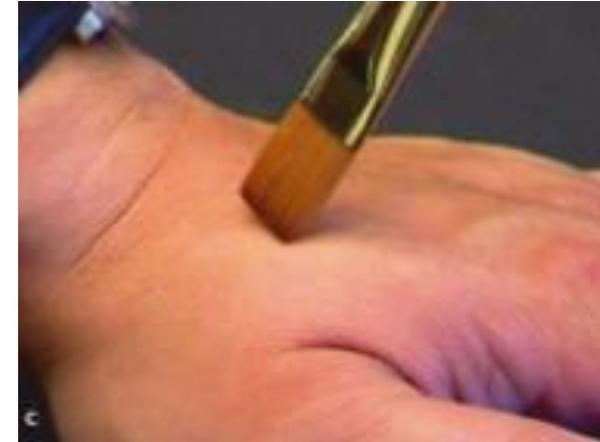


The new suggestions on physical examination

Pressure allodynia



Brush allodynia



Cold/heat allodynia (20/40°C)



After sensation



Q

How do you treat nociplastic pain/fibromyalgia?



Treatment principles

- ▼ Reduction of symptoms...not cure
- ▼ Individually tailored (precision medicine)
- ▼ Improve function and maintain quality of life
- ▼ Realistic expectations
- ▼ Empathy in care
- ▼ Do not do unnecessary investigations



The essence of treatments...

- ▼ Multi-modal treatments ideal
- ▼ Modest effect of drugs
- ▼ Maintain function

Categorize patients:
mild, moderate, severe



...overarching principles

- ▼ Always begin with non-pharma, reassurance, de-medicalize, healthy lifestyle (activity, weight control)
- ▼ Beware of a bucket of drugs
- ▼ Drugs: No single drug works for all
 - Pain: acetaminophen, NSAIDs, ?? cannabinoids, **NO TO OPIOIDS**
 - Sleep: tricyclic antidepressants, cyclobenzaprine, tiny dose anti-epileptics
 - Mood: treat according to best practice
 - Fatigue: no single drug is recommended

Q

Are there treatment options that don't involve drugs?



A partnership of healthcare professional and patient

- A positive attitude
- Education with explanation of the biopsychosocial model
- Self-management/good lifestyle practices
- Positive attitude
 - Patient active participant, coping, pacing
- Acceptance and commitment
 - Continue normal life



Good lifestyle practices are intuitive but forgotten

- ▼ **Healthy diet/weight**
- ▼ **Adequate exercise**
- ▼ **Sufficient sleep**
- ▼ **Control stress**
- ▼ **Keep busy and working**



Exercise: the evidence

▼ Exercise: all fibromyalgia guidelines strongly recommend

- Aerobic exercise¹
- Resistance training²
- Land exercise=aquatic exercise³
- Meditative movement⁴ (weak for, 71% agreement)

▼ But unfortunately compliance with recommendations is often poor⁵

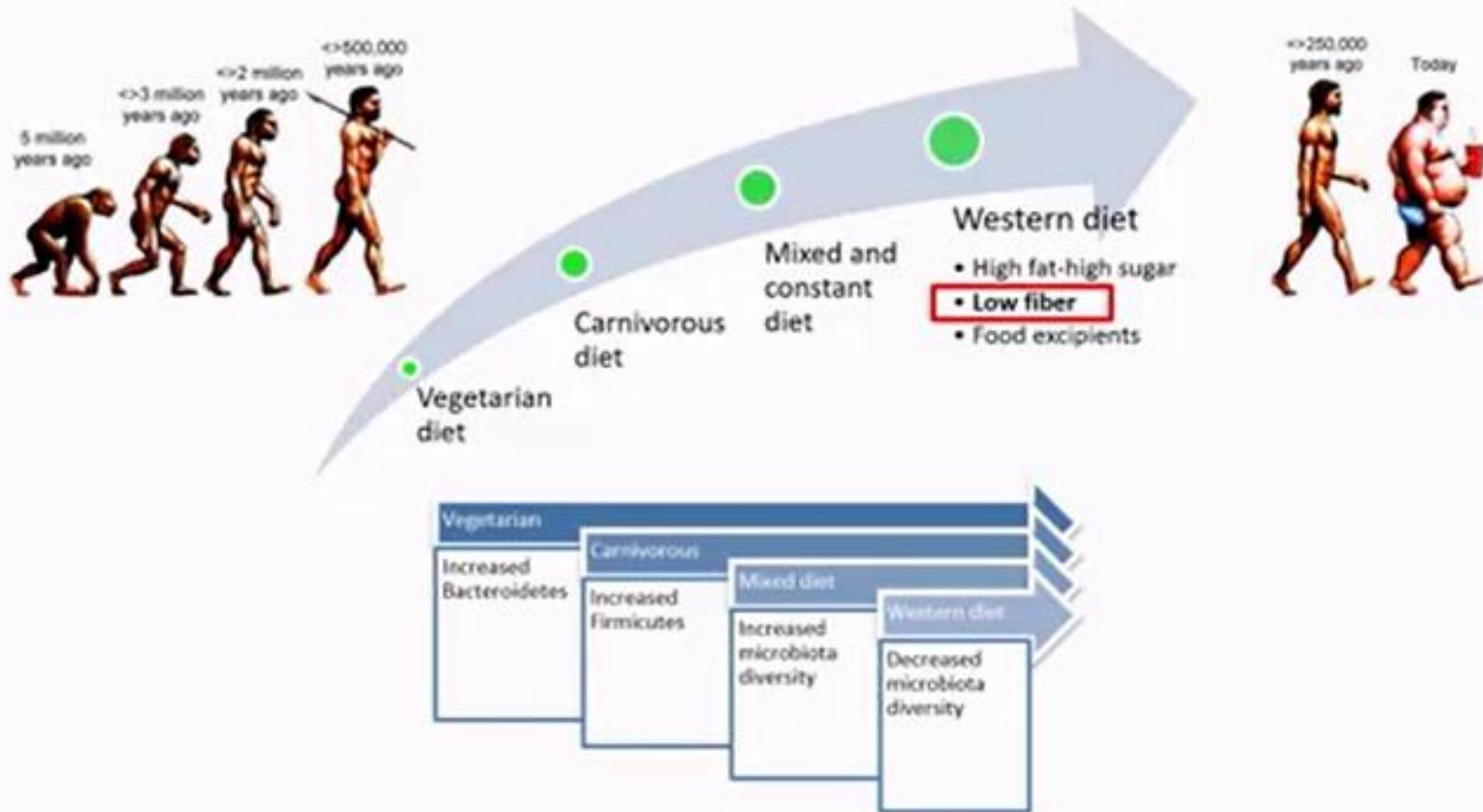
- Osteoarthritis study: accelerometry, 1,111 adults, 62 yrs., 55% female
 - **90% inactive or low activity, patients self-report more activity**



1. Busch. Cochrane 2008 2. Busch. Cochrane 2013. 3. Bidondi. Cochrane 2014, 4. Langhorst et al. Rheum Int, 2013. 5. Dunlop. Arthritis Rheum. 2011; 63:3372-3382



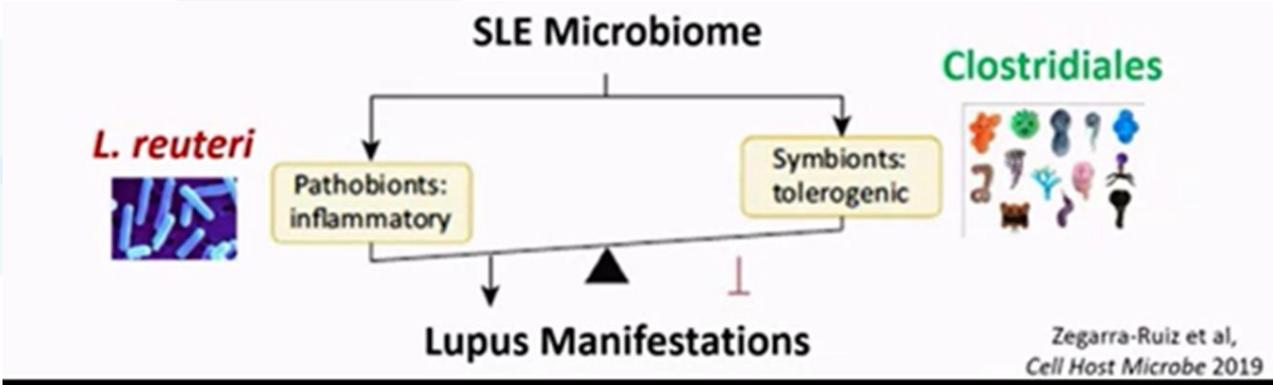
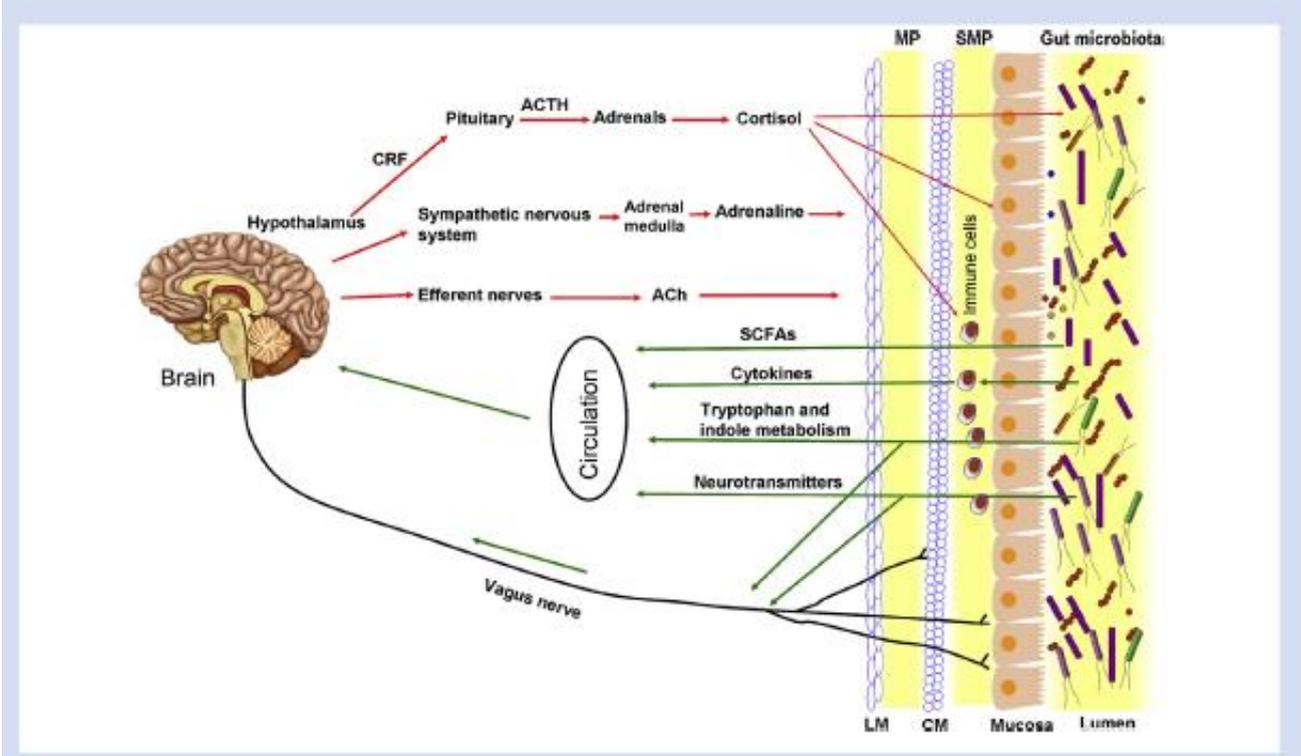
Diet: Shaping the Microbiota and the Host



Adapted from De Filippo et al. *PNAS* 2010

The gut-brain axis

balance of good and bad bugs



Psychological therapies...Cognitive behavioural therapy

Up-to-date evidence

▼ CBT...systemic review of 29 randomized controlled trials¹

- High quality evidence for pain relief, reducing negative mood, disability, fatigue
- maintained effects at long-term

▼ Internet-based CBT...systemic review of 6 RCTs²

- clinically relevant in reducing negative mood and disability

▼ Mindfulness and acceptance...9 trials, 750 patients³

- Small to moderate effects vs. controls



1. Bernardy k et al. Eur J Pain 2018. 2. Bernardy K et al .Eur J Pain 2019. 3. Haugmark T et al. PloS ONE 2019.

When thinking of a drug, identify symptom/s of greatest importance

- ▼ Pain
 - ▼ Sleep disturbance
 - ▼ Mood
 - ▼ Fatigue
- ± Mental health disorder



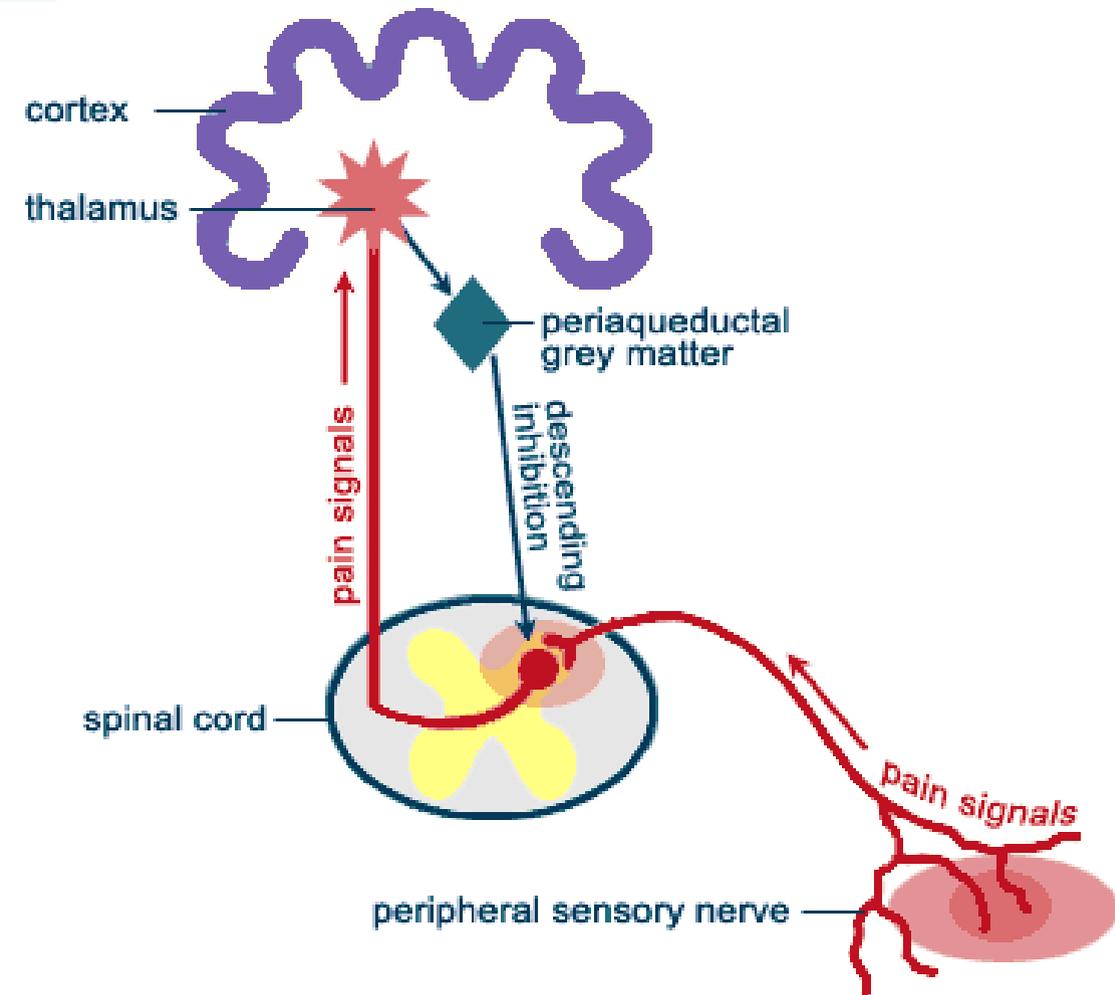
The nerve messages in pain go from the periphery → spinal cord → brain → then down again

▼ Peripheral sensitization

▼ Central sensitization

- Ascending tracts
- The higher centres

▼ Descending - ↓ inhibition

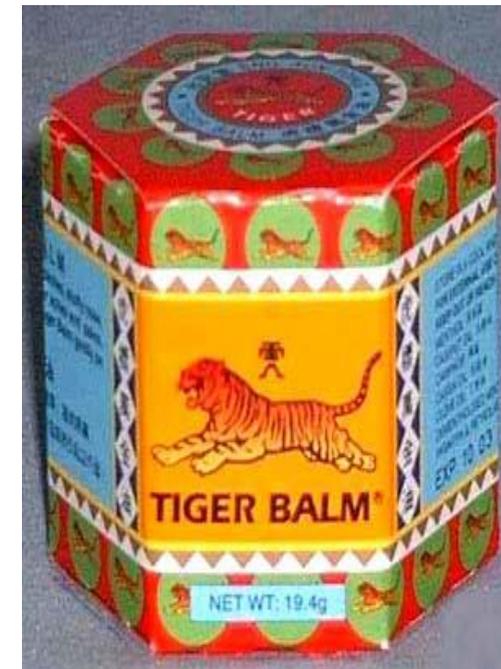


Treat peripheral pain.... periphery to dorsal horn

▼ Cool down the fired up periphery

- Massage, heat, cold
- Topical agents
- Anti-inflammatory drugs
- Drugs that alter conduction
 - Anesthetic drugs
 - Anti-epileptic drugs

menthol, eucalyptol
(TRPM8)
camphor (TRPV1, TRPV3)



Treat central pain..... spinal cord & brain

▼ Alter brain activity

- **Psychological interventions**
 - Hypnosis, distraction/attention, emotion
- **Drugs**
 - Acetaminophen, NSAIDs, opioids, cannabinoids, antidepressants, anti-epileptic



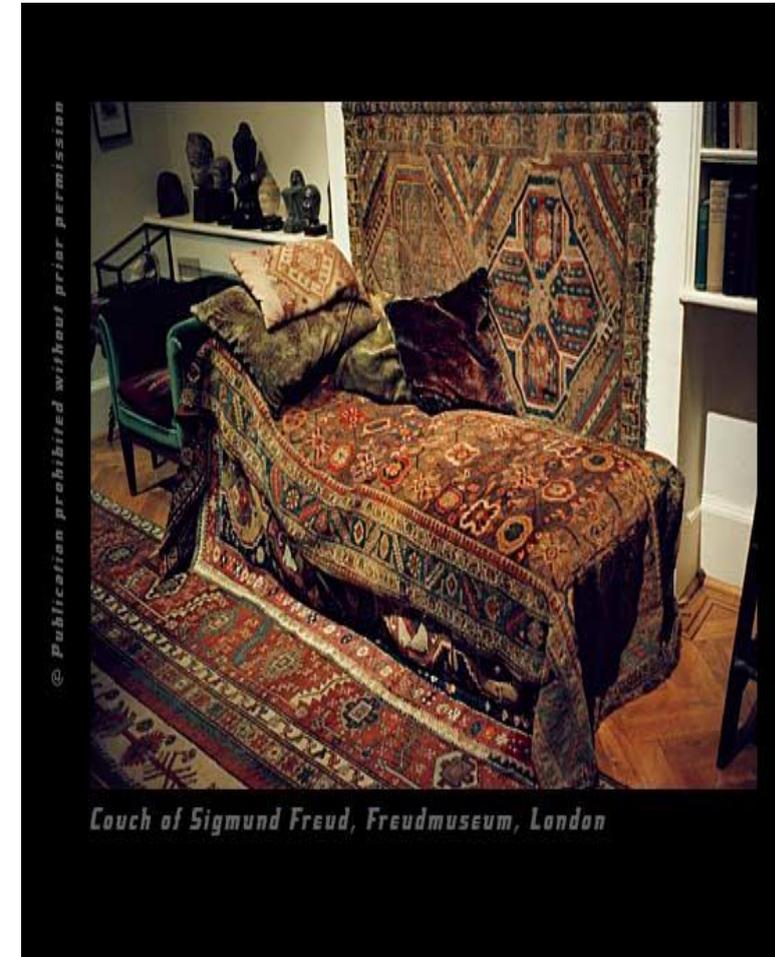
Treatment impacting descending mechanisms.....

▼ Harness natural inhibitors

- Exercise, placebo, beliefs, reduce stress

▼ Drugs

- Serotonin
- Norepinephrine
- Opioids
- Cannabinoids



EULAR fibromyalgia drug evidence

drugs are not great

▼ Amitriptyline	13 trials, 900 patients	NNB 3.5
▼ Cyclobenzaprine	5 trials, 312 patients	NNB 4.8
▼ Pregabalin	7 trials, 3,300 patients	NNB 9
▼ SNRI	8 systemic reviews, 2,249 patients	NNB 6
▼ Tramadol	2 reviews, 30% ↓pain	RR 1.7

1. Macfarlane *Ann Rheum Dis* 2017

Summary

- ▼ **Nociplastic pain is real, even when there is nothing to see**
- ▼ **No single test identifies nociplastic pain**
- ▼ **Always focus on good lifestyle practices**
- ▼ **No single drug works for all**
- ▼ **Drugs only give modest effect for some**
- ▼ **Most patients identify strategies that will give some relief**

Any final thoughts or recommendations?



As medical science slowly unravels the secrets of nociplastic pain, patients and healthcare professionals must remain optimistic and continue collaborative care.

Questions



Tell us what you think...

