

# **Why we need to embrace the concept of fibromyalgia**

**(ideally termed chronic widespread  
pain)**



# Disclosure

Consultant, speaker, advisory board

- Lilly, Purdue, Pfizer, Valeant
- Expert witness for plaintiff and defendant



# Symptoms that may be at the core of the burden of suffering for persons with rheumatic diseases...

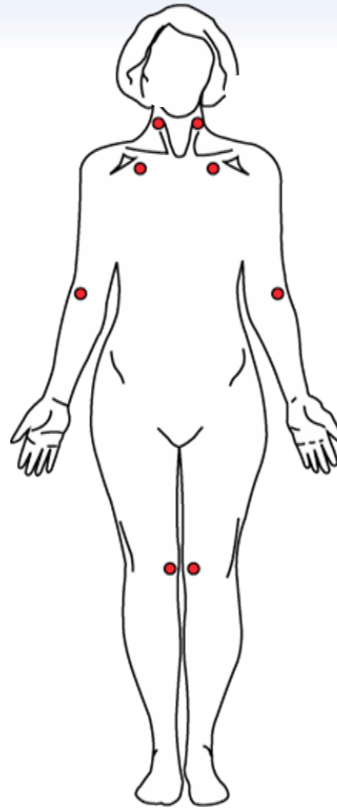
- Chronic pain
- Sleep disturbance
- Fatigue



# Fibromyalgia: the prototype condition with these core symptoms

**Pain**

*the defining feature*



◀ **Fatigue**

◀ **Sleep Disturbance**

**+ other symptoms.....mood, cognition, other pains**



# Fibromyalgia has taught us a lot...

- FM has facilitated understanding of pain mechanisms in rheumatic diseases
- Overlap of FM with all other rheumatic diseases....nociceptive/neurogenic pain



# Postulated pain mechanisms

## dysregulation of pain processing

### ■ *Peripheral*

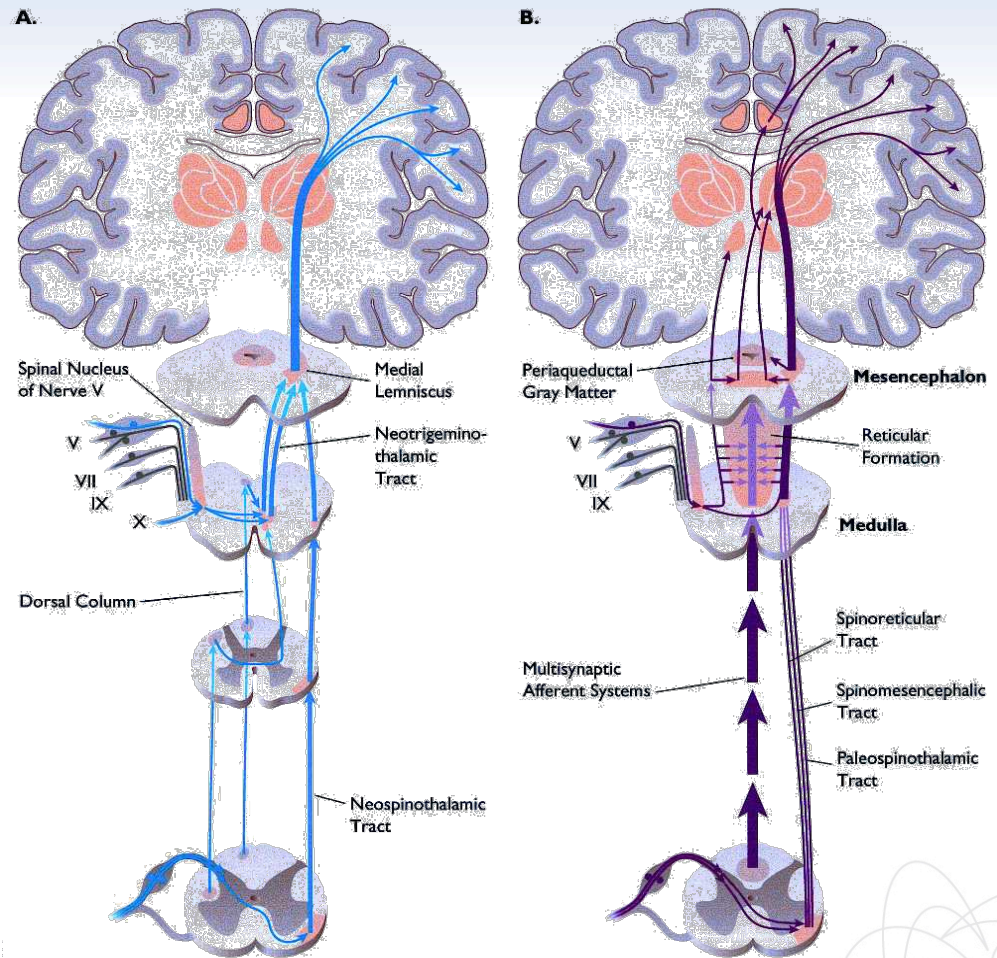
- fired up nervous system
- sensitization

### ■ *Central*

- brain abnormality
  - the fireworks effect
  - the higher centers
  - grey matter volume

### ■ *Descending*

- ↓ inhibition



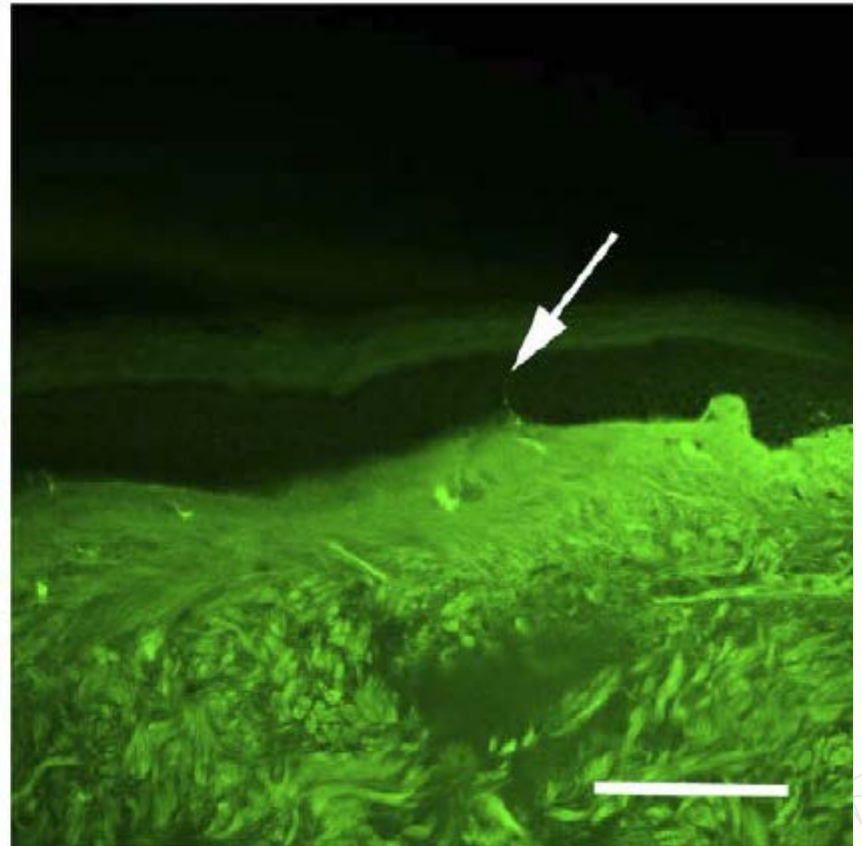
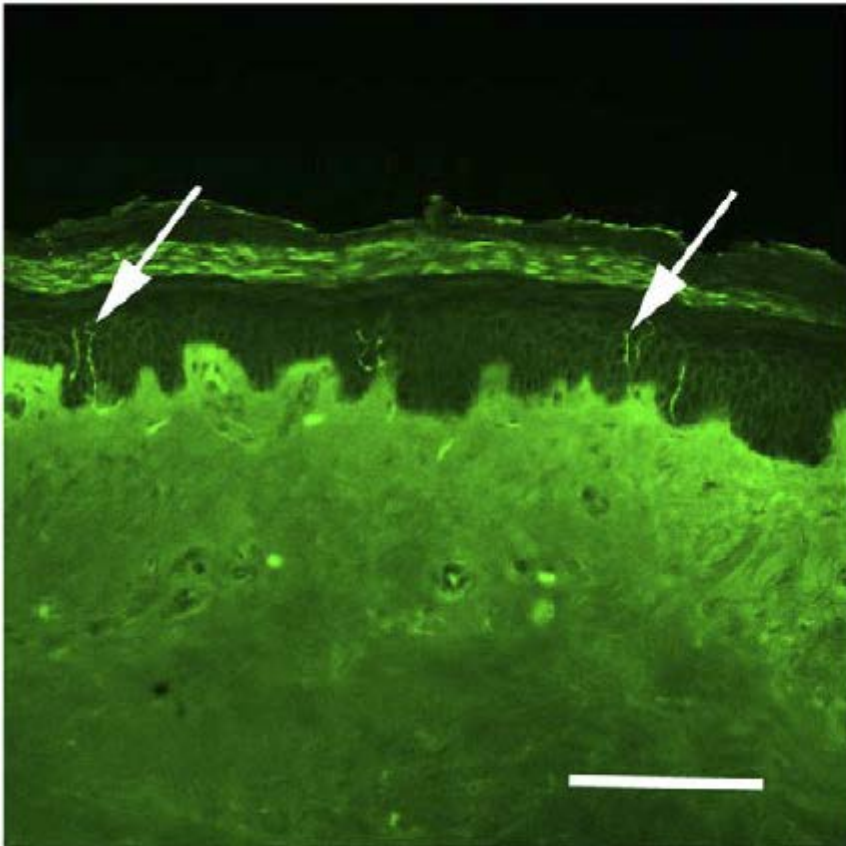
**but still the science is all  
over the place**

**as the following examples will  
illustrate**



# The periphery

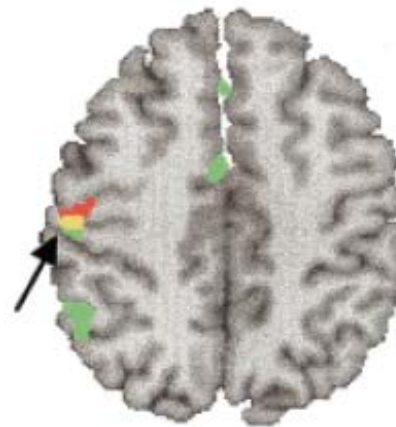
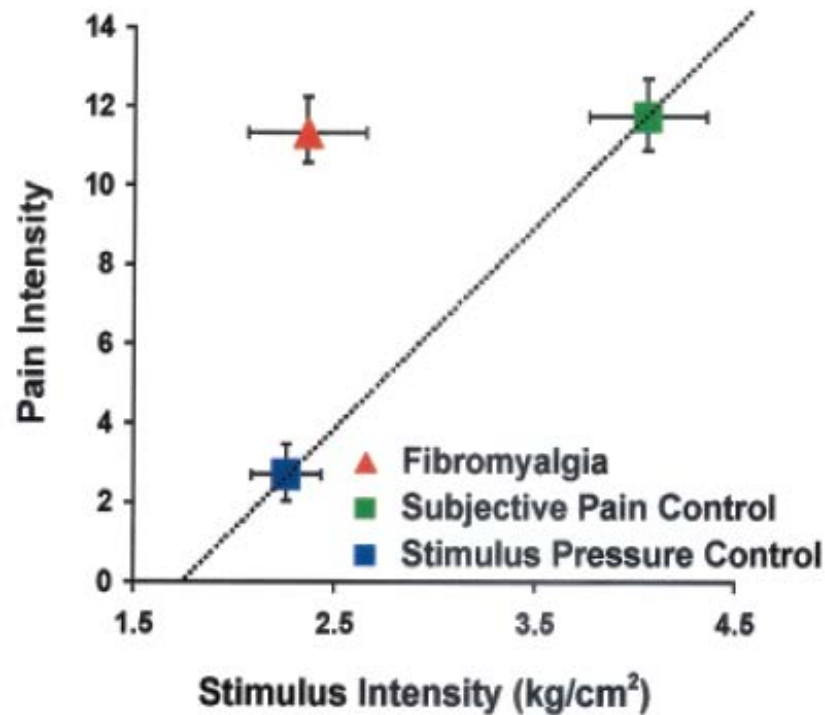
11/27 FM; 1/30 controls



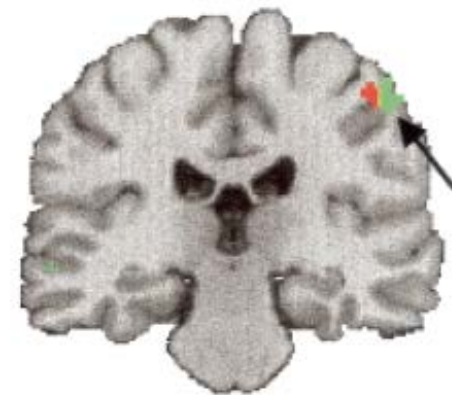
Oaklander et al. Pain June 5<sup>th</sup>



# Central: squash the thumb and see the pain....



SI



SI (decrease)

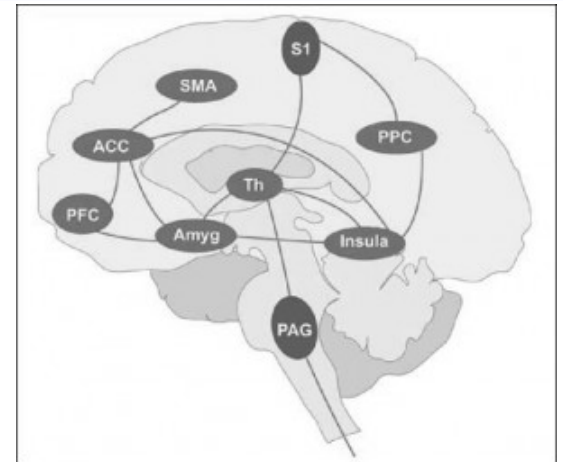
SI = Primary somatosensory cortex



# Descending mechanisms

Connectivity between ant cingulate cortex (ACC)  
& periaqueductal grey (PAG)

— fMRI squashed thumb



## Conclusion

- Drug ↑ connectivity between ACC & pons, PAG (Desc inhib areas)
- No changes with placebo

**and**

**the clinical diagnosis of FM....  
or the assessment of pain and  
fatigue**

**not much different from a century  
ago**



Lady Agnew of Lochnaw 1892

A bout of influenza

Never recovered

Pain

Delicate

Air of ennui

6 sittings for Sargent



# Diagnostic criteria for FM in past 40 yrs

- Smythe 1975- Pain, fatigue, sleep, EMS, weather, emotion, dermatographia, tender points
- Yunus 1981- Pain in 3+ sites > 3 months, no secondary cause, 5 tender points, modulation with weather, activity, stress; poor sleep, fatigue, anxiety, IBS, headaches, numbness
- Wolfe 1990- focus on pain & TP
- Wolfe 2010 – 2/3 pain & 1/3 other (MD assessment)
- Wolfe 2011- 2/3 pain & 1/3 other (pt questionnaire)
- Bennett Sept 2014- 17/28 pain sites & 21/50 symptoms (pain, energy, stiffness, sleep, depression, anxiety, balance, tenderness, environmental sensitivity)



## Focus Article

### The ACTION-American Pain Society Pain Taxonomy (AAPT): An Evidence-Based and Multidimensional Approach to Classifying Chronic Pain Conditions

Roger B. Fillingim,<sup>\*</sup> Stephen Bruehl,<sup>†</sup> Robert H. Dworkin,<sup>‡</sup> Samuel F. Dworkin,<sup>§</sup>  
John D. Loeser,<sup>¶</sup> Dennis C. Turk,<sup>||</sup> Eva Widerstrom-Noga,<sup>#</sup> Lesley Arnold,<sup>\*\*</sup>  
Robert Bennett,<sup>††</sup> Robert R. Edwards,<sup>‡‡</sup> Roy Freeman,<sup>§§</sup> Jennifer Gewandter,<sup>¶¶</sup>  
Sharon Hertz,<sup>||||</sup> Marc Hochberg,<sup>##</sup> Elliot Krane,<sup>\*\*\*</sup> Patrick W. Mantyh,<sup>†††</sup>  
John Markman,<sup>‡‡‡</sup> Tuhina Neogi,<sup>§§§</sup> Richard Ohrbach,<sup>¶¶¶</sup> Judith A. Paice,<sup>|||||</sup>  
Frank Porreca,<sup>###</sup> Bob A. Rappaport,<sup>\*\*\*\*</sup> Shannon M. Smith,<sup>††††</sup> Thomas J. Smith,<sup>‡‡‡‡</sup>  
Mark D. Sullivan,<sup>§§§§</sup> G. Nicholas Verne,<sup>¶¶¶¶</sup> Ajay D. Wasan,<sup>||||||</sup>  
and Ursula Wesselmann<sup>####</sup>

# A planned universal taxonomy for chronic pain conditions

- FDA & American Pain Society initiative to develop a standard taxonomy for chronic pain conditions....CRPS, neuropathic pain, cancer related pain, FM and regional pains
- 1<sup>st</sup> meeting August 2014
- Planned publications for summer 2015





# Working definition for FM

- Retain the name FM for the present
  - Chronic widespread pain (exactly what)**
  - + Fatigue + unrefreshed sleep**
  - + other somatic symptoms, mood disorder
- FM associated with other conditions

1<sup>st</sup> meeting August 2014

Planned publications for summer 2015





# Who gets FM?...and this should be expanded to other rheumatic conditions

- Genotype..a work in progress
  - Familial studies
  - Candidate Genes
    - 5-HT<sub>2H</sub> receptor polymorphism
    - Serotonin transporter
    - Dopamine D4 receptor polymorphism
    - COMT (catecholamine O-methyltransferase)
- A vulnerable phenotype
  - Previous pain experiences
  - Social milieu
  - Anxiety, depression, catastrophizing



# Patient 1: the sailor lady

- 33yr old, very physically active
- After 3 day sailing.....acute neck pain
- Chiropractor treatment
  - On the table & 5 years later
  - Some minimal effect nabilone
- Working full time , occ missed days
- Gym 3 times/week
- Recently separated



# Patient 2..fell off the roof

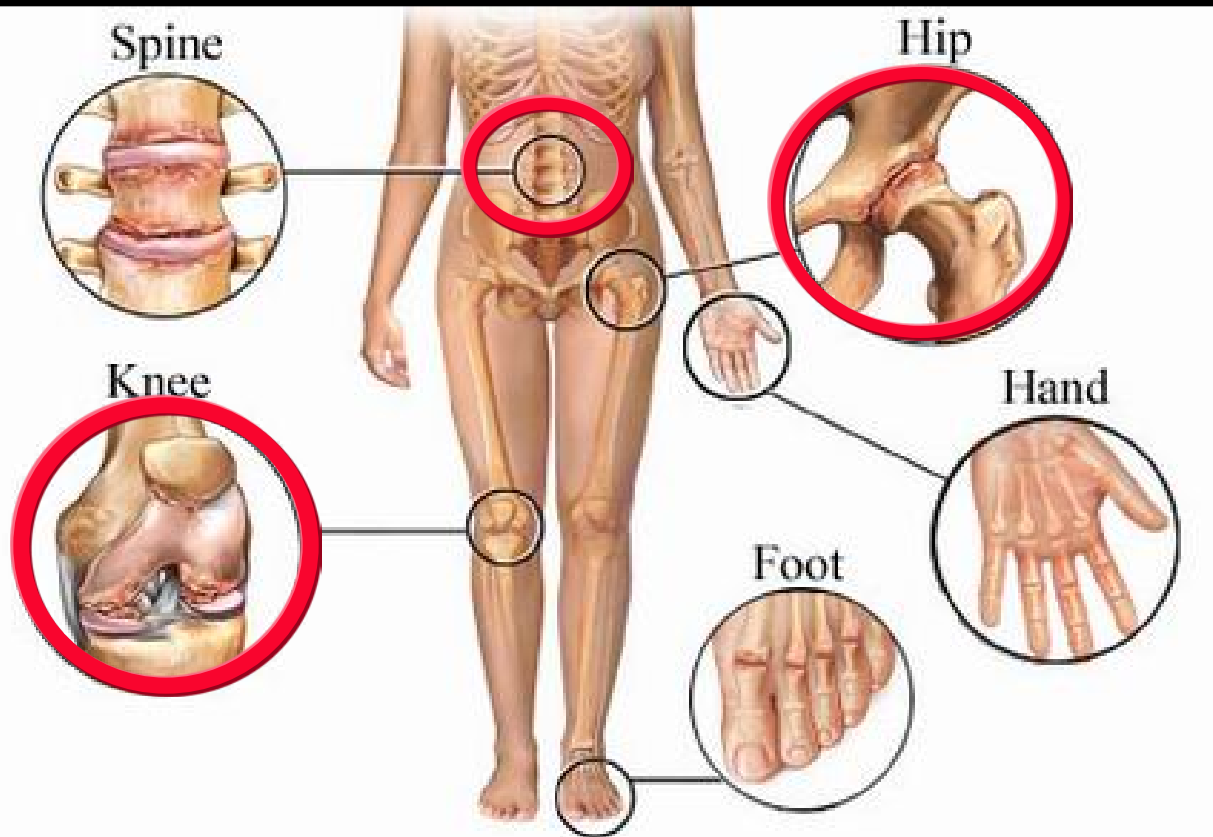
- Followed Michael for 20 yrs...all investigations normal
- Fell off a roof onto back..26 yrs old
  - No fractures or loss of consciousness
- Now 46 yrs age
  - Married, working full time
  - Continuous body pain
  - No treatment has worked
  - Visit once a yr...anything new in treatment



# **FM applicable to other MSK conditions**



# Fibromyalgia has applications for other rheumatic pain conditions



# Some recent abstracts from EULAR

- 120 RA in Czech
  - 21% had FM, with higher DAS and HAQ
- 141 RA in Denmark
  - 13% had FM, with higher DAS, disability, more biologics
  - DAS in RA/FM driven by tender jts & global VAS
- **Interpretation**
  - *FM in RA can mislead MDs that RA disease is bad*



**current guidelines to treat  
FM.....but also applicable  
to other MSK conditions**



# 2012 Canadian FM guidelines

## 2012 Canadian Guidelines for the diagnosis and management of fibromyalgia syndrome

Mary-Ann Fitzcharles<sup>1,2</sup>, Peter A. Ste-Marie<sup>2,3</sup>, Don L. Goldenberg<sup>4</sup>, John X. Pereira<sup>5</sup>, Susan Abbey<sup>6</sup>, Manon Choinière<sup>7</sup>, Gordon Ko<sup>8</sup>, Dwight Moulin<sup>9</sup>, Pantelis Panopalis<sup>1</sup>, Johanne Proulx<sup>10</sup>, Yoram Shir<sup>2</sup>

***Endorsed by Canadian Pain Society &  
Canadian Rheumatology Association***





# The key messages of the 2012 Canadian guidelines for FM

- A clinical construct
  - Best care is in primary care setting
  - Do not over investigate & medicalize patients
  - Do not apply criteria to diagnose individual
- **Multimodal treatment**
  - **No ideal drug**
  - Alert to side effects drugs
- Focus on maintained function



# The 3 continent message

## Canada, Germany, Israel

- FM is a clinical construct
  - Avoid excessive investigation, health visits
- Primary care setting ideal (Canada, Germany, no statement Israel)
- Treatments
  - Non pharma treatments imperative
  - Pharma treatments modest effect only
- Focus on maintained function



# Outcome in persons with diffuse pain is affected by...

- Personal factors
  - Genes, previous physical and psychological status
- Societal factors
  - Social milieu, SES, education
- Health care professionals attitudes
  - Insecurity in diagnosis and treatment



# The challenge in managing pain, fatigue and sleep disturbance

- Not clearly defined
- All assessment based entirely on subjective patient report (except some objective measurements for sleep)
- No clinical findings
- No biomarker
- No gold standard treatment



# The quandary in the clinic

- Focus on major symptom
- Do not overmedicate
- Do not overmedicalize
- Still a grab bag diagnosis
- Diagnosis can be misused by some



# Future directions and research agenda

- A biomarker
- Subgrouping of FM pts
- Recognition of FM in inflammatory arthritis, OA, etc....impact on therapy
- A therapy with efficacy that outpaces side effects



# Where would I suggest the researchers should go!!!!

- The biological clock....melatonin
  - Improves sleep, ↑pain threshold, modulates GABAergic and opioidergic systems in pain
- The cannabinoid system
  - Moving away from the “dirty drug” marijuana with over 600!!!! Molecules
- Proteomics...is this hocus pocus or the beginnings of a biomarker



A way to go  
With thanks

