

# Fibro Fog and Fatigue

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- Board certified in Rheumatology & Integrative and Holistic Medicine



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# Financial Disclosure

- \* No pharmaceutical company is sponsoring this educational program

# Fibromyalgia at a Glance

- \* Chronic wide spread pain and fatigue
- \* Sleep disturbance, depression , irritable bowel
- \* Affects 7 women to every man
- \* Often underdiagnosed or misdiagnosed
- \* Mimickers of fibromyalgia: Trigger points, organic diseases and metabolic disorders



# Classic Fibromyalgia

Global pain

History of  
trauma

Comorbid  
symptoms

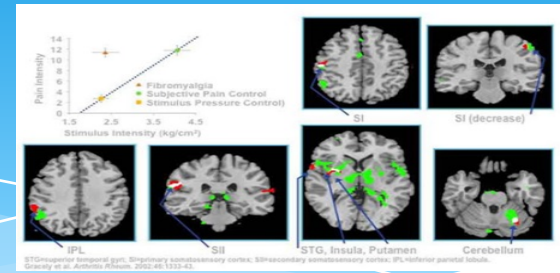
Centrally-  
mediated  
pain

Pain in soft  
tissue

# Defining Classic Fibromyalgia

- \* Global Pain ( never regional)
- \* History of trauma (physical and emotional)
- \* Pain is real and centrally mediated
- \* Increased pain perception from stimuli
- \* Pain is in soft tissues ; tender points
- \* Comorbid conditions sleep disturbances, cognitive decline, anxiety and depression

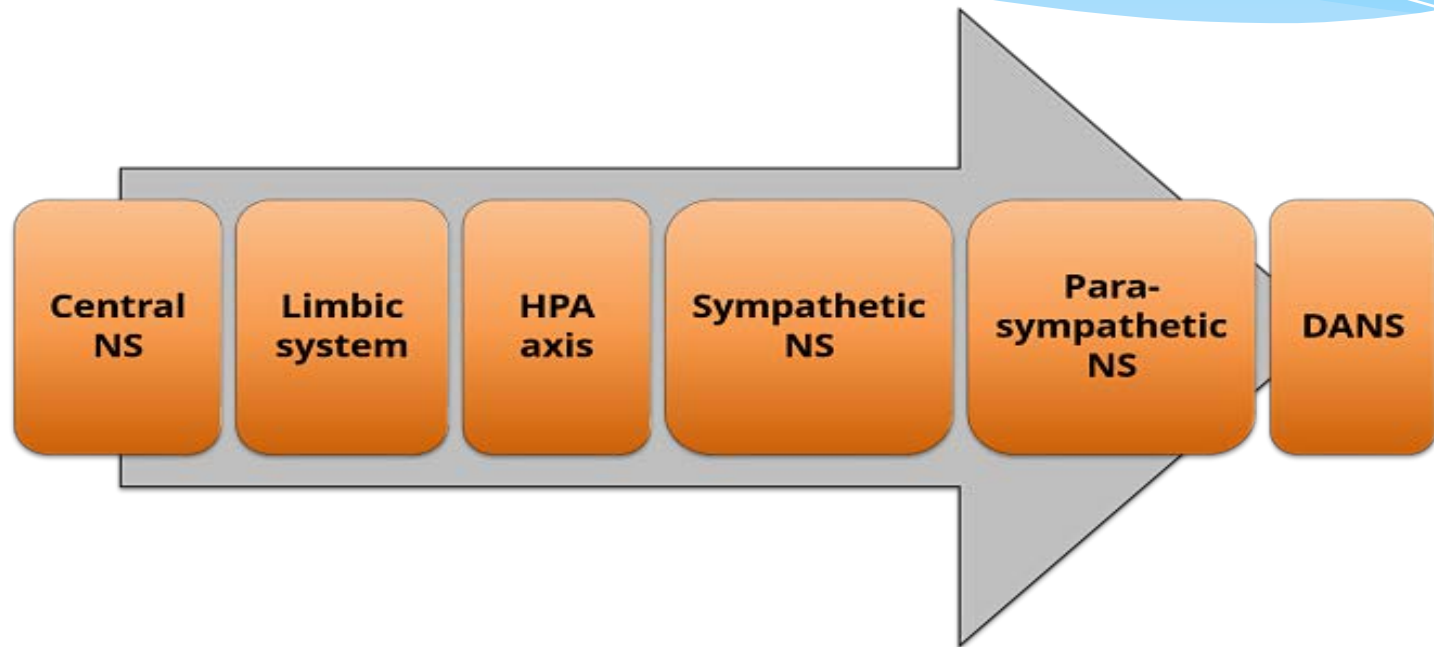
# What does it mean by “Central Pain”



- \* Brain misinterprets benign stimuli as a threat
- \* Initial change in patients limbic system
- \* Involves Hypothalamic-pituitary-adrenal axis
- \* Spreads to sympathetic and parasympathetic system
- \* Resulting in pain Sensitivity and amplification
- \* Hyperactivity in these regions is detected in fMRI



# How does it becomes “Global Pain”

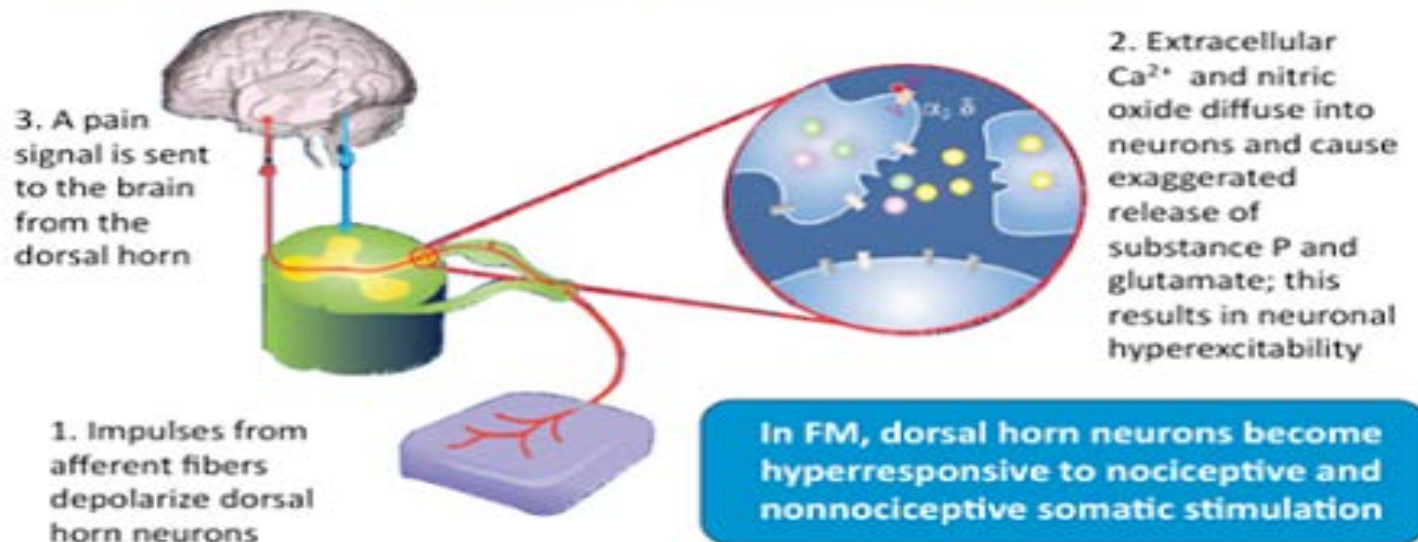


# Central to Global Pain

- \* Increased production of stress hormones
- \* Symptoms like insomnia, headache, irritable bowel
- \* Pain gateways wide open and don't close in fibromyalgia
- \* Dysfunction of “***Descending antinociceptive system***”  
(***DANS***)
  - \* Inhibitory pain pathway that dampens the sensation of pain
  - \* Its activity is blunted in classic fibromyalgia

# Central sensitization

## The Role of Central Sensitization in FM



**Central sensitization is thought to result in hyperalgesia in FM patients**

Adapted from Gottschalk A, Smith DS. *Am Fam Physician*. 2001;63:1979-1984.  
Staud R. *Arthritis Res Ther*. 2006;8:208.  
Henriksson KG. *J Rehabil Med*. 2003;41:89-94.

MedscapeCME<sup>®</sup>

# Serotonin Deficiency State

- \* FMS sufferers have serotonin deficiency
- \* Causes sleep disturbances, irritable bowel syndrome
- \* High levels of substance P are found in the spinal cords.
- \* Substance P lowers the pain threshold
- \* It widens the receptive fields of pain, leading to hyperalgesia and global pain

# Role of trauma to female brain

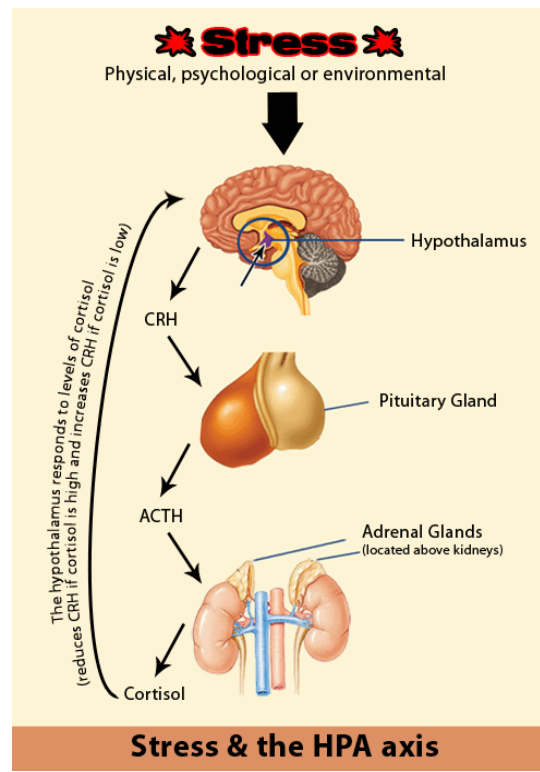
- \* Emotional or physical trauma is often associated with fibromyalgia.
- \* Trauma can create an excessive stress response
- \* Stress can alter central pain processing in susceptible individuals
- \* The female brain reacts to stress differently than the male brain
- \* Classic example female , high achiever and prone to anxiety with a sense of not feeling safe in the world
- \* Genetic component to fibromyalgia - runs in families

# Art of Diagnosis



- \* A patient should never be diagnosed with fibromyalgia before very basic and standard labs are run to rule out anemia, hypothyroid disease, infection, or autoimmune disease
- \* Checking a Lyme panel and rheumatic panel will also help achieve the exclusionary diagnosis of classic fibromyalgia

# HPA and Role of Stress



# Functional Medicine Testing

- \* Oxidative Stress/Inflammation Panel
- \* Urinary organic acid test (OAT)
  - \* Identifies metabolic, toxic, or infectious factors
  - \* Detects deficiencies of coenzyme Q10, B vitamins, magnesium, serotonin, tryptophan
  - \* Opportunistic infections , GI dysbiosis or bacterial overgrowth (SIBO)





# Personalized Medicine



- \* Adrenal stress profile can indicate disruptions in the HPA axis
  - serum and urine hormonal and neurotransmitters
- \* Comprehensive digestive stool analysis
  - \* There is more than a 90% correlation between fibromyalgia and irritable bowel syndrome
  - \* Identify dysbiosis and other associated gut pathologies

# Comprehensive treatment

- \* Comprehensive treatment of classic fibromyalgia addresses
  - \* Neurotransmitter balance
  - \* HPA axis
  - \* Energy metabolism
  - \* Nutrient deficiencies
  - \* Be aware of interactions and use neurotransmitter support in patients taking SSRIs, SNRIs, or MOAIs

# Treatment of Fibromyalgia

Pharmaceuticals

Supplementation

Mind-body Therapies

# Pharmaceuticals

- \* NSAIDS
- \* Analgesics
- \* Muscle relaxants : Flexeril
- \* Pregabalin (Lyrica)
  - \* Decreasing the release of excitatory neurotransmitters
  - \* Has anxiolytic, analgesic, and anticonvulsant activity
- \* Minalcipran (Savella) and duloxetine (Cymbalta) are serotonin and norepinephrine reuptake inhibitors (SNRIs)

# Why take natural approach

- \* An alternative to synthetic agents, natural products can be used in a similar approach
- \* Allows the body to create more of the desired neurotransmitters
- \* Supplements can alleviate symptoms via physiological pathways that trigger fibromyalgia

# Rise and Shine Integrative Approach

- \* **RISE**

- \* Reduce Inflammation, stress and exhaustion

- \* **SHINE**

- \* Sleep
- \* Hormonal balance
- \* Infections
- \* Nutrition
- \* Energy & Exercises

# RISE: Reduce Inflammation

- \* Nsaids
- \* Fish Oil : omega 3 fatty acids
- \* Turmeric ( Curcumin)
- \* Boswellia
- \* Bromelian
- \* Proteolytic enzymes

# RISE: Stress ( Muscle tension)

- \* To calm muscle tension and support mitochondrial energy production
  - \* Magnesium glycinate or malate (500-1000 mg/d in divided doses)
  - \* Malic acid (1200-2400 mg/d in divided doses)
  - \* B complex (50-100 mg 2x/d)
  - \* Coenzyme Q10 (100 mg 2x/d)
  - \* L-carnitine (500 mg 2x/d or 3x/d)
- \* Acupuncture



# RISE :Reducing Stress

- \* Supplements to promote calming neurotransmission
  - \* Phosphatidylserine (50-100 mg/d) can calm the receptors in the brain
  - \* Pharma-GABA (100-200 mg 3x/d)
  - \* L-theanine (100-200 mg/d)
  - \* L-aurine (100-200 mg/d)

# RISE: Reduce Exhaustion

- \* To support the serotonergic pathway
  - \* 5-HTP (50-100 mg 3x/d with meals)
  - \* Taken with vitamin B6 to support conversion
- \* St John's wort with 0.3% hypericin content (300 mg 3x/d) is a botanical alternative to 5-HTP
- \* S-adenosyl-methionine (SAME 1,600 mg/d) supports production of serotonin, norepinephrine, and dopamine

# SHINE: Sleep

- \* Melatonin (1-20 mg 1 h before bed) can promote sleep
- \* Calming botanicals
  - \* Valerian (100-200 mg/d)
  - \* Passion flower (100-200 mg/d)
  - \* Lemon balm (100-200 mg/d)

# SHINE: Hypothalamus & Hormone

- \* Adrenal support to balance the HPA axis
  - \* Ashwagandha with 1.5% with anolides (100-200 mg/d)
  - \* Valerian (100-200 mg/d)
  - \* Passion flower (100-200 mg/d)
  - \* Lemon balm (100-200 mg/d)
- \* Thyroid support
  - \* L-Tyrosine 300 mg
  - Coleus root
  - \* Ashwagandha root
  - \* Schizandra Berry

# SHINE: Infections

- \* Lyme testing
- \* Co-existing infections
- \* Sensitive testing then traditional labs



# SHINE: Nutritional Support

- \* Nutri-Eval Functional testing
- \* Address nutrient deficiencies based on laboratory findings
  - \* Vitamin D 2000-5000IU/d
  - \* Iron glycinate (30-60 mg/d)
  - \* Vitamin B12 (1000 µg/d)
  - \* Folate (1-2 mg/d) can correct



# SHINE: Energy



- \* When urinary catecholamine metabolites are low, we use stimulating adaptogenic herbs:
  - \* Eleutherococcus with 0.8% eleuthrosides (200 mg/d)
  - \* Panax ginseng with 5% ginsenosides (100-200 mg/d)
  - \* Ashwaganda with 1.5% with anolides (100-200 mg/d)
  - \* Rhodiola with 3% rosavins and 1% salidroside (100-200 mg/d)
  - \* Licorice (20-100 mg/d)

# SHINE: Encourage Exercises

- \* Fibromyalgia patients need activities that calm the nervous system
  - \* Tai chi
  - \* Yoga
  - \* Pilates





# Mind-body Therapies

- \* Mind-body therapies are arguably even more important than medications or supplements
- \* Cognitive behavior therapies
  - \* Heart rate variability training
  - \* Guided imagery
  - \* Yoga
  - \* Tai chi
  - \* Prayer
  - \* Or simply more recreational time



# Get all the help you can get

- \* A team approach to therapy is the most successful approach for patients with fibromyalgia
- \* Involve chiropractors, physical therapists, counselors psychotherapists, acupuncturist and other complementary healthcare professionals



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Rheumatoid Arthritis



# Thank you

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