

# Addressing the Opioid Epidemic: Managing Chronic Pain Naturally

January 9, 2018



# Five Pillars



EDUCATION



PRESCRIPTION DRUG  
MONITORING PROGRAM



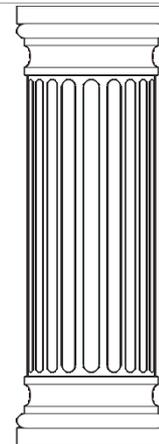
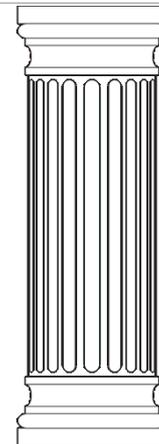
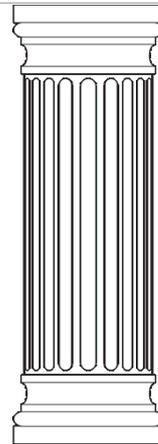
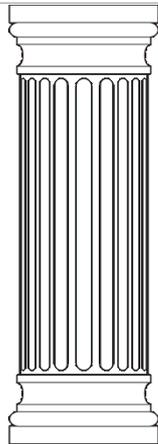
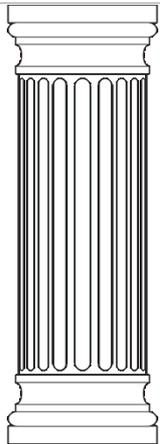
TAKE BACK PROGRAM



TREATMENT



LAW ENFORCEMENT



# Objectives

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- Describe nonpharmacologic therapies for managing chronic pain
- Understand implementation strategies of nonpharmacologic therapies with patients for pain management

# Importance of Nonpharmacologic Treatment

- CDC Guidelines for Prescribing Opioids for Chronic Pain

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Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain. Clinicians should consider opioid therapy only if expected benefits for both pain and function are anticipated to outweigh risks to the patient. If opioids are used, they should be combined with nonpharmacologic therapy and nonopioid pharmacologic therapy, as appropriate.

## CLINICAL REMINDERS

- **Opioids are not first-line or routine therapy for chronic pain**

Source: CDC Guidelines for Prescribing Opioids for Chronic Pain. <https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm>

# Today's Speaker

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**Jane Murray, MD**

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# Managing Chronic Pain Naturally

Jane Murray, MD – Medical Director  
Sastun Center of Integrative Health Care

# CHRONIC PAIN

- Chronic pain affects more than 100 million Americans – more than heart disease, cancer and diabetes combined
- 50 million Americans take some kind of chronic pain medication

# OPIOID USE IN THE U.S.

- In 2012, over 5% of U.S. population 12 years or older used opioid pain relievers non-medically
- 14.4% of women are prescribed opioid during pregnancy
- Five-fold increase in treatment admissions for prescription pain relievers between 2001 and 2011 (35,648 to 180,708).
- US accounts for ~100% of hydrocodone (*e.g.*, Vicodin) and 81% for oxycodone (*e.g.*, Percocet) used globally.

# WHAT IS PAIN???

- “An unpleasant sensory and emotional experience arising from actual or potential tissue damage.”

~ International Society for the Study of Pain, 2004

# ACUTE vs CHRONIC PAIN

- **ACUTE PAIN**

- < 6 months
- Etiology known and understood
- Anticipated time-limited course

- **CHRONIC PAIN**

- > 6 months
- Initial etiology may be a distant problem and no longer a factor
- No end in sight

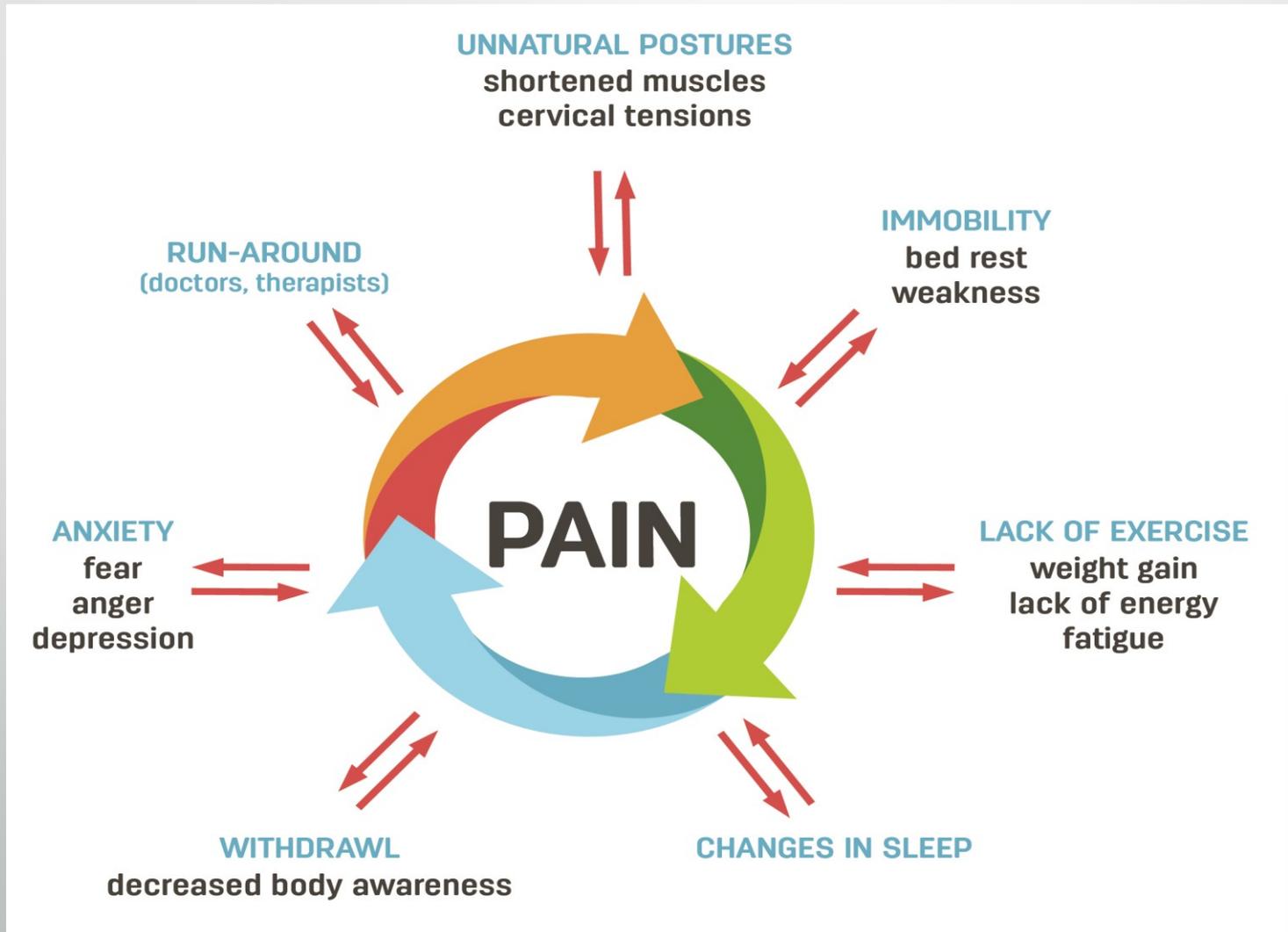
# ACUTE PAIN

- Normal response to tissue damage, resolves soon after tissue healing
- Activates pain-sensing and pain-relieving pathways
- Signs of increased autonomic activities (sweating, fast heart rate, increased blood pressure)
- Responds well to pain medications and non-pharmacologic therapies

# CHRONIC PAIN

- No protective function, lasts beyond time expected for normal recovery from injury
- Malfunction of nociceptive system
- Rarely accompanied by signs of increased autonomic activity

# Chronic Pain is Complex



# PAIN AS A STRESSOR

- Pain is perceived as stress
- Stops DNA repair
- Stimulates adrenal glands to secrete cortisol and epinephrine
- Nociceptive (pain perceiving) and affective (emotional) pathways coincide anatomically – so pain causes depression, and depression magnifies pain

# PAIN PERCEPTION

- Cortex

- Thinking
- Memories
- Attention
- Suggestion
- What you *feel* as pain

- Limbic system

- Moods & behaviors
- Instincts
- Depression, anxiety, irritation

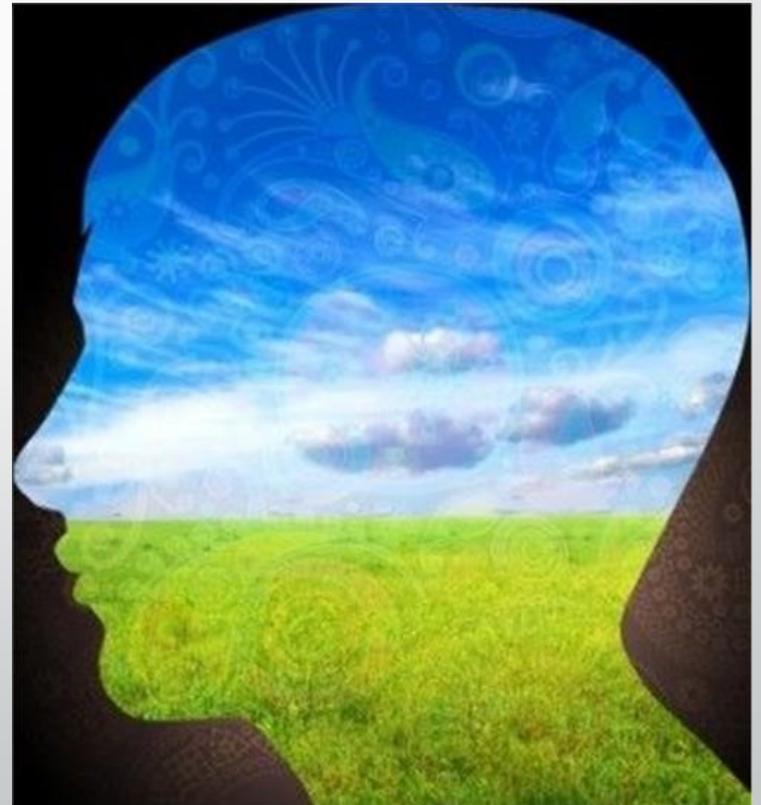


Breaking the cycle of chronic pain may take many strategies. The cycle must be broken to reduce/minimize the pain.

# CHRONIC PAIN AND NEUROPLASTICITY

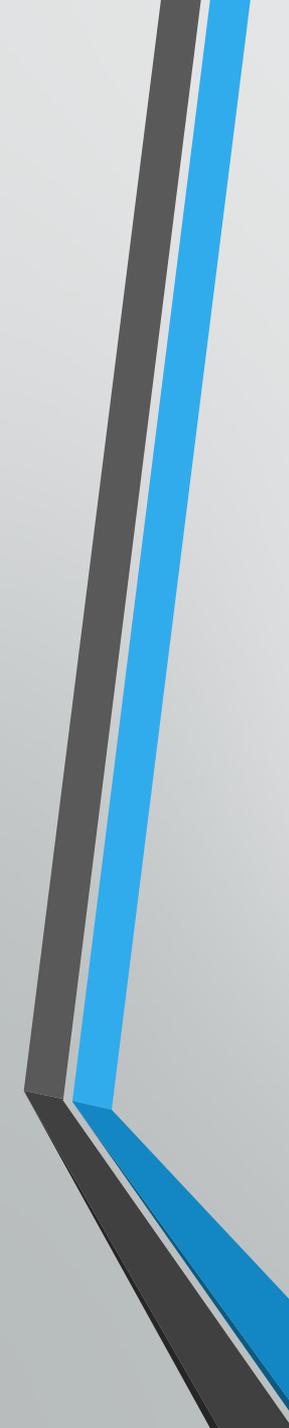
- Brain receives signals from spinal cord
- Brain then undergoes changes in neuronal connections that may permanently strengthen its reactions to those signals
- This process may be the key to the development of chronic pain
- BUT this process may also be reversible

The mind is good at anything you teach it (neuroplasticity). It has tremendous power to help with healing. It needs training.



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- Cognitive behavior therapy
  - Breathing techniques
  - Movement/graded exercise
  - Sleep modification
  - Yoga & yoga therapy, T'ai Chi, Qi Gong
  - Meditation/mindfulness
  - Acupuncture
  - Massage/body work/myofascial techniques/craniosacral therapy
  - Feldenkrais, Hellerwork, Rolfing, Alexander technique

## Non-pharmacologic Approaches

- 
- Biofeedback/neurofeedback/hypnosis
  - Stress reduction
  - Balancing neurotransmitters with targeted amino acid therapy
  - Nutraceuticals to improve genetic defects, mitochondrial insufficiency
  - Anti-inflammatory diet
  - Hormone balancing
  - EMDR and other psychotherapies for PTSD-associated pain
  - Music
  - Herbal anti-inflammatories
  - Infrared sauna
  - Energy medicine, therapeutic touch



The number one reason  
people seek complementary  
therapies

- PAIN

# Yoga & Yoga Therapy



# YOGA TOOLS FOR MANAGING PAIN IN THE PHYSICAL BODY:

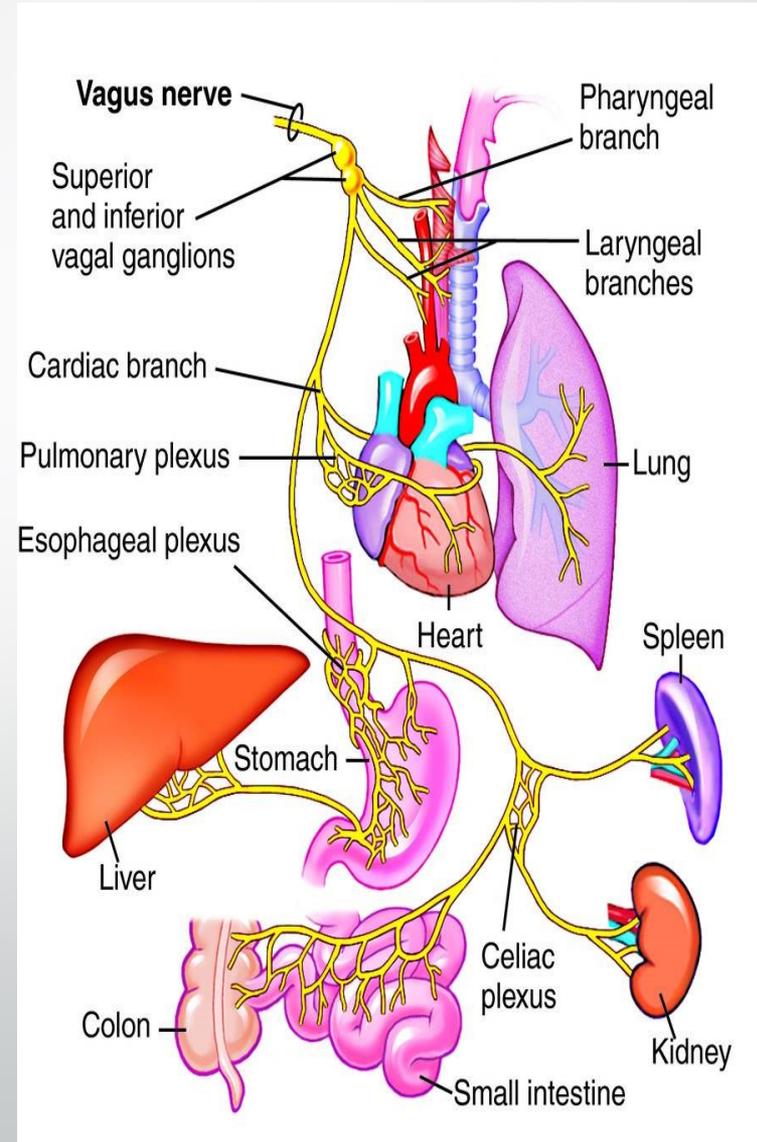
Asanas or yoga poses or postures - to correct imbalance of the physical body.



1<sup>st</sup> Layer: Physical Body  
(Annamaya)

The **Vagus Nerve** is the mechanism for slowing down the body. It is the brake which allows the body to move from Sympathetic (flight or fright or freeze) to Parasympathetic (rest and digest)

**BREATHING TECHNIQUES** activate the Vagus Nerve



# Acupuncture



# Acupuncture

- NIH Consensus Conference on Acupuncture (1997) reported efficacy of acupuncture for a variety of health problems, including
  - Osteoarthritis
  - Low back pain
  - Myofascial pain
  - Fibromyalgia

# Acupuncture for Migraine

- Cochrane review 22 trials (n=4985) concluded that the available evidence suggests adding acupuncture to symptomatic treatment of attacks reduces the frequency of headaches. The available trials also suggest:
  - That *acupuncture may be at least similarly effective as treatment with prophylactic drugs.*
  - “Acupuncture can be considered a treatment option for patients willing to undergo this treatment.”
    - Linde K, et al. Acupuncture for the prevention of episodic migraine

# Natural Substances for Migraine

- Magnesium
- Riboflavin
- Butterbur
- Feverfew
- CoQ10
- Turmeric

# Chiropractic



# Spinal Manipulation for **Acute** Back Pain

- 15 randomized controlled trials (more than 1,700 patients) found spinal manipulation caused an improvement in pain of about 10 points on a 100-point scale
- 12 RCTS, some of which overlapped with above but not all, (~1,400 patients) found spinal manipulation resulted in improvements in function

# Clinical Practice Guidelines for Back Pain

## American College of Physicians - 2017

- For patients with chronic low back pain, clinicians and patients should ***initially select non-pharmacologic*** treatment with *exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction (moderate- quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation (low-quality evidence)*

# Fascia

- Fascia is a fibrous tissue that surrounds bone, muscle groups, blood vessels and nerves
- Fascia binds structures together while allowing them to slide across each other.
- Fascia can be classified depending on where it is found in the body - superficial, deep or visceral
- Fascia is made up of collagen and elastin fibers along with a gel like compound called Ground Substance



# Fascia

- Fascia is continuous throughout the body
- Unlike muscles, fascia does not stop at origin and insertion points
- The tensions that occur when muscles contract cross the joints through the fascia

# When pain is present

**No one wants to be in pain, so we try to avoid it**

- Position our body so the pain is lessened
- Shorten our stride
- Reduce our ability to reach
- Reduce our ability to turn and twist
- REDUCES MOBILITY

# When pain is present

## Compensation = Postural Distortion

- Compensation occurs depending on where the pain is located
- Compensation usually follows a crossing pattern
- Recruitment fatigue (muscles like routine)
- The longer pain and compensation patterns are present the more likely your body will accept the new posture as normal
- Pain signal overload: “I didn’t know that hurt”

# Exercise/Activity - Fibromyalgia

- Graded, “energy bank” concept
- Water exercise
- Walking
- Goal is 40 min 5-7 days a week
- Adequate rest

# Avoid Opioids in Fibromyalgia

- Opioid pain receptors are blocked in FM, so these drugs are not appropriate
- They may help patients based on their potential antidepressant effect

# Exercise - Arthritis

- Water aerobics, swimming, water walking
- Yoga, T'ai Chi, Qi gong
  - “T'ai Chi has statistically significant benefits on lower extremity range of motion, especially ankle ROM in people with RA”  
[www.cochrane.org/cochrane/revabstr/AB004849.htm](http://www.cochrane.org/cochrane/revabstr/AB004849.htm)
  - Controlled trial of elderly OA patients for 12 weeks enhanced quality of life, functional mobility and arthritis self-efficacy with T'ai Chi
    - *J Am Geriatr Soc* 2000 Dec;48(12):1553-9

# DIET AND INFLAMMATION

- Inflammation in the body is often driven by eating an anti- or pro- inflammatory dietary pattern; inflammatory mediators can impact pain, mood, sleep, functioning
- An anti-inflammatory diet reduces inflammation and improves health
- The Dietary Inflammatory Index is based on measuring inflammation in the body in response to foods; it has been used in numerous published studies and is being studied for use as a clinical tool (DII Screener free app)

# Nutritional Approaches - Arthritis

- Essential fatty acids, olive oil, fish, nuts, seeds
- Avoid inflammation-promoting fats: PUFA's (safflower, sunflower, corn oil); margarine, vegetable shortening, partially hydrogenated oils (in snack foods)
- Eliminate dietary allergens (especially wheat, corn, dairy, red meat)
- Green tea instead of coffee
- Vegetarian diet

# Herbs & Natural Products



# Anti-inflammatory Herbs

- Ginger 500-1000 mg powder twice daily
- Curcumin (Turmeric) 400-600 mg three times/day
- Feverfew?
- Topical capsaicin

# Glucosamine

- Glucosamine stimulates production of glycosaminoglycans in joints, thus building cartilage; also promotes uptake of sulphur into cartilage
- Aging results in decreased ability to make glucosamine
- No food sources of glucosamine

# Chondroitin

- Chondroitins are the main glycosaminoglycans in joints and connective tissue
- Hyaluronidase and leukocyte elastase (enzymes that break down cartilage) are inhibited by chondroitins
- Data supporting use for OA are good
- Side effects/toxicity rare
- Dose: 400 mg 3 times/day

# S-adenosylmethionine (SAMe)

- Formed by combining methionine with ATP
  - Important for forming gel-like/shock absorbing nature of cartilage
  - Large study (20,641 patients) with OA knee, hip and spine given SAM for 8 weeks: 71% “good or very good” improvement, 21% “moderate”, 9% poor; tolerance very good
- Berger & Nowak: *Am J Med* 1987;83:84-8

# Sleep and Chronic Pain

- 50-80% of chronic pain patients have sleep disturbance; pain can interfere with sleep and sleep disturbance can exacerbate pain
- The presence of sleep-disordered breathing, including obstructive sleep apnea and central sleep apnea, increases the risk of significant harm associated with the use of opioids and other centrally sedating medications
- Clinicians should have a sleep questionnaire readily available in clinic to assess quality of sleep in all patients, but particularly those with pain; appropriate follow-up with formal sleep study if needed.
  - Cheate MD, et al. Assessing and Managing Sleep Disturbance in Patients with Chronic Pain. *Sleep Medicine Clinics*, 2016;11(4): 531-541
  - Copyright © Integrative Medicine Concept, LLC. All Rights Reserved.

# Sleep Enhancement

- Herbs: valerian, passion flower, melissa, camomile, lemon balm
- Aromatherapy: lavender, sage
- OTCs: benadryl, melatonin
- Targeted amino acids: taurine, phenylbutyric acid
- Bedtime ritual: bath, tea, relaxing activity

# Mind-Body Approaches

- Emotional expression: RA patients journaling about past trauma averaged 28% decrease in symptoms after 4 months
  - *JAMA* April 4, 1999
- Hypnotherapy, guided imagery, visualization, biofeedback for pain
- Meditation, yoga, breathwork

# John Sarno, MD – “Healing Back Pain” Scott Brady, MD – “Pain Free for Life”

- Suppressed feelings of anger, fear, anxiety, shame, guilt can be potent contributors to chronic low back pain
- “Deep journaling” about these feelings can be therapeutic
- “Fear of pain” can perpetuate immobility and pain – people must move through the pain
- Chronic pain medications will not be the answer in these situations

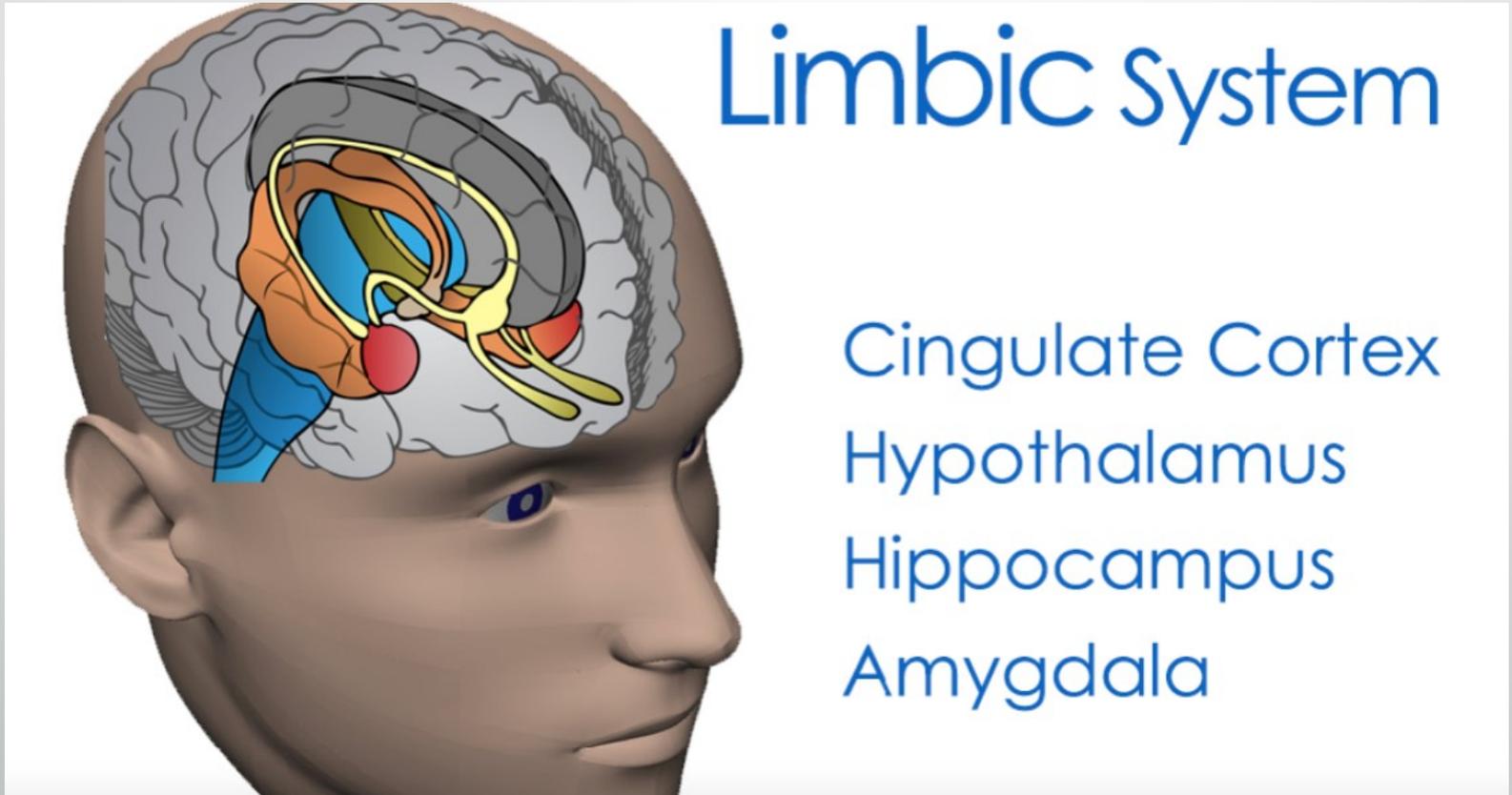
# Muscle Relaxation

- Stretching
- Herbs: arnica (topically), valerian
- Body work: massage, Feldenkrais, muscle balancing

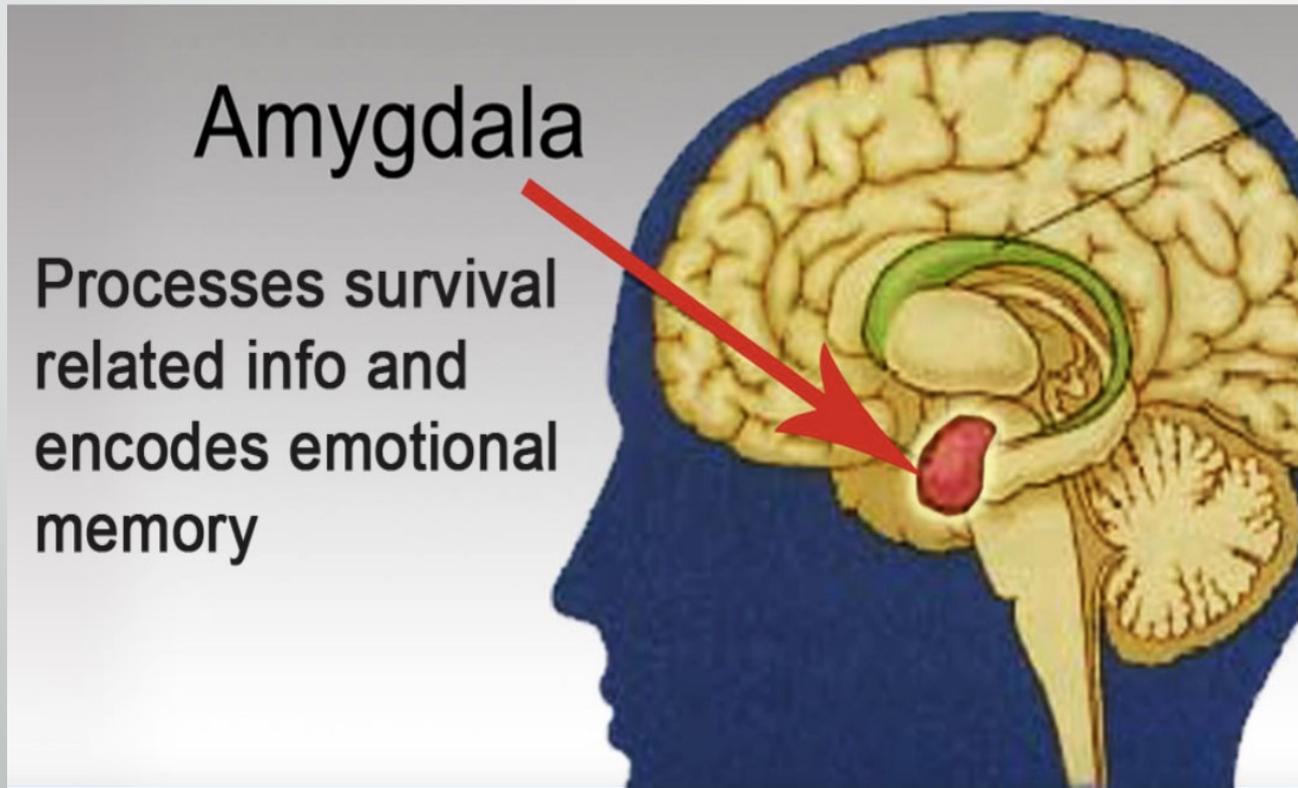
# HORMONE THERAPY

- Estrogens may be enhancers of humoral immunity
- Progesterone and androgens are natural immune suppressants
- Low DHEA, DHEA-S, testosterone and DHT found in RA patients
- Androgen therapy may be helpful
  - *Rheum Dis Clin North Am* 2000  
Nov;26(4):881-95

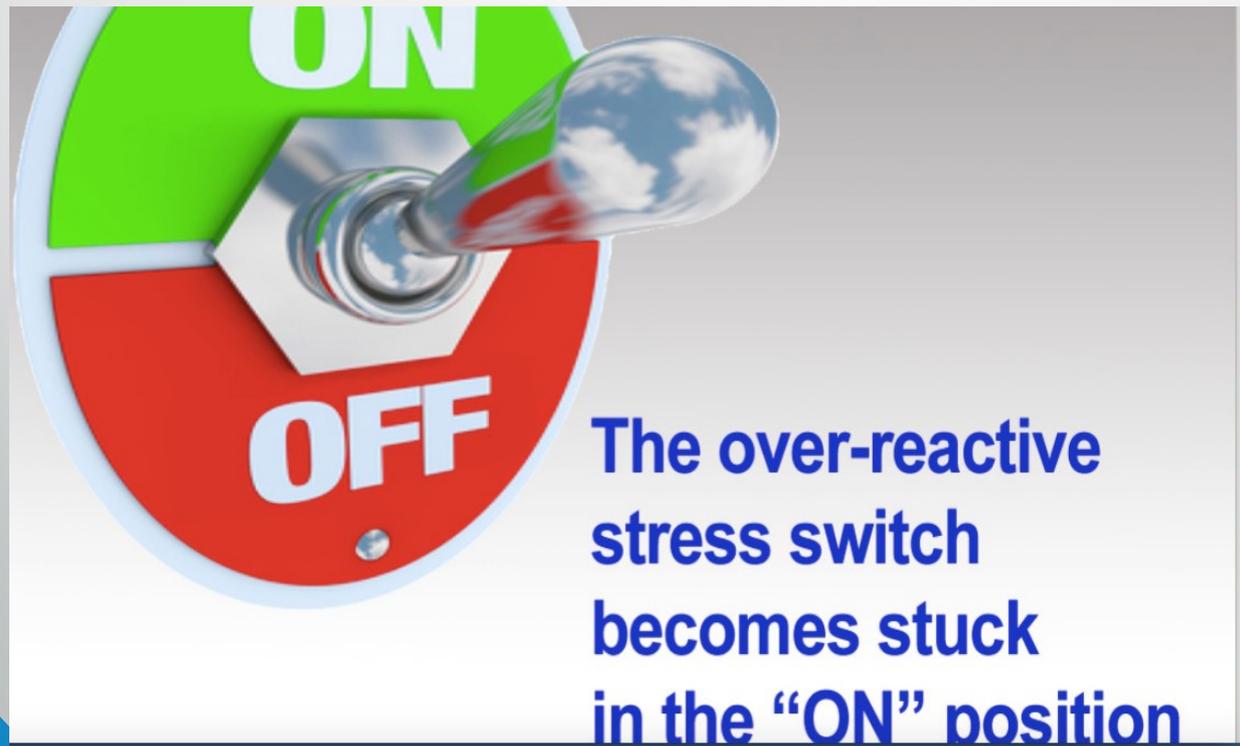
# A word about the limbic system...



# The AMYGDALA is the instinctual fear center



When overstressed, the limbic system continually activates chemicals, hormones, immune defenses of fight/flight, poor detoxification, reduced immunity and ongoing hypersensitivity to pain



# Limbic Rehabilitation may be the answer for some people

- “Wired for Healing” – Annie Hopper
- Dynamic Neural Rehabilitation Systems
  - [www.dnrsystems.com](http://www.dnrsystems.com)

# Knowing Our Purpose

- “We have more conveniences but less time. We have more degrees, but less sense....more knowledge but less judgment; more experts, but more problems; more medicines, but less healthiness
- “We have been all the way to the moon and back but have trouble crossing the street to meet the new neighbor.”
- “We build more computers to hold more information that produce more copies than ever before, but we have less communication.”
- “We have become long on quantity, but short on quality. These are the times of fast foods, but weak digestion. It is a time when there is much in the window but nothing in the room.”

- Attributed to The Dalai Lama

# Meaning and Purpose

- What truly gives a person a sense of *meaning and purpose* in life?
- How can someone discover her life purpose to focus on the essence of who she is? Her *be-ing*.
- How can one live from a “*deep place*” despite his or her pain?
- So important to explore.....it is often the key to *less suffering*.



“ He who has a *why* for  
life, one can put up  
with almost any *how* ”

*Frederick Nietzsche*



Pain is inevitable.

Suffering is optional.



And humor can be good  
medicine....

# Contact Information

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# Questions



# Medication Safety LAN

## Upcoming Events

- Managing Chronic Pain Naturally
  - Coaching Call: January 29, 12:15 to 12:45 p.m. CT  
[http://greatplainsqin.org/blog/event/coaching-call-managing-chronic-pain-naturally/?instance\\_id=1442](http://greatplainsqin.org/blog/event/coaching-call-managing-chronic-pain-naturally/?instance_id=1442)
- Chronic Pain Management at a Family Medicine Residency
  - Webinar: February 6, 12:15-12:45 p.m. CT
  - Coaching Call: February 20, 12:00-12:30 p.m CT
- Nebraska State Pain Guidance Document
  - March and April 2018

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