Fibrous Dysplasia, Pain, and Psychological Treatment

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Acute Pain

- Protective Mechanism
- Onset is Sudden
- Mobilizes to Prompt Action
- Physiological Arousal (ie., tachycardia)
- Psychological Arousal (ie., fear, unease)

**In FD, acute pain is often the VERY FIRST symptom

Chronic Pain

- Poorly Defined Temporal Onset
- Pain Lasts *at least* 3 months
- Cause is Often Unknown
- No observable injury
- Injury not sufficient enough to explain pain
- Unfathomable

Pain Theories Throughout Time

- Pain before the 1960's: Specificity Model of Pain
- 1965: Gate-Control Theory (Melzack and Wall)
- 1979: IASP Redefined Pain in 1979
- Present Day: Bio-Psycho-Social Model

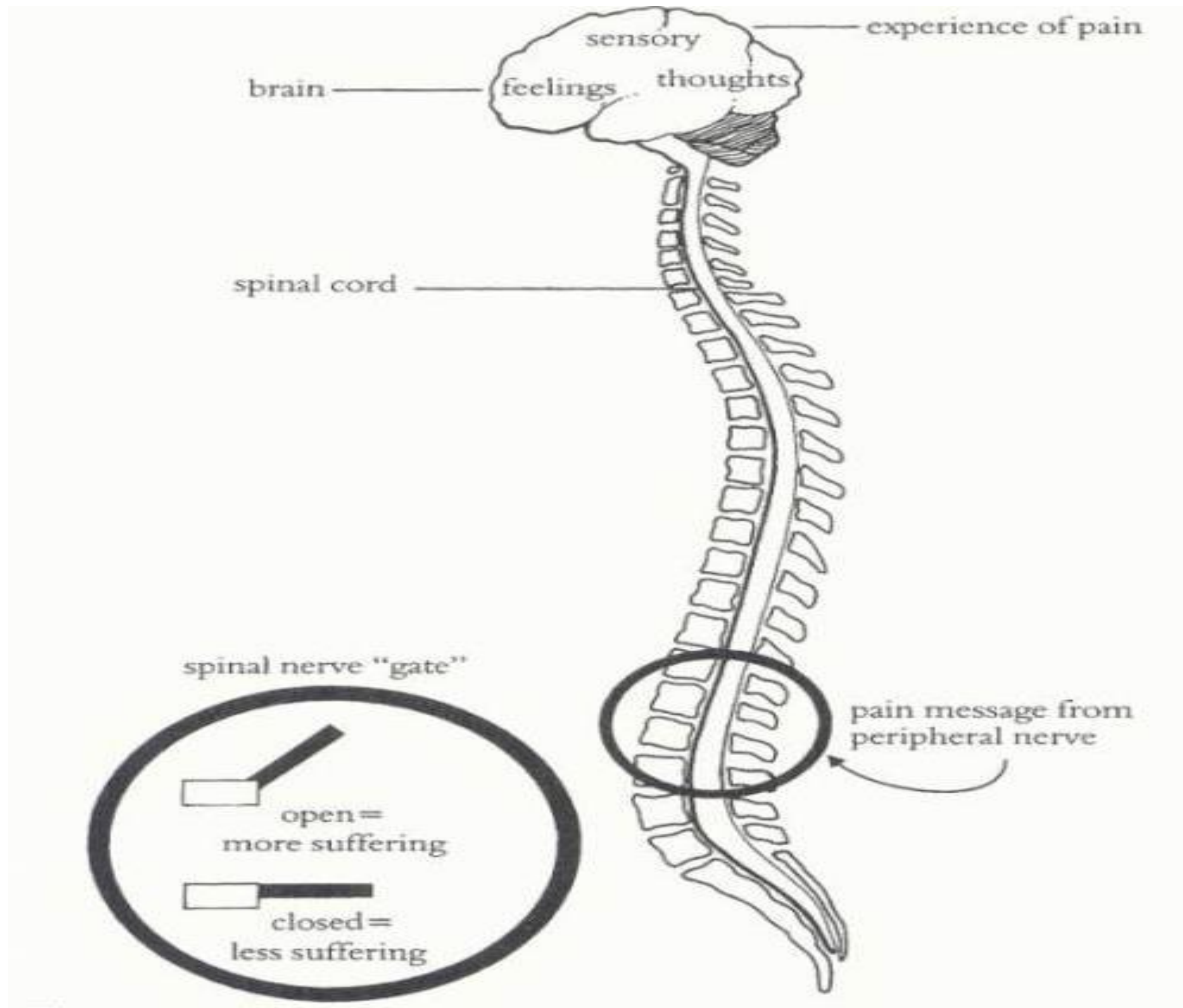
Specificity Theory

- Descartes's Theory
- The body works by mechanistic principles
- An individual gets hurt and then that message is relayed directly to the brain
- Too simplistic

A
B

Gate-Control Theory

- Melzack and Wall (1965)
- Described physiological mechanism by which psychological factors can affect the experience of pain
- Gate is located in the spinal cord
- “Central” descending impulses can close or open the gate


sensory
experience of pain
brain
feelings
thoughts
spinal cord
spinal nerve "gate"
pain message from
peripheral nerve
open=
more suffering
closed=
less suffering

Conditions that Open the Gate

Physical conditions

- Extent of injury
- Inappropriate activity level

Emotional conditions

- Anxiety or worry
- Tension
- Depression

Mental Conditions

- Focusing on pain
- Boredom

Conditions That Close the Gate

Physical conditions

- Medications
- Counter stimulation (e.g., heat, message)

Emotional conditions

- Positive emotions
- Relaxation, Rest

Mental conditions

- Intense concentration or distraction
- Involvement and interest in life activities

IASP Definition

"An unpleasant ***sensory*** *and* ***emotional*** *experience associated with actual or potential tissue damage, or* ***described*** *in terms of such damage."*

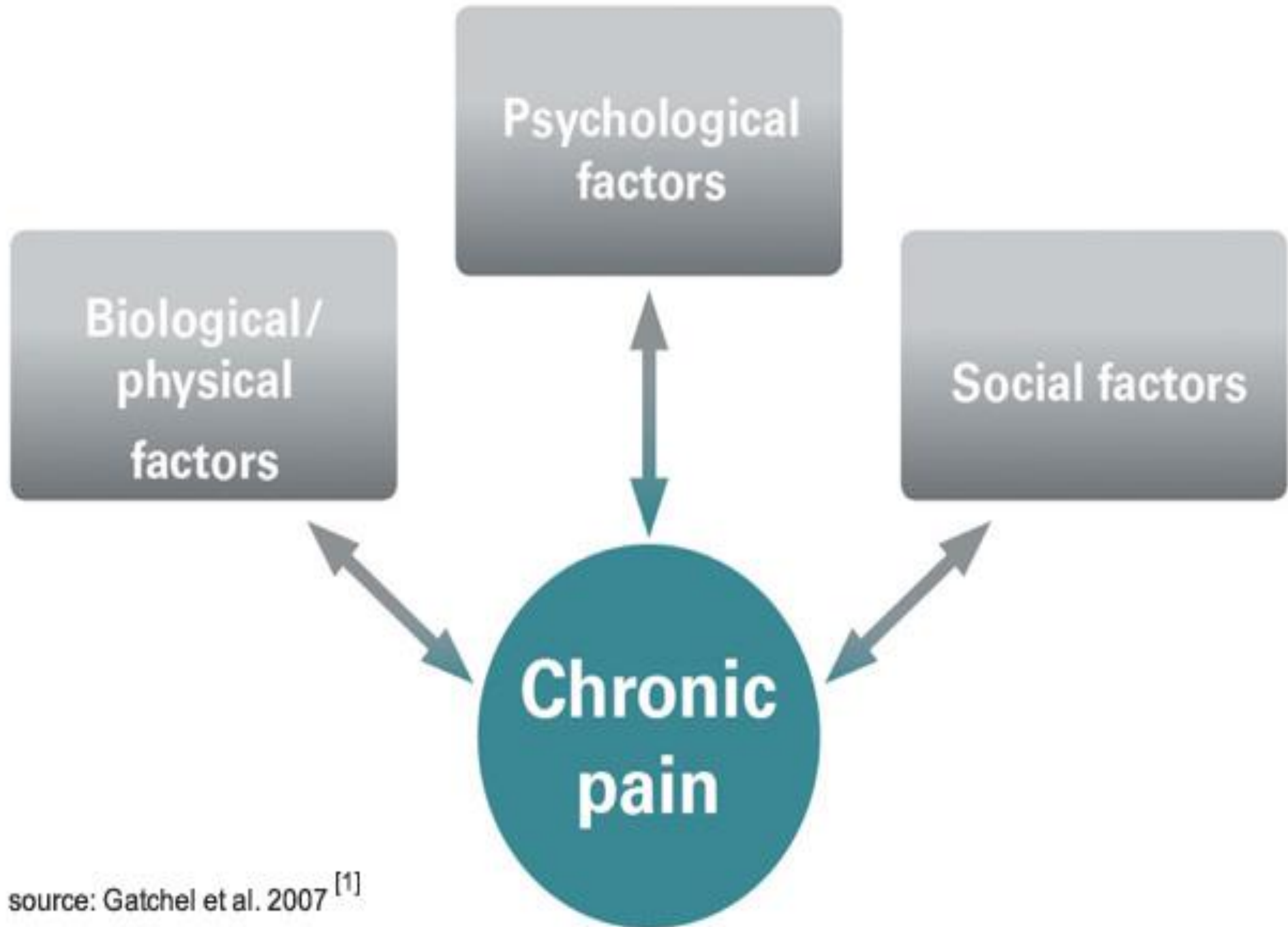
Pain really is…

"Whatever the experiencing person says it is, Whenever the experiencing person says it does"

(McCaffery & Pasero, 1999)

Medical Model Won’t Cut It For CP

- **BIO:** “Central sensitization”, response to “non-noxious stimuli”, neuromodulators etc.
- **PSYCHO:** Stress, Depression, Anxiety (cognitive and affective influences)
- **SOCIAL:** All of the above amidst a certain FAMILIAL, cultural, or religious, or socioeconomic milieu


Psychological factors
Biological/ physical factors
Social factors
Chronic pain
source: Gatchel et al. 2007 [1]

Psychological Difficulty Can…

- Increase pain severity (decreased tolerance)
- Increase disability ass. w/ pain
- Foster the maintenance of pain
- Decrease response to treatment
- Interfere with Rehab

Medical Approaches

One of the most common medical approaches is the use of *drugs*

Limitations to using drugs to treat pain:

- **Tolerance and dependence on drugs**
- **Overmedication**

Medical Approaches

Another medical approach used to manage pain is ***surgery***

Surgery aims to repair the source of the pain or alter the nervous system to alleviate the pain

Limitations of surgery:

- **It may not always repair damaged tissue**
- **It may not provide patients with relief**
- **Expensive**

Cognitive Behavioral Therapy (CBT)

- Based on the tenants that meaning is prescribed to events that may bias our perception of what is really going on
- **Event→Thoughts (Bias)→Emotions→Behaviors→**
- Methods include (both cog and beh):
  1. Attempts to decrease maladaptive thoughts
  2. Addressing behavior patterns
  3. Coping-skills training (ie., relaxation strategies)

HELP
I'll never get better
No one believes me
They should cure me
I can't stand it
I can't do what I used to
Am I imagining it?
I'm useless
Why do I hurt
FEAR
DEPRESSION
ANXIETY
FRUSTRATION
FURY

The "C" in CBT

- Cog therapy for chronic pain focuses on the promotion of thoughts shown to contribute to functioning on challenging the negative internal monologue
- This is done via a technique called "thought restructuring" or "cognitive restructuring"
- Therapist explains this "model", teaches patients how to identify their beliefs about pain, helps the patient evaluate whether these are accurate or helpful, and guides the patient to change inaccurate or unhelpful cognitions into ones that are more accurate
- Self Efficacy: Viewing oneself as proactive and self-regulating

The COGNITIVE BEHAVIORAL Sequence

EVENTS → THOUGHTS → BEHAVIOR

↳ Emotions ↑

This is the stuff that happens as you experience daily life.

Senses input to brain, also uses memory (learned experience) and decides response.

What the brain has decided as the best response for the event

When the brain records memory it includes any emotions experienced.

Negative Thought Patterns

- **Blaming:** "my lousy boss is responsible for my pain injury"
- **"Should" statements:** "I should" have thought of good body mechanics before I lifted that box
- **Black or White thinking:** "If they can't CURE me then they are useless"
- **Catastrophizing:** "What if I have to live like an invalid for the rest of my life? "

Catastrophic thoughts

- A negative mental set in the presence, or anticipation of, pain
  - *Magnification* - “I become afraid that the pain will get worse”
  - *Rumination* - “I can’t seem to keep it out of my mind”
  - *Helplessness* - “there’s nothing I can do to reduce the intensity of the pain”

The Pain Cycle
Pain
Disability
Distress

The "B" in CBT

- Involves goal-setting, exercise-activity pacing, training in coping strategies, graded exposure, and relaxation techniques

- Exposure includes identifying patterns of fear and avoidance related to pain and activity, followed by a graded series of approach trials to the feared activities

- In terms of chronic pain, coping may be simply thought of as strategies engaged in to manage daily pain (passive vs. active)

Perception of Control

- Lack of (perceived) control tends to intensify perceived pain
- Patients who are passive in response to threat show greater distress and disability than patients who attempt to solve problems
- Those who believe that they have the personal ability to have control over pain also show improved function and fitness

Physiologic Behavioral Techniques

- Meditation and Yoga
  Diaphragmatic Breathing
  Progressive Muscle Relaxation
  Guided Imagery
  Biofeedback

- More research necessary to understand mechanisms

- Proposed include diverting attention, **decreased autonomic arousal**, coping skills, sense of control

Relaxation Techniques

- Particularly important because of stress and it's relationship to pain
- Decrease sympathetic *("fight or flight")* arousal
- Increase Parasympathetic arousal
- Stress reduction should be a part of anyone's daily regimen

Mindfulness Meditation

“Just Be Mindful”

(What does this ***REALLY*** mean?)

Continue to next page.

What is Mindfulness Meditation?…Really

Two components:

1. Pay attention to the here-and-now
2. Pay attention with nonjudgmental acceptance

Two phases:

1. Concentrated Attention
2. Receptive Attention

Experiential Part Of Talk!

Let's Just Be Mindful…

(I'm going to walk you through a mindfulness exercise)

Bottom Line

- Growing literature using multidisc interventions and their role as adjuncts to traditional pain management
- In particular the CBT approach appears to be the most effective adjunct
- Mindfulness Meditation offers relief and cultivates awareness
- **Ultimate Goal:** *"Help patients live despite the threat of living"*