


**PainWeek**

**Triple Threat or Epiphany?  
The Need for a Biopsychosocial Approach  
to Pain Management**

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Kevin L. Zacharoff, MD, FACPE, FACIP, FAAP



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**Disclosure**

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- Nothing to disclose

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**Learning Objectives**

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- Describe the debate between treating pain from a mechanistic or humanistic approach
- Describe the rationale of biomedical and biopsychosocial pain treatment models
- Describe the new International Association for the Study of Pain definition of pain
- Identify ways to effectively harness these pain treatment models in a synergistic way based on pain type and patient context that ultimately focuses on functional capacity and improvement of quality of life

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## Biopsychosocial Treatment of Chronic Pain – Triple Threat?



Or Epiphany?

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### Clinical Relevance of Pain Models

Biomedical Model	Biopsychosocial Model
Most appropriate for acute pain	More useful for chronic pain
Emphasizes peripheral nociception	Central mechanisms involved
Focuses on physical disease mechanisms	Focuses on illness behavior, including cognition and emotional response
"Reductionistic" approach	Multidimensional systems approach
Medical management approach	Self-management strategies important

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Little, S. (2000). "A review of psychological risk factors in back and neck pain." Spine 25 (9): 1148-56.

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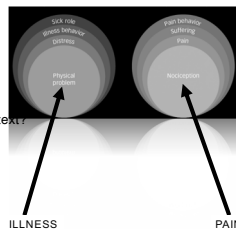
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### The Biomedical Model

- *It is reductionistic*
- *Is it oversimplified?*
- *Is it unsophisticated?*
- *Does it miss the mark?*
  - Doubting veracity?
  - Ignoring engagement with social and emotional context?
  - What about idiopathic pain?
- *Is it destined to marginalize?*



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Bendiner, G. Chronic Pain Patients and the Biomedical Model of Pain. American Medical Association Journal of Ethics, May 2013, Volume 35, Number 5: e55-63.

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### The Spectrum of Psychosocial Context

- A different perspective of pain – one of:
  - “Biographic disruption”
  - “Narrative reconstruction”
  - “Illness adjustment”
- A transitional perspective
  - From onset
    - Definable physiologic basis
  - To continuation
    - Emergence of doubt



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### Biopsychosocial Pain Management – An Intense (Competitive?) and Problematic Relationship

- What’s the right answer?
  - Treat the pain?
  - Treat the suffering?
  - Mechanistic approach vs. Humanistic approach?
  - Reductionistic metric vs. Adaptive metric?
  - Biological vs. Psychological vs. Social approaches?



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### Managing Chronic (and Acute) Pain is a Negotiation

- A negotiation of:
  - Pain
  - Suffering
  - Biology
  - Psychology
  - Sociology
  - Regulatory scrutiny
  - Stigmatization
  - Adherence



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### Words Matter

▪ **Pain defined**

-Coming up

▪ **Suffering defined**

-An aversive emotion/mental state that depends on past experiences, culture, education, beliefs, and economic

- Distress
- Sorrow
- Grief
- Unhappiness
- Misery
- Affliction
- Woe



**PainWeek** Fernández-Salazar M. "The painfulness of pain and its representation in the brain: a model of the body-mind problem" (2013). *Journal of Neuro-Critica*, Rome, Italy July.

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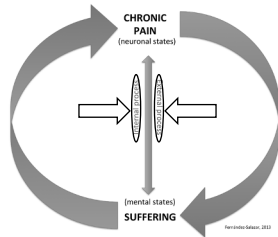
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### Basic Relationship Between Pain and Suffering



**PainWeek** Fernández-Salazar M. "The painfulness of pain and its representation in the brain: a model of the body-mind problem" (2013). *Journal of Neuro-Critica*, Rome, Italy July.

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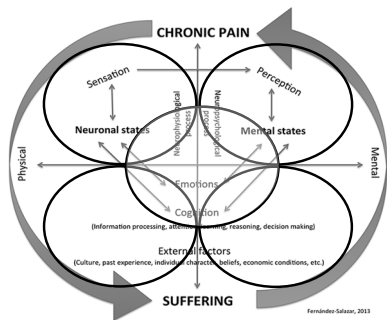
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**PainWeek** Fernández-Salazar M. "The painfulness of pain and its representation in the brain: a model of the body-mind problem" (2013). *Journal of Neuro-Critica*, Rome, Italy July.

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### The Transition from Normal Sensation to “Deviant Perception”

- Pain quality and intensity can be modified by psychological factors:
  - Fear
  - Anxiety
  - Irritation
  - Anger
  - Discouragement
  - Depression
- Potential impact:
  - Decision-making
  - Determination
  - Planning
  - Adherence



**PainWeek** Ferriss-D'Silva M. "The painfulness of pain and its representation in the brain: a model of the body-mind problem" (2013) Journal of Neuroscience, Bonn, July 2014.

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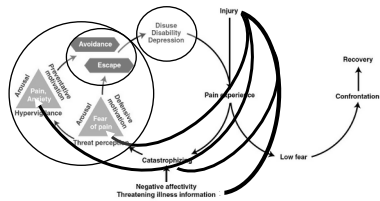
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### The (Reflexive) Experiential Escape Plan



**PainWeek** Levine M, Gosselin ME, Linton SJ, Crombez G, Boonstra K, Vilijanen JH. The fear-avoidance model of musculoskeletal pain: current state of scientific evidence. *Journal of Behavioral Medicine*. 2007;30(1):77-84.

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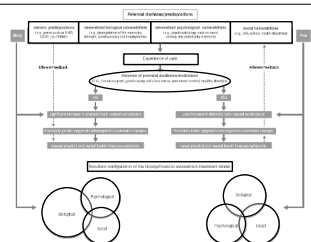
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### Predispositions and Vulnerabilities May Tilt the Balance



**PainWeek** Bennett R, Wills L, Kahno, N.D., Cahal, R.J. The Biopsychosocial Model of the Assessment, Prevention, and Treatment of Chronic Pain. *US Neurology*. 2016;10(2):88-104.

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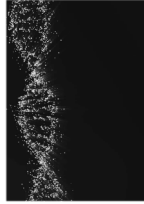
### Genetic Predispositions

#### Polymorphisms

- Hydroxytryptamine receptor 2C (HTR2C)
- Catechol-O-methyltransferase (COMT)
- Interleukin 6 (IL6)
- Interleukin 1  $\beta$  (IL1B)
- $\mu$ -opioid receptors (OPRM1)

#### Stress

- Can impact behavioral expression of genetic predispositions



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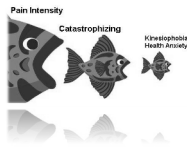
### Biological Vulnerabilities and Physical Deconditioning

#### Predisposition to:

- “Breakdown” of physical functioning
  - Fear-avoidance
  - Kinesiophobia
  - Pain catastrophizing

#### Stress

- $\uparrow$ Cortisol release
- $\downarrow$ Modulation of serotonin and norepinephrine



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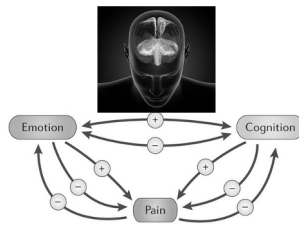
### Psychological Vulnerabilities and Mental Deconditioning

#### Predisposition to:

- “Learned” helplessness
- Anxiety disorders
- Personality disorders
- Substance abuse
- Depression

#### Play a crucial role in:

- Acceptance
- Adherence
- Suffering
- Motivation



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### Social Vulnerabilities

- **Socioeconomic status**
  - Low level of access
  - Under or not insured
  - Unable to travel
  - Unable to afford
- **Culture/cultural beliefs**
  - Stoicism
  - Traditions
  - Norms
  - Prejudice
  - Stigma




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# SO



Or are We Reinventing the Wheel?

## Do We Need a New Definition of Pain?




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### Nothing Stays the Same (at least not more than 40 years...)

#### IASP Announces Revised Definition of Pain

Jul 16, 2020

For the first time since 1979, IASP introduced a revised definition of pain, the result of a two-year process that the association hopes will lead to revised ways of assessing pain.

"IASP and the Task Force that wrote the revised definition and notes did so to better convey the nuances and the complexity of pain and hoped that it would lead to improved assessment and management of those with pain," said Srinivasa N. Raja, MD, Chair of the IASP Task Force and Director of Pain Research, Professor of Anesthesiology & Critical Care Medicine, Professor of Neurology, Johns Hopkins University School of Medicine.




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## Lots of Questions

Narrative Review

# PAIN

### The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises

Srinivasa N. Raja<sup>1,4\*</sup>, Daniel B. Carr<sup>2,1</sup>, Milton Cohen<sup>2</sup>, Nanna B. Finnerup<sup>1,6</sup>, Herta Flor<sup>1</sup>, Stephen Gibson<sup>3</sup>, Francis J. Keefe<sup>1</sup>, Jeffrey S. Mogil<sup>1</sup>, Matthias Ringkamp<sup>1</sup>, Kathleen A. Sluka<sup>4</sup>, Xue-Jun Song<sup>1</sup>, Bonnie Stevens<sup>1,5</sup>, Mark D. Sullivan<sup>1</sup>, Perri R. Tutelman<sup>1</sup>, Takahiro Ushida<sup>2</sup>, Kyle Vader<sup>1</sup>

PAIN: May 23, 2020 - Volume Articles in Press - Issue -

doi: 10.1097/j.pain.0000000000001939




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## Pain Redefined by the International Association for the Study of Pain (IASP)

▪ *"An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage"*

▪ *Six Key "Expansion" (Qualifying) Notes:*

- Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons
- Through their life experiences, individuals learn the concept of pain
- A person's report of an experience as pain should be respected
- Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being
- Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain
- Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors




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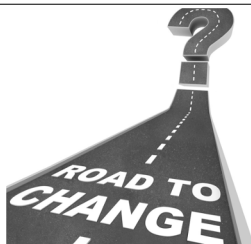
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## Impact of the "New" Definition(s)?

*Pain and nociception are different phenomena*

*Pain cannot be inferred solely from activity in sensory neurons*

- Do we expect that clinicians will approach treating people with pain in a different, non-nociceptive way?
  - Is this an activity of re-education or just education?
  - At what point in the clinical trajectory?
    - Training?
    - Clinical practice?
    - CME?
  - Does this alter the ethical calculus?



Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. *Published online ahead of print.* 2020:May 23. *Pain.* 2020;10:1939.

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**Impact of the “New” Definition(s)?**

*Through their life experiences, individuals learn the concept of pain*

- If life experiences teach people the concept of pain, what role do we have as frontline practitioners to participate in the educational process?
  - For children?
  - To parents?
  - Do we incorporate some query regarding learned experiences about pain to help formulate a tailored treatment plan?
  - Do we just assume that everyone has the same learned experiences and aim for the center of the bell curve?



Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Published online ahead of print. 2020 May 23. Pain. 2020;10:1007.

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**Impact of the “New” Definition(s)?**

*A person's report of an experience as pain should be respected*

- Regarding assessment and treatment?
- In terms of believing subjective patient reporting?
- In terms of how we treat pain once it is reported?
- In terms of patient context?
- Does this really refer to stigmatization?
- As opposed to what?



Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Published online ahead of print. 2020 May 23. Pain. 2020;10:1007.

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**Impact of the “New” Definition(s)?**

*Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being*

- What about pain severity rating?
- Does that mean we take this approach?
  - Impact on function
  - Impact on social well-being
  - Impact on psychological well-being
- Should we be focusing on adaptation instead of neutralization?



Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Published online ahead of print. 2020 May 23. Pain. 2020;10:1007.

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**Impact of the "New" Definition(s)?**

*Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain*

- Another level of subjectivity?
- An opportunity for objectivity
  - Physiologic parameters
  - Observational parameters
- Only reserved for those who are unable to communicate?



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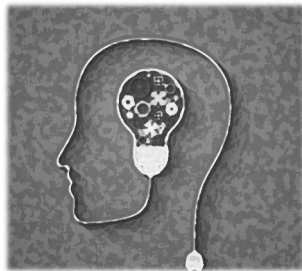
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Here Comes the  
**EPIPHANY**



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**Impact of the "New" Definition(s)?**

Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors

- Bio
- Psycho
- Social

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### Barriers to Implementation of a Biopsychosocial Approach to Chronic Pain Management

- \$\$\$
- Knowledge base or lack of it
- Bias/stigma
- Change
- Data or lack of it
- Subjective (if it's possible for pain to be more subjective)
- Lack of consensus of terminology
  - Comprehensive?
  - Integrative?
  - Multidisciplinary?
  - Multimodal?




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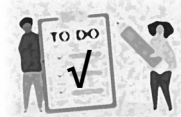
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### To Do List

- Education ✓
- Engagement of clinicians ✓
- Measuring outcomes ✓
- Reimbursement ✓
- Attention to adherence/likelihood of adherence ✓
- Data ✓
- Communication ✓
  - Patient
  - Colleague
  - Institution



Pain Action Alliance to Implement a National Strategy (PAIN) and the Center for Practical Bioethics




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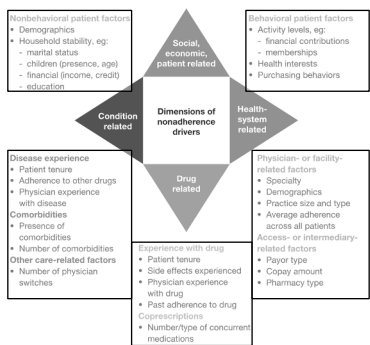
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### Adherence as an Example

- Understanding
- The most important tool...
  - Whether the pain is acute or chronic




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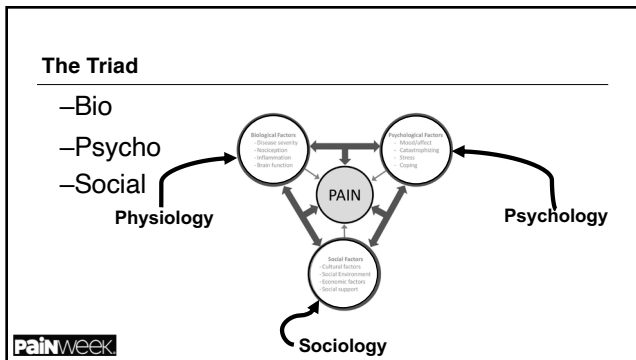
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### Honorable Mention

- Self-efficacy
- Realistic goals and expectations
  - Far beyond pain rating
- Conviction
- Patience
- Persistence
- Reflection
- Compassion
- The "thing" about opioids and efficacy

**HONORABLE MENTION**

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### Words Matter

Use the New Definition(s) of Pain

- Understand
- Practice
- Teach

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- Spread the Word...

**PSSST...!**

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*"Cure sometimes, treat often, comfort always."*  
— Hippocrates

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QUESTIONS?

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