



# A PRIMER ON CHRONIC PAIN

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# A PRIMER OF CHRONIC PAIN

- Nomenclature and classification of pain
- Epidemiology of chronic pain
- Basics of diagnostic evaluation
- Overview of treatment approach

# PAIN

- “An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.
  - International Association for the Study of Pain
- The most frequent reasons patients seek medical care
- Complex, multifactorial, both overtreated and undertreated

# PAIN PERCEPTION

- Factors that influence pain perception
  - Age: elderly have more pain but have reduced pain perception?
  - Gender: female > male
  - Social context: cultural differences in the acceptance of pain
  - Vocational context: poor job satisfaction → higher incidence of pain
- Psychological influences
  - Catastrophizing
  - Neuroticism
  - Depression
  - Emotional stress

# CATEGORIZING PAIN

- Classification: Nociceptive vs. Neuropathic
- Duration: Acute vs. Chronic
- Location of Pathology: Central vs. Peripheral

# PAIN: CLASSIFICATION

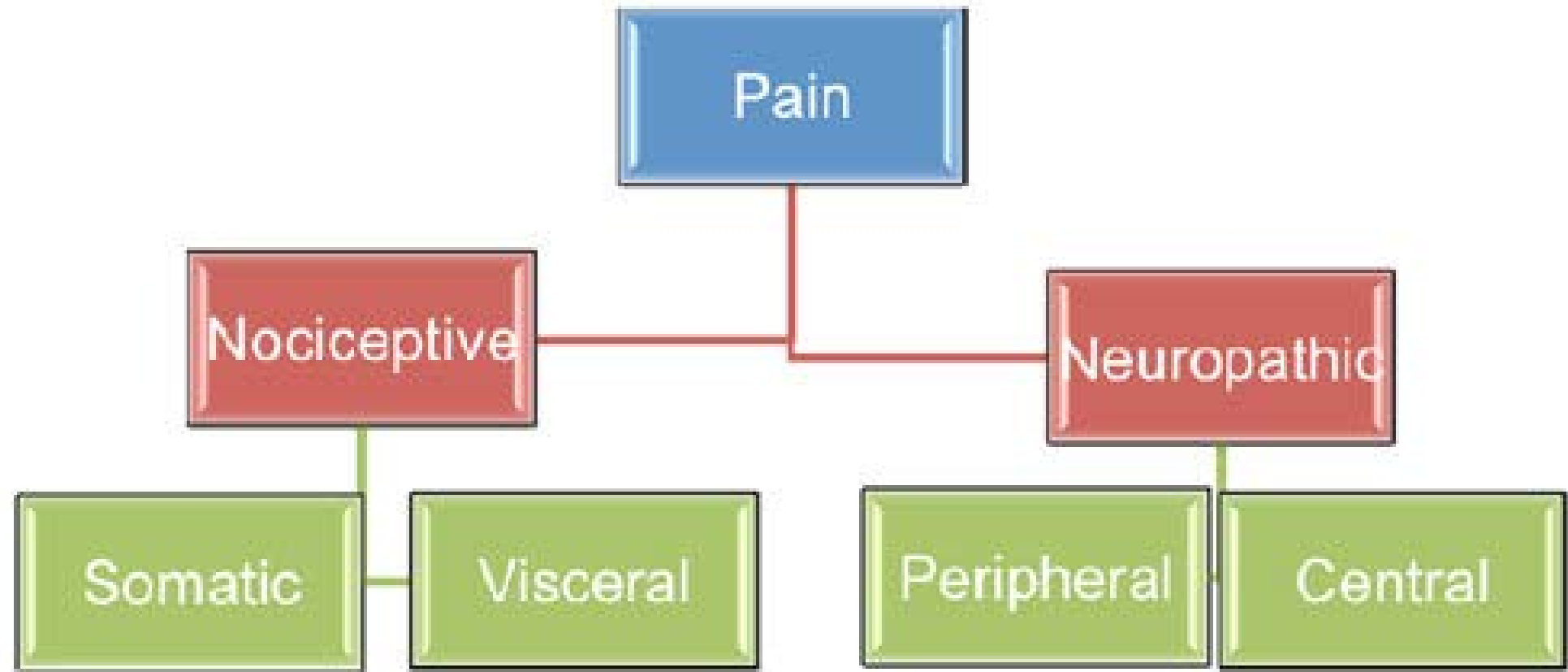


Figure 1: Pathophysiology of Pain

# PAIN CLASSIFICATION

*Table 2. Differences between nociceptive and neuropathic pain (modified from Serra<sup>7</sup>, 2006).*

Pain types	Nociceptive	Neuropathic
Definition	Pain caused by physiological activation of pain receptors	Pain caused by lesion or dysfunction of the somatosensory system, especially the nociceptive pathway
Mechanism	Natural physiological transduction	Ectopic impulse generation, among others
Localization	Local + referred pain	Confined to innervation territory of the lesioned nervous structure
Quality of symptoms	Ordinary painful sensation (good verbal descriptors)	New strange sensations (poor verbal descriptors)
Treatment	Good response (conventional analgesics)	Poor-moderate response (antidepressants, antiepileptics)

Most often overlap – “mixed” pain presentations

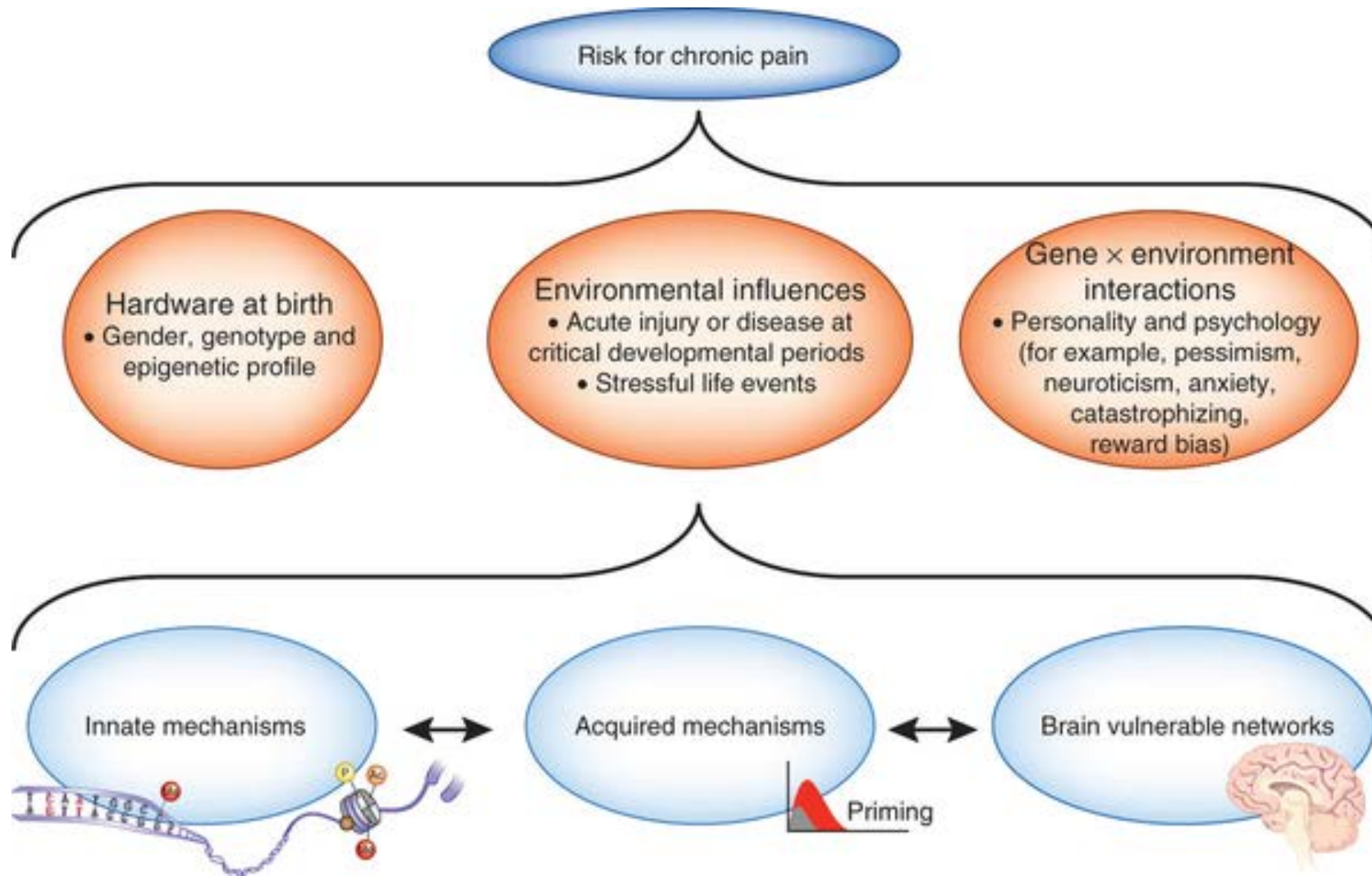
# DURATION: ACUTE PAIN VS. CHRONIC PAIN

	Acute Pain	Chronic Pain
Cause	Usually known	Often unknown
Duration	Less than 3 months	Beyond time of normal healing, generally > 3 months
Natural History	Usually time-limited and reversible	Unpredictable
Character	Nociceptive	Mixed
Tissue Damage	Present	Often absent

Transition from Acute Pain to Chronic Pain is complex and poorly understood



# PAIN: PERCEPTION



# TRANSITION FROM ACUTE TO CHRONIC PAIN

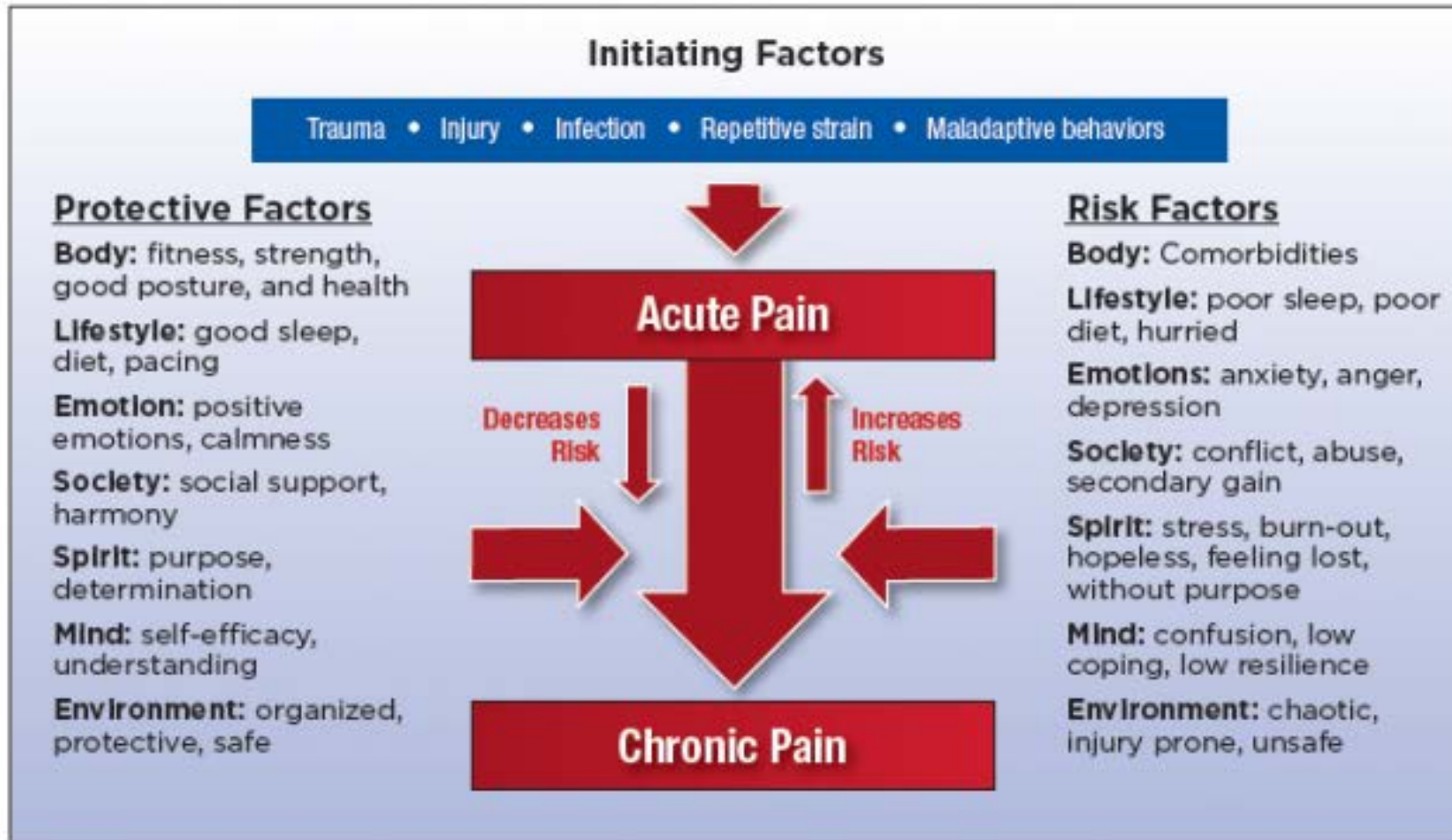


Figure 1. The impact of risk and protective factors in the progression from acute to chronic pain.

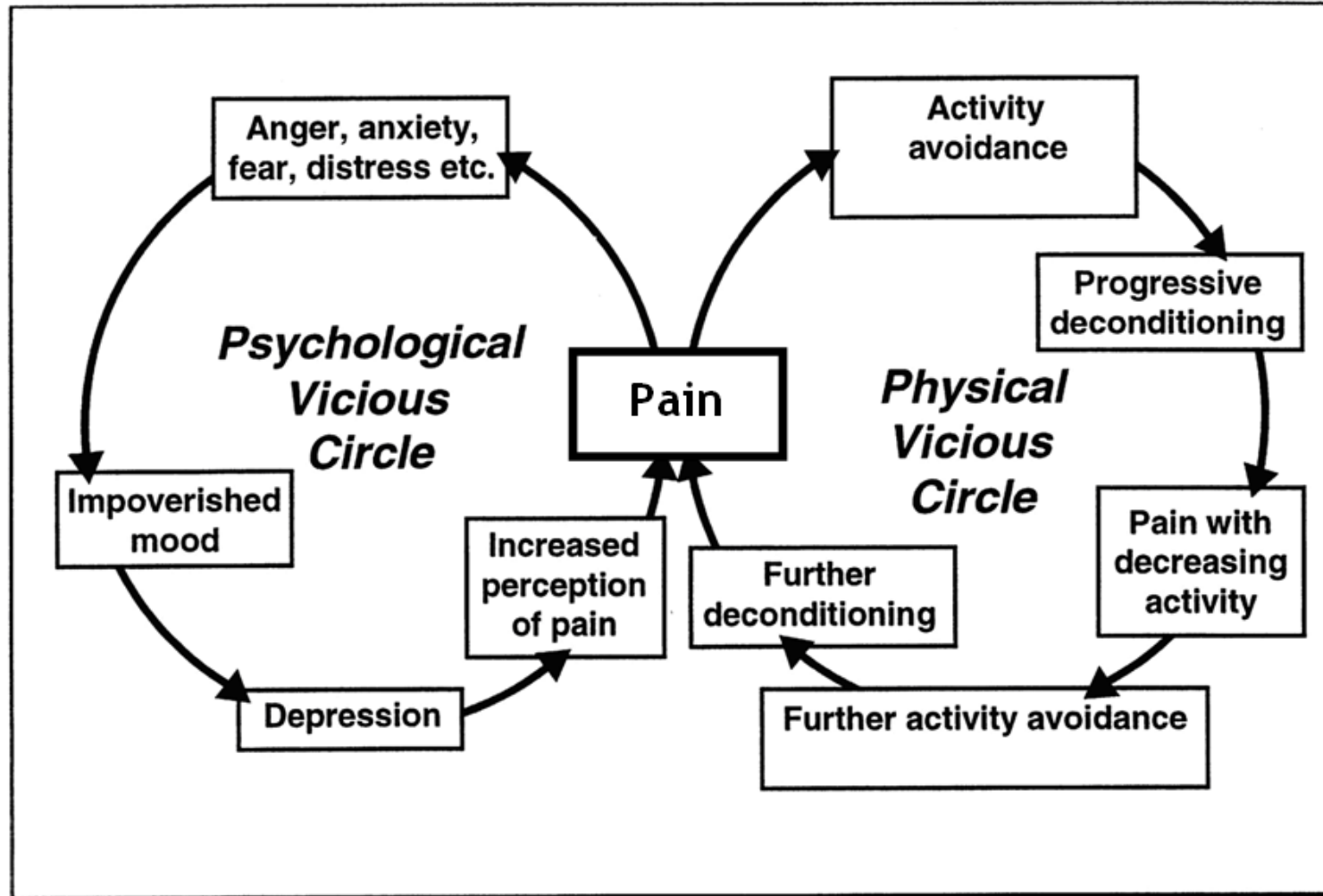
# CHRONIC PAIN

- Affects approximately 20% of the US population
- Annual economic impact in United States: \$600 Billion
- Severely impacts quality of life, social life, workforce activities, overall health
- Most common pain locations:
  - Low back > Headache > Neck pain > Joint pain > Generalized pain/fibromyalgia

# CHRONIC PAIN

- Occurs due to a variety of biological, psychological, and social factors
  - Have to recognize and treat all of these factors!
- Etiologies:
  - Persistent Post-Surgical Pain (PPSP)
  - Injury/Accident
  - Degenerative
  - Medical illness or treatment
  - Idiopathic

# CHRONIC PAIN CYCLE





# GENERAL APPROACH TO CHRONIC PAIN

# DIAGNOSTIC EVALUATION

- Complete history
  - Objective information (onset, location, alleviating/aggravating factors, quality, etc)
  - Contributing conditions (mood, sleep, function, weight, social history)
  - Past treatments/medications and response
  - Relevant medical history (renal/hepatic impairment, cardiopulmonary disease, etc)
- Full physical exam
  - Focus on neurologic and musculoskeletal exam, pain behaviors and effort
  - Special tests/maneuvers as indicated

# DIAGNOSTIC EVALUATION

- Review of contributory data
  - Imaging studies
  - Past records
  - Labs (renal function, platelets, coagulopathy)
- Risk assessment
  - Controlled substance database review
  - Urine drug screen if treated with controlled substances
  - Screening tools for substance abuse risk



# MEDICAL DECISION MAKING

- Try to put it all together:
  - *Can I explain (as best can be explained) why they have pain?*
  - *What types of pain contributors are present?*
    - Myofascial
    - Neuropathic
    - Generalized
    - Visceral
    - Mechanical
    - Most patients will have mixed pain types

# TREATMENT ALGORITHM

- Conservative treatment
  - Tylenol, NSAIDs
  - Rest, ice, heat
  - Physical therapy
  - Behavioral therapy
  - Complementary medicine

# TREATMENT ALGORITHM

- Non-opioid medications
  - Neuropathic agents, antidepressants, muscle relaxants, topical agents
- Injections/Procedures
  - Consideration for role of implanted pain devices
- Institution of opioid therapy IF APPROPRIATE

**THANK YOU FOR YOUR TIME!**