HOW CHILDREN FEEL PAIN

Ann & Robert H. Lurie Children's Hospital of Chicago

The MAYDAY Fund

Pediatric Pain PRN Curriculum

Objectives

1. Describe theories that inform our understanding of pain
2. Explain the biopsychosocial model of pain

How do you know your experience is pain?

Type your answer here.

Cartesian Theory of Pain (Descartes)

Descartes proposed that the brain directs responses to pain and pain-related behaviors.

Descartes suggested reflexive and highly predictable responses to pain are mechanistic to avoid further tissue damage.

Descartes further proposed that the intensity of pain is directly related to the severity of tissue damage.

This remains a commonly held assumption about pain.

Patients who report pain intensity disproportionate to tissue injury are often the most challenging to treat; in part, because this defies expectations and long held beliefs about how people feel pain.

No BRAIN
No Pain

Gate Control Theory

Proposes that both large (A-fibers) and small (C-fibers) synapse onto cells in the substantia gelatinosa (SG) and the 1st central transmission cells. The inhibitory effect exerted by SG cells onto the primary afferent fiber terminals at the T cells is increased by activity in A-fibers and decreased by activity in C-fibers, the opening and closing of the gate.

This remains a commonly used explanation for how a non-painful stimulus applied to a site of pain works to relieve pain. For example, rubbing a site of pain closes the gate to relieve the pain .

The Pain Gate

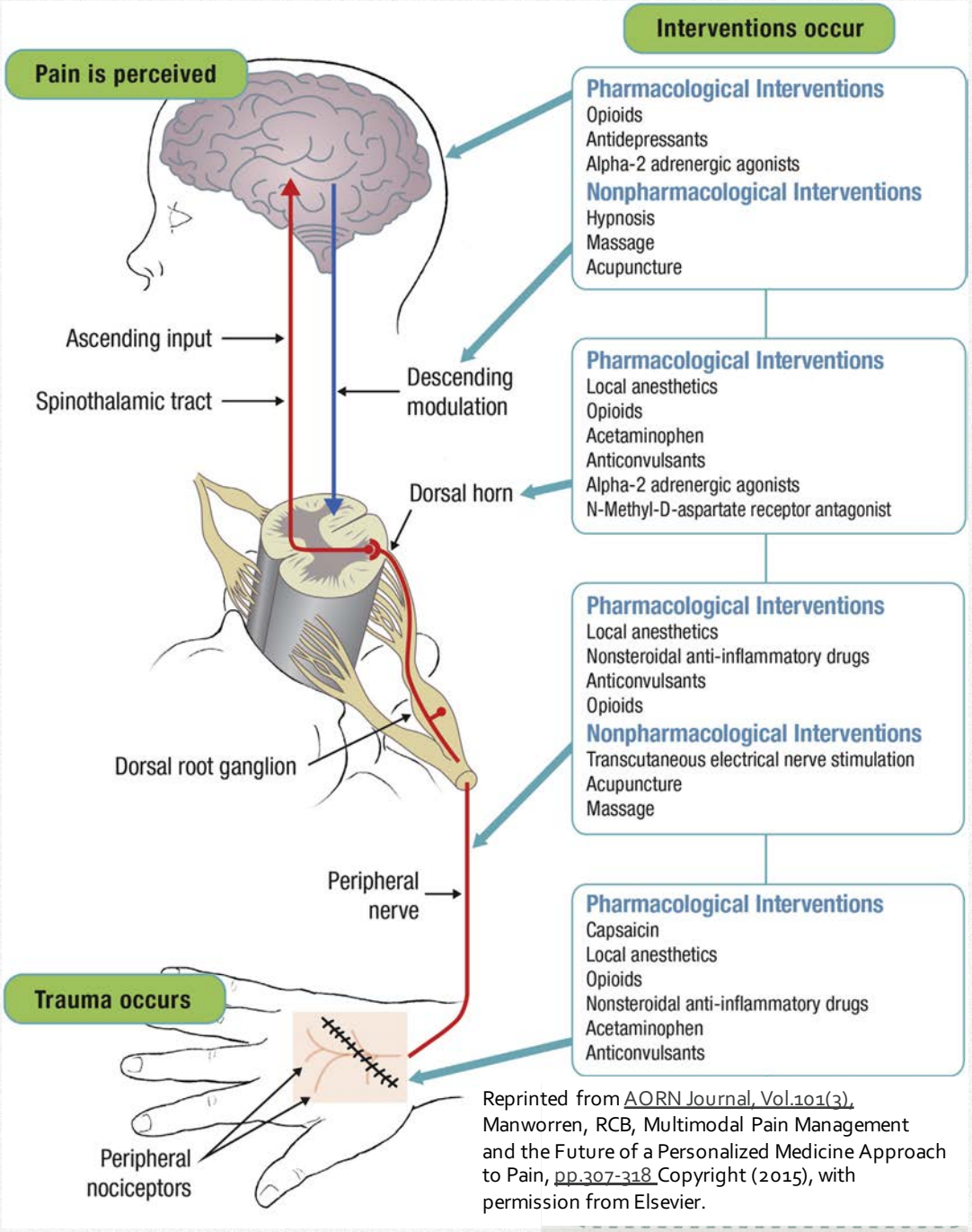
PAINFUL stimulus → A-delta and C fibers → OPEN

Transmission of pain

Nonpainful stimulus → A-beta fibers → CLOSE

Multimodal Analgesia: Many Gates?

Research clearly shows that many factors influence pain perception. Pain is not simply a neurophysiological phenomenon or the opening and closing of electrochemical gates.



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How do other interventions *(not listed on previous page)* **work to relieve pain?**

What is the mechanism of action for these interventions?

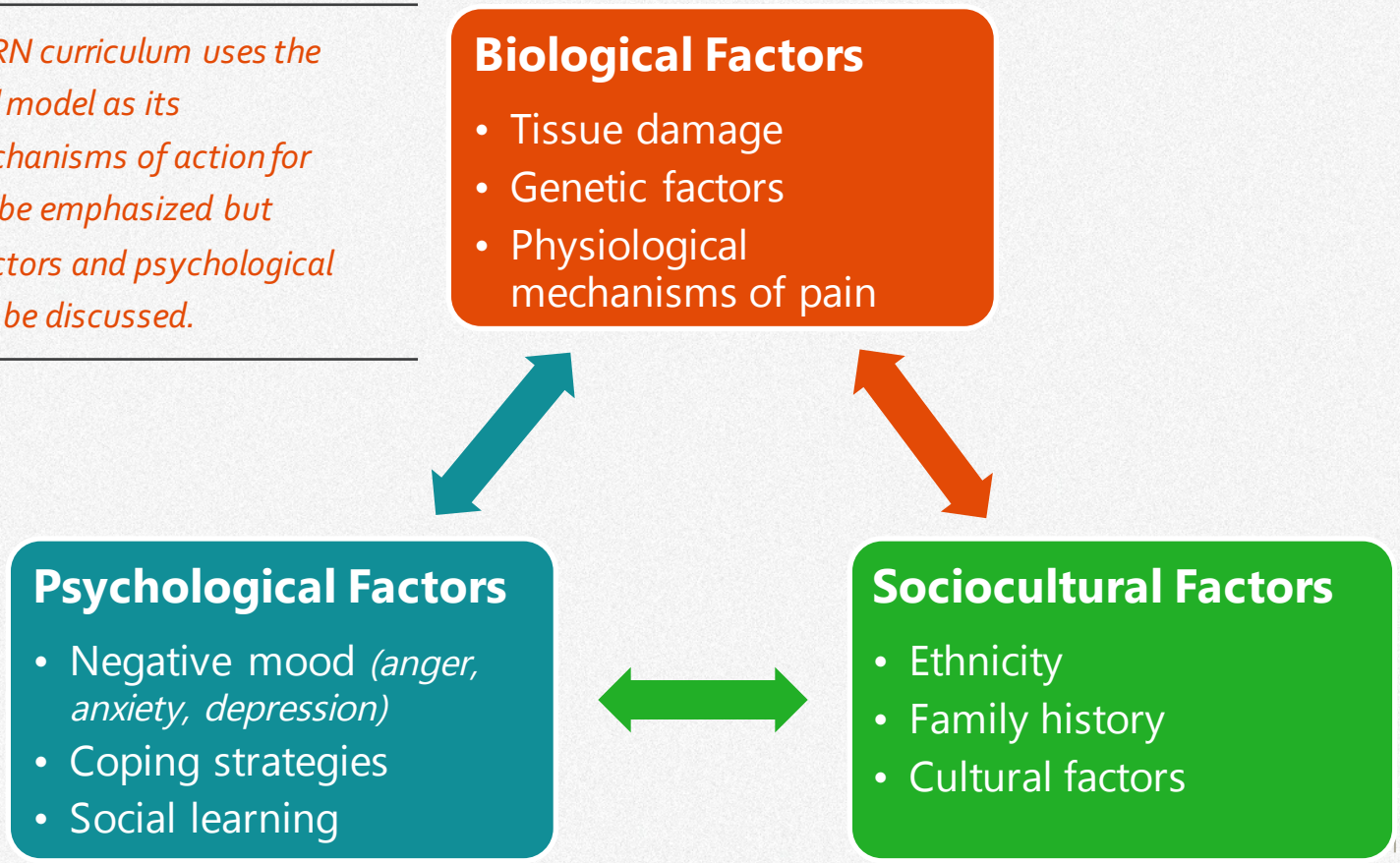
Type your answer here.

Biopsychosocial Model of Pain

The sensory stimulus is associated with tissue damage but the social aspects set the framework for how children react to pain. **Culture sets boundaries for how children experience, respond to, and describe pain.**

Psychological factors like personality, mood, and learned behaviors, such as coping strategies, can also influence how children experience pain and its impact on quality of life.

The Pediatric PRN curriculum uses the biopsychosocial model as its framework. Mechanisms of action for treatments will be emphasized but sociocultural factors and psychological factors will also be discussed.



Appendix

References

Gate control theory
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