Types and theories of pain

Lesson 5.3.1 | Health psychology

Core ideas

Pain is an unpleasant sensory and emotional experience, so it is shaped by both body signals and psychological interpretation.

Acute pain is usually short-term and linked to recent injury or illness, while chronic pain continues for longer and may remain after tissue healing.

Nociceptors detect potentially damaging stimulation and send signals through nerves toward the spinal cord and brain.

Specificity theory treats pain as a direct signal from pain receptors to the brain, but it struggles to explain why context and emotion change pain.

Gate control theory argues that pain signals can be increased or reduced in the spinal cord before they reach conscious awareness.

Phantom limb pain and chronic pain show that pain can involve brain interpretation, memory, attention and emotion, not just current tissue damage.

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Lesson 5.3.1 | Health psychology

Key terms

Pain: An unpleasant sensory and emotional experience linked with actual or possible damage.

Acute pain: Short-term pain usually linked to recent injury, illness or tissue damage.

Chronic pain: Pain that continues for a long time, sometimes after healing has occurred.

Nociceptor: A sensory receptor that responds to potentially damaging stimulation.

Specificity theory: The idea that pain travels through a direct pathway from pain receptors to the brain.

Gate control theory: A theory that pain signals can be modulated in the spinal cord before reaching the brain.

Phantom limb pain: Pain felt in a limb or body part that is no longer present.

Biopsychosocial view: The view that biological, psychological and social factors all shape pain experience.

Further detail and evidence

Pain has a protective function by signalling potential damage and encouraging withdrawal/protection, but persistent pain can be disabling beyond that immediate function. Acute/chronic describe time course, not necessarily intensity. Chronic pain is real even when current tissue damage does not explain its full severity.

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Lesson 5.3.1 | Health psychology

Continued

Specificity theory proposes dedicated pathways carrying pain information from receptors towards the brain. Gate control includes modulation in the spinal cord: activity in different nerve fibres and descending influences from the brain can increase or reduce transmission. Attention, anxiety and expectations can therefore affect experience.

Phantom limb pain is pain experienced in an absent limb. MacLachlan et al. (2004) reported lower-limb mirror treatment in a case: viewing the reflected intact limb provided altered visual feedback and was associated with reduced phantom pain and improved movement control. A case suggests usefulness without proving a universal treatment effect.

Applying the ideas

Two similar injuries can produce different pain ratings because attention, appraisal and context affect processing. Phantom pain challenges a simple one-to-one mapping from current limb damage to experienced pain. It does not show that all pain is imagined or voluntarily controllable.

Evaluation and connections

Biological pathways explain transmission, while gate control integrates bodily and psychological influences. Objective injury measures cannot directly establish the subjective intensity. Case evidence permits personal detail but limited generalisation; controlled comparison and follow-up are needed to evaluate mirror interventions more broadly.