

Engineering the Concept of Pain for Clinical Practice

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A. The Original IASP Definition of Pain:

IASP Subcommittee on Taxonomy (1979). Pain Terms: A List with Definitions and Notes on Usage. Recommended by the IASP Subcommittee on Taxonomy. *PAIN*, 6(3), 249–252.

Definition:

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

Note:

Pain is always subjective. Each individual learns the application of the word through experiences related to injury in early life. Biologists recognize that those stimuli which cause pain are liable to damage tissue. Accordingly, pain is that experience which we associate with actual or potential tissue damage. It is unquestionably a sensation in a part or parts of the body but it is also always unpleasant and therefore also an emotional experience. Experiences which resemble pain, eg, pricking, but are not unpleasant, should not be called pain. Unpleasant abnormal experiences (dysaesthesiae) may also be pain but are not necessarily so because, subjectively, they may not have the usual sensory qualities of pain.

Many people report pain in the absence of tissue damage or any likely pathophysiological cause; usually this happens for psychological reasons. There is no way to distinguish their experience from that due to tissue damage if we take the subjective report. If they regard their experience as pain and if they report it in the same ways as pain caused by tissue damage, it should be accepted as pain. This definition avoids tying pain to the stimulus. Activity induced in the nociceptor and nociceptive pathways by a noxious stimulus is not pain, which is always a psychological state, even though we may well appreciate that pain most often has a proximate physical cause.

B. Engineering the Concept of Pain for Clinical Practice

Purpose: We want the definition to facilitate effective clinical practice (diagnosis and treatment).

Specific desiderata: The definition should be (i) accurate, (ii) cognitively tractable, and (iii) justice-promoting

C. The Revised IASP Definition of Pain:

Raja, Srinivasa N., Daniel B. Carr, Milton Cohen, et al. (2020). The Revised International Association for the Study of Pain Definition of Pain: Concepts, Challenges, and Compromises. *PAIN*, 161(9), 1976–1982.

Definition:

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

Notes:

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

D. The Engineered Definition of Pain:

Definition:

A paradigmatically unpleasant bodily experience that **(i)** arises from the dynamic interaction of biological, psychological, and contextual factors, **(ii)** typically functions as a protective signal, and **(iii)** often accompanies actual or potential tissue damage.

Notes:

- Pain is always a personal experience. Its sensory aspects are usually accompanied by unpleasantness, and it tends to have broad effects on cognition, emotion, and behavior.
- 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.