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Recently introduced definition of "nociplastic pain" by the International Association for the Study of Pain needs better formulation

Letter to Editor:

We welcome the recent addition of a third mechanistic descriptor, "nociplastic pain," to the International Association for the Study of Pain (IASP) Taxonomy, meant to cover cases not properly covered by "nociceptive pain" or "neuropathic pain." This note does not, therefore, question the basic rationale for introducing this new term. Thus, we accept the implication that there are at least 3 distinct mechanisms/processes (let us call them nociceptive, neuropathic, and nociplastic) through which pain can arise, and that it is important to be clear about the differences among these mechanisms for proper diagnosis although "common mechanism(s) may be relevant"[2] in certain cases.

Rather, we would like to point out the inadequacy of the formulation of the definition, which runs as follows (numbers in parentheses added by us for ease of reference):

> **Nociplastic pain**: Pain that (1) arises from altered nociception despite no (2) clear evidence of actual or threatened tissue damage causing the activation of peripheral nociceptors or (3) evidence for disease or lesion of the somatosensory system causing the pain (IASP Taxonomy 2017).

The intended *logical form* seems roughly this. A pain is nociplastic *if, and only if*: (1) and not ((2) or (3)). The right hand side of the biconditional is equivalent to: (1) *and* not (2) *and* not (3). The necessary and sufficient condition for a pain to be nociplastic is the satisfaction of *all* the 3 clauses in the conjunction.

We would like to point out the infelicity of including (2) and (3) in a taxonomic definition, that is, in an objective classification of a presumed natural phenomenon. Such definitions are meant to set nonepistemic conditions for when phenomena belong to that kind (for further discussion of this point in the context of defending the IASP definition of pain against criticisms, see Ref. 1). Unfortunately, (2) and (3) are about what *evidence* exists about nociceptive and neuropathic mechanisms/processes. These conditions are explicitly epistemic conditions about what we can justifiably know at a given moment—they are therefore relevant to the operationalization of the definition. Furthermore, if nociplastic mechanisms are indeed distinct from nociceptive or neuropathic mechanisms, then one would quite naturally expect *not* to have evidence for the involvement of nociceptive or neuropathic mechanisms in cases where the pain is (solely) due to nociplastic mechanisms. So, it is not clear to us what the word "despite" is doing in the definition.

Evidence can come and go depending on our epistemic efforts and current best means of collecting information. Consider a patient whose pain is classified as nociplastic at a certain time. Then, by definition, all 3 conditions must be met—let us suppose they are met. But, at a later time, new evidence emerges about the presence of disease or lesion of the somatosensory system causing or contributing to the pain. In such a case, from a technical viewpoint, the definition no longer applies; because condition (3) is now violated, this patient's pain, automatically, no longer counts as nociplastic. But, this consequence is unfortunate because what is relevant is how this new evidence bears on condition (1). It may be that nociplastic processes are still operating in such a way as to contribute to the ongoing pain and that the new evidence is actually evidence for a neuropathic contribution, *not against* nociplastic contribution. There is no a priori reason to rule out such possibilities by definitional fiat.

Similarly, the *Note* to the definition states that patients can have a combination of nociceptive and nociplastic pain. We take this to mean that a patient's single pain experience can be due to contributions from both nociceptive and nociplastic mechanisms. But then, strangely, the definition seems to rule this out in cases where there is, as one would naturally expect, evidence for nociceptive contribution.

The following formulation seems to make better sense, and may be what was intended in the first place:

> IF (there is no clear evidence of actual or threatened tissue damage causing the activation of peripheral nociceptors AND there is no evidence for disease or lesion of the somatosensory system causing the pain) THEN: the pain is nociplastic IF, AND ONLY IF, it arises from altered nociception.

But, this formulation does not offer a taxonomic definition. Rather, it is an attempt to operationalize when to apply a definition. It is an attempt to make sure that clinicians rule out the involvement of normal nociceptive and neuropathic mechanisms before they label the pain as nociplastic. We understand the importance of operationalizing pain terminology for clinical purposes. But, operationalization is an epistemic and pragmatic affair, and should not be incorporated into a taxonomic definition of a mechanical descriptor. We propose that the definition should be revised to:

> **Nociplastic pain**: Pain that arises from altered nociceptive function.

We think it is important to use the term "function" because it emphasizes a change in normal nociceptive function without necessarily suggesting token alteration due to disease or lesion in nerves. The concerns behind the attempted operationalization could then be relegated to the note for this definition. This formulation would bring the definition in line with the other 2 mechanical descriptors where there is no mention of evidential facts.

Finally, as originally pointed out by Kosek et al.,[2] the current *Note* to the definition of "nociceptive pain" needs to be revised if a contrast between nociplastic and neuropathic mechanisms is to be preserved. We further believe that there is urgent need for a better theoretical articulation of this contrast and for its empirical support.

We also urge that the locution "nociplastic/algopathic/nocipathic" found in the *Note* be dropped in favor of just

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"nociplastic." It was presumably useful to offer a choice of terminology when the addition of a new term was under consideration. But now that a decision was made and the IASP Pain Terms updated, keeping the tripartite locution will risk adding to the confusion likely to be generated by the infelicitous formulation of the definition itself.

Conflict of interest statement

The authors have no conflict of interest to declare.

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References

[1] Aydede M. Defending the IASP definition of pain. Monist 2017;100: 439–64.
[2] Kosek E, Cohen M, Baron R, Gebhart GF, Mico JA, Rice ASC, Rief W, Sluka AK. Do we need a third mechanistic descriptor for chronic pain states? PAIN 2016;157:1382–86.

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