

LETTER TO EDITOR

Recently introduced IASP definition of ‘nociplastic pain’ needs better formulation

Murat Aydede^a & Adam Shriver^b

^a Department of Philosophy, University of British Columbia, Canada

^b The Oxford Uehiro Centre for Practical Ethics, University of Oxford, UK

We welcome the recent addition of a third mechanistic descriptor, ‘nociplastic pain,’ to the IASP Taxonomy, meant to cover cases not properly covered by ‘nociceptive pain’ or ‘neuropathic pain.’ This note doesn’t therefore question the basic rationale for introducing this new term. Thus, we accept the implication that there are at least three distinct mechanisms/processes (let’s call them nociceptive, neuropathic, and nociplastic) through which pain can arise, and that it’s important to be clear about the differences among these mechanisms for proper diagnosis even though “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 three 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 non-epistemic 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 three conditions must be met — let's 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, since 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 doesn't offer a taxonomic definition. Rather it's 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' since 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 two 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 '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.

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References

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