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It's Time to Abandon the Label *Posttraumatic Osteoarthritis*

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Ask yourself, "Why do we label patients with chronic joint pain?" Do we label a person's condition (1) to improve communication with patients, parents, health care providers, or researchers; (2) to identify an individual as part of a uniform subset of patients; or (3) because it serves as a useful administrative term for coding and billing? We propose that it is time to reconsider the label *posttraumatic osteoarthritis* (PTOA), especially when we deal with young, physically active individuals who focus on short-term goals (eg, return to sport) and underappreciate the effect of osteoarthritis on their well-being. This proposal builds on prior editorials[1,2] in sports medicine journals in which the authors asked clinicians to be more deliberate when assigning labels.

Over the last 15 years, an increasing number of investigators have used the *PTOA* label to differentiate a subset of patients—often young and physically active—who develop osteoarthritis after a discrete traumatic event from those who develop osteoarthritis from other risk factors (eg, obesity, age; Figure). However, the *PTOA* label rarely serves anyone well. From a communication perspective, using the term *PTOA* instead of *osteoarthritis* may confuse our public health and patient messaging about osteoarthritis. For example, a patient who focuses on PTOA may fail to recognize the wealth of osteoarthritis-related information that can inform him or her about the condition and treatment options. Furthermore, the *PTOA* label is too broad to define a unique subset of patients because it combines different groups of people who may need unique secondary prevention strategies. For instance, athletic trainers may need to use different strategies to preserve joint health in individuals with a history of ligamentous injury compared with those who had an intra-articular fracture.

Where should we draw the line on who should be labeled as having PTOA? The Osteoarthritis Research Society International defined *osteoarthritis* and noted that "osteoarthritis is a disorder...initiated by micro- and macroinjury."[3] With this definition, they acknowledge that all osteoarthritis begins with some degree of trauma. Presumably, one goal of using the *PTOA* label is to focus on people with an acute macroinjury. However, this raises questions about whether osteoarthritis resulting from repetitive overloading in sports (eg, elite-level marathon runners or weightlifters)[4] should be labeled as *PTOA* or another term and whether these labels add an unwarranted level of complexity.

With the rapid adoption of *PTOA* as a label and growing calls for more researchers to identify secondary prevention strategies for osteoarthritis among people with a history of joint trauma, we need to assess how we use the *PTOA* label to minimize confusion. For example, nearly all (>85%) certified athletic trainers correctly defined osteoarthritis and recognized that meniscal injury or surgery or anterior cruciate ligament injury increased the risk of osteoarthritis. However, only 60% were aware of the *PTOA* label, suggesting that it may be creating confusion among clinicians who understand osteoarthritis and the role of injury as a risk factor for osteoarthritis.[5] Despite our best intentions, the *PTOA* label sows confusion among patients and providers and fails to define a homogeneous subset of patients who need unique therapies and prevention strategies.

WHERE SHOULD WE GO FROM HERE?

We need to reassess the use of the *PTOA* label in public health and patient communications and research.

Public Health and Patient Communications

From a public health and patient perspective, the use of the *PTOA* label adds an unwanted level of complexity or nuance when teaching people about their risk of osteoarthritis and mitigation and management options. To improve our messaging, we need to keep it simple, especially for young, physically active patients who may underappreciate the need to preserve their long-term wellness and instead focus on short-term goals (eg, return to sport). Instead of telling patients that they are at risk for PTOA, it may be better to educate them on their increased risk for osteoarthritis. We should teach that individuals with a history of specific injuries are at risk of living with this painful and disabling disorder for more than half their lives. We should inform our patients about osteoarthritis, resources available for people with or at risk for osteoarthritis, steps to reduce their risk of osteoarthritis, and the importance of reporting joint symptoms to a health care provider. We need to ensure that patients are not only looking for information and resources about PTOA but also tapping into the wealth of knowledge about osteoarthritis and the applicable resources while helping them appreciate their unique situations. Although many clinicians and researchers have used the *PTOA* label to define a subset of osteoarthritis conditions related to joint trauma, the term obscures a personalized discussion with a patient about his

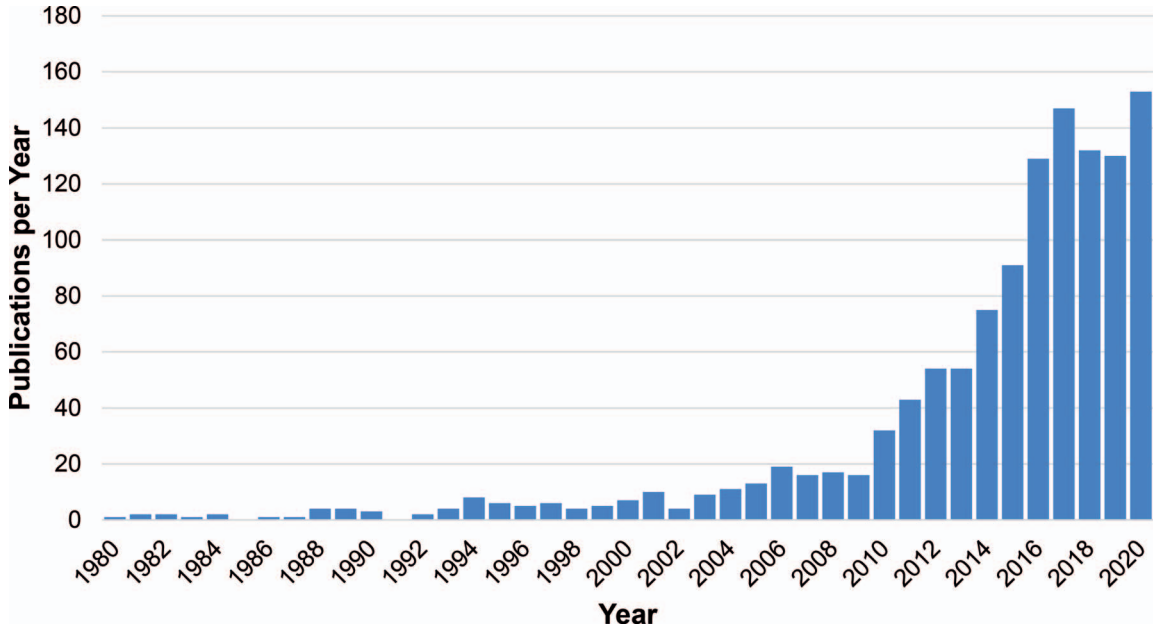

Figure. Annual PubMed citations for *posttraumatic osteoarthritis* and *post-traumatic osteoarthritis*, 1980–2020.

or her unique situation. An individual with a history of an anterior cruciate ligament injury may not benefit from learning about outcomes and management strategies for people with a history of an intra-articular fracture. The *PTOA* label fails us by creating a false sense of a homogeneous subset of patients and by directing patients away from valuable resources that may be helpful to them. Athletic trainers interested in obtaining more information about osteoarthritis, their role in preventing or managing osteoarthritis, and how to engage with patients regarding their risk of osteoarthritis should read the Athletic Trainers' Osteoarthritis Consortium's consensus statement on the role of athletic trainers in preventing and managing osteoarthritis in physically active populations.[6] Furthermore, the Osteoarthritis Action Alliance's "OACareTools" is a resource with educational information as well as patient-facing handouts and resources designed for athletic trainers and other primary care providers.[7]

Research

From a research perspective, we need a more nuanced way of describing PTOA. If the goal is to characterize a unique subset of patients at risk for osteoarthritis, we should consider a more injury-specific approach. Analogous to a previously proposed anatomical classification (eg, *meniscogenic osteoarthritis*),[8] we should use the term *osteoarthritis* but acknowledge the specific population we aim to recruit (eg, patients with osteoarthritis after an anterior cruciate ligament injury). Terminology may be especially relevant if secondary prevention strategies need to be tailored to unique subsets of patients who are commonly labeled as having PTOA. For instance, it would be inappropriate to suggest that an intervention prevents PTOA if it only works for patients with meniscal tears and not patients with intra-articular fractures. This specificity could be especially relevant when seeking regulatory approval for pharmaceuticals that delay or prevent the onset of osteoarthritis after certain types of injuries. Moreover, reviewers of manuscripts and grant proposals often demand this level of nuance when they expect eligibility criteria to identify how concomitant injuries are addressed. If our goal is to translate research to clinical practice, then we must offer clinicians clear messaging about whom an intervention applies to and not use the label *PTOA*, which could obscure the specific population that may benefit from an intervention.

In conclusion, we support the authors[1,2] of prior editorials who asked readers to be more deliberate when assigning labels. We must become more deliberate in labeling these patient subsets with osteoarthritis before the further proliferation of the *PTOA* label causes confusion among clinicians, patients, regulators, and researchers. The *PTOA* label hinders our communication with patients and the public. In addition, it fails to achieve the goal of reflecting a homogeneous subset of patients with osteoarthritis who need unique therapies and prevention strategies. Instead, if our research goal is to describe a specific subset, we should apply the precision needed to optimize care for that patient population. Instead of *PTOA*, we should use the term *osteoarthritis* and acknowledge the intended population (eg, people with osteoarthritis after an anterior cruciate ligament injury).

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