

OPTIKNEE – optimising knee health after injury

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Traumatic knee injuries are life-altering, and a potent risk factor for future osteoarthritis (OA). A decades-long body of evidence, mostly focused on the accelerated development of knee OA after an anterior cruciate ligament (ACL) tear, points to a unique window of opportunity following injury to potentially intervene to delay, halt or reduce the severity of OA. Despite this long-known opportunity, and crippling hold that OA has on healthcare systems globally, the prevention of post-traumatic knee OA has not gained momentum.

There are many barriers to preventative healthcare for post-traumatic knee OA. First, we lack synthesised evidence to guide decisions about who to target, when and how to intervene, and what and how to monitor outcomes. Second, most healthcare systems have limited capacity for preventative healthcare, designed instead to support people with existing health conditions. Where capacity for preventative healthcare exists, it rarely prioritises musculoskeletal injuries and conditions. Complicating matters further, musculoskeletal injuries are commonly managed outside of universal healthcare systems by allied health practitioners (eg, physiotherapists).

The OPTIKNEE consensus group met the first of these challenges head on, producing seven comprehensive systematic reviews (six included in this issue) that informed a consensus process and statement culminating in actionable clinical and research recommendations.

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The first review skillfully confirms that the long-term health-related quality-of-life, work limitation, physical activity, health/economic cost and disease burden of traumatic ACL tears are indeed profound. (see page 1465) The second review elegantly synthesises a massive body of evidence about the non-modifiable and modifiable risk factors for post-traumatic knee OA which has implications for identifying those at greatest risk and relevant treatment targets. (see page 1406) The third and fourth (to be published elsewhere) comprehensively tackle the challenging topics of best management strategies and rehabilitation approaches for ACL tears based on a synthesis of findings from randomised controlled trials considering clinical, structural and molecular biomarkers.¹ (see page 1445) The fifth review fastidiously addresses the topic of meaningful thresholds for patient-reported outcome measures, while the sixth and seventh reviews critically appraise the measurement properties for muscle strength and functional performance tests. (see pages 1432, 1422, 1454) Taken together, these seven systematic reviews provide evidence to underpin the care of young people with traumatic knee injuries and the future research aimed at optimising knee health.

Consensus has been defined as ‘a formal process that aims to derive recommendations on a topic when evidence is not available’.^{2,3} The OPTIKNEE 2022 consensus paper reports the formal process taken to understand the evidence guiding post-traumatic knee OA prevention, identify evidence gaps, and generate clinical and research recommendations. (see page 1393) The clinical recommendations can guide evidence-based clinical practice and decision making for the care of patients following a traumatic knee injury with post-traumatic OA prevention front of mind. In contrast, the research recommendations lay the foundation for future data synthesis by harmonising outcome measures and challenge the



field to be more strategic, to collaborate, and to combine our collective resources to overcome common barriers.

Consensus recommendations are in their very nature, a starting point and meant to inspire discourse and evolve over time as new evidence emerges.^{4,5} In this way, the OPTIKNEE recommendations are a beginning. They can be used to increase awareness of post-traumatic knee OA risk among patients and clinicians, provide a map about who and what to target and when to act, and an understanding of the best tools available to intervene and monitor change. These recommendations can also be used by clinicians, patients, researchers and other stakeholders to advocate for, guide, develop, test and implement person-centred evidence-based rehabilitation programmes to reduce the burden of post-traumatic knee OA.

We would like to thank all members of the OPTIKNEE #dreamteam who contributed to the planning, execution and conduct of the reviews and consensus recommendations contained in this issue. Your perseverance, adaptability and commitment to this important effort during the COVID-19 pandemic was inspiring. In particular, we thank the review lead and senior authors who traversed the length of the pitch multiple times to deliver seven game-changing systematic reviews; the many early and mid-career investigators and trainees who were the engines behind the work; our patient and clinician team members who always kept our focus on what was most important, and the editorial and production team at the British Journal of Sports

Medicine. It is our hope that this issue can serve as a call to action to move us beyond the status quo and provide a path forward to a world where fewer people have to live with the devastating effects of OA following a joint injury.

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