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Intramedullary (IM) nailing is commonly used to treat tibial shaft fractures. Techniques to perform IM nailing vary, and studies comparing approaches show conflicting results [1,2]. The absence of a validated outcome measure specific to this cohort has led to a wide range of outcome measures being used, making comparisons between studies difficult. This scoping review aimed to summarise the clinical and patient outcomes used to assess these fractures, and the nature of the publications. Literature reporting on tibial shaft fractures using any IM nailing approach were searched in online databases. Covidence™ was used for article screening and data extraction. We identified 433 articles with 165 papers included for final analysis. For in vivo studies, the most common patient and clinical outcomes were a binary assessment of knee pain (29%), and union (51%), respectively. Most in vivo studies provided descriptions of locking (70%), fracture type/location (63%), open/closed fractures (76%), and reaming (60%), and did not include nail removal (73%). However, the majority did not describe the post-op weight-bearing regime (61%) or mechanisms of injury (55%). Nail insertion location was the most reported outcome for cadaveric studies (64%). The most reported follow-up times were 6 and 12 months (22%). Seventy-seven studies (47%) were published within the last decade, 58 (35%) originated from the USA, and 7 (4%) were level I evidence. We have shown that a wide range of outcomes are used to assess tibial shaft fractures treated with IM nailing. Notably, a number of the scores designed for other pathologies routinely used do not contain a kneeling component, shown to cause the most severe pain within this cohort [3]. Currently, no conclusive evidence exists to inform surgical decision making on an optimal IM nailing technique. This work highlights the need for a validated outcome measure designed specifically for this cohort.

