

Supplement

Figure 1. Hypothetical relationships between Goldilocks Zone and loading profile applied by state-of-the-art knees and feet components associated with safe loading and stable osseointegration in contrast with more at-risk zones with basic components associated with “under-loading” leading to as early loosening and infection or “over-loading” leading to mechanical failure of percutaneous and medullar parts of the implant. Adapted from Pitkin and Frossard (2021).(1)

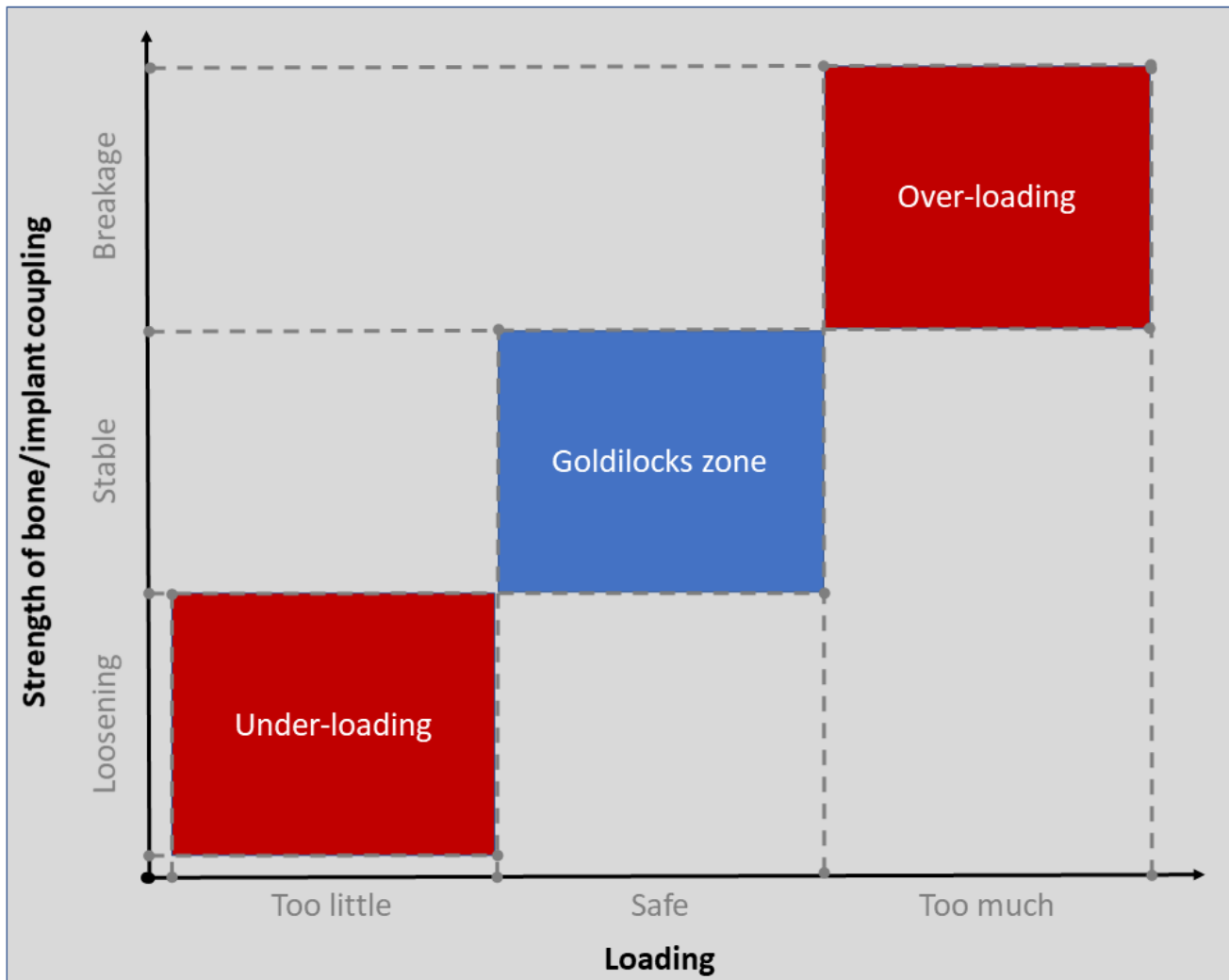


Figure 2. Examples of instrumented transfemoral bone-anchored prostheses including position and orientation of transducer coordinate system of the tridimensional portable kinetic system (iPecsLab, RTC Electronics, USA) measuring directly the loading applied on press-fit osseointegrated implant by state-of-the-art components for Participant 1. O: Origin of the transducer coordinate system, LG: Long axis, AP: Antero-posterior axis, ML: Medio-lateral axis, R: Residuum, I: Percutaneous part of the implant, C: Tube and/or offset adapter, T: Transducer, K: prosthetic knee.

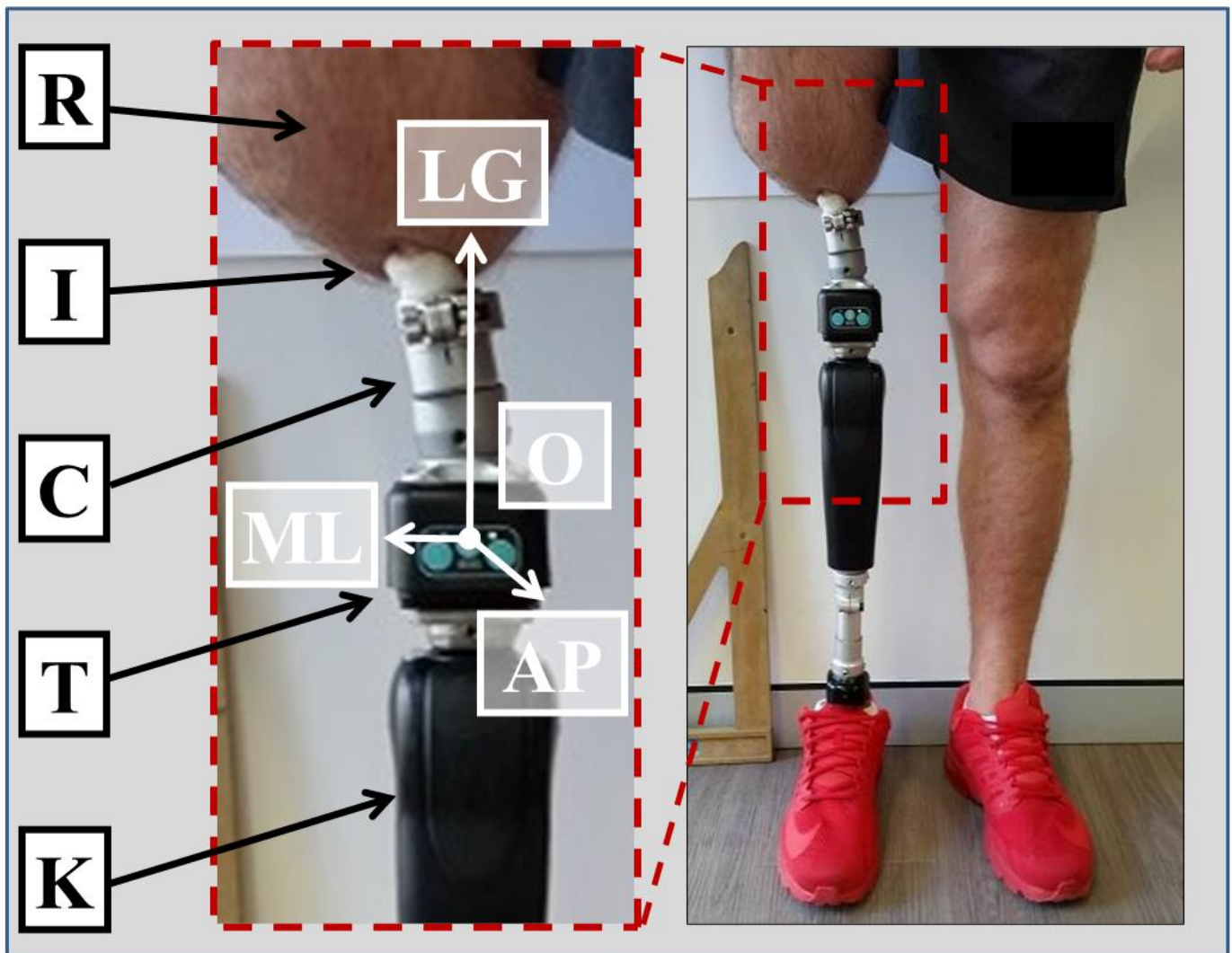
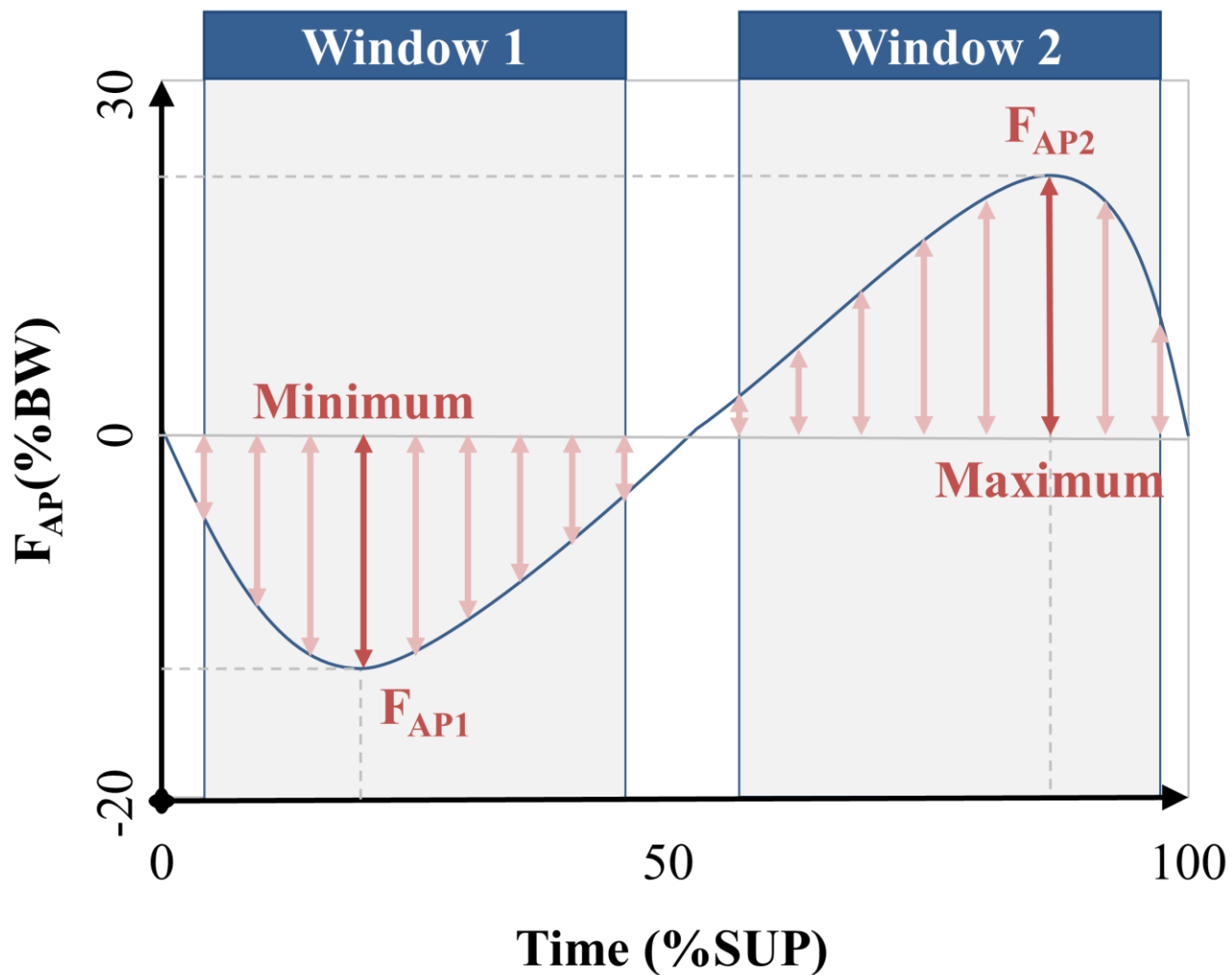


Figure 3. Example of two points of inflection of the force applied on the antero-posterior axis (i.e., FAP1, FAP2) detected using automated searches for the minimum and maximum magnitude within the pre-set windows 1 and 2, respectively.



1. Pitkin M, Frossard L. Loading Effect of Prosthetic Feet's Anthropomorphicity on Transtibial Osseointegrated Implant. *Mil Med.* 2021;186(Suppl 1):681-7.