

PhD Program in TECHNOLOGY FOR HEALTH



KNEE PRESERVATION SURGERY

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XXXIX Cycle

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Background

Medicine has achieved considerable success in addressing lower limb pathologies. Prosthetic interventions are routine, and the success rate is good. However, this should not be considered a final goal. Preventing and delaying these interventions is the new target.

Objectives

Acting on prevention and using techniques that correct alignment defects before they cause damage severe enough to require prosthetic implants.

Methodologies

On-site study in the operating room. Consultation with expert colleagues and exploration of new methods. Use of specific software and additive manufacturing.



Figure 1. PSI for Open Wedge High Tibial Osteotomy

Expected Results and Impact

The research falls within a field that has been under investigation since the early 2000s. The results and impact are evident in the most advanced centres and involve precise analysis using CT scans, the use of PSI, and even robots during operations.