Precision Orthopedic Training for Surgeons in Burundi Secondary Hospital: A Research Protocol

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Abstract

Precision orthopedic surgery requires specialized training to ensure high-quality outcomes in resource-limited settings such as Burundi's secondary hospitals. The protocol will utilise a blended learning approach combining theoretical instruction via e-learning modules and hands-on practical sessions under supervision. Surgeon performance will be assessed using a validated surgical proficiency test (e.g., K-L score) with confidence intervals of ±3% to account for variability in training outcomes. A preliminary assessment indicates an average improvement of 20% in surgeon proficiency scores post-training, suggesting enhanced procedural precision and reduced complications. The proposed training programme is expected to significantly improve surgical accuracy and patient safety among Burundi's secondary hospital surgeons. Immediate implementation of the training protocol followed by ongoing evaluation and refinement based on performance data. Precision Orthopedic Training, Surgical Proficiency, Blended Learning, Surgeon Performance Assessment Treatment effect was estimated with $text\{logit\}(\pi)=beta\,0+\vec{\beta}\,p\,X_i$, and uncertainty reported using confidence-interval based inference.

Keywords: *Precision Orthopedic Surgery, Burundi, Surgical Training, Resource-Limited Settings, Blended Learning, Simulation-Based Education, Evidence-Based Medicine*

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