



# A Protocol for a Quality Improvement Initiative to Reduce Surgical Site Infection Rates in Eastern Cape District Hospital Operating Theatres

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## Abstract

Surgical site infections (SSIs) contribute to increased morbidity, extended hospital stays, and higher healthcare costs, particularly in low-resource settings. Operating theatres in district hospitals within South Africa's Eastern Cape province face specific challenges in infection prevention and control, which may sustain high SSI rates. Context-specific and sustainable quality improvement initiatives are required to address this patient safety concern. This protocol outlines a quality improvement initiative designed to reduce SSI rates in this setting. The primary objective is to assess the impact of a bundled intervention on SSI incidence. Secondary objectives are to evaluate adherence to aseptic techniques, measure changes in theatre staff knowledge and practices, and identify barriers and facilitators to implementation. A pre- and post-intervention study will be conducted across multiple district hospital operating theatres. The intervention bundle includes: (1) standardised pre-operative checklists, (2) enhanced training on aseptic technique and environmental cleaning, and (3) a structured weekly audit and feedback cycle. Data collection will involve direct observation, structured audits of theatre practices, and prospective SSI surveillance. Quantitative data will be analysed using descriptive and inferential statistics; qualitative data from focus group discussions will be analysed thematically. As a study protocol, no empirical findings are presented. The anticipated outcome is a measurable reduction in the SSI rate. Themes regarding implementation challenges within a resource-constrained environment are also expected from the qualitative analysis. This protocol details a comprehensive approach to implementing and evaluating a contextually relevant quality improvement bundle. The study is expected to generate evidence on practical strategies for reducing healthcare-associated infections in district hospitals. Findings will be used to formulate specific recommendations for sustaining improved infection prevention practices in similar low-resource theatres. Integration of the audit and feedback mechanism into routine hospital quality assurance programmes will be advised if proven effective. surgical site infection, quality improvement, operating theatre, district hospital, infection prevention, South Africa. The study will contribute practical evidence on implementing a multi-component quality improvement initiative in a resource-constrained surgical setting, aiming to inform policy and local practice for SSI reduction.

**Keywords:** *Surgical site infection, Quality improvement, District hospital, Sub-Saharan Africa, Perioperative care, Infection control, Clinical audit*

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