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The effects of a surgical safety checklist on mortality, morbidity and cancellation

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The effect of a surgical safety checklist on mortality, morbidity and cancellation.

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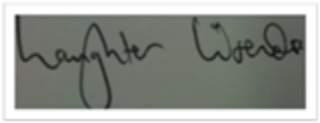
Original research submitted as partial fulfillment of the requirements for the Masters in Medicine degree in Orthopaedic Surgery at the University of the Witwatersrand, Johannesburg.

18th November 2013.

Declaration

I **Laughter Lisenda** do hereby declare that this report is my own work. It is being submitted for the degree of Master in Medicine (Orthopaedics) at the University of the Witwatersrand, Johannesburg and it has never been submitted for any exam at this or any other University.

Ethics clearance was granted by the ethics committee of the University of the Witwatersrand. (Appendix 1 and 2).



Laughter Lisenda

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Laughter Lisenda

Abstract

Introduction:

Surgical complications are common and most of them are preventable, especially if one considers that 53% to 70% of surgical errors occur outside theatre. Recent studies have shown that pre-operative checklists are associated with improved patient outcome. We hypothesize that in our institution there will be an improvement in patient outcome if a safety checklist is introduced.

Method:

A modified multidisciplinary WHO safety checklist was introduced at our institution on the 1st March 2011. The primary focus was on elective patients admitted in all the units of the division of orthopaedic surgery. We retrospectively collected data from the daily morbidity and mortality (MM) reports presented by the different units from the 1st January to 29th February 2011 (2 months). In addition a pre-induction survey was filled in by all registrars. The same survey was given to the same registrars for assessment at the end of the 2 months of post-implementation in June 2011.

Results:

The mortality rate decreased by 0.7% (from 1.5% to 0.8%) after the introduction of a surgical safety checklist. There was also a 0.8% reduction

in avoidable morbidity (from 1.9% to 1.1%) and a 1.6% reduction in avoidable cancellation (from 2.3% to 0.7%). Only 77% of registrars acknowledged undertaking pre-operative planning prior to implementation of the checklist compared with 87.5% post implementation.

Conclusion:

The implementation of the modified WHO safety check list was associated with some reduction in cancellations, avoidable morbidity and mortality. The downward trend suggests that the safety checklist would be a beneficial practice in our setting.

Recommendation:

Surgical safety checklists should be regarded as a standard practice for all orthopaedic procedures in order to decrease complications, especially in high operation volume and training centers.

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List of abbreviations

WHO - World Health Organization

MM - Mortality and Morbidity

DVT - Deep Venous Thrombosis

ICD - International statistical classification of diseases and related health problems

ASA - American Society of Anaesthesiologists (ASA) Score

SURPASS SURgical PAtient Safety System (SURPASS) checklist