The safe surgery checklist could save more lives worldwide than any other single known intervention

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New research presented at this year's Euroanaesthesia meeting in Berlin suggests that the WHO-approved safe surgery checklist is working well in both high-income and developing countries. The study is by Dr Janet Martin and Professor Davy Cheng, Centre for Medical Evidence, Decision Integrity & Clinical Impact (MEDICI), and Department of Anesthesia & Perioperative Medicine, University of Western Ontario, London, ON, Canada.

WHO introduced the safe surgery checklist (SSCL) in 2008 in a bid to improve outcomes across all surgical procedures worldwide. The checklist focuses on a range of safety factors that are most likely to influence the outcome of an operation, including medical factors such as anaesthesia, antibiotics, and anticoagulants, plus behavioural factors including double checking procedures and establishing team communication.

There remains some scepticism regarding the effectiveness of SSCL to tangibly improve patient safety in the real world setting, especially with respect to relative benefits in high-income versus lower-income settings. In this study, the authors performed a meta-analysis of all existing data to determine whether the Safe Surgery Checklist (SSCL) improves outcomes across a variety of settings, including the formal clinical trial setting and the real world setting, and across both low-middle income countries (LMICs) and high income countries (HICs).

A comprehensive search of Medline, Cochrane Library, and scientific abstracts was undertaken to identify all studies that measured the clinical impact of the SSCL, or a modification of the original checklist up to October 1, 2014. A total of 14 studies (more than 250,000 patients) met the inclusion criteria, including 13 observational studies and 1 randomised trial. Of these, 9 were from HIC, and 5 from LMIC.

For SSCL versus control, the risk of death was significantly reduced by 21%. Both LMICS and HICs achieved significant reduction in the risk of death, though with a greater magnitude of effect in LMICs (35%) than HICs (15%). The risk of surgical site infection was reduced by 28%, and while HIC and LMICs both experienced reductions that were significant (the magnitude of reduction was greater for LMIC versus HIC (57% and 23%, respectively).

Postoperative complications were significantly reduced by 30%. While HIC and LMICs both experienced reductions, the reduction was again greatest in LMICs (42% and 21%, respectively). Sub-analysis showed that the magnitude of benefit was similar in the formal clinical trial context as in the real-world setting from retrospective observational studies.

The authors say: "Overall, this meta-analysis shows that SSCL consistently reduces mortality, surgical site infections, and overall complications. In addition, it shows that the benefits are generalisable across settings, whether low- or high-income countries, and in the clinical trial context or real-world setting."

Dr. Martin adds: "Initial skepticism needs to be put aside. On first impression, the checklist seems too simple. But sometimes the greatest opportunities are disarmingly simple. The magnitude of benefit of the safe surgery checklist needs to be taken seriously. The size of its impact on reducing risk of death and postoperative complications rivals or

surpasses many of our current interventions, regardless of which country you are from. Granted, a paper checklist on its own is powerless to effect these changes. Rather, the checklist needs to be central component of a supportive team and supportive administrative environment to incite the changes required for serious, and sustained, uptake."

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