WHO Guidelines for Safe Surgery 2009

Safe Surgery Saves Lives



WHO Library Cataloguing-in-Publication Data

WHO guidelines for safe surgery: 2009: safe surgery saves lives.

«WHO/IER/PSP/2008.08-1E»

1.Surgical procedures, Operative - standards. 2.Surgical wound infection - prevention and control. 3.Patient care - standards. 4.Safety management. 5.Medical errors - prevention and control. 6.Surgery department, Hospital - organization and administration. 7.Quality assurance, Health care - standards. 8.Guidelines. I.WHO Patient Safety. II.World Health Organization.

ISBN 978 92 4 159855 2 (NLM classification: WO 178)

© World Health Organization 2009

All rights reserved. Publications of the World Health Organization can be obtained from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: bookorders@who.int). Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to WHO Press, at the above address (fax: +41 22 791 4806; e-mail: permissions@who. int).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Printed in

WHO Guidelines for Safe Surgery 2009 Safe Surgery Saves Lives

Section I.

Introduction	1
The problem: complications of surgical care have become a major cause of death	
and disability worldwide	2
The safe surgery saves lives challenge: identifying solutions	4
The safe surgery saves lives approach	5
Improvement through the safe surgery saves lives programme	5
Organization of the guidelines	7
Section II.	
Ten essential objectives for safe surgery:	
review of the evidence and recommendations	9
Objective 1: The team will operate on the correct patient at the correct site	10
The universal protocol	11
Recommendations	12
Objective 2: The team will use methods known to prevent harm from administration of anaesthetics,	44
while protecting the patient from pain Patterns of avoidable morbidity and mortality during anaesthesia	14 14
Approaches to improving the safety of anaesthesia	15
Evidence on monitoring with pulse oximetry and capnography	16
Preparation for and delivery of anaesthesia	19
Recommendations	25
Objective 3: The team will recognize and effectively prepare for life-threatening loss of airway	
or respiratory function	28
Incidence of difficult and failed airway management	28
Airways assessment	29
Management of the airway	30
Aspiration of gastric contents	32
Recommendations	32
Objective 4: The team will recognize and effectively prepare for risk of high blood loss	35
Resuscitation of hypovolaemic patients	36
Prevention of blood loss	36
Management of blood loss	36
Recommendations	37
Objective 5: The team will avoid inducing an allergic or adverse drug reaction for which the patient is known to be at significant risk	39
Types of adverse reactions	40
Causes of error in delivery of perioperative medications	40
Recommendations	41
Objective 6: The team will consistently use methods known to minimize the risk for surgical site infection	43
Pathogenesis and microbiology	44
Prevention and surveillance of surgical site infections	46
Definitions of surgical site infection	46
Methods of scoring infection	48
Surveillance of surgical site infections	49
Risk factors	49
Presurgical skin disinfection	51
Special cases for decontamination	54
Antibiotic prophylaxis	54
Minimizing contamination in the operating room	58
Guaranteeing the sterility of surgical instruments: sterility indicators	59
Recommendations	61

	72
General criteria for counting	72
Documentation of counts	73
Count discrepancies	73
Methodical wound exploration before closure	74
Recommendations	74
Objective 8: The team will secure and accurately identify all surgical specimens	76
Recommendations	76
Objective 9: The team will effectively communicate and exchange critical information	70
for the safe conduct of the operation Team culture and its effects on safety	78 78
Patterns of communication breakdown	78 79
Reducing communication breakdown during surgery	79
Use of checklists to improve safety and communication	80
Record-keeping	81
Recommendations	81
Objective 10: Hospitals and public health systems will establish routine surveillance	0.4
of surgical capacity, volume and results Feasibility and implications of measurement	84 85
Current measures in surgery	85
Surgical surveillance: surgical vital statistics for systems-level evaluation	86
Surgical surveillance: basic patient measures for hospitals and practitioners	89
The surgical apgar score: a simple outcome score for surgery	89
Future directions of surgical surveillance	92
Recommendations	93
O managed Bases and a latter of	00
Summary of Recommendations:	96
Section III.	
The World Health Organization Surgical Safety Checklist	97
The World Health Organization Surgical Safety Checklist	97
	97
The World Health Organization Surgical Safety Checklist Section IV.	97
Section IV.	97
Section IV. Implementation Manual for the World Health Organization	
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist	97
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction	99
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual	99 100 100
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief)	99 100 100
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual	99 100 100
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief)	99 100 100 100 101
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail)	99 100 100 100 101
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia	99 100 100 100 101 101
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent?	99 100 100 100 101 101 101 101
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked?	99 100 100 100 101 101 101 101 102
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete?	99 100 100
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy? Does the patient have a difficult airway/aspiration risk?	99 100 100 100 101 101 101 101 102 102
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy?	99 100 100 100 101 101 101 102 102 102
Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy? Does the patient have a difficult airway/aspiration risk? Does the patient have a risk of >500 ml blood loss (7 ml/kg in children)?	99 100 100 100 101 101 101 102 102 102 102
Section IV. Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy? Does the patient have a difficult airway/aspiration risk? Does the patient have a risk of >500 ml blood loss (7 ml/kg in children)? Before skin incision	99 100 100 101 101 101 101 102 102 102 102
Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy? Does the patient have a difficult airway/aspiration risk? Does the patient have a risk of >500 ml blood loss (7 ml/kg in children)?	99 100 100 100 101 101 101 102 102 102 102
Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy? Does the patient have a difficult airway/aspiration risk? Does the patient have a risk of >500 ml blood loss (7 ml/kg in children)? Before skin incision Confirm all team members have introduced themselves by name and role	99 100 100 100 101 101 101 102 102 102 102
Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy? Does the patient have a difficult airway/aspiration risk? Does the patient have a risk of >500 ml blood loss (7 ml/kg in children)? Before skin incision Confirm all team members have introduced themselves by name and role Confirm the patient's name, procedure and where the incision will be made	99 100 100 100 101 101 101 102 102 102 102
Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy? Does the patient have a difficult airway/aspiration risk? Does the patient have a risk of >500 ml blood loss (7 ml/kg in children)? Before skin incision Confirm all team members have introduced themselves by name and role Confirm the patient's name, procedure and where the incision will be made Has antibiotic prophylaxis been given in the last 60 minutes? Anticipated critical events To surgeon: what are the critical or non-routine steps? How long will the case take?	99 100 100 100 101 101 101 102 102 102 102
Implementation Manual for the World Health Organization Surgical Safety Checklist Introduction How to use this manual How to run the checklist (in brief) How to run the checklist (in detail) Before induction of anaesthesia Has the patient confirmed his/her identity, site, procedure and consent? Is the site marked? Is the anaesthesia machine and medication check complete? Is the pulse oximeter on the patient and functioning? Does the patient have a known allergy? Does the patient have a difficult airway/aspiration risk? Does the patient have a risk of >500 ml blood loss (7 ml/kg in children)? Before skin incision Confirm all team members have introduced themselves by name and role Confirm the patient's name, procedure and where the incision will be made Has antibiotic prophylaxis been given in the last 60 minutes? Anticipated critical events	99 100 100 100 101 101 101 102 102 102 102

To anaesthetist: are there any patient-specific concerns?	104
To nursing team: has sterility (including indicator results) been confirmed?	
Are there equipment issues or any concerns?	104
Is essential imaging displayed?	104
Before patient leaves operating room	105
Nurse verbally confirms	
The name of the procedure	105
Completion of instrument, sponge and needle counts	105
Specimen labelling (read specimen labels aloud, including patient name)	105
Whether there are any equipment problems to be addressed	105
Surgeon, anaesthetist and nurse review the key concerns for recovery and management of this patient	105
Additional notes — promoting a safety culture	106
Modifying the Checklist	106
Introducing the Checklist into the operating room	107
Evaluating surgical care	108
Appendix A	109
A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population Haynes AB, et al. A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population. New England Journal of Medicine, 2009; 360:491-9	110
Appendix B Authors and contributors	119
Safe Surgery Saves Lives Programme Leader	120
Editors	120
Project team at Department of Health Policy and Management,	
Harvard School of Public Health, Boston, Massachusetts, United States	120
Project team at WHO Patient Safety, World Health Organization, Geneva, Switzerland	120
Additional acknowledgements	120
Contributors	120
Acknowledgements for assistance	121
Acknowledgements for coordination and support	121
Working group members	121
Additional consultants	122

Section I.

Introduction

Introduction

Confronted with worldwide evidence of substantial public health harm due to inadequate patient safety, the World Health Assembly (WHA) in 2002 adopted a resolution (WHA55.18) urging countries to strengthen the safety of health care and monitoring systems. The resolution also requested that WHO take a lead in setting global norms and standards and supporting country efforts in preparing patient safety policies and practices. In May 2004, the WHA approved the creation of an international alliance to improve patient safety globally; WHO Patient Safety was launched the following October. For the first time, heads of agencies, policy-makers and patient groups from around the world came together to advance attainment of the goal of "First, do no harm" and to reduce the adverse consequences of unsafe health care. The purpose of WHO Patient Safety is to facilitate patient safety policy and practice. It is concentrating its actions on focused safety campaigns called Global Patient Safety Challenges, coordinating Patients for Patient Safety, developing a standard taxonomy, designing tools for research policy and assessment, identifying solutions for patient safety, and developing reporting and learning initiatives aimed at producing 'best practice' guidelines. Together these efforts could save millions of lives by improving basic health care and halting the diversion of resources from other productive uses.

The Global Patient Safety Challenge, brings together the expertise of specialists to improve the safety of care. The area chosen for the first Challenge in 2005–2006, was infection associated with health care. This campaign established simple, clear standards for hand hygiene, an educational campaign and WHO's first *Guidelines on Hand Hygiene in Health Care* (1).

The problem area selected for the second Global Patient Safety Challenge, in 2007–2008, was the safety of surgical care. Preparation of these *Guidelines for Safe Surgery* followed the steps recommended by WHO (Table I.1).

Table I.1 - Development of the WHO Safe Surgery Guidelines (2)

WHO recommended steps in technical guideline development	Action Taken
Define the specific issues to be addressed by the guidelines	Completed
Undertake a systematic search for evidence	Completed
Review the evidence available	Completed
Develop recommendations linked to the strength of the evidence	Completed
Draft guidelines	Completed
Discuss and incorporate, where relevant, comments of external reviewers	Completed
Draft final version of the guidelines	Completed
Make recommendations on dissemination strategy	Completed
Document the process of guideline development	Completed
Test the guidelines through pilot evaluations	Completed

The groundwork for the project began in autumn 2006 and included an international consultation meeting held in January 2007 attended by experts from around the world. Following this meeting, expert working groups were created to systematically review the available scientific evidence, to write the guidelines document and to facilitate discussion among the working group members in order to formulate the recommendations. A steering group consisting of the Programme Lead, project team members and the chairs of the four working groups, signed off on the content and recommendations in the guidelines document. Nearly 100 international experts contributed to the document (see end). The guidelines were pilot tested in each of the six WHO regions—an essential part of the Challenge—to obtain local information on the resources required to comply with the recommendations and information on the feasibility, validity, reliability and cost—effectiveness of the interventions.

预览已结束,完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5 29258

