

## SAFE SURGERY

### WHO GUIDELINES FOR SAFE SURGERY

By

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In response to the worldwide interest in surgical safety the Egyptian Journal of Surgery is dedicating a specific section for surgical safety. In the forthcoming issues of the journal the WHO guidelines for safe practices in surgical theatres will be presented with audit criteria (standards) through which any member of the surgical team can assess the degree of compliance of the surgical team with the recommended safe practices inside their surgical theatre.

#### **Standard 6:**

**The team will consistently use methods known to minimize the risk for surgical site infection.**

#### **Highly recommended**

- Prophylactic antibiotics should be used routinely in all clean-contaminated surgical cases and considered for use in any clean surgical case. When antibiotics are given prophylactically to prevent infection, they should be administered within 1 hour of incision at a dose and with an antimicrobial spectrum that is effective against the pathogens likely to contaminate the procedure. Before skin incision, the team should confirm that prophylactic antibiotics were given within the past 60 minutes. (When vancomycin is used, infusion should be completed within 1 hour of skin incision.)
- Every facility should have a routine sterilization process that includes means for verifying the sterility of all surgical instruments, devices and materials. Indicators should be used to determine sterility and checked before equipment is introduced onto the sterile field. Before induction of anaesthesia, the nurse or other person responsible for preparing the surgical trays should confirm the sterility of the instruments by evaluating the sterility indicators and should communicate any problems to the surgeon and anaesthesia professional.
- Redosing with prophylactic antibiotics should be considered if the surgical procedure lasts more than 4 hours or if there is evidence of excessive intraoperative bleeding. (When vancomycin is used as the prophylactic agent, there is no need for redosing in operations lasting less than 10 hours.)
- Antibiotics used for prophylaxis should be discontinued within 24 hours of the procedure.
- Hair should not be removed unless it will interfere with the operation. If hair is removed, it should be clipped less than 2 hours before the operation. Shaving is not recommended as it increases the risk for surgical site infection.
- Surgical patients should receive oxygen throughout the perioperative period according to individual requirements.

- Measures to maintain core normothermia should be taken throughout the perioperative period.
- The skin of all surgical patients should be prepared with an appropriate antiseptic agent before surgery. The antimicrobial agent should be selected on the basis of its ability to decrease the microbial count of the skin rapidly and its persistent efficacy throughout the operation.
- Surgical hand antisepsis should be assured with an antimicrobial soap. The hands and forearms should be scrubbed for 2–5 minutes. If the hands are physically clean, an alcohol-based hand antiseptic agent can be used for antisepsis.
- The operating team should cover their hair and wear sterile gowns and sterile gloves during the operation.

### **Recommended**

- 'On call' orders for administration of antibiotic prophylaxis should be discouraged.
- If hair is to be removed, the use of depilatories is discouraged.
- Tobacco use should be stopped at least 30 days before elective surgery if possible.
- Surgical patients should take a preoperative shower with antiseptic soap.
- Prior infections should be eliminated before a scheduled operation.
- The operating team should wear masks during the operation.
- Surgical drapes that are effective when wet should be used as part of the sterile barrier.
- Sterile dressing should be maintained over the surgical wound for 24–48 hours.
- Active surveillance for surgical site infections should be conducted prospectively by trained infection control practitioners.
- Information on the surgical site infection rate should be provided to surgeons and appropriate administrators.

### **Suggested**

- A high fraction of inspired oxygen (80%) should be administered throughout the operation, and supplemental oxygen should be administered for at least 2 hours postoperatively.
- Positive pressure ventilation should be maintained in the operating room.
- The operating room should be cleaned thoroughly after 'dirty' or 'infected' cases and at the end of each operating day.
- Standardized infection control policies should be implemented.
- Surgical teams should be educated about infection prevention and control at least annually.

### **Audit criteria**

1. Availability of prophylactic antibiotic policy and procedures including the following:
  - a) Type of surgery.
  - b) Type of antibiotic.
  - c) Individual responsible.
  - d) Timing of administration.
  - e) Indications for re-dosing.
  - f) Timing of stoppage in the postoperative period.

2. Document individual responsible for administration of prophylactic antibiotic.
3. Check documentation of timing of administration of prophylactic antibiotic.
4. Observe confirmation of administration of prophylactic antibiotic during a time out.
5. Sterilization:
  - a) Availability of sterilization policy and procedures.
  - b) Check usage of sterility indicators on instruments and drapes containers.
  - c)
6. Hair removal policy and procedures.
7. Observe hair removal time and technique.
8. Availability of hand disinfection policy and procedures.
9. Material used for surgeon and patient skin disinfection.
10. Availability of patient blanket warmers and temperature probes.
11. Postoperative oxygen therapy policy and procedures.
12. Check patient oxygen supply in recovery area.
13. Availability of preoperative smoking stoppage policy and procedures.
14. Check if patients have had a preoperative shower.
15. Wearing of masks and head covers by surgical team and circulating personnel.
16. Availability of water proof gowns or disposable drapes.
17. Postoperative wound dressing policy and procedures.
18. Availability of SSI team, audit, policy and procedures.
19. Availability of theatre positive pressure environment.
20. Operating room cleaning policy and procedure.
21. Observe cleaning of operating room at end of surgery.
22. Operating room infection control policy and procedure.
23. Attendance and availability of infection control educational sessions.

Complete WHO Guideline for Safe Surgery document can be downloaded from the Alexandria Patient Safety Alliance website: [www.mri.edu.eg](http://www.mri.edu.eg).