

WHO makes global recommendations for the prevention of surgical site infections

Measures to reduce bacteria play an important role in the evidence-based recommendations made by WHO. These measures should also contribute towards stemming the spread of antibiotic-resistant bacteria.

Surgical site infections or SSIs threaten the health of millions of patients every year. At the same time, these SSIs contribute towards the spread of strains of bacteria that are resistant to antibiotics. This problem is particularly apparent in low-income and middle income countries. Here, 15% of all patients contract an infection after undergoing surgery. But the situation is no better in countries that offer good health care. Every year, more than 2.5 million cases of postoperative infections are recorded in the European Union (EU). Of these, approx. 800,000 relate to SSIs, to which the deaths of approx. 16,000 patients are attributed annually ^[1].

WHO is now addressing this dramatic situation and has issued a total of 26 recommendations, which were published in the 'The Lancet Infectious Diseases' journal on 2 November ^{[2],[3]}. These recommendations were drawn up by leading experts across the world and are based on published scientific studies that meet the criteria of evidence-based medicine. The recommendations include preoperative, intraoperative and postoperative measures.

In addition to the principles of treatment prior to surgery with a course of antibiotics, local measures to reduce bacteria also play an important role in the recommendations. The measures, which place localised reduction of bacteria at the centre of surgical procedures, are summarised below.

1. Preoperative bathing

The experts recommend that all patients should bathe before surgery using soap. The extent to which bathing using an antimicrobial soap has a greater advantage over using a plain soap cannot be determined at present on account of the study situation.

2. Decolonisation of MRSA carriers

Mupirocin ointment (2%) should be applied in the case of MRSA-positive patients prior to cardiothoracic or orthopaedic surgery. There is a large body of evidence relating to this measure. Bathing with chlorhexidine is also possible, but is not considered necessary as the contribution it makes towards reducing SSIs is unclear. The experts also recommend this measure prior to surgery involving a lower risk of infection, although it has a lower priority in such cases.

3. Preoperative skin antiseptics

The experts recommend using alcohol-based preparations with chlorhexidine as the residual agent for preoperative skin antiseptics.

4. Surgical hand preparation

Surgical hand preparation of operating theatre staff is considered an indispensable measure prior to surgery. It can be performed either using an alcohol-based hand rub or by scrubbing with an antimicrobial preparation and water.

5. Wound irrigation

The contribution made by intraoperative wound irrigation using a physiological NaCl solution to the prevention of SSIs is classified as unclear. However, irrigation with an aqueous povidone-iodine solution before closure of the wound can have a positive effect.

6. Antimicrobial-coated sutures

The experts recommend using Triclosan-coated sutures for closing wounds irrespective of the type of surgery.

It should be considered with regard to these WHO recommendations that they must apply worldwide. The availability of materials is as much of an issue here as the practicality of the measures. Hence, substances such as chlorhexidine and povidone-iodine are cited as agents of choice. Local and national anomalies cannot therefore be the basis of such recommendations.

The intention is to review the current recommendations at least every five years based on their level of evidence.

Sources

- [1] Cassini A, Plachouras D, Eckmanns T, Abu Sin M, Blank HP, et al. (2016) Burden of Six Healthcare-Associated Infections on European Population Health: Estimating Incidence-Based Disability-Adjusted Life Years through a Population Prevalence-Based Modelling Study. PLOS Medicine 13(10): e1002150. doi: 10.1371/journal.pmed.1002150. <http://dx.doi.org/10.1371/journal.pmed.1002150>
- [2] Allegranzi B. et al.(2016a) New WHO recommendations on preoperative measures for surgical site infection prevention: an evidence-based global perspective. The Lancet Infectious Diseases , Volume 16 , Issue 12 , e276 - e287. [http://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(16\)30398-X/fulltext](http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(16)30398-X/fulltext)
- [3] Allegranzi B. et al.(2016b) New WHO recommendations on intraoperative and postoperative measures for surgical site infection prevention: an evidence-based global perspective. The Lancet Infectious Diseases , Volume 16 , Issue 12 , e288 - e303. [http://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(16\)30402-9/fulltext](http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(16)30402-9/fulltext)