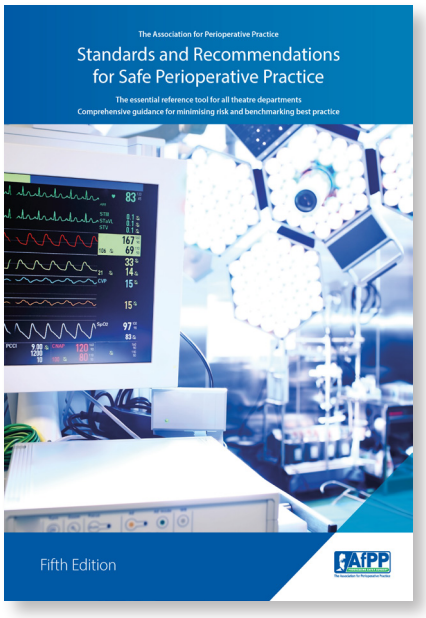
Aseptic technique: An extract from Standards and Recommendations for Safe Perioperative Practice (Fifth Edition)



The following is an extract from ***Standards and Recommendations for Safe Perioperative Practice*, Chapter 5 Infection Control, Section 5.5 Aseptic Technique (Fifth Edition)**, published by the Association for Perioperative Practice.

5.5 ASEPTIC TECHNIQUE

STANDARD

There are systems in place to ensure that surgical aseptic technique is carried out effectively.

An important factor in patient outcomes is the quality of the aseptic technique carried out by the surgical staff.

Surgical asepsis can be defined as the state of being free from all pathogenic microorganisms. The outcome of a patient's surgical procedure is influenced by the competence, knowledge and skill of the perioperative staff in aseptic technique. All staff involved in preparing and performing surgical procedures are responsible for providing a safe environment for the patient. A safe operative environment requires the maintenance of asepsis to limit the risk of wound contamination.

Measures to prevent surgical site infection (SSI) include the provision of medical devices, supplies and equipment that are free from microbial contamination at the time of use. Sterilisation provides the highest level of assurance that an object is sterile. Methods of sterilisation and decontamination are discussed in Chapter 6.

The basic principles of aseptic technique prevent contamination of the open wound by isolating the operative site from the surrounding non-sterile physical environment and creating and maintaining a sterile field.

RECOMMENDATIONS FOR LOCAL POLICY

General safety considerations

5.5.1 Proper aseptic hand hygiene is a priority when beginning any surgical procedure. The correct protocol is outlined in recommendations 5.4.20-31.

5.5.2 When performing a procedure, ensure that all people present (including the patient if they are to be awake during surgery) know how to prevent contamination of the sterile field, and know to avoid moving suddenly, touching the equipment, laughing, sneezing or talking over the sterile field (Doyle & Anita 2015).

5.5.3 Perioperative staff who are ill should avoid performing invasive procedures and entering the perioperative environment.

5.5.4 Perioperative staff with infected lesions of the skin or bacterial infections of the upper respiratory system should not perform invasive procedures, take part in aseptic technique, or enter the perioperative environment.

5.5.5 Staff must be aware of differences between sterile items and non-sterile items and share the responsibility for monitoring aseptic practice.

5.5.6 The environment and all working surfaces must be cleaned in accordance with local infection prevention policies before beginning any surgical procedure.

Equipment and medical devices safeguards

5.5.7 All objects used in the sterile field must be sterile. All pre-sterilised articles must be checked for the sterility mark/label and assessed for intactness, dryness, the integrity of packaging and expiry date before using. Any packs found to be in an unsatisfactory condition must be discarded immediately. Torn, wet or opened packing is not considered sterile. Any packs dropped on the floor are also not considered sterile (Doyle & Anita 2015).

5.5.8 Any sterile object that is touched by a non-sterile object is no longer sterile. Wherever the sterility of an object is in doubt, discard it immediately (Doyle & Anita 2015).

5.5.9 Fluid flows in the direction of gravity. Keep the tip of surgical equipment facing downward to prevent fluids from contaminating the entire device (Doyle & Anita 2015).

5.5.10 The sterile region extends from the chest line to the waistline at standing height. Keep all sterile equipment below the chest and above the waist. Table drapes are only sterile at waist level (Doyle & Anita 2015).

5.5.11 To maintain the sterility of the field and any sterile objects, they must always be kept in sight. If the sterile field or a sterile object is no longer in sight, then it cannot be considered sterile. Staff should never turn their back to the sterile field (Doyle & Anita 2015).

5.5.12 Any puncture, moisture or tear within a sterile barrier, e.g. drapes, packing and uniform, must be considered non-sterile. The contamination must be immediately rectified (Doyle & Anita 2015).

5.5.13 A border of 2.5cm designates the end of the sterile field. All sterile objects must be kept within the sterile field and must not touch the border (Doyle & Anita 2015).

5.5.14 Sterile drapes should conform to the European standard for surgical clothing and drapes, BS EN 13795-1:2019, and must be used correctly to establish a sterile field (BSI 2019).

5.5.15 Sterile drapes should be handled as little as possible. The drapes should be applied from the surgical site to the periphery, avoiding reaching over non-sterile areas. Drapes should not be repositioned once placed to avoid contamination of the sterile field (AORN 2019).

Scrubbed staff

5.5.16 Staff participating in an aseptic procedure should present themselves as recommended in Sections 5.1 and 5.4.

5.5.17 If gown or gloves are contaminated, they must be changed as soon as possible. Staff must consider that the imperative of maintaining the sterile field should always be balanced with ensuring the patient's safety.

5.5.18 Sterile staff must not contact non-sterile areas, and non-sterile staff must not contact the sterile field. For example, non-sterile staff should not lean over the sterile field (Doyle & Anita 2015). Scrubbed staff should remain close to the sterile field and not leave the immediate area. If staff leave the sterile field and exit the operating theatre, they must re-scrub before returning to the sterile field. Leaving the sterile field increases the risk of potential contamination.

5.5.19 Staff participating in sterile procedures must stay within the sterile boundaries, and a wide margin of safety should be given between scrubbed and non-scrubbed staff. There should not be non-scrubbed staff present within restricted areas of the theatre, and any scrubbed staff who have exited the sterile field should scrub again before returning.

5.5.20 When changing positions or moving between sterile areas, scrubbed staff should turn back-to-back or face-to-face to avoid contamination.

5.5.21 Scrubbed staff must keep their arms and hands well within the sterile field at all times. The hands should fall no lower than the waist or higher than the mid-chest. Contamination may occur if the hands are moved outside of the sterile field.

5.5.22 Scrubbed staff should only be seated when this is required for the operative procedure.

5.5.23 Specialised chairs/equipment/stools used within the direct operative environment should be covered with an appropriate sterile fitted cover or draping as deemed necessary.

5.5.24 Circulating staff should not walk between sterile fields, e.g. between a prepared patient and the instrument trolley, and should keep a minimum of 1 metre distance from the sterile field.

5.5.25 Movements within and around the sterile field must not compromise the sterility of the field. Traffic must be kept to a minimum, and doors should be kept closed (Doyle & Anita 2015).

Special considerations

5.5.26 Indicated dressings must be removed carefully from the wound in the operative field before preparing the patient. This should be carried out by an assistant wearing gloves rather than a scrubbed member of the surgical team. Used and soiled dressings must be discarded immediately following local waste management policy.

5.5.27 When pouring sterile solutions, only the lip and inner cap are sterile. The pouring container must not touch any part of the sterile field or the object that the solution is being poured into. Avoid splashes (Doyle & Anita 2015). ■

References and further reading

Association of periOperative Registered Nurses 2019 Sterile technique. In: **Guidelines for Perioperative Practice** Denver, AORN Inc

British Standards Institution 2019 **Surgical clothing and drapes. Requirements and test methods. Surgical drapes and gowns** London, BSI

Doyle GR, Anita J 2015 Surgical asepsis and the principles of sterile technique (Chapter 1 Section 1.5). In: **Clinical Procedures for Safer Patient Care** [online] Available from: https://opentextbc.ca/clinicalskills/ [Accessed March 2021]