

Trolley preparation for surgical intervention

The following extract is from Section 5.6 of *Standards and Recommendations for Safe Perioperative Practice (Fifth Edition)*, published by The Association for Perioperative Practice.

STANDARD

Instrument trolleys are prepared using strict aseptic technique. Once the sterile field is established, staff continue to protect against contamination from non-sterile equipment and surfaces, and from airborne microbes.

Bacteria within the sterile field must be kept to an absolute minimum to reduce surgical site infections.

Sterile technique is used to create and maintain an area of sterility known as the sterile field (AORN 2019). There are a number of steps that must be strictly adhered to in order to establish a sterile field. These steps use aseptic technique to promote the maximum possible sterility of the operating field. Sterile technique includes inspection of medical devices for sterility, correct opening of surgical packets and making the minimum

amount of movements required to set up the sterile field, e.g. when preparing the instrument trolley.

RECOMMENDATIONS FOR LOCAL POLICY

General considerations

The type of surgery being performed may influence the type of instrument trolley used in the procedure. All trolleys should adhere to the EU regulation on medical devices (MD 2017/745) and be stable and robust enough for the intended job (EU Directive 2017). The design choice of the instrument trolley must take into account ease of movement, the ease of use afforded by the height, and the ease of cleaning, which should also be in line with local infection prevention policies. Trolleys should be included in a planned



preventative maintenance programme. Particular attention to the wheel mechanism is required to allow free and smooth movement. Trolleys, mayo stands and bowl stands should be made of stainless steel or mild steel covered in nylon. All trolleys should be free of abrasions and be in good working order. >>

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Aseptic technique for trolley preparation

5.6.1 There should be designated clean area for surgical trolley preparation that affords enough space to open instrument packs while maintaining a sterile field. There should be minimal movement of staff within this area during the preparation of the trolley.

5.6.2 All equipment for the surgical procedure must be gathered in advance, and all packs must be checked for sterility, integrity of the packaging and the expiry date. Heavy items and instrument trays should be presented to the scrubbed staff on separate trolleys.

5.6.3 Two members of staff are required for the preparation of sterile trolleys. It is essential that one of these members is scrubbed, gowned and gloved and follows the principles of aseptic technique. The number of staff present during instrument lay-up should be kept at a minimum to reduce the risk of airborne contamination.

5.6.4 Sterile fields should be prepared as close as possible to the time of use in a designated preparation room with the highest level of air changes (AORN 2019). Trolleys should not be moved between theatres - they should be prepared in the location that they will be used in. Preparation of surgical instruments in advance is not recommended as the level of contamination increases with time (AORN 2019). Continuous monitoring of the sterile field may prevent breaks in sterile technique (AORN 2019). If the period between lay-up and use is prolonged for any reason, then instruments should be protected from settling dust and other contaminants by a sterile drape (AORN 2019). Drapes must be removed with extreme care to avoid contamination of the instruments.

5.6.5 Local policy on laying out sterile instrument trolleys should be followed. All staff should adhere to this method to facilitate continuity of patient care and safety in the event of a sudden change of scrubbed staff during the operative procedure. Instruments may be arranged on trolleys in order of use so that instruments that are being used later can be covered with sterile drapes until they are required (AORN 2019).

5.6.6 All trolleys should be covered with at least two layers of sterile drapes which meet the European standard for surgical clothing and drapes, BS EN 13795-1:2019 (BSI 2019, AORN 2019). The drapes should

be of a recommended material and large enough to cover the horizontal plane of the trolley. The coverage of the vertical plane must also be sufficient to prevent contamination. The trolley should be considered sterile on the horizontal plane only.

5.6.7 Once prepared, the trolley must be attended at all times unless instruments are protected by a sterile covering.

5.6.8 Scrubbed staff should move draped sterile trolleys by placing hands on the horizontal surfaces only.

5.6.9 All aspects of the sterile field, including the medical devices, should be established as close to the scheduled time of surgery as possible. All instruments and devices anticipated to be used should be conveniently available and ready to be opened when they are required (AORN 2019).

5.6.10 Trolleys should be positioned close together to ensure there are no breaks in the sterile field.

5.6.11 To maintain asepsis, it is essential that all staff are aware of the correct method of opening different sterile packages to avoid the contamination of contents. Packages should be opened by first peeling back the flap furthest away. The nearest wrapper should be opened last. The inside of the packaging should not be touched during opening. Outer wrappers should be secured when presenting sterile items to avoid contamination. The scrubbed staff should open packs towards themselves first and then away to avoid contamination of the sterile item. Once the flaps are open the sterile item can be taken out of the packaging by a scrubbed practitioner. Sterile items should not be dragged over the unsterile packaging edges during removal (AORN 2019).

5.6.12 Sterile items should be presented directly to the scrubbed staff, or they should be placed in a designated area of the sterile field (AORN 2019).

5.6.13 Circulators should not reach over sterile fields.

5.6.14 Sterile items should be presented directly to the scrubbed staff or placed securely on a designated area of the sterile field. Items should not be thrown onto the sterile field as they may roll off or cause other items to be displaced.

5.6.15 Heavy items should be placed on a clean dry surface to be opened (AORN 2019).

5.6.16 When pouring solutions, the receiving container should be placed near the trolley edge or held by the scrubbed staff. The solution should be poured slowly to avoid splashing. The edge of a container is considered contaminated after the cap is removed and therefore the sterility of its contents cannot be guaranteed if the cap is replaced. Skin preparation solutions should be discarded once opened.

5.6.17 Sharps should be offered directly to the scrubbed practitioner (AORN 2019).

5.6.18 Any items that are placed on the trolley such that they extend beyond the edges of the trolley are at risk of contamination. Instead of being repositioned on the trolley, they should be discarded.

5.6.19 Any break in aseptic technique must be acted on immediately. Contaminated equipment must be removed from the sterile field using a suitable instrument to prevent compromising sterility of the procedure. Re-gloving and re-draping should be carried out where necessary.

5.6.20 The disposal of all equipment, drapes and sharps must be carried out in line with local and national guidelines and protocols for instrument decontamination and waste management. The scrub staff should, wherever possible, dispose of all contaminated materials while still gowned and gloved.

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

EU Directive 2017 **Regulation (EU) 2017/745 of the European parliament and of the council on medical devices** [online] Available from: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0745> [Accessed March 2021]