This poster presents a guide to surgical hand antisepsis.

Hand washing and surgical hand antisepsis are two different activities. The distinction between hand washing and surgical hand antisepsis is defined as follows:

Hand washing is decontamination of the hands by one of two methods: hand washing with either an antimicrobial or plain soap and water, or use of an antiseptic hand rubs (AORN 2014).

Surgical hand antisepsis is an extension of hand washing (AHP 2011). It is also defined as: the antiseptic surgical scrub or antiseptic hand rub performed before donning sterile attire preoperatively (AORN 2014). The aim is to both reduce the number of resident and transient flora to a minimum but also to inhibit their re-growth for as long as possible, not just on the hands but also on the wrists and forearms (AHP 2011).
A guide to surgical hand antisepsis

**Purpose**

The purpose of the surgical hand antisepsis is to remove or destroy transient microorganisms and inhibit the growth of resident microorganisms (Tanner et al 2008).

**Preparation of personnel and personal protective equipment prior to scrub process**

All staff should be in the appropriate theatre attire before commencing surgical hand antisepsis. Expert opinion asserts that headwear (AIPP 2011), masks (AORN 2014) and attire should be comfortable, safe and unlikely to need adjustment after the scrub procedure that avoiding potential contamination. Scrub suit sleeves must be rolled up well past the elbows and nail vanish, false nails, rings, watches and bracelets should be removed. Expert opinion (AIPP 2011) proposes that this type of accessory is likely to harbour pathogenic organisms which could contaminate surgically scrubbed hands and arms (NICE 2008). Any skin abrasions to digits, hands or arms must be occluded with a waterproof dressing. Wear appropriate mask and eye protection or a face shield as guided by local governance (AIPP 2011) to protect mucous membranes of the eyes, nose and mouth during procedures that are likely to generate splashes or sprays of blood, body fluids, secretions or excretions.

Select an appropriate sized surgical gown and double glove system as recommended by Tanner and Parkinson (2006). Peel open outer wrapper of gown pack, lay this on gowning station, scrub up ledge or trolley surface. Place gloves close by ready for circulator to peel open for you.

**Procedure**

Nail picks are recommended in UK theatre practice (AIPP 2011); nails are cleaned in the subungual area, however if nails are too short, then a nail brush is recommended. Nail brush use, other than directly to nails, is not recommended (AIPP 2011). In US literature (CDC 2002) brushes were advocated to commence the procedure; hence the outdated term of ‘scrubbing’ which fingers on

Each step of surgical ‘scrubbing’ consists of five strokes rubbing backwards and forwards and adapts Ayliffe’s six step technique (Ayliffe et al 2000) into nine steps. Sources of evidence drawn on include AIPPs Standards and Recommendations for Safe Perioperative Practice (AIPP 2011), AORN’s recommended practices (Paulson 2004), and Ayliffe’s six step hand washing technique (Ayliffe et al 2000).

**Preliminary wash**

For the first antisepsis of day the hands should be washed with plain soap or an anti-microbial solution under running water before beginning the surgical hand antisepsis (AIPP 2011).

The temperature and flow of the water must be adjusted before the procedure is started to achieve comfort and avoid getting the scrub suit wet. Open nail brush and pick pack.

Ensuring that no part of the sink or taps is touched wet getting the scrub suit wet. Open nail brush and pick pack.

Rinse hands and forearms up to elbow.

**Surgical scrub**

During each of the following steps keep hands (clean area) above the elbows (dirty area) allowing water to drain away, avoid splashing surgical attire.

**Step 1**

Apply appropriate amount of appropriate solution: 5ml dose from dispenser (one downward stroke action). Work into hands palm to palm and to encompass all areas of the hands and arms to just below the elbows as follows:

**Step 2**

Right palm over back of left and vice versa with fingers interlaced.

**Step 3**

Rub palm to palm, fingers interlaced.

**Step 4**

Rotational rubbing backwards and forwards with clasped fingers of right hand into left palm hand and vice versa.

**Step 5**

Rotational rubbing of right thumb clasped in left hand and vice versa.

**Step 6**

Rub finger tips on palms for both hands.

**Step 7**

Continue with rotating action down opposing arms, working to just below the elbows.

**Step 8**

Rinse and repeat steps 1–7 keeping hands raised above elbows at all times.

This wash should now only cover two thirds of the forearms to avoid compromising cleanliness of hands.

Local policy may include repeating these steps a third time but to wrists only.

**Step 9**

Rinse hands under running water – clean to dirty area. Turn off tap using elbows if necessary.

Open gown pack into a squared off surface and take a hand towel. Hands are dried first by placing the opposite hand into left palm hand and vice versa.

Discard towel. Using a second towel, repeat the process on other hand and forearm before discarding.

**Surgical hand antisepsis: application of alcohol hand rub**

(If local policy/governance dictates for subsequent hand antisepsis)

- Application of alcohol rub consists of five strokes rubbing backwards and forwards and adapts Ayliffe’s six step technique (Ayliffe et al 2000).
- As above, follow steps 2 – 7.
- Allow alcohol to evaporate before donning gloves to avoid the risk of dermatitis.

**Gowning and gloving**

Gowning and gloving is achieved by using the closed gloving technique (AIPP 2011) and once prepared, the hands and arms should be kept at waist level as personnel move to the sterile field.