

## Surgical Scrubbing and Personal Protective Equipment - Full Clinical Guideline

Reference no.: CG-T/2014/062

### Background

The patient's surgical outcome is influenced by the creation and maintenance of an aseptic environment including surgical hand antisepsis. Surgical hand antisepsis is commonly referred to as 'scrubbing up'. It is a routine preparation carried out prior to undertaking surgical or invasive procedures and is an extension of effective hand hygiene. The Association for Perioperative Practitioners (AfPP) (2011) recommends following a standardised procedure for scrubbing, gowning and gloving based on current evidence.

Scrubbing up serves to remove debris, destroy transient micro-organisms and inhibit the growth of resident micro-organisms on the hands and forearms thus minimising the number of pathogens in the event of a glove perforation (Tanner, Swarbrook and Stuart 2008). The Cochrane Review (2008) found that **Chlorhexidine** skin preparation is more effective at reducing colony forming units than iodine.

The wearing of sterile gowns and gloves by the surgical scrub team minimises the risk of surgical wound infection in the patient, and protects the team from exposure to contamination from blood and other body fluids.

### Purpose

To ensure that the surgical team scrub-up, don gowns and gloves in a safe and effective manner.

### Aim and Scope

- To clearly describe the scrubbing up technique prior to a surgical procedure
- To ensure staff are adequately protected when being exposed to splashes, spray or droplets of blood or body fluids
- To specify what type of personal protective equipment (PPE) must be used
- To ensure patients are adequately protected from cross contamination

### Prior to Scrubbing Up

Dress code policy for 'bare' below the elbows must be adhered to

**Always** perform a 'pre-wash' prior to scrubbing up using 5mls of the approved scrubbing solutions provided.

The temperature and flow of the water must be adjusted before the procedure is started to achieve comfort and avoid getting the scrubs wet.

If this is first scrub of the day, you must open nailbrush and pick pack.

- **Work the scrub solution into your hands and arms to just below the elbows.**
- **Gentle rubbing action in a circular motion up the arm moving towards the wrists then**

hands being careful to cover all the skin.

- Rub hands palm to palm
- Rub the back of each hand with the palm of the other hand with fingers interlaced
- Rub palm to palm with fingers interlaced
- Rub with backs of fingers to opposing palm with fingers interlocked
- Rub each thumb clasped in opposite hand in a rotational movement
- Rub tips of fingers in opposite palm in circular motion
- Rise off ensuring water runs from the fingertips to the elbows

**THIS SHOULD TAKE AT LEAST ONE MINUTE**

#### **FIRST SCRUB OF THE DAY ONLY**

Using a wet sterile nailbrush and scrub solution, scrub nails only, a nail picks can be used for removing visible dirt from behind the nails and the discard.

The solution should be rinsed off ensuring the water runs from the fingertips to the elbows keeping fingertips upwards. Water will run off the elbows into the scrub sink (this ensures the dirty water does not re-contaminate the hands)

#### **Next Step & Subsequent Scrubs**

Apply a **second** measured amount of solution

1. Rub hands palm to palm
2. Rub the back of each hand with the palm of the other hand with fingers interlaced
3. Rub palm to palm with fingers interlaced
4. Rub with backs of fingers to opposing palm with fingers interlocked
5. Rub each thumb clasped in opposite hand in a rotational movement
6. Rub tips of fingers in opposite palm in circular motion
7. Work the solution in a circular motion from the wrists down to the forearm.  
**This wash should now only cover two thirds of the forearms to avoid compromising cleanliness of hands.**
8. Rinse off ensuring water runs from the fingertips to the elbows

**THIS SHOULD TAKE AT LEAST ONE MINUTE**

You will then **repeat process** steps 1-8

**TOTAL SCRUBBING TIME – 3 – 5 MINUTES**

Turn off taps using elbows on tap levers

Using sterile towels from the gown pack: - use one towel per hand/arm – carefully open the towel out and gently pat/blot the hand dry with one side of the towel, paying particular attention to the web

spaces - fold the towel in half (used side to the inside) and pat/blot dry the arm moving from the hand to the elbow. Then discard the towel in the receptacle provided.

Do **NOT** rub up and down the arm as the elbow is not considered clean. Repeat the process with the 2<sup>nd</sup> towel on the other arm.

Do not consider donning gown or gloves unless hands and forearms are completely dry

### Procedure for Gowning and Gloving

- A. Pick up the gown with both hands ensuring the gown neck label is uppermost and facing towards you
- B. Standing with enough space hold the gown by the neck area and allow it to drop and unfold
- C. With one hand still holding the neck, slide the free arm into the sleeve of the gown without flapping the material, followed by the second arm, ensuring the sterility of the gown is not compromised
- D. The assistant then ties the gown from behind, by crossing over the two neck ties and fastening the waist ties without touching anything other than the tapes
- E. Gloves should be applied using the closed method. Should gloves need to be changed during the procedure, the open method should be used
- F. To close the back of the gown, the scrub person hands the paper tag, with their right hand, to the circulating practitioner or assistant. The scrub person then turns anti-clockwise ties the tapes at the left hand side

### Use of Approved Alcohol Rubs

Approved alcohol rubs that contain Chlorhexidine Gluconate 0.5%, Isopropyl alcohol 70% v/v can be used if the scrub person is scrubbing for back-to-back cases. Back-to-back cases where practitioners are **not leaving theatre** before preparing for the next procedure use the technique described above (1-7).

When using alcohol rub, the solution should be in contact with the skin for **2 minutes**. Several applications of alcohol rub may be needed to cover all of the hand and arm area. The arms and hands must be fully dry before donning gown and gloves.

**Consider the risk status of the patient for e.g. Clostridium Difficile, diarrhoea and other enteric infections if suspected, do not use alcohol rubs.**

### Best Practice

Be aware when scrubbed, gowned and gloved it is only considered sterile in the area of the chest and the level of the sterile field. Posture and position hands not to drop below the level of the chest, trolley or sterile field

Remember to wash hands thoroughly when de-scrubbing after removal of gloves.

## References

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## Keywords

Surgical hand antisepsis, scrubbing up technique, surgical gowning, gloving

## Documentation Controls

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