



NEWS LETTER

FROM THE DESK OF EDITORIAL BOARD

EDITORIAL BOARD



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Dear Friends,

In the tenth issue, we talked about hand hygiene at length. Practising the 'no touch' technique is very important and hand hygiene is one important activity that comes to our rescue when we touch different things. We believe that the article on hand hygiene was found useful.

Here, in this issue, we are talking about preparation by surgical personnel— the scrubbing, gowning and gloving technique. Somehow, nobody teaches us the science behind these activities. If done scientifically, it can help us prevent transmission of infection to and from the surgical team to the patients. We have seen a major change in the surgical attire – cataract surgeries used to be performed with bare hands in the eighties and nineties; today, nobody does that. This change has come about due to better understanding of the transmission of organisms via contact. There is some repetition of scrubbing technique in the Livewire newsletters BUT even at the cost of repetition, we thought that this important activity must be emphasised.

Many times, people have doubts in their minds as to whether the authors are practising the same protocol or not. They feel that it is very difficult to do all this. Our humble suggestion is to come and observe what is being practised at our hospital.

There is a video demonstrating the same protocol that is given here. If anyone is interested in the video, please get in touch with us. It will be our pleasure to share a copy of the video with you.

The detailed write-up on personnel preparation is written by our colleague, Dr. Rohan Chariwala. There is also one more article written by Dr. Mehul Shah from Drashti Netralaya, Dahod, Gujarat. Both articles make it clear that all the experts are of the same viewpoint.

Once again, we hope that this article will be an eye-opener for many of us. Reader feedback is most welcome.

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HAND SCRUB

Human hands are the most important tools for caring. Hands feel, diagnose, cure, prod and provoke as they are placed upon each patient who is hoping for answers, understanding and healing remedies. But, the hands can also be a portal and transmitter of infection. While hand washing may be the simplest way to control infection, it is often not practised where warranted.

William Osler called it best hand when he stated that wash can be done with “Soap, hands and common sense”.

Purpose of hand wash is to:

- Remove debris and transient microorganisms from the nails, hands and forearms;
- Reduce the resident microbial count to a minimum; and
- Inhibit rapid rebound growth of microorganisms

Type of organisms

- Transient: with local contact.
- Resident: in fingernails, deep skin layers.

Scrubbing method

- Basic principle is to wash hands thoroughly, starting from clean areas of the hand and proceeding to less clean areas (arm).
- Specific number of brush strokes should be used.
- Should be timed.

Type of scrubbing

- First time.
- Between cases.

Principles

Rising time: Is not to be included in the total scrub time, if the timed method is to be used.

Unsterile objects: Should not be touched once the scrub procedure has begun.

Entire scrub procedure: Must be repeated if an unsterile object is touched.

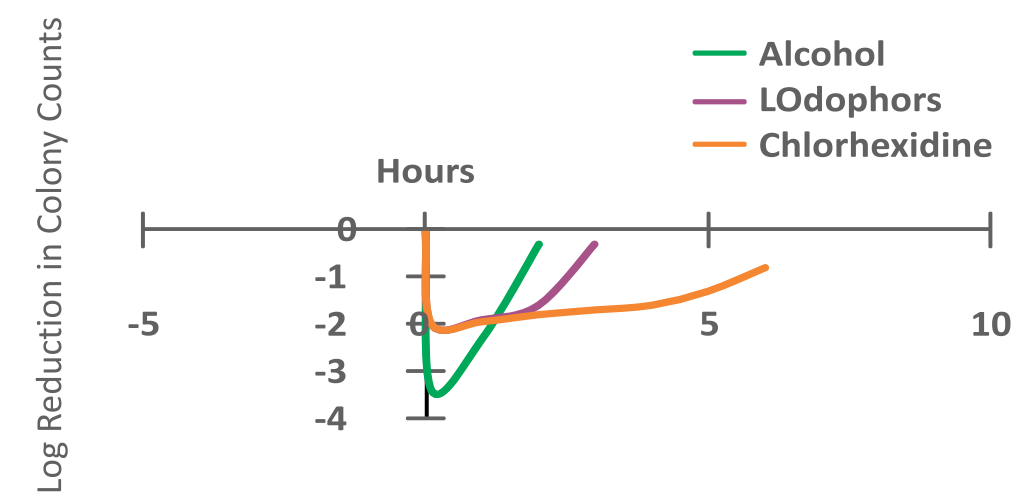
Same scrub procedure: Should be utilised for every scrub, whether it is the first or last one of the day.

Local policy: May specify the time lengths and brush strokes for scrub procedures between cases.

Properties of scrubbing agents

1. Antimicrobial action. An ideal agent would have a broad spectrum of antimicrobial activity against pathogenic organisms. This agent would have to work rapidly. An agent that does not work rapidly may not provide adequate bacterial reduction before being rinsed off.
2. Persistent activity. An agent offering persistent activity keeps the bacterial count low under the gloves. It is not unusual for a surgery to last in excess of 2 hours. Studies have shown the rate of glove failures (non-visible holes) increases with the duration of surgery. In addition, studies show bacteria grow faster under gloved than un-gloved hands.

Effect of Antiseptics on Colony Counts After Hand Scrub



3. Safety. The ideal agent would be non-irritating and non-sensitising. It must have no appreciable ocular or ototoxicity, be safe for use on the body, and not be damaging to the skin or environment.
4. Lathers in hot or cold water.
5. Amount of agent needed is small (8 ml).
6. Acceptance. Probably, the most important factor when using a new product is its acceptance by the healthcare worker. A product that has ideal antimicrobial action and an excellent safety profile is of little value to good infection control if the user population fails to support its use. Although each is important in its own right, all the above-mentioned characteristics should be present in an ideal scrubbing agent.

Which form is to be used?

1. Liquid or foam soaps. These are the most common products for surgical scrubs and are used in conjunction with water and dry scrub brushes or sponges. The most common antimicrobial agents in these products are CHG (chlorhexidine gluconate), iodophor or PCMX. These agents are very drying and with repeated scrubbing with the scrub brush, can cause skin damage.
2. Impregnated scrub brushes/sponges. Scrub brushes/sponges are preloaded with CHG, iodophor, or PCMX and are water-aided products.
3. Brush-free surgical scrub. These products use an antimicrobial agent and water but no scrub brush.

What about moisturising lotions?

- Some lotions may make medicated soaps less-effective.
- Some lotions cause breakdown of latex gloves.
- Lotions can become contaminated with bacteria, if dispensers are refilled.

Which soap is to be used?

- Simple soap that is routinely used.
- Medicated soap is warranted in specific circumstances.
- Soap advertisement claims – Are they real?
- **Too frequent use of medicated soaps is injurious to the skin and can cause allergic dermatitis.**

Which hand wash solution is available?

- Alcohol with chlorhexidine
- Alcohol without chlorhexidine
- Chlorhexidine 2%
- Chlorhexidine 4%
- Povidone with iodine 7.5%
- Triclosan 1%

Much confusion has been created due to commercial interests, so use your wisdom in making a choice.

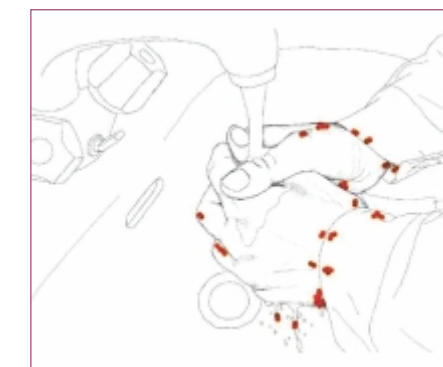
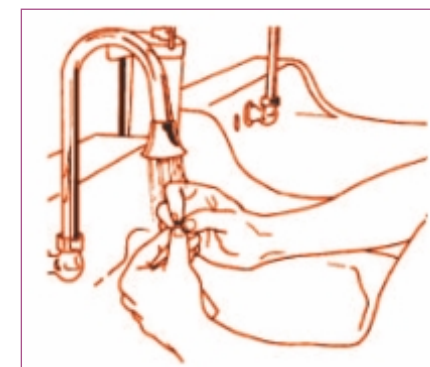
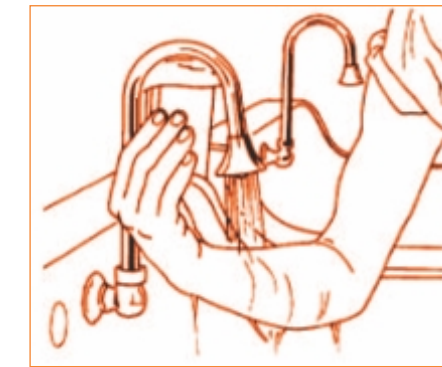
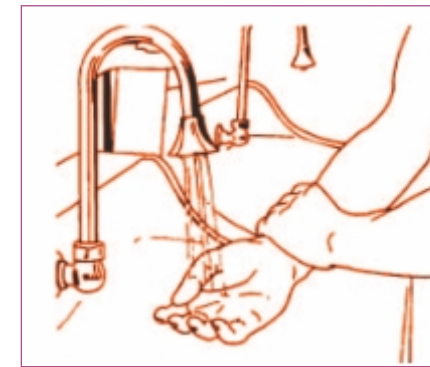
The best hand wash is...

- the one that suits the circumstances;
- suits availability of resources;
- economical; and
- safe for you (as some chemical-containing hand washes can cause sensitisation and allergic reactions).

Hand washing method

- (1) Wet hands and arms for an initial pre-scrub wash. Use several drops of surgical detergent, work up a heavy lather, and then wash the hands and arms to a point about two inches above the elbow.
- (2) Rinse hands and arms thoroughly, allowing the water to run from the hands to the elbows. Do not retrace or shake the hands and arms; let the water drip from them.
- (3) Remove the brush- moisten brush and work up a lather. Soap fingertips and clean the spaces under the fingernails of both hands under running water.
- (4) Lather fingertips with the sponge-side of the brush; then, using the bristle side of brush, scrub the spaces under the fingernails of the right or left hand with 30 circular strokes. When scrubbing, slightly bend forward, hold hands and arms above the elbow, and keep arms away from the body.
- (5) Lather the fingers; scrub with 20 circular strokes on all four sides of each finger.
You may begin with the thumb or little finger of the right or left hand. Scrub one hand and arm completely before moving on to the other hand and arm.
- (6) Lather the palm, back of hand, heel of hand, and space between the thumb and index finger. Choosing either of the surfaces, scrub with 20 circular strokes on each surface.
- (7) You are now ready to scrub the forearm. Divide your arm in three-inch increments. The brush should be approximately three inches lengthwise. Use the sponge-side of the brush lengthwise to apply soap around wrist. Scrub with 20 circular strokes on all four sides; move up the forearm and lather, then scrub, ending two inches above the elbow.
- (8) Soap and/or water may be added to the brush at any time.
- (9) Repeat steps above for the other arm.
- (10) Discard the brush.
- (11) Rinse hands and arms without retracing and/or contaminating.
- (12) Allow the water to drip from your elbows before entering the operating room.
- (13) Slightly bend forward, pick up the hand stone from the top of the gown pack and step back from the table. Grasp the towel and open it so that it is folded to double thickness lengthwise. Do not allow the towel to touch any unsterile object or unsterile parts of your body. Hold your hands and arms above your elbow, and keep your arms away from your body.

- (14) Holding one end of the towel with one of your hands, dry your other hand and arm with a blotting, rotating motion (see Figures). Work from your fingertips to the elbow; DO NOT retrace any area. Dry all sides of the fingers, the forearm, and the arms thoroughly. If moisture is left on your fingers and hands, donning the surgical gloves will be difficult. Moisture left on the arms may seep through surgical cloth gowns, thus contaminating them.
- (15) Grasp the other end of the towel and dry your other hand and arm in the same manner as above. Discard the towel into a linen receptacle (the circulator may take it from the distal end).



Inappropriate hand wash

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