

Hand hygiene guideline

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1. Definition

- Hand hygiene is the single most important and effective infection prevention and control measure to prevent the spread of health care-associated infections.
- Hand hygiene relates to the removal or killing of transient micro-organisms from the hands while maintaining good skin integrity.
- In the neonatal intensive care unit (NICU) setting, improved adherence to hand hygiene practice has been shown to reduce infection rates.

2. Technique of hand hygiene

- Remove wrist watch and rings
- Wet hands and wrists (warm water)
- Apply one application of liquid soap or antiseptic solution to palms
- Ensure you rinse thoroughly to remove product as this can cause skin dryness □ Pat hands dry using disposable paper towels

3. Type of hand hygiene

Hand wash - Aseptic wash: 40 – 60 seconds

Hand rub - Aseptic wash: 30 seconds

Hand wash - Hand hygiene policy as per WHO guidelines:

Hand Wash Technique Aseptic wash: 40 – 60 seconds

Hand rub : 30 seconds (or until hands are completely dry)

A rapidly drying solution that contains ethanol or propanol and is applied to the hands after contact with patients. It is used as a topical disinfectant.

The proper way to apply hand sanitizer:

- Rub your hands together, covering all surfaces of both hands, including between your fingers and up around your fingertips and nails.
- Rub hands together for 30 seconds to allow your hands to completely absorb the product and the hand sanitizer to completely dry.



HOW TO HANDRUB?



4. Surgical hand wash prior to procedures in NICU

The steps required for surgical hand preparation in NICU prior to procedures are outlined below. We recommend washing hands with medicated soap, followed by application of alcohol-based hand rub for around 3 minutes.

Steps before starting surgical hand preparation

- Keep nails short and pay attention to them when washing your hands – most microbes on hands come from beneath the fingernails.
- Do not wear artificial nails or nail polish.

- Remove all jewellery (rings, watches, bracelets) before entering the operating theatre. Wash hands and arms with a non-medicated soap before entering the operating theatre area or if hands are visibly soiled.
- Clean subungual areas with a nail file. Nailbrushes should not be used as they may damage the skin and encourage shedding of cells. If used, nailbrushes must be sterile, once only (single use). Reusable autoclavable nail brushes are on the market.

Protocol for surgical scrub with a medicated soap

- Start timing. Scrub each side of each finger, between the fingers, and the back and front of the hand for 2 minutes.
- Proceed to scrub the arms, keeping the hand higher than the arm at all times. This helps to avoid recontamination of the hands by water from the elbows and prevents bacteria-laden soap and water from contaminating the hands.
- Wash each side of the arm from wrist to the elbow for 1 minute.
- Repeat the process on the other hand and arm, keeping hands above elbows at all times. If the hand touches anything at any time, the scrub must be lengthened by 1 minute for the area that has been contaminated.
- Rinse hands and arms by passing them through the water in one direction only, from fingertips to elbow. Do not move the arm back and forth through the water. □ Proceed to the operating theatre holding hands above elbows.
- At all times during the scrub procedure, care should be taken not to splash water onto surgical attire.
- Once in the operating theatre, hands and arms should be dried using a sterile towel and aseptic technique before donning gown and gloves.

The hand-rubbing technique for surgical hand preparation must be performed on perfectly clean, dry hands.
On arrival in the operating theatre and after having donned theatre clothing (cap/hat/bonnet and mask), hands must be washed with soap and water.

After the operation when removing gloves, hands must be rubbed with an alcohol-based formulation or washed with soap and water if any residual talc or biological fluids are present (e.g. the glove is punctured).

Surgical procedures may be carried out one after the other without the need for hand washing, provided that the hand-rubbing technique for surgical hand preparation is followed (Images 1-17).



1 Put approximately 5 mL (3 doses) of alcohol-based hand rub in the palm of your left hand, using the elbow of your other arm to operate the dispenser



2 Dip the fingertips of your right hand in the hand rub to decontaminate under the nails (5 s)



Images 3-7: Smear the hand rub on the right forearm up to the elbow. Ensure that the whole skin area is covered by using circular movements around the forearm until the hand rub has fully evaporated (10-15 s)



4 See legend for Image 3



5 See legend for Image 3



6 See legend for Image 3



7 See legend for Image 3



8 Put approximately 5 mL (3 doses) of alcohol-based hand rub in the palm of your right hand, using the elbow of your other arm to operate the dispenser



9 Dip the fingertips of your left hand in the hand rub to decontaminate under the nails (5 s)



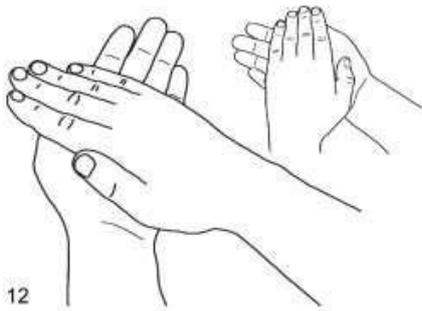
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Smear the hand rub on the left forearm up to the elbow. Ensure that the whole skin area is covered by using circular movements around the forearm until the hand rub has fully evaporated (10-15 s)



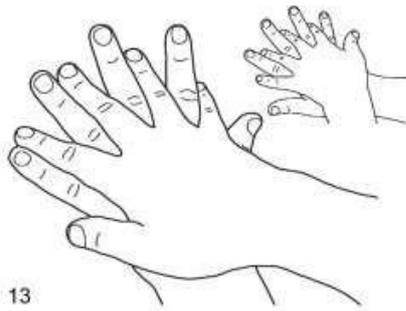
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Put approximately 5 mL (3 doses) of alcohol-based hand rub in the palm of your left hand, using the elbow of your other arm to operate the distributor. Rub both hands at the same time up to the wrists, and ensure that all the steps represented in Images 12-17 are followed (20-30 s)



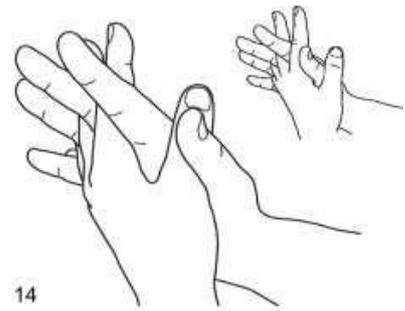
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Cover the whole surface of the hands up to the wrist with alcohol-based hand rub, rubbing palm against palm with a rotating movement



13

Rub the back of the left hand, including the wrist, moving the right palm back and forth, and vice versa



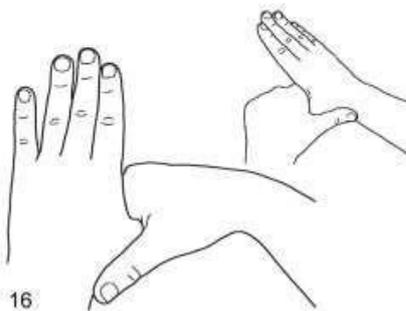
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Rub palm against palm back and forth with fingers interlinked



15

Rub the back of the fingers by holding them in the palm of the other hand with a sideways back-and-forth movement



16

Rub the thumb of the left hand by rotating it in the clasped palm of the right hand and vice versa



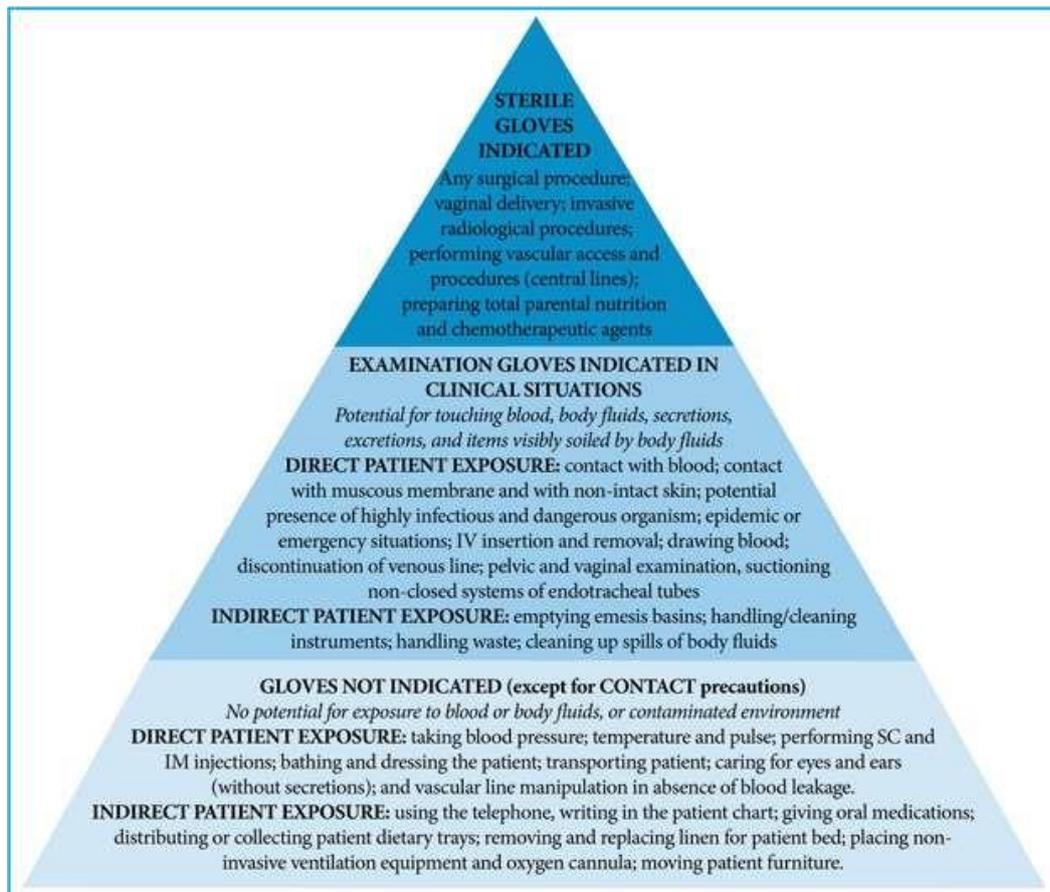
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When the hands are dry, sterile surgical clothing and gloves can be donned

Repeat the above-illustrated sequence (average duration 60 s) according to the number of times corresponding to the total duration recommended by the manufacturer for surgical hand preparation with an alcohol-based hand rub.

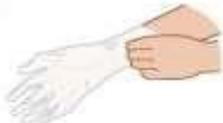
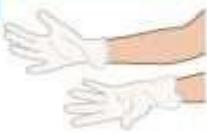
Use of gloves

- Gloves must be worn according to STANDARD and CONTACT PRECAUTIONS. The pyramid details some clinical examples in which gloves are not indicated, and others in which examination or sterile gloves are indicated. Hand hygiene should be performed when appropriate regardless indications for glove use.

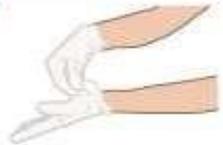
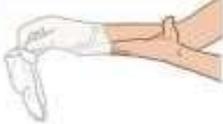
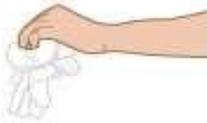


How to don non sterile gloves

HOW TO DON GLOVES

<p>1</p>  <p>Take out a glove from its original box.</p>	<p>1b</p>  <p>Touch only a restricted surface of the glove corresponding to the wrist (at the top edge of the cuff).</p>	<p>3</p>  <p>Don the first glove.</p>
<p>4</p>  <p>Take the second glove with the bare hand and touch only a restricted surface of the glove corresponding to the wrist.</p>	<p>5</p>  <p>To avoid touching the skin of the forearm with the gloved hand, turn the external surface of the glove to be donned on the folded fingers of the gloved hand, thus permitting to glove the second hand.</p>	<p>6</p>  <p>Once gloved, hands should not touch anything else that is not defined by indications and conditions for glove use.</p>

HOW TO REMOVE GLOVES

<p>1</p>  <p>Pinch one glove at the wrist level to remove it, without touching the skin of the forearm, and peel away from the hand, thus allowing the glove to turn inside out.</p>	<p>2</p>  <p>Hold the removed glove in the gloved hand and slide the fingers of the ungloved hand inside between the glove and the wrist. Remove the second glove by rolling it down the hand and fold into the first glove.</p>	<p>3</p>  <p>Discard the removed gloves</p>
<p>4</p> <p>Then, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water.</p>		

How to don sterile gloves

HOW TO DON STERILE GLOVES

1



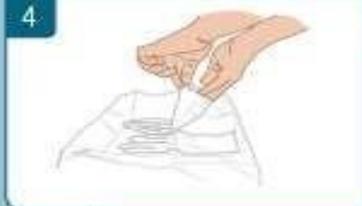
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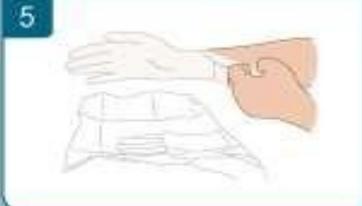
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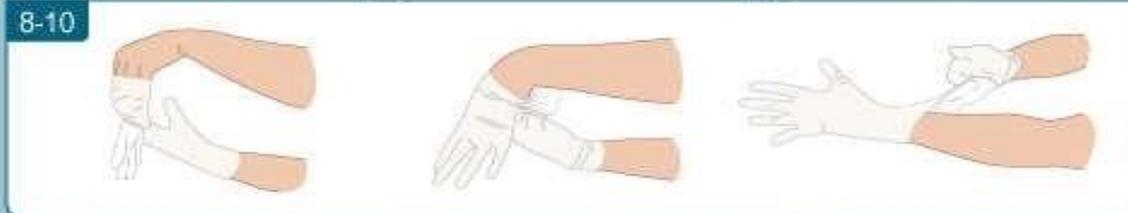
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6-7



8-10



11



12-13



14



1. Perform hand hygiene before an "aseptic procedure" by handrubbing or hand washing.
2. Check the package for integrity. Open first the non-sterile packaging by peeling it completely off the heat seal to expose the second sterile wrapper, but without touching it.
3. Place the second sterile package on a clean, dry surface without touching the surface. Open the package and fold it towards the bottom so as to unfold the paper and keep it open.
4. Using the thumb and index finger of one hand, carefully grasp the folded cuff edge of the glove.
5. Slip the other hand into the glove in a single movement, keeping the folded cuff at the wrist level.
- 6-7. Pick up the second glove by sliding the fingers of the gloved hand underneath the cuff of the glove.
- 8-10. In a single movement, slip the second glove on to the ungloved hand while avoiding any contact/resting of the gloved hand on surfaces other than the glove to be donned (contact/resting constitutes a lack of asepsis and require a change of glove).
11. If necessary, after donning both gloves, adjust the fingers and interdigital spaces until the gloves fit comfortably.
- 12-13. Unfold the cuff of the first gloved hand by gently slipping the fingers of the other hand inside the fold, making sure to avoid any contact with a surface other than the outer surface of the glove hand (lack of asepsis requiring a change of gloves).
14. The hands are gloved and must touch exclusively sterile devices or the previously-disinfected patient's body area.

How to remove sterile gloves



Kangaroo

4. When to perform hand hygiene

When to perform Hand Hygiene?

The recommended WHO 5 moments shown below should be followed



Hand hygiene should also be performed

- When starting and finishing work.
- Before and after eating and using the toilet .
- After touching objects that are likely to be contaminated (communal area telephones and keyboards)
- Following contact with own mucosal membranes and bodily fluids;
- Anytime when re-entering the nursery.

5. HAND CARE

- Healthcare workers should check their skin integrity prior to each shift, visually and with the use of an alcohol hand rub.
- Hands can be protected and skin integrity maintained by regular use of non-oil-based moisturising lotions

- All staff and visitors in the nursery must not wear any hand and wrist accessories including artificial nails or any nail enhancement, and no hand and wrist jewellery.
- Arms should be bare below the elbows.
- Dry and broken skin and hand accessories are hard to clean and tend to harbour an increased number of micro-organisms.

6. Accessories

- Jewellery is hard to clean and hides bacteria and viruses from the action of the hand hygiene agent.
- Rings increase the number of microorganisms present on hands, although this has not been linked to increases in infections.
- It is recommended that rings and bracelets not be worn by those with direct contact with mothers or newborns In the NICU setting, for provision of direct patient care, arms should be bare below the elbows, i.e., no bracelets, rings, or watch
- Hair should be tied back if longer than collar length.
- Nails, Nail Polish and Artificial Nails Long nails are difficult to clean, can pierce gloves and harbour more microorganisms than short nails.
- Natural nails should be kept clean and short.
- Nail polish should not be used.

7. References

WHO guidelines on hand hygiene in healthcare

HAND HYGIENE	CLINICAL GUIDELINES
Approved by	Dr. Shekar Subbaiah, Dr. Kishore Yerur, Dr.Ramapriya Kalkunte
Implemented on	May 2025
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Policy to be followed by (target staff)	Nurses, Obstetricians, Anaesthetists, Paediatricians