

# Hand Washing

Appropriate hand washing can minimize micro-organisms acquired on the hands by contact with body fluids and contaminated surfaces. Hand washing breaks the chain of infection transmission and reduces person-to-person transmission.

Hand washing is the simplest and most cost-effective way of preventing the transmission of infection and thus reducing the incidence of health-care-associated infections.

All health care personnel and family caregivers of patients must practise effective hand washing. Patients and primary care givers need to be instructed in proper techniques and situations for hand washing.

Compliance with hand washing is, however, frequently sub-optimal. Reasons for this include: lack of appropriate equipment; low staff to patient ratios; allergies to hand washing products; insufficient knowledge among staff about risks and procedures; the time required, and casual attitudes among staff towards bio-safety.

## Purpose

Hand washing helps to remove micro-organisms that might cause disease.

- Washing with soap and water kills many transient micro-organisms and allows them to be mechanically removed by rinsing.
- Washing with antimicrobial products kills or inhibits the growth of micro-organisms in deep layers of the skin

## Types of hand washing

### Hand washing

Hand washing is usually limited to hands and wrists; the hands are washed for a minimum of 10 – 15 seconds with soap (plain or antimicrobial) and water.



## Hand antisepsis/decontamination

Hand antisepsis removes or destroys transient micro-organisms and confers a prolonged effect. It may be carried out in one of the following two ways:

Wash hands and forearms with antimicrobial soap and water, for 15–30 seconds (following manufacturer's instructions).

Decontaminate hands with a waterless, alcohol-based hand gel or hand rub for 15–30 seconds. This is appropriate for hands that are not soiled with protein matter or fat.

Immersion of hands in bowls of antiseptics is not recommended.

## Surgical hand antisepsis

Surgical hand antisepsis removes or destroys transient micro-organisms and confers a prolonged effect. The hands and forearms are washed thoroughly with an antiseptic soap for a minimum of 2–3 minutes. The hands are dried using a sterile towel.

Surgical hand antisepsis is required before performing invasive procedures.

## Facilities and materials required for hand washing

### Running water

Access to clean water is essential. It is preferable to have running water: large washbasins with hand-free controls, which require little maintenance and have antisplash devices.

When no running water is available use either a bucket with a tap, which can be turned on and off, a bucket and pitcher, or 60%–90 % alcohol hand rub.

## Materials used for hand washing/hand antisepsis

Soap: Plain or antimicrobial soap depending on the procedure.

Plain soap: Used for routine hand washing, available in bar, powder or liquid form.

Antimicrobial soap: Used for hand washing as well as hand antisepsis.

- If bar soaps are used, use small bars and soap racks, which drain.
- Do not allow bar soap to sit in a pool of water as it encourages the growth of some micro-organisms such as pseudomonas.
- Clean dispensers of liquid soap thoroughly every day.
- When liquid soap containers are empty they must be discarded, not refilled with soap solution.

Specific antiseptics: recommended for hand antisepsis:

- 2%–4% chlorhexidine,
- 5%–7.5% povidone iodine,
- 1% triclosan, or
- 70% alcoholic hand rubs.

Waterless, alcohol-based hand rubs: with antiseptic and emollient gel and alcohol swabs, which can be applied to clean hands.

Dispensers should be placed outside each patient room.

Alcohol hand-rubs are appropriate for rapid hand decontamination between patient contacts. They are not a substitute for hand washing if hands are soiled.

## Facilities for drying hands

Disposable towels, reusable single use towels or roller towels, which are suitably maintained, should be available.

If there is no clean dry towel, it is best to air-dry hands

Equipment and products are not equally accessible in all countries, or health care facilities. Flexibility in products and procedures, and sensitivity to local needs will improve compliance. In all cases, the best procedure possible should be instituted.

Common towels must not be used as they facilitate transmission of infection.



## Steps in hand washing

Preparing for hand washing:

- Remove jewellery (rings, bracelets) and watches before washing hands,
- ensure that the nails are clipped short (do not wear artificial nails),
- roll the sleeves up to the elbow.

Wet the hands and wrists, keeping hands and wrists lower than the elbows (permits the water to flow to the fingertips, avoiding arm contamination).

Apply soap (plain or antimicrobial) and lather thoroughly.

Use firm, circular motions to wash the hands and arms up to the wrists, covering all areas including palms, back of the hands, fingers, between fingers and lateral side of fifth finger, knuckles, and wrists. Rub for minimum of 10-15 seconds.

Repeat the process if the hands are very soiled.

Clean under the fingernails.

Rinse hands thoroughly, keeping the hands lower than the forearms.

If running water is not available, use a bucket and pitcher.

Do not dip your hands into a bowl to rinse, as this recontaminates them.

Collect used water in a basin and discard in a sink, drain or toilet.

Dry hands thoroughly with disposable paper towel or napkins, clean dry towel, or air-dry them.

Discard the towel if used, in an appropriate container without touching the bin lids with hand.

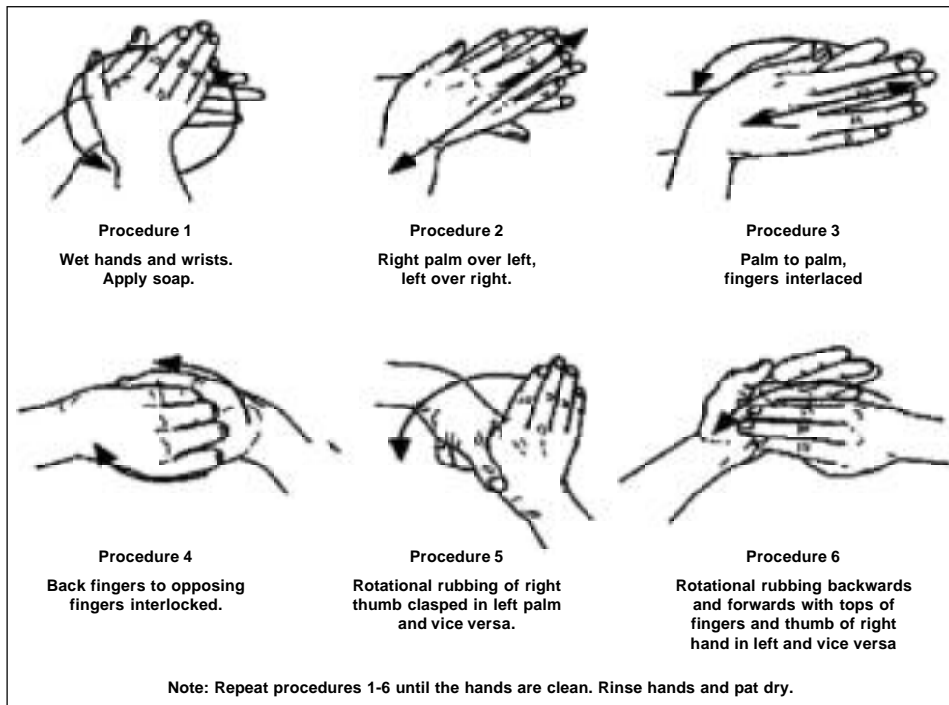
Use a paper towel, clean towel or your elbow/foot to turn off the faucet to prevent recontamination.

A general procedure for hand washing is given in figure 3.

## Using antiseptics, hand rubs, gels or alcohol swabs for hand antisepsis

Apply the product to the palm of one hand. The volume needed to apply varies by product.

Figure 3. Hand washing procedures



Source: World Health Organization. Regional Office for Western Pacific. *Interim guidelines for national SARS preparedness*. Manila: WHO, 2003, page 45.

Rub hands together, covering all surfaces of hands and fingers, until hands are dry.

Do not rinse.

Note: When there is visible soiling of hands, they should first be washed with soap and water before using waterless hand rubs, gels or alcohol swabs.

If soap and water are unavailable, hands should first be cleansed with detergent-containing towellettes, before using the alcohol-based hand rub, gel or swab.