

# GUIDELINES FOR HAND HYGIENE

(updated November 2009)

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Hand hygiene is the single most important means of stopping the spread of infection.  
Infection Control Nurses' Association (2002).

The World Health Organisation (2009) recognises that thousands of people die every day around the world from infections acquired while receiving health care. Hands are the main pathways of germ transmission during health care and hand hygiene is therefore the most important measure to avoid this transmission of harmful germs and prevent health care-associated infections.

Infections can occur because micro-organisms on the hand are introduced directly into a susceptible site, e.g. catheters, cannulas and wounds or because they colonise the patient's skin and can cause infection (Pratt *et al* 2001).

The aim of these guidelines is to provide advice on **why**, **when**, with **which** product and **how** hand hygiene should be carried out. Information is also provided relating to skin care. An audit tool is available from the Infection Prevention and Control team which sets evidence based standards for facilities and practices, alternatively a hand hygiene observation tool (2007) can also be requested.

### MICROBIOLOGY OF THE HANDS

By definition micro-organisms are invisible to the naked eye. Micro-organisms on the hand are either resident or transient flora.



**Resident micro-organisms** are commonly termed normal flora or commensals. They are usually of a low virulence and rarely cause infections except when introduced into the body through exposure prone procedures such as surgery or the introduction of a urinary catheter.

**Transient micro-organisms** are located on the surface of the skin. They are termed "transient" because direct contact with other people, equipment or other body sites all result in the transfer of these micro-organisms to and from hands. They may consist of many different pathogenic micro-organisms. They are not firmly attached to the skin and are removed quickly and effectively with routine hand washing using soap and water or if no visible soiling present alcohol based hand rub/gel (hygienic hand rub).

The ability of transient micro-organisms to transfer to and from hands with ease results in hands being extremely efficient transmitters of infection. Unlike resident flora, transient micro-organisms are easily removed with hand washing and the risk of cross infection is immediately reduced.

### WHY CLEANSE YOUR HANDS?

Any healthcare worker, member of staff working in healthcare settings, care giver or person involved in direct or indirect patient care needs to be concerned about hand hygiene and should be able to perform it correctly and at the right time. The object is to render hands physically clean, remove micro-organisms picked up during activities and to minimise the risk of cross infection.

The spread of infection via hands is well established (Larson 1981, Ayliffe *et al* 1990). Hand washing is one of the most important procedures for preventing the spread of disease. Hands are the principal route by which cross infection occurs (Elliott 1992).

The current spread of antibiotic resistant infection can be attributed, at least in part to a failure by health care professionals to wash their hands either as often or as efficiently as the situation requires, (Heenan 1996).

Hand washing is an infection control practice with a clearly demonstrated efficacy and must remain the cornerstone of efforts to reduce the spread of infection.

## EXAMPLES OF ACTIVITIES SHOWN TO TRANSFER MICROBES TO THE HANDS INCLUDE:-

- Touching, lifting, washing a patient. Casewell & Philips (1997)
- Changing babies nappies. Samadi *et al* (1983)
- Bed Making, handling curtains. Sanderson & Weisler (1992)
- Dressing a Wound. Thomlinson (1997)
- Respiratory Care. Pittet (1999)
- Catheter Care. Crow *et al* (1988).

Hands have also been implicated in the spread of both enteric and respiratory viral infections, either directly from one person to another or via contaminated surfaces. The ability of transient micro-organisms to transfer to and from hands with ease results in hands being an easy mechanism by which infection can spread.

## FACILITIES REQUIRED TO PERFORM HAND HYGIENE

- Access to appropriate hand hygiene facilities, and associated supplies, is essential to ensure adequate hand hygiene can be performed. This not only includes the type and number of facilities but also where they are situated in relation to where work/care is carried out.
- In new build and refurbishment projects the use of ‘hands free sensor’ tap systems should be considered at designated clinical wash hand basins. An alternative is the use of wrist, elbow or foot operated taps. Elbow taps are currently most commonly used in clinical or communal care areas and, if used properly (e.g. turning taps off utilising the elbows) are adequate.
- The design of taps must be able to withstand decontamination.
- There should be no plugs fitted in clinical hand wash basins.
- Mixer taps or thermostatic mixer valves are preferred to provide the correct temperature of water for performing hand hygiene.
- Availability of supplies for hand hygiene is essential, including hand hygiene solutions (soap, antiseptic hand wash solution and alcohol based hand rub/gel (hygienic hand rub), preferably wall mounted in easy to use, and easy to clean holder systems that contain single use, disposable cartridge sets, particularly in clinical or communal care areas.
- Nozzles of solution bottles/containers should always be clean and free of any congealed product (**bottles should not be reused or ‘topped up’**).
- Soft, user friendly disposable paper towels for hand drying, preferably stored in a wall mounted, easy to use and clean dispenser.
- Hands free, i.e. pedal operated, waste receptacles located at point of waste generation e.g. adjacent to sink.
- Community staff should carry their own hand hygiene solutions and hand towels as facilities may not be adequate when visiting non-NHS premises.
- Supplies of paper towels and other hand hygiene supplies should always be stored in a clean dry area prior to use.
- Poorly maintained hand hygiene facilities, e.g. chipped/cracked enamel should be reported/repared.

## WHEN SHOULD YOU DECONTAMINATE YOUR HANDS?

Hands must be decontaminated immediately before each and every episode of direct patient/service user contact/care and after any activity or contact that potentially results in hands becoming contaminated. This includes between different patients/service users or between different care activities for the same patient/service user. For convenience and efficacy an alcohol based hand rub/gel (hygienic hand rub) is preferable unless hands are visibly soiled. EPIC (2007).

There is no set frequency for hand washing, it is determined by actions – those completed and those intended to be performed but must be carried out if hands are visibly dirty. Routine hand washing removes most transient micro-organisms from soiled hands. It is essential to wash hands after they may have become contaminated with micro-organisms and before contact with any susceptible site on a patient/service user.

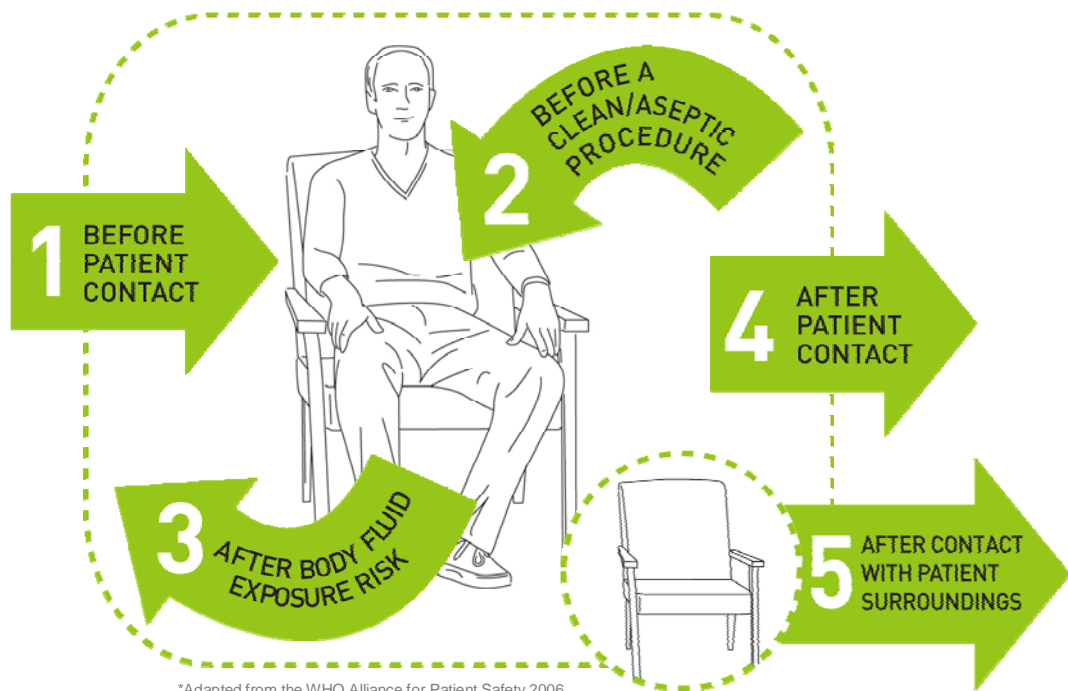
<b>Decontaminate Hands...</b>	
<b>BEFORE...</b>	<b>AFTER...</b>
Starting work Direct patient contact Donning sterile gloves Leaving isolation rooms Preparing, handling/serving and eating food Handling wounds, urethral catheters and intravenous lines Emptying urine drainage bags Caring for susceptible patients Administering medication	Handling patients with known infection Removing gloves Bed-making Handling patients Handling contaminated waste/laundry When visibly soiled Handling wounds, urethral catheters and intravenous lines Administering medication Undertaking decontamination/cleaning of surfaces/equipment Blowing your nose, covering a sneeze Using the toilet

Key points to consider include:

- Even if gloves have been worn (see Personal Protective Equipment Policy) hand hygiene must be performed as hands may still be contaminated beneath gloves or become so during their removal. It must also be noted that hand hygiene may have to be performed between dirty and clean tasks on the same patient/service user.
- If hands have touched a patient/service user before or during a procedure, but are not soiled with any body fluids and do not require re-hand washing with soap, alcohol based hand rub/gel (hygienic hand rub) can be used, (see Appendix 2).
- Any visible soiling or organic matter can inactivate the activity of alcohol and therefore hand washing is essential as a primary response in these circumstances.
- Where infection with a spore forming organism e.g. *Clostridium difficile* is suspected/proven it is recommended that hand hygiene is carried out initially with liquid soap and water although it can be followed by alcohol based hand rub/gel (hygienic hand rub).
- In clinical and communal care settings in particular, it is recommended that solutions be stored within a wall mounted dispenser that can be easily cleaned, have single use, disposable cartridge sets within the dispenser, and have easy-to-use dispensing systems.
- Solutions used may vary but the physical actions of performing hand hygiene, however, should always be the same and are essential in ensuring hands are adequately decontaminated.

The World Health Organisation (2009) identify 5 moments of hand hygiene. These are based on the need for hands to be cleansed at a range of times. This is to minimise the risk of cross contamination or cross infection. The times indicated are fundamental times during care delivery and daily routines. When caring for the sick and vulnerable the '5 moments of Hand Hygiene' should be followed (see page 4).

# Your 5 moments for hand hygiene at the point of care\*



## 1. Before touching a patient

**WHY?** To protect the patient/service user against colonization and exogenous (cross) infection by harmful germs carried on your hands.

**WHEN?** Clean your hands before touching a patient when you are approaching them.

*Situations when Moment 1 applies:*

- Before shaking hands, before stroking a child's forehead
- Before assisting a patient in personal care activities e.g. to move, take a bath, eat, get dressed
- Before delivering care and other non-invasive treatment e.g. applying oxygen mask, giving a massage
- Before performing a physical non-invasive examination e.g. taking pulse, blood pressure, chest auscultation, recording ECG

## 2. Before clean/aseptic procedure

**WHY?** To protect the patient against infection with harmful germs, including his/her own germs, entering his/her body

**WHEN?** Clean your hands immediately before accessing a critical site with infectious risk for the patient (e.g. a mucous membrane, non-intact skin, an invasive medical device)

*Situations when Moment 2 applies:*

- Before brushing the patient's teeth, instilling eye drops, performing a digital rectal examination, examining mouth, nose, ear with or without an instrument, inserting a suppository/pessary, suctioning mucus
- Before dressing a wound with or without instrument, applying ointment on vesicle, making a percutaneous injection/puncture
- Before inserting an invasive medical device (nasal cannula, nasogastric tube, endotracheal tube, urinary probe, percutaneous catheter, drainage), disrupting / opening any circuit of an invasive medical device (for food, medication, draining, suctioning, monitoring purposes)
- Before preparing food, medications, pharmaceutical products, sterile material

### **3. After body fluid exposure risk**

**WHY?** To protect you from colonization or infection with a patient's harmful germs and to protect the health-care environment from germ spread

**WHEN?** Clean your hands as soon as the task involving an exposure risk to body fluids has ended (and after glove removal)\*

*Situations when Moment 3 applies:*

- When the contact with a mucous membrane and with non-intact skin ends
- After a percutaneous injection or puncture; after inserting an invasive medical device (vascular access, catheter, tube, drain); after disrupting and opening an invasive circuit
- After removing an invasive medical device
- After removing any form of material offering protection (e.g. napkin, dressing, gauze, sanitary towel)
- After handling a sample containing organic matter, after clearing excreta and any other body fluid, after cleaning any contaminated surface and soiled material (e.g. soiled bed linen, dentures, instruments, urinal, bedpan, lavatories)

### **4. After touching a patient**

**WHY?** To protect you from colonization with patient germs and to protect the health-care environment from germ spread

**WHEN?** Clean your hands when leaving the patient's side, after having touched the patient

*Situations when Moment 4 applies, if they correspond to the last contact with the patient before leaving him/her:*

- After shaking hands, stroking a child's forehead
- After you have assisted the patient in personal care activities e.g. to move, bath, eat, dress
- After delivering care and other non-invasive treatment e.g. changing bed linen with the patient in the bed, applying oxygen mask, giving a massage
- After performing a physical non-invasive examination e.g. taking pulse, blood pressure, chest auscultation, recording ECG

### **5. After touching patient surroundings**

**WHY?** To protect you from colonization with patient germs that may be present on surfaces or objects in patient surroundings and to protect the health-care environment against germ spread

**WHEN?** Clean your hands after touching any object or furniture when leaving the patient surroundings, without having touched the patient

*Moment 5 applies in the following situations if they correspond to the last contact with the patient surroundings, without having touched the patient:*

- After an activity involving physical contact with the patient's immediate environment e.g. changing bed linen with the patient out of the bed, holding a bed rail, clearing a bedside table
- After a care activity e.g. adjusting perfusion speed, clearing a monitoring alarm
- After other contacts with surfaces or inanimate objects (ideally try to avoid these unnecessary contacts) e.g. leaning against a bed, leaning against a night table / bedside table

**Hand hygiene as an important part of respiratory hygiene/cough etiquette should be promoted at all times:**

- Cover nose and mouth with disposable single-use tissues when sneezing, coughing, wiping and blowing noses
- Dispose of used tissues in the nearest waste bin
- Wash hands after coughing, sneezing, using tissues, or after contact with respiratory secretions and contaminated objects

- Keep hands away from the mucous membranes of the eyes and nose. Certain patient/clients (e.g. the elderly, children) may need assistance with containment of respiratory secretions. Those who are immobile will need a receptacle (e.g. a plastic bag) readily at hand for the immediate disposal of used tissues and will need to be offered hand hygiene facilities

## **GLOVED HANDS**

The use of gloves does not replace the need for cleaning your hands.

- Gloves give added protection when performing nursing, medical and cleansing tasks.
- Gloves should be worn as indicated by safe working practices guidance in section B1.
- Hands can become contaminated from leaks/punctures in gloves or when removing gloves therefore **always wash hands up on removal of gloves.**
- Gloves are a single use item and must be changed in between patients and between clean and dirty tasks. Hands should be socially washed or if physically clean alcohol based hand rub/gel (hygienic hand rub) can be used up on removal of gloves.
- Remove gloves to perform hand hygiene when an indication for hand hygiene occurs while wearing gloves.
- Prior to donning surgical gloves appropriate hand hygiene must be carried out.
- Gloved hands must not be washed with alcohol based hand rub/gel (hygienic hand rub) or wipes.

Hand hygiene must be performed when appropriate regardless of the indications for glove use.

## **LEVELS OF HAND HYGIENE:-**

### **Social Hand Hygiene**

This is undertaken to render the hands physically clean and to remove micro-organisms picked up during activities considered 'social' activities (transient micro-organisms). It should be undertaken before starting/leaving work, using computer keyboard (in a clinical area), eating/handling of food/drinks (whether own or for a patient/service user), preparing/giving medications, touching a patient/service user, entering/leaving clinical areas. After touching a patient/service user, hands becoming visibly soiled, visiting the toilet, using computer keyboard (in a clinical area), handling laundry/equipment/waste, blowing/wiping/touching nose, touching inanimate objects (e.g. equipment, items around the patient/service user or their immediate environment). It is performed using soap and warm running water for a duration of 10 –15 seconds. It is used when hands are visibly soiled, before and after a work shift, before and after patient contact, after contact with blood/body fluids and soiled linen/equipment, before handling food and after using the toilet. It must be noted that if hands are visibly clean, alcohol based hand rub/gel (hygienic hand rub) can be used for social hand hygiene for ease of use where appropriate

### **Hygienic Hand Hygiene**

The aim of this is to remove or destroy transient micro-organisms. Additionally it is to provide residual effect during times when hygiene is particularly important in protecting yourself and others by potential reduction of resident micro-organisms. It should take at least 15 seconds to perform hygienic hand hygiene, however washing your hands for excessive lengths of time is not recommended as this may damage the skin. Hygienic Hand Hygiene should be undertaken before clean/aseptic procedures, prior to and following contact with those who are immuno-compromised, require isolation or during outbreak situations, before and after blood/body fluid contamination, invasive procedures, wound management. It is performed as for social hand washing but involves using an alcohol based hand rub/gel (hygienic hand rub) solution after drying hands. Please note that alcohol based hand rub/gel (hygienic hand rub) can also be used as the sole agent when hands are visibly clean.

## Surgical Hand Hygiene

The aim of this is to remove or destroy transient micro-organisms and to substantially reduce those micro-organisms which normally live on the skin (resident micro-organisms) during times when surgical procedures are being carried out. A hand forearm wash using an aqueous antiseptic solution, e.g. Chlorhexidine or Povidone iodine in skin contact for 2-3 minutes. It is essential that this is carried out before all surgical or invasive procedures. The first surgical hand wash must be carried out with an antiseptic detergent however on subsequent occasions if hands are dry and visibly clean an alcohol based hand rub/gel (hygienic hand rub) can be used. Two successive applications of alcohol based hand rub/gel (hygienic hand rub) are necessary and should be applied to the hands and wrist using a standardised technique and rubbed until completely dry for 2-3 minutes. All applications/washing should be undertaken in a systematic manner ensuring that all aspects of the hands/wrist/lower arms are included as required.

## CHOICE OF CLEANING AGENT

Hands that are visibly soiled or potentially grossly contaminated with dirt or organic material must be washed with liquid soap and water, (EPIC 2007).

The use of safe, effective and acceptable hand washing solutions must be considered in all health care settings. This includes the effect of the agent on the health or skin of staff, patients/ service users and relatives. To minimise the risk of sensitisation to liquid soaps or surgical scrub solutions hands should be rinsed prior to and after the process of hand washing.



- An effective hand washing technique involves three stages: preparation, washing and rinsing, and drying. Preparation requires wetting hands under tepid running water before applying the recommended amount of liquid soap or an antimicrobial preparation. The hand wash solution must come into contact with all of the surfaces of the hand. The hands must be rubbed together vigorously for a minimum of 10-15 seconds, paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers. Hands should be rinsed thoroughly prior to drying with good quality paper towels, EPIC (2007). Poster DH (2006).

- **Social/Hygienic Hand Washing:** In most care settings hand washing with liquid soap and warm water is adequate. Liquid soap dispensers with disposable cartridges should be used to reduce the risk of contamination occurring. Preferably these should be wall mounted. Although it is not recommended for use, if only refillable containers are available these need to be cleaned and dried thoroughly before replenishing. If only bar soap is available care should be taken to ensure that it is not left in a pool of water.
- **Hand washing using aqueous antiseptic solutions (Surgical Hand washing only):** Aqueous Antiseptic solutions that can be used differ in their properties. Therefore during one session of use it is essential that the same solution is used. Prior to use, it should be checked that solutions are within their expiry date. Where possible solutions used should contain a 70% alcohol solution to ensure a broader anti microbial action. Containers and plungers should be visibly clean. (Plungers need to be cleaned and dried in between re-use.) Containers in use should have a plunger fitted to allow dispensing of an accurate dose of solution and to minimise potential for cross contamination. Paper towel used to dry hands should be sterile if used with a surgical hand wash technique.

Staff may wish to consider the use of alcohol based hand rub/gel (hygienic hand rub) - (see page 8) as a sole agent if hands are physically clean or soap and water wipes if hands are visibly soiled.

## HAND DRYING

- Hand drying has been shown to be a critical factor in the hand hygiene process, in particular removing any remaining residual moisture that may facilitate transmission of micro-organisms (Hoffman and Wilson 1994). The methods of hand drying is also important in the maintenance of effective hand drying.
- Hands that are not dried properly can become dry and cracked, leading to an increased risk of harbouring micro-organisms on the hands that might be transmitted to others.
- Once the taps have been turned off using a 'hands-free' technique, use clean, preferably disposable paper towels to dry each area of the hand thoroughly. This should be done by patting dry each part of the hand remembering all of the steps included in the hand washing process.
- The use of soft, user-friendly, disposable paper towels is preferable to encourage compliance with the hand hygiene process. Drying following surgical scrub is recommended using a motion from the hands to the elbow.
- Disposable paper towels should be placed immediately into appropriate waste receptacles, avoiding recontamination of hands, e.g. foot-operated bins not flip top or lids which require lifting.
- Recontamination of hands immediately following the hand hygiene process must be avoided, e.g. by not touching any contaminated areas in the environment or touching own hair or face.
- Disposable paper towels should always be used in clinical settings.
- The use of air dryers are not recommended in clinical areas unless it can be proven that they do not cause aerosols of pathogens and can dry hands as quickly as paper towels.
- Communal Hand Towels should be avoided wherever possible. If use is required in domiciliary settings where towels are visibly clean and paper hand towels are not available then use can be considered if alternatives such as alcohol based hand rub/gel (hygienic hand rub) or skin cleansing are not available/appropriate.

## ALCOHOL BASED HAND GEL/RUB (HYGIENIC HAND RUB)

Alcohol based hand rub/gel (hygienic hand rub) is a skin antiseptic which does not require the use of water or a towel to achieve hand hygiene. It is quick and easy to use and should be available in all health care facilities (wards, clinical departments). It should be dispensed either from a pump dispenser or community sized containers which are flip top.

### Use of Alcohol Based Hand Rub/Gel (Hygienic Hand Rub)

- Alcohol based hand rub/gel (hygienic hand rub) with a concentration of 70% e.g. isopropanol, ethanol or nopropanol or a combination of two of these are generally used as they are effective, cause less skin drying dermatitis and are less costly. Products that contain emollients can be used to ensure the drying effects of alcohol based hand rub/gel (hygienic hand rub) are minimised. (The use of Purell products are promoted in areas where this soap /moisturiser is contained in pump dispensers).
- These products can be useful for performing hand hygiene when sinks are not readily available for hand washing or when hands may be contaminated but no visible soiling is present e.g. entering or leaving a ward/clinical/patient area.
- Alcohol based hand rub/gel (hygienic hand rub) can also be used following hand washing, e.g. when performing aseptic techniques, to provide a further cleansing and residual effect. Where infection with a spore forming organism e.g. *Clostridium difficile* is suspected/proven it is recommended that hand hygiene is carried out with liquid soap and water (or a skin cleansing wipe) although it can be followed by alcohol based hand rub/gel (hygienic hand rub).

### **How to Use Alcohol Based Hand Rub/Gel (Hygienic Hand Rub)**

- The amount/volume used to provide adequate coverage of the hands should be indicated in the manufacturers' instructions. This is normally around 3 ml (one pump).
- The steps to perform hand hygiene using alcohol based hand rub/gel (hygienic hand rub) are the same as when performing hand washing.
- The time taken to perform hand hygiene using alcohol based hand rub/gel (hygienic hand rub) is at least 20 seconds (20-30 seconds is adequate). Manufacturers' instructions should be followed (a number of these recommend rubbing for 30 seconds).
- If the solution has not dried by the end of this process allow hands to dry fully before any procedures are undertaken (do not use towels to do this).

#### **It can be used:-**

- As an alternative to hand washing if hands are visibly clean
- An addition to hand washing to achieve a hygienic hand wash
- As a rapid decontaminate on visibly clean hands:
  - On ward rounds, between each patient
  - After bed making
  - Before handling medication
  - When carrying out aseptic procedures if hands become contaminated mid procedure.
- Where hand washing facilities are unavailable or not fit for use (this may include domiciliary/community settings)
- On subsequent surgical hand washes using an appropriate technique for application

#### **Good Practice Points**

- No scientific evidence is currently available to advise as to the maximum number of applications of alcohol based hand rub/gel (hygienic hand rub) before hand washing is then required (i.e. when hands have not been soiled). Individuals are, therefore, required to use their own judgment or follow local guidance or manufacturers' instructions (particularly regarding build up of products on hands). Hands should be washed after repeated applications of gel when they feel tacky.
- Topping up of bottles that contain solutions should never occur as the inside of bottles, even those containing antiseptic solutions, can become a breeding ground for bacteria over time.
- Caution must be taken when using alcohol based hand rub/gel (hygienic hand rub) in relation to flammability and ingestion. Local risk assessments should be undertaken to address each of these issues.
- Caution should be taken to avoid drips or spills of solutions for health and safety reasons (e.g. slips or falls).
- Those working in domiciliary settings such as homes should carry personal issue alcohol based hand rub/gel (hygienic hand rub)

### **HAND HYGIENE – CORRECT TECHNIQUE FOR WASHING OR APPLYING ALCOHOL BASED HAND RUB/GEL (HYGIENIC HAND RUB)**

Hand cleansing with a good technique covering all surfaces of the hands at the right time is the most important aspect of hand hygiene. See page 10 and Appendix 1 for examples of technique. By following all steps included within the hand hygiene process, e.g. preparation for hand hygiene (care of nails and jewellery), hand drying and hand care you will ensure potentially harmful micro-organisms are not a factor in the spread of infectious agents. The procedure for performing hand hygiene (hand washing) is detailed below.

#### **Preparation:**

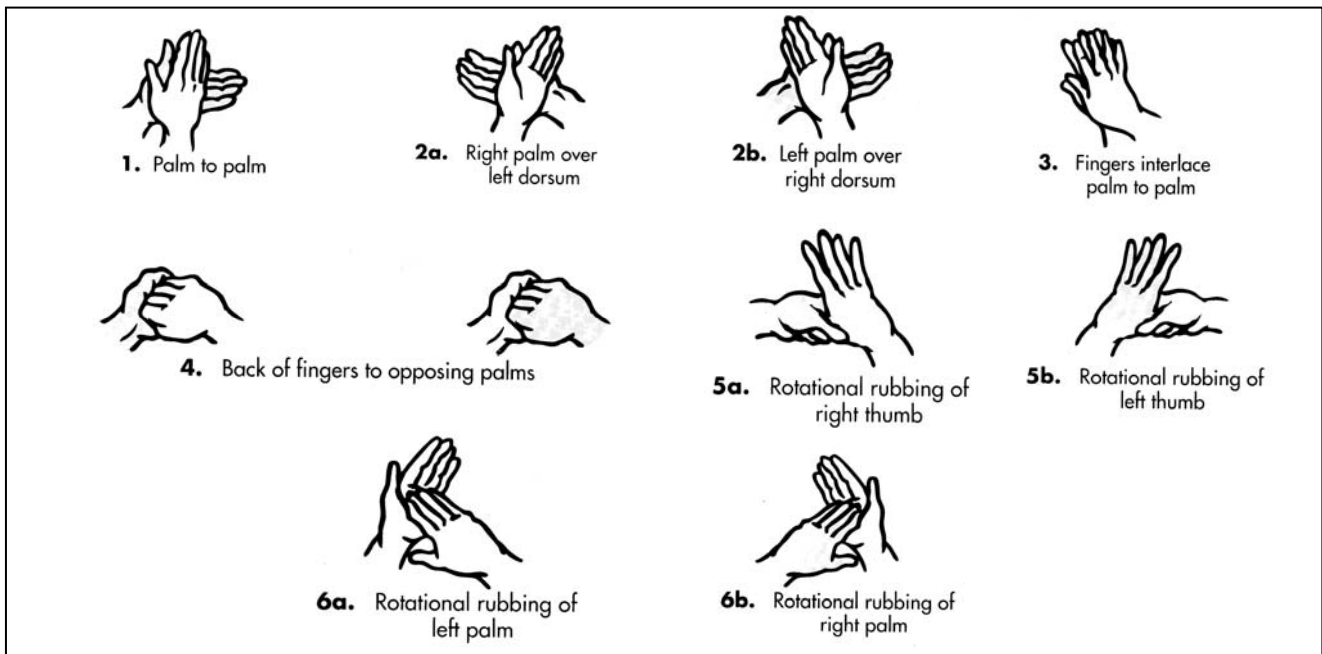
- Gather all relevant equipment. Ensure all that is needed to perform hand hygiene is accessible.
- Ensure the sink area is free from extraneous items, e.g. cups, utensils.

- Ensure jackets/coats are removed, and wrists and forearms are exposed.
- Jewellery should be removed.
- Ensure nails are short (False nails must not be worn).

**Procedure:**

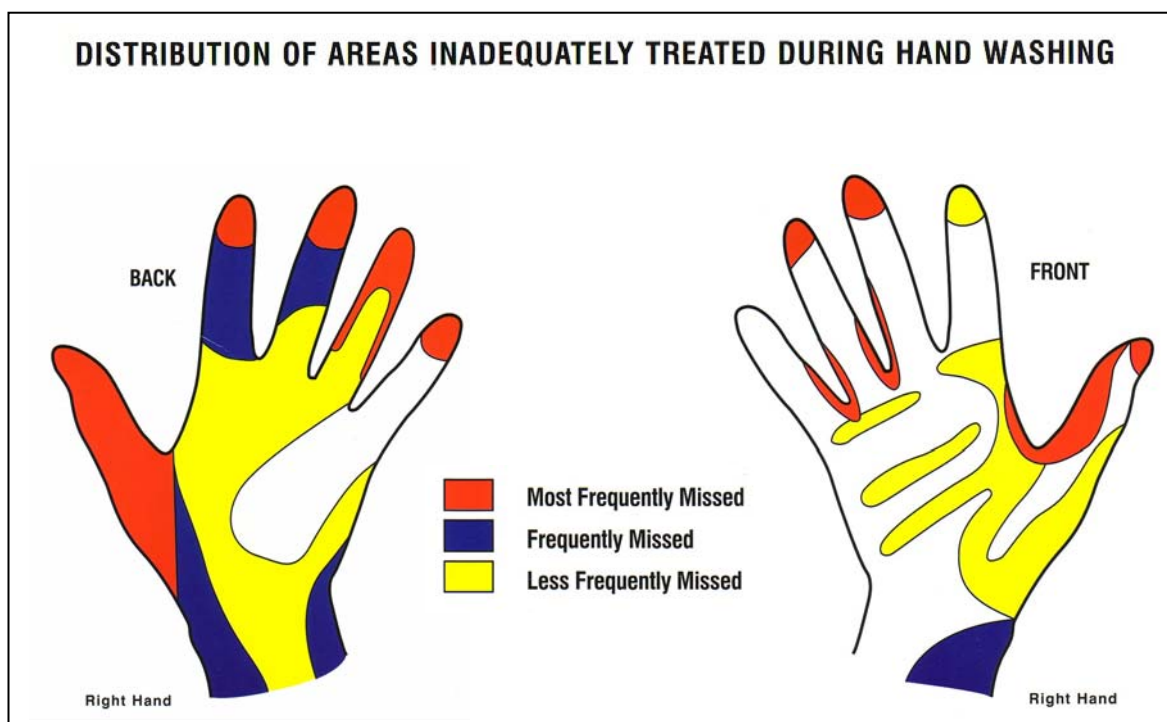
- The tap should first be turned on and the temperature of the water checked. Water should be warm (a comfortable temperature).
- Hands should be wet before applying the chosen solution.
- Apply solution, the manufacturers’ instructions for the solution being used should give guidance as to the volume of solution to be applied. This is usually in the region of 3 ml (one pump from dispenser).
- A good lather should be evident for undertaking the steps to perform adequate hand hygiene
- All areas of the hands should be covered systematically in these steps (see below and also Appendix 1). The steps should take at least 15 seconds and staff should consider areas they are likely to miss.
- For surgical scrub, an additional step of cleaning the forearms is required.
- Hands (and forearms where applicable) should be rinsed well under the running water.
- The physical action of washing and rinsing hands is essential as different solutions will have different activity against micro-organisms.
- Hands should be adequately dried (without rubbing).
- Taps should be turned off using a ‘hands-free’ technique, e.g. elbows. Where ‘handsfree’ tap systems are not in place, paper towels used to dry hands can be used for this.
- Dispose of the paper towels without re-contaminating your hands e.g. use the foot pedal. Do not touch bin lids with your hands.

**EFFECTIVE HAND HYGIENE (Ayliffe et al etc)**



The application of alcohol based hand rub/gel (hygienic hand rub) when applied to hands should be undertaken using the above technique (also refer to Appendix 2).

Care should be taken to include areas that are most frequently missed, (Taylor 1978).



### SKIN CARE - LOOK AFTER YOUR HANDS

Bacterial counts increase when the skin is damaged. It is important to protect the skin on hands from drying and cracking where bacteria in particular may harbour, and to protect broken areas from becoming contaminated, particularly when exposed to blood and body fluids.

- Cover all cuts and abrasions with a waterproof dressing, taking care to maintain intact skin as much as possible.
- Hand creams can be applied to care for the skin on hands. However, only individual tubes or hand cream from wall mounted dispensers should be used.
- Always wear disposable vinyl/latex/nitrile gloves when handling blood/body fluids. Gloves must be powder free and hand hygiene must occur following their removal.
- Creams used should not affect the action of hand cleaning solutions being used or the integrity of gloves. Oil based emollients should be avoided. Please note that hand creams containing an anionic emulsifying agent reduce the residual antibacterial effect of Chlorhexidine solutions. Communal tubs should be avoided as these may contain bacteria overtime.
- Hands should be wet prior to washing and thorough rinsing and drying is necessary. Drying is especially important during winter months when the hands have a tendency to become chapped.
- Report any skin problems to your Manager, Occupational Health or General Practitioner in order that appropriate skin care can be undertaken and the risks of harbouring micro-organisms while providing care for others can be avoided.

### NAIL CARE

- It has been shown that nails, including chipped nail polish, can harbour potentially harmful bacteria. Caring for nails helps prevent the harbouring of micro-organisms, which could then be transmitted to those who are receiving care.
- Nails must be natural, kept short and clean.

- Nail polish must not be worn by staff undertaking healthcare activities/consultations or staff working within healthcare settings who undertake hand hygiene within their role e.g. housekeeping staff.
- Artificial fingernails/extensions should not be worn when providing care.
- Nail brushes should not be used with the exception of surgical scrub and in this instance must be single use disposable. If required in other settings it is imperative that these are single use.
- The steps included in the hand hygiene process must be followed in order to ensure nail areas are cleaned properly

### **HAND HYGIENE AND JEWELLERY**

It has been shown that jewellery, particularly rings with stones and/or jewellery of intricate detail, can be contaminated with micro-organisms, which could then spread via touch contact and potentially cause infection. Wrist and hand jewellery should be removed before care is provided. When direct care is provided or hand hygiene is required as part of the individual's job this is essential. Most staff providing care must, therefore, remove these at the start of the working day. It is acceptable to wear plain bands, for example wedding bands.

### **HAND HYGIENE AND WORK CLOTHING**

In order to ensure hands can be easily decontaminated it is helpful to wear work clothing that does not go past the elbow (Bare below the Elbows). Jackets and coats should be removed and long sleeves if worn rolled up, allowing for wrists and forearms to be exposed, this is essential for any staff in healthcare settings who are required to undertake hand hygiene (healthcare staff, medical staff, housekeeping staff, therapy staff).

Remove wrist watches, bracelets, hand jewellery and roll up long sleeves or remove long sleeved clothing. Wrists should also be included when washing hands, it may also be necessary to wash the forearms if they are likely to have been contaminated.

### **CLEANYOURHANDS CAMPAIGN** (National Patient Safety Agency 2004)

The National Patient Safety Agency's (NPSA) cleanyourhands campaign has been implemented in in Mental Health settings, PCT Provider Services and also GP practice settings within Worcestershire. The campaign aims to support efforts to improve hygiene generally across acute, community and mental health settings in hospitals, ambulances, clinics, health centres, general practices and people's homes, in a bid to reduce infections. This is based on national and international evidence on what works in hand hygiene improvement.

The campaign builds on existing practices and aims to improve compliance with hand hygiene guidelines and help to make it as easy as possible for staff to clean their hands at the right time and for the right task. This includes:

- Improving the quality of care delivered through improving compliance with national and local hand hygiene guidelines
- Decreasing the overall cost to the healthcare economy over the longer term by reducing the number of patients catching infections
- Increasing the behaviour and personal responsibility of healthcare workers in observing hand hygiene standards
- Sharing learning and best practice to enhance service user safety and confidence in healthcare
- Patient/Service User and Public involvement including challenging whether hand hygiene has occurred

The core message of the campaign is simple, **cleanyourhands**. The impact of the campaign will be measured through observing staff hand hygiene behaviour, monitoring usage of the alcohol based hand rub/gel (hygienic hand rub) and routine surveillance of infections over time. Implementation of the campaign also assists achievement of NHSLA risk management standards.

### **Patient and Visitors Involvement**

All staff must ensure that relatives/visitors/patients/service users are encouraged to decontaminate their hands when appropriate to do so e.g. when entering/leaving a ward during an outbreak. Patients/Service Users must also be offered the opportunity to cleanse their hands after toileting, before consumption of food or drink and before and after contact with susceptible sites, (eg wounds, PEG sites, urinary catheters, administering insulin). Promotion of hand hygiene should also be considered in community clinic settings e.g. for when parents are involved in nappy changing and facilities to enable this must be accessible.

### **Staff Champions**

The importance of staff champions or role models in hand hygiene is critical to ensure local ownership of the **cleanyourhands** campaign. Staff champions or leads are available in all areas where the campaign has been implemented. These staff ideally have a specific interest in hand hygiene and will promote compliance within their healthcare setting. This can include ensuring hand hygiene is undertaken appropriately in their area, new colleagues are aware of the campaign, posters are appropriately displayed and dispensers are working, full and clean (soap, alcohol based hand rub/gel (hygienic hand rub)).

## **RESPONSIBILITIES**

**Staff** (providing direct care in a health or social care setting including home setting) **must:**

- Undertake adequate hand hygiene and encourage others delivering care to do so.
- Ensure all other staff/agencies apply the same principles.
- Offer reassurance to patients/service users and visitors/carers on precautions being taken.
- Advise the patients/service users, carers or visitors of any hand hygiene requirements.
- Ensure supplies of hand hygiene solutions and other materials, such as paper towels are readily available for all to use.
- Ensure posters featuring when to perform hand hygiene and the steps included in the hand hygiene process are displayed in relevant prominent areas to support infection control.
- Report to line managers any deficits in knowledge or other factors in relation to hand hygiene in particular including facilities/equipment or incidents that may have resulted in cross contamination.
- Attend any mandatory or update infection control education sessions.
- Report any illness, which may be as a result of occupational exposure, to the line manager and the Occupational Health Department (if applicable).
- Not provide direct patient/client care while infectious as this could cause harm to others. If in any doubt consult with your manager, General Practitioner, Occupational Health Department or Infection Prevention and Control Team for advice.

**Managers must:**

- Ensure that all staff have had instruction/education on the principles of hand hygiene.
- Ensure that adequate resources are in place to allow for the recommended infection control measures such as hand hygiene to be implemented. This includes items such as sinks/dispensers.
- Ensure areas participate in surveillance and audit programmes at a national or local level including auditing as required.

- Undertake a risk assessment to optimise safety in relation to placement of alcohol based hand gel/rub (hygienic hand rub), consulting expert infection control guidance if/as required.
- Ensure any staff with health concerns, including any skin irritation related to occupational hand hygiene, or those who have become ill due to occupational exposure are referred appropriately.
- Promote the use of locking devices on all wall mounted alcohol based hand rub/gel (hygienic hand rub) dispensers as a matter of routine and on soap dispensers if indicated by risk assessment (dependent upon area).

**Staff with infection prevention and control responsibilities must:**

- Provide education for staff and management on hand hygiene practices.
- Act as a resource for guidance and support when advice on hand hygiene is required.
- Provide advice on individual risk assessments for performing hand hygiene.
- Support the monitoring of compliance and present compliance results.
- Provide audit tools on request for local monitoring of standards in addition to the formal rolling programme of audit.

**Incident Reporting:**

- Any incidents where failures in hand hygiene have occurred or where there are product/facilities issues that affect adequate hand hygiene and in turn health and safety should be reported as per local incident reporting procedures.

**General Responsibilities:**

- Effective communication between all members of the health and social care team is imperative for patient safety.
- Health and safety issues, related to staff, patients/clients should also be considered in relation to products used for hand hygiene, e.g. drips or spillages from alcohol based hand rub/gel (hygienic hand rub) and any risks of slips, falls or ingestion of products by particular patient/service user groups. Risk assessments should be carried out locally to highlight/manage relevant issues.
- Control of Substances Hazardous to Health (COSHH) and product data sheets should be referred to in order to ensure safe use of/exposure to products being used for hand hygiene
- It is up to each and every individual to:
  - Continually challenge both their own and their colleagues hand hygiene practices.
  - Monitor and change bad practices.
  - Access information on infections and control mechanisms to reduce the spread of infection.
  - Devise and initiate creative ways of keeping hand washing to the fore front of health care workers' agenda.

### KEY POINTS (EPIC 2007)

- Hands must be decontaminated immediately before each and every episode of direct patient/service user contact/care and after any activity or contact that potentially results in hands becoming contaminated, refer to 5 Moments.
- Hands that are visibly soiled or potentially grossly contaminated with dirt or organic material must be washed with liquid soap and water.
- Hands should be decontaminated between caring for different patients or between different care activities for the same patient.
- For convenience and efficacy an alcohol-based hand rub/gel (hygienic hand rub) is preferable unless hands are visibly soiled or when involved in caring for someone with *Clostridium difficile* associated diarrhoea. In some outbreak situations alternative products may be recommended by the infection prevention and control team.
- Hands should be washed with soap and water after several consecutive applications of alcohol based hand rub/gel (hygienic hand rub) when they start to feel tacky.
- Before a shift of clinical work begins, all wrist and ideally hand jewellery should be removed. Cuts and abrasions must be covered with waterproof dressings. Fingernails should be kept short, clean and free from nail polish. False nails and nail extensions must not be worn by clinical staff.
- An effective hand washing technique involves three stages: preparation, washing and rinsing, and drying. Preparation requires wetting hands under tepid running water before applying the recommended amount of liquid soap or an antimicrobial preparation. The handwash solution must come into contact with all of the surfaces of the hand. The hands must be rubbed together vigorously for a minimum of 10-15 seconds, paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers. Hands should be rinsed thoroughly prior to drying with good quality paper towels.
- When decontaminating hands using an alcohol based hand rub (hygienic hand rub), hands should be free of dirt and organic material. The hand rub solution must come into contact with all surfaces of the hand. The hands must be rubbed together vigorously, paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers, until the solution has evaporated and the hands are dry.
- Clinical staff should be aware of the potentially damaging effects of hand decontamination products. They should be encouraged to use an emollient hand cream regularly, for example, after washing hands before a break or going off duty and when off duty, to maintain skin integrity.
- If a particular soap, antiseptic hand wash or alcohol based product causes skin irritation, review method of application and refer to Occupational Health for advice.
- Personal issue alcohol based hand rub/gel (hygienic hand rub) should be available for use by all clinical staff and appropriate support/facilities staff (e.g. housekeeping staff, porters). This is in preference to bed side products which are not routinely recommended. The preferred way of achieving point of care application is via wall mounted dispensers or personal issue supplies.
- Education and training in effective hand hygiene and glove use should form part of all healthcare workers' induction and update training, resources should be available within healthcare settings to promote hand hygiene and a recognised technique.

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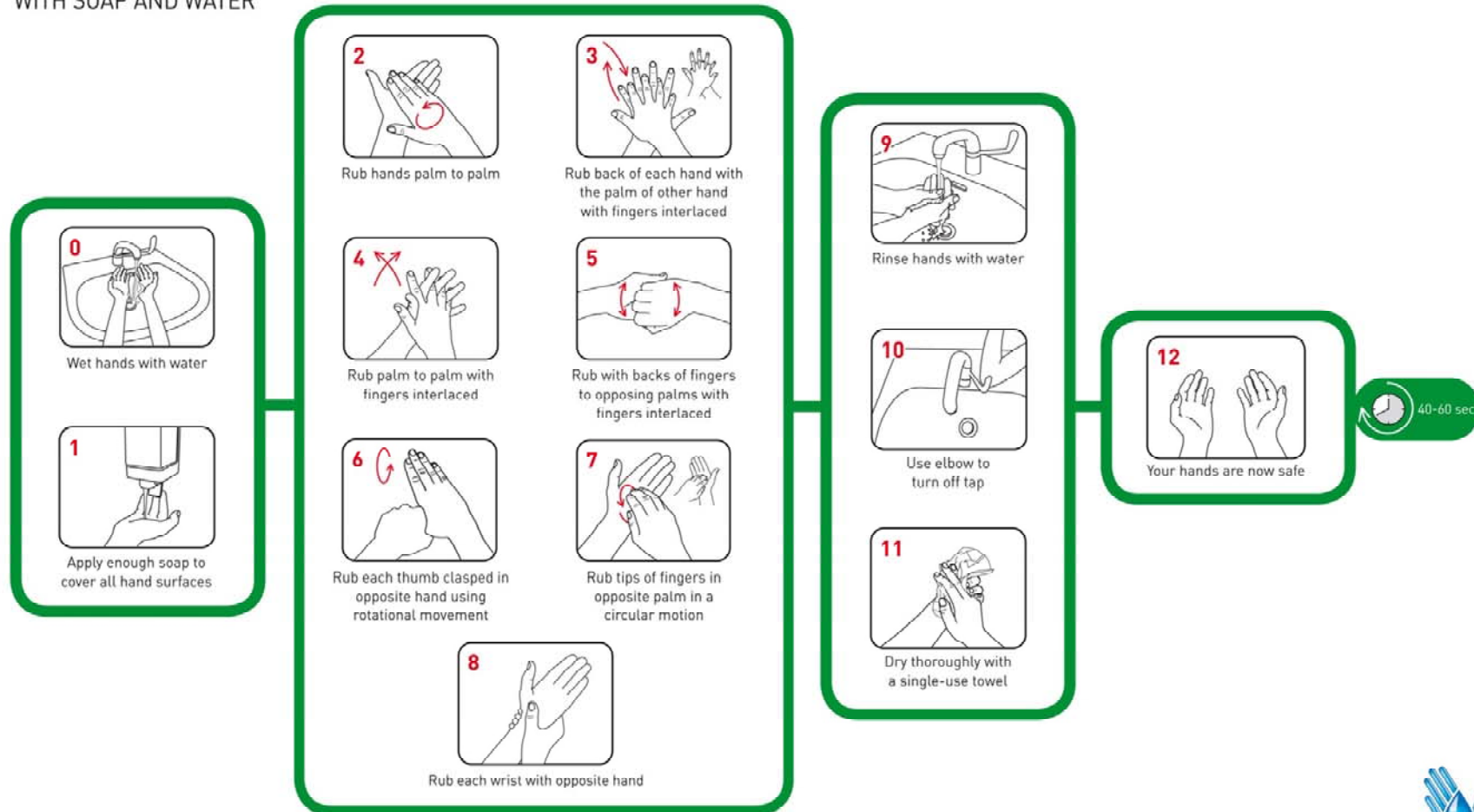
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# HAND CLEANING TECHNIQUES

## How to handwash?

WITH SOAP AND WATER



[www.npsa.nhs.uk/cleanyourhands](http://www.npsa.nhs.uk/cleanyourhands)

Adapted from World Health Organization *Guidelines on Hand Hygiene in Health Care* TW1/09



# HAND CLEANING TECHNIQUES

## How to handrub?

WITH ALCOHOL HANDRUB

**1a** **1b**

Apply a small amount (about 3ml) of the product in a cupped hand, covering all surfaces

**2**

Rub hands palm to palm

**3**

Rub back of each hand with the palm of other hand with fingers interlaced

**4**

Rub palm to palm with fingers interlaced

**5**

Rub with backs of fingers to opposing palms with fingers interlaced

**6**

Rub each thumb clasped in opposite hand using rotational movement

**7**

Rub tips of fingers in opposite palm in a circular motion

**8**

Rub each wrist with opposite hand

**9**

Once dry, your hands are safe

20-30 sec

