Scope

This policy is directed to all staff who have hands-on patient contact.

Goals and Purpose

This policy has been developed to minimise the risk of disease transmission to patients via the hands of staff. Success in infection control has been due in large part to attention paid by the individual person as a primary source of the spread and thus prevention of nosocomial infections. It is known that hand hygiene reduces the carriage of potential pathogens on the hands. It is also known that hand hygiene can result in reductions in patient morbidity and mortality from nosocomial infection. Eighty percent (80%) of nosocomial disease transmission is thought to be via hands (Figures 1 & 2).


Aims

The aim of this policy is to provide hand hygiene and hand care guidance to staff who have hands on patient contact and to minimise disease transmission within the hospital.
Definitions of terms used in this document

**Alcohol based hand rub.** An alcohol-containing preparation designed for application to the hands for reducing the number of viable microorganisms on the hands.

**Antiseptic** A biocide or product that destroys or inhibits the growth of microorganisms in or on living tissue. Some such as chlorhexidine gluconate (CHG) or triclosan have a persistent effect, whereas others, such as alcohol do not.

**Hand Hygiene** A general term that applies to either handwashing, antiseptic handwash, antiseptic hand rub or surgical hand antisepsis.

**Handwashing** The process for the mechanical removal of dirt, organic material and transient flora from the hands. Soap and water are adequate, an antiseptic skin cleanser is not required.

**Hand antisepsis** The process for the mechanical and chemical removal or destruction of transient flora. An antiseptic skin cleanser is required – either antiseptic handwash or antiseptic hand rub.

**Resident flora** (‘colonising’ flora) Organisms, which live and multiply on the skin and can be repeatedly cultured, even after a surgical handwash (eg coagulase negative staphylococci, diphtheroids, *Propionibacterium, Acinetobacter spp*).

**Soap** Detergent based cleanser in any form (bar, liquid, leaflet, or powder), that works principally by mechanical action and has no bactericidal activity.

**Subungual** Beneath the nail.

**Transient flora** (‘contaminating’ or ‘non-colonising’ flora) Organisms present in the hospital microenvironment which contaminate the hands of hospital staff during normal work activities. They can be readily passed on to another person during contact and may survive on the hands for up to 24 hours, if not removed by handwashing (eg rotavirus, RSV, *Staphylococcus aureus*).

**Visibly soiled hands** Hands showing visible dirt or visibly contaminated with proteinaceous material, blood, or other body fluids.
Types of hand decontamination; handwashing and hand antisepsis

Handwashing

With the combination of soap, water and friction, handwashing mechanically removes soil and transient flora.

Hand antisepsis

The purpose of hand antisepsis is to destroy or remove transient microorganisms from hands. Additionally in some instances such as Surgical Hand Antisepsis (‘scrubbing’), the purpose is to also reduce numbers of resident flora on hands for the duration of the procedure in case of glove puncture or tear.

Hand antisepsis can occur simultaneously with handwashing with the use of soaps containing antiseptics. Hand antisepsis can also be accomplished by use of alcohol-containing antiseptic hand rubs when hands are clean; that is, not soiled with dirt or organic material.

It should be noted that alcohol is not a good cleaning agent and is not recommended in the presence of physical dirt.

For the purposes of this policy there are 4 levels of hand antisepsis:
- an antiseptic handwash
- an antiseptic hand rub
- a clinical handwash
- and a surgical scrub.

Distribution of areas missed during hand decontamination

<table>
<thead>
<tr>
<th></th>
<th>Most Frequently Missed</th>
<th>Less Frequently Missed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Distribution of areas missed during handwashing
(Ref: An evaluation of handwashing techniques, Nursing times, Jan 1978, Taylor LJ, SRN, SCM)

For detail regarding indications and technique please refer to the following table:

<table>
<thead>
<tr>
<th>Developed by:</th>
<th>Original Issue Date: 8/00</th>
<th>Current Issue Date: 7/03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection Control Team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revision Date: 7/06</td>
<td>Update Responsibility: Infection Control Team</td>
<td>Page No 3 of 9</td>
</tr>
<tr>
<td>Approved by: SLG 13/8/03</td>
<td></td>
<td>Index No : 9/00</td>
</tr>
</tbody>
</table>
### Types of hand decontamination; handwashing and hand antisepsis

<table>
<thead>
<tr>
<th>Type</th>
<th>Agent</th>
<th>Duration</th>
<th>Purpose</th>
<th>Indications</th>
<th>Technique</th>
<th>Drying</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routine Handwash</strong></td>
<td>• soap</td>
<td>15 secs</td>
<td>• remove soil</td>
<td>before</td>
<td>• remove hand and wrist jewellery</td>
<td>• pat dry</td>
<td>• applying the agent after the hands are wet may prevent undue stripping of hand oils</td>
</tr>
<tr>
<td></td>
<td>• water</td>
<td></td>
<td>• remove transient flora</td>
<td></td>
<td>• wet hands</td>
<td>• paper towel</td>
<td>• warm water, and patting dry may minimise ‘chapping’</td>
</tr>
<tr>
<td></td>
<td>friction</td>
<td></td>
<td></td>
<td></td>
<td>• apply agent</td>
<td>• single use</td>
<td>• transient flora eg rotavirus, <em>S aureus</em> may live for hours on unwashed or improperly washed hands</td>
</tr>
<tr>
<td></td>
<td>• warm water and patting dry</td>
<td></td>
<td></td>
<td></td>
<td>• thoroughly rub all surfaces of</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• friction</td>
<td></td>
<td></td>
<td></td>
<td>hands together, (pay attention to</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• friction and evaporation</td>
<td></td>
<td></td>
<td></td>
<td>nails and thumb of dominant hand)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• application after the agent</td>
<td></td>
<td></td>
<td></td>
<td>• rinse under running water</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antiseptic Handrub</strong></td>
<td>• alcohol 70% + triclosan</td>
<td>15 secs</td>
<td>• destroy transient flora</td>
<td>as for routine handwash</td>
<td>• remove hand and wrist jewellery</td>
<td>• friction and</td>
<td>• Alcohol is not a good cleaning agent and is not recommended in the presence of dirt (soil).</td>
</tr>
<tr>
<td></td>
<td>or alcohol 70% + triclosan</td>
<td></td>
<td>• reduce resident flora</td>
<td>may be performed in lieu of routine handwash, but only if hands are free of visible soil</td>
<td>• apply 3-5 mls to hands</td>
<td>evaporation (passive)</td>
<td>• Alcohol is an excellent antiseptic and works well on soil free hands.</td>
</tr>
<tr>
<td></td>
<td>friction</td>
<td></td>
<td>• note: will not remove or denature soil</td>
<td>may be performed in emergency situations where there is insufficient time / facilities (water)</td>
<td>• thoroughly rub all surfaces of hands together (pay attention to nails and thumb of dominant hand)</td>
<td></td>
<td>• Preferred preparations contain moisturiser.</td>
</tr>
</tbody>
</table>

Developed by: Infection Control Team
Original Issue Date: 8/00
Current Issue Date: 7/03
Revision Date: 7/06
Update Responsibility: Infection Control Team
Page No 4 of 10
Approved by:
Index No: 9/00
<table>
<thead>
<tr>
<th>Type</th>
<th>Agent</th>
<th>Duration</th>
<th>Purpose</th>
<th>Indications</th>
<th>Technique</th>
<th>Drying</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiseptic Handwash</td>
<td>• antiseptic soap</td>
<td>15 secs</td>
<td>• remove soil</td>
<td>• as for routine handwash</td>
<td>• as for routine</td>
<td>• pat dry</td>
<td>• hand antiseptic occurs simultaneously with handwashing when soaps or detergents which contain antiseptics are used.</td>
</tr>
<tr>
<td></td>
<td>• water</td>
<td></td>
<td>• remove transient flora</td>
<td>• maybe the preferred type of hand decontamination when attending high risk patients eg NICU, PICU, oncology, central lines</td>
<td></td>
<td>• paper towel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• friction</td>
<td></td>
<td>• reduce resident flora</td>
<td></td>
<td></td>
<td>• single use</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Handwash</td>
<td>• antiseptic soap</td>
<td>60 secs</td>
<td>• remove soil</td>
<td>• non-surgical procedures which require aseptic technique, eg peripheral venous cannulation, insertion of a urinary catheter, wound dressings</td>
<td>• as for routine handwash, but for a longer duration</td>
<td>• pat dry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• water</td>
<td></td>
<td>• remove transient flora</td>
<td></td>
<td></td>
<td>• paper towel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• friction</td>
<td></td>
<td>• reduce resident flora</td>
<td></td>
<td></td>
<td>• single use</td>
<td></td>
</tr>
<tr>
<td>Surgical Scrub</td>
<td>• antiseptic soap only or</td>
<td>2 – 6 mins</td>
<td>• remove soil</td>
<td>• remove hand and wrist jewellery</td>
<td>• keep hands above elbows</td>
<td>• pat dry</td>
<td>• brushes are not recommended as they abrade the skin and may liberate deep resident flora.</td>
</tr>
<tr>
<td></td>
<td>• soap and then alcohol</td>
<td></td>
<td>• remove soil</td>
<td>• remove debris from underneath nails using a nail cleaner and running water</td>
<td>• keep hands above elbows</td>
<td>• sterile towel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>based hand rub with</td>
<td></td>
<td>• remove transient flora</td>
<td>• wet hands and forearms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>persistent activity</td>
<td></td>
<td>• reduce resident flora</td>
<td>• rub and lather hands, nails and forearms thoroughly,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• water</td>
<td></td>
<td>• duration of surgery in case of glove tears</td>
<td>• use a nail cleaner for subungual spaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• friction</td>
<td></td>
<td></td>
<td>• do not use a brush</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO brush</td>
<td></td>
<td></td>
<td>• rinse under running water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• keep hands above elbows</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• non-touch procedure</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Developed by: Infection Control Team  
Original Issue Date: 8/00  
Current Issue Date: 7/03  
Revision Date: 7/06  
Update Responsibility: Infection Control Team  
Page No 5 of 10  
Approved by:  
Index No: 9/00
Recommendations:

1. Indications for handwashing and hand antisepsis:

1.1 When hands are visibly dirty or contaminated with proteinaceous material or are visibly soiled with blood or other body fluids, wash hands with a non-antimicrobial soap and water.

1.2 If hands are not visibly soiled, an alcohol-based hand rub (the hand-gel product selected for whole of hospital use) may be used for routinely decontaminating hands in clinical situations:

- **before** every episode of care that involves direct contact with the patient’s skin, their food, invasive devices or dressings
- **after** completing an episode of patient care to minimise contamination of the environment;
- **between** procedures on the same patients to prevent cross-contamination of different body sites;
- **after** handling contaminated items;
- **after** contact with inanimate objects (including medical equipment) in the immediate vicinity of the patient
- immediately **after** gloves are removed.
- **after** personal ablations

1.3 Antimicrobial impregnated wipes (i.e. towelettes) are not as effective as alcohol-based hand rubs on reducing bacterial counts and are not recommended for hand hygiene.

1.4 Wash hands with soap and water if exposure to *Bacillus anthracis* or *Clostridium difficile* is suspected or proven. Chemical hand asepsis is ineffective against spores of *B. anthracis* and *C. difficile*.

2. Hand hygiene technique

2.1 When **decontaminating hands with an alcohol-based hand rub** (ie antiseptic handrub), apply product to palm of one hand and rub hands together, covering all surfaces of hands, fingers and wrists, until hands are dry (alcohol based hand rubs are not to be used with water). Follow the manufacturer’s recommendations regarding the volume of product to use.

2.2 When **washing hands with soap and water** (ie routine, clinical or antiseptic handwash), wet hands first with water, apply an amount of product recommended by the manufacturer to hands, and rub hands together vigorously for the time indicated in the above table, cover all surfaces of the hands, fingers and wrists. Rinse hands with water and dry thoroughly with a disposable towel. Use towel to turn off faucet. Avoid using hot water because repeated exposure to hot water may increase the risk of dermatitis.
3. Surgical hand antisepsis (‘surgical hand scrub’)

3.1 Remove rings, watches and bracelets before beginning the surgical hand scrub.

3.2 Remove debris from underneath fingernails using a nail cleaner under running water.

3.3 Surgical hand antisepsis using either an antimicrobial soap containing 4% chlorhexidine gluconate or an alcohol-based hand rub containing chlorhexidine gluconate providing persistent antimicrobial activity is recommended before donning sterile gloves when performing surgical procedures. [The Infection Control Team recommends the use of a chlorhexidene gluconate (CHG) based antiseptic preparations in preference to povidone-iodine].

3.4 When performing surgical hand antisepsis using an antimicrobial soap, scrub hands and forearms for a length of time recommended by the manufacturer (usually 2-6 minutes). Long scrub times (e.g. 10 minutes) are not necessary.

3.5 When using an alcohol-based surgical hand-scrub product with persistent antimicrobial activity, follow the manufacturer’s instructions. Before applying the alcohol gel, prewash hands and forearms with a non-antimicrobial soap and dry hands and forearms completely. After application of the alcohol-based product as recommended, allow hands and forearms to dry thoroughly before donning sterile gloves.

Drying of hands

Drying the hands thoroughly is important as wet hands may transfer more organisms than dry.

- Paper towels are available at all handwashing sinks
- Paper and cloth towels used for drying hands are single use
- Sterile towels are used with a surgical scrub

Other aspects of hand care and minimising disease transmission

Glove use

- Gloves are to be worn to protect the health care worker’s hands from contamination with blood and body fluid, and / or to protect the patient from being contaminated with organisms from the health care worker.
- Gloves are an adjunct to and not a substitute for handwashing.
- Single use gloves shall be used once and changed when damaged (torn, punctured) after contact with each patient between procedures on the same patient before answering telephones or recording patient notes.
- Sterile gloves are worn in conjunction with ‘scrubbing’ and sterile procedures.
Finger nails; natural and artificial, and nail lacquer (polish)

Sub ungual areas of the hand harbour high concentrations of bacteria, most frequently coagulase-negative staphylococci, gram negative rods (including *Pseudomonas* spp.) Corynebacteria and yeasts.

- Nails (natural or artificial) shall be short and clean and should not extend beyond the tips of the fingers.
- Artificial fingernails or extenders are not to be worn during direct contact with patients at high risk of infection.
- The wearing of artificial nails is discouraged
- Finger nail polish is not to be worn. Chipped nail polish may support the growth of larger numbers of microorganisms on fingernails.

See Policy 47/98 Uniform Policy / Dress Guidelines

There are concerns that the use of artificial fingernails and nail polish may discourage vigorous handwashing.

**Jewellery**

- No jewellery should be worn when staff attend patients at high risk of skin trauma. Plain wedding rings are perceived to be of low risk however a recommendation in regard to rings awaits resolution.
- Hands and wrists should be jewellery free during handwashing or disinfection.

**Active skin disorders of hands or nails**

Staff with active exfoliative skin or nail disease involving the hands,

- shall wear gloves when providing direct care to patients colonised or infected with MRSA or other MRO’s (multiresistant organisms).
- shall wear gloves when providing care to high-risk patients, eg. infants in NICU, ventilated patients in PICU, patients with CVCs, oncology patients, patients with large areas of interrupted skin integrity, eg burns, dermatitis, major surgery.

If it is not possible to wear gloves then staff should seek advice from Risk Management Services and the Infectious Diseases physician on-call.

Staff with active exfoliative skin disease which extends beyond the hands and nails, should seek advice from Risk Management Services. (See policy 99/98 Management of patients colonised or infected with Methicillin Resistant *Staphylococcus aureus* (MRSA). Staff with allergic reactions to hand cleansing, disinfection or moisturising products supplied by the hospital should seek advice from Risk Management Services.
Hand moisturiser

Moisturiser
• is in wall mounted units in all clinical areas of the hospital
• is recommended to ease the dryness resulting from frequent handwashing
• may prevent dermatitis resulting from glove use
• may reduce the dispersal of bacteria
• can become contaminated, and has been traced as the source of outbreaks (see below).

Staff are encouraged to use moisturiser supplied by the hospital as
• it is not anionic and will not interrupt the residual activity of chlorhexidene gluconate and
• packaging, storage and mode of use makes it less likely to become contaminated (see below).

Storage and dispensing of hand care products

Handwashing products, including soap and antiseptic products can become contaminated, and have been implicated in outbreaks of nosocomial infections. In order to prevent contamination;
• Liquid hand care products shall be stored in closed containers and dispensed from disposable containers. They are not to be dispensed from containers which can be ‘topped up’.
• The common use of hand cream in pots into which staff dip their fingers is not permitted. These pots have been traced as being the source of nosocomial outbreaks.

Behaviour and compliance

The primary problem with hand hygiene is not a shortage of good products, but rather a laxity of practice. Variations in handwashing practice have been reported by type of unit, and profession. Overall, handwashing associated with general patient care occurs in approximately half of the instances in which it is indicated and usually is of a shorter duration than recommended. Studies have reviewed factors which influence behaviour, negative factors being; placement of sinks, staffing, and the effect of handwashing on skin condition. The main motivating factor has been the awareness of the importance of hand hygiene in preventing infection.
Implementation Plan

- **Healthcare worker educational and motivational programs:**
  - Adherence monitoring to provide HCWs with necessary feedback on performance
  - Encourage patients and their families to remind HCWs to decontaminate their hands
- An annual hand care awareness week simultaneous with WCH week.
- Education / in-service sessions in each Ward / Unit area by Infection Control nurses.
- Unit Heads and Unit Managers shall make this policy available to staff for education and it is the responsibility of each staff member to comply.
- Introduction of “Link nurses” to promulgate and monitor hand hygiene practices in their respective clinical unit.

Review and Evaluation
As per hospital policy this document will be reviewed in 3 years (2006) or before, if new data deem it necessary.