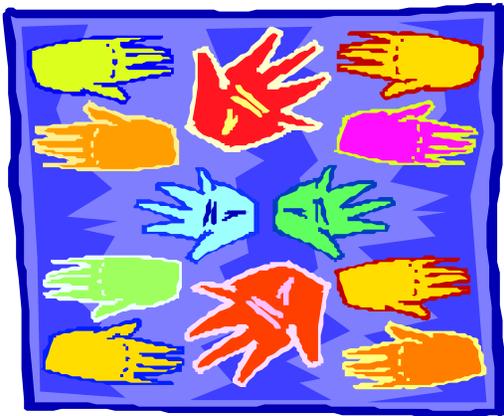


at
**Massachusetts
General Hospital**



Because we care.

Table of Contents

Hand Hygiene: General information	1-2
Hand Hygiene: The three basic component	3
When should Hand Hygiene be done?	4
Cal Stat: What is it? How is it used?	5-6
Handwashing: When and how?	7-8
Skin Health and Problems	9-10
Why is Hand Hygiene required "before" contact	11
Can gloves be used as a substitute?	12
Glove Safety: Some of the "Do's"	13
Gloves: Their limitations	14
Glove safety: Some of the "Don'ts"	15-16
Fingernail Policy	17-18
Hand jewelry	18
Hand Hygiene for Patients and Visitors	19
Hand Hygiene Product Dispensers	20
"C. diff" and Contact Plus Precautions	21
Hand Hygiene Quiz: Test your knowledge!	22
Answers to quiz	23

**MGH Infection Control Unit
55 Fruit Street – Clinics 131
Boston, MA 02114
617-726-2036**

Hours: 8:00AM–5:00PM

Website (internal access only)

<http://infectioncontrol.massgeneral.org/icu>

Massachusetts General Hospital is committed to improving Hand Hygiene!

MGH follows the CDC guidelines for:

1. Hand Hygiene Practice
2. Hand Hygiene Education
3. Monitoring for improvement
4. Providing feedback to personnel
5. Selection of Hand Hygiene products
6. Established Fingernail Policy
7. Focused assessment of Hand Hygiene when outbreaks occur

What is Hand Hygiene?

Hand Disinfection
plus Handwashing
plus Skin Care

= Hand Hygiene



Your mother was right...

Handwashing is one of the most important actions you can take to clean your hands and reduce the spread of germs.

...but Health Care Workers must do even more!

Health Care Workers must also use Hand Disinfection to stop the spread of pathogens (germs that cause disease), and a Hand Moisturizer to help keep their own skin healthy and intact.

Why is Hand Hygiene so important for Health Care Workers?

Because...

Patients are vulnerable to infections.

They often have wounds, chronic illnesses, diseases, extremes of age, weakened immune systems and/or other conditions that place them at greater risk of infection.

Many pathogens exist in the health care environment.

They may include antibiotic-resistant bacteria.

The hands of Health Care Workers can easily pick up these pathogens and spread them to patients.

Infections that come from the Health Care environment or Health Care Workers are called "nosocomial" infections.

Nosocomial infections can be serious.

They can cause or contribute to:

- Patient illness or death
- Prolonged or repeated hospitalizations
- Added costs for medications, treatments and follow-up
- Increased antibiotic resistance

Hand Hygiene is proven to

- STOP the transmission of pathogens
- Reduce the incidence of nosocomial infections.



There are three basic components to Hand Hygiene, and each has a different goal...

Hand Disinfection (Cal Stat)

Destroys most germs

(Washing before Cal Stat use is not necessary unless hands are soiled.)



Hand Washing (Soap and Water)

- Removes dirt and soiling
- Mechanically removes some germs with scrubbing and friction

(Cal Stat must be used after handwashing to kill the germs that remain on your hands.)

Use of a Hand Moisturizer (Steris Lotion)

- Keeps skin soft, intact and healthy
- Healthy skin is less likely to harbor germs that cause infection
- Healthy skin is less likely to spread germs to others.

When should Hand Hygiene be done?

1. **BEFORE** any contact with the patient or the patient's environment

Examples: Handshake, pulse check, physical examination, boost up in bed, bedside table, transportation equipment, laundry, etc.

2. **BETWEEN** tasks if a clean site or area must be touched after a contaminated site or area

Examples: Redressing a wound, then checking an IV site or administering medication; handling a bedpan or urinal, then refilling the patient's water pitcher; collecting used lunch trays, then preparing a snack in the kitchen.

3. **AFTER** patient care is completed (and **before** touching anything in the non-patient environment!)

Examples: After administering an injection or respiratory treatment, and before charting it in the bedside record. After removing gown and gloves, and before getting fresh supplies or linens from the clean utility room.

4. **BEFORE** donning gloves and **AFTER** glove removal

Includes both sterile and non-sterile gloves

CAL STAT

What is Cal Stat?

Cal Stat is an alcohol-based handrub, specially formulated for MGH employees.

It contains isopropyl alcohol to disinfect hands plus emollients to keep skin soft and healthy.

What are the benefits of Cal Stat?

It is...

1. More effective than soap.

*Soap loosens germs from skin, to be washed away.
Cal Stat kills germs within seconds!*

2. Faster than handwashing.

It takes only a second to push the lever on the Cal Stat dispenser. The rubbing can be done on the way to your patient's bedside. According to CDC estimates, it will save ICU nurses 1 hour of handwashing time per 8-hour shift!

3. Better for your skin.

Cal Stat is gentle yet effective, frictionless and non-drying. Plus, the risk of developing an allergy to an alcohol-based handrub is extremely low.

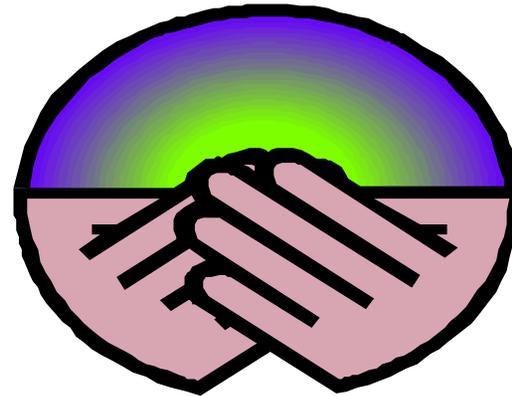
4. Environmentally friendly.

Reduces water usage, eliminates paper trash

5. Safe.

Cal Stat will not contribute to antibiotic resistance

Cal Stat is the primary method of Hand Hygiene used at MGH, and its use is required by hospital policy.



How is Cal Stat used?

1. Start with dry hands that are not visibly soiled. (Wash them first if they are soiled, and dry thoroughly.)
2. Apply Cal Stat to one hand from the wall or pump dispenser.
3. Spread Cal Stat over all surfaces of both hands, then rub hands and fingers together until dry.

TIP: If a sufficient quantity of Cal Stat is used, it will take at least 15 seconds for hands to dry.

HANDWASHING



When should hands be washed?

1. When visible or known soiling occurs
2. After using the bathroom
3. Before eating*
4. After any contact with a patient known to be infected with *C. difficile*, or their environment. See page 21 for more information.

Hands may also be washed if they feel sticky from buildup of residue after repeated applications of Cal Stat or lotion.

Remember to dry hands well and use Cal Stat after washing... Except before eating*

Handwashing will mechanically remove buildup of dirt, soil, or Cal Stat residue, but germs can remain on the skin. After handwashing, dry hands thoroughly and apply Cal Stat to kill remaining germs.

*Wash hands but do not apply Cal Stat before eating. Cal Stat will evaporate quickly, but it could leave a residue on your hands, which could affect the flavor of your food.

What is the correct procedure for Handwashing?

1. Have clean paper towels ready before you begin.
(Don't touch the paper towel dispenser after you wash, or you may recontaminate your hands!)
2. Turn on the water and adjust temperature. It should be warm, but not hot.
(Hot water may contribute to excessive dryness of your skin.)
3. Moisten hands, keeping hands lower than your elbows so that soil and germs go down the drain - not onto your sleeves, wristwatch and forearms.
4. Dispense soap into one palm, then spread it onto both hands. Rub all surfaces of hands and fingers vigorously for at least 15 seconds - approximately the length of time it takes to sing the "Alphabet" song or "Yankee Doodle."
5. Clean underneath fingernails. Moist debris there can provide a place for bacteria to grow.
6. Rinse hands well to remove all soap residue, keeping them lower than wrists and elbows.
7. Pat hands dry with paper towel. Avoid rubbing, as dry friction can abrade your skin.
8. Use the paper towel to turn off the water. This prevents recontamination of your hands by the faucet.
9. Discard used paper towel in proper waste receptacle.
10. Apply Cal Stat to destroy remaining germs (except before eating.)

Skin Health

Your skin is the largest organ of your body. It is also the most important barrier you have against infectious organisms.

Skin health may be improved "from the inside" through better nutrition, better hydration, increased exercise, and reduced use (or discontinuation) of tobacco products...

But there are other steps you can take "from the outside," too...

Moisturizer is a "Must": Twice per shift!

- Hospital-supplied lotion should be applied to hands at least TWICE per shift to maintain soft and healthy skin.

(It may be used more often, if desired.)

1. Do not use personal skin lotions from.

Personal lotion containers are more easily contaminated, the lotion may harbor or promote the growth of bacteria, and petroleum-based ingredients in the lotion may cause weakness or damage to latex gloves.

Avoid excessive handwashing!

- Excessive handwashing can cause dry, chapped, sore, cracked and broken skin from the effects of hot water, soap irritation and friction.
- Excessive handwashing can also aggravate underlying skin conditions, making it difficult to follow good Hand Hygiene procedures.
- Excessive handwashing should be avoided, and Cal Stat should be used for Hand Hygiene whenever possible to prevent those problems.



Skin Problems?

Proper Hand Hygiene can be painful when skin is irritated, injured, inflamed, or infected - but it is still necessary for both health and safety reasons.

Skin problems place YOU at greater risk of infection

Chapped, rough or broken skin provides more places for germs to enter, placing you at greater risk of infection from others.

Skin problems place OTHERS at greater risk of infection

Damaged skin also places others at greater risk of infection from you! It harbors more organisms than healthy skin, and it sheds more easily, increasing the potential for the spread of infection.

Skin problems should be reported immediately to the Occupational Health Service: x6-2217

Skin problems may be seasonal (common in winter) or they may occur year round. Either way, they should be addressed. Occupational Health Specialists can help to determine the cause of a skin problem, recommend ways to resolve it, and promote Hand Hygiene that meets the needs of you and your patients.

FREQUENTLY ASKED QUESTIONS

Why must hand hygiene be done BEFORE contact with the patient or the patient's environment?

We all have germs living on our skin and mucous membranes. We can't see them, but nevertheless they are there.

We can also pick up temporary germs from others simply by touching other people or contaminated environmental surfaces.

The germs that we carry may be capable of causing an infection or illness when conditions are right or our resistance is low. They can also be spread to other people and surfaces through direct contact - a simple touch.

Fortunately, the germs on our hands can usually be removed or killed with good hand hygiene. This is important to remember - especially when caring for patients who may be at greater risk of infection.

Hand hygiene "before contact" is required to prevent the spread of germs to our patients and their environment.

Hand Hygiene is the most important Infection Control measure we can practice to prevent the spread of infections to and from our patients.

As Health Care Workers, it is our duty to protect our patients against germs - *including our own!*

Can gloves be used as a substitute for Hand Hygiene?

NO!

Gloves do not eliminate the need for good hand hygiene, and hand hygiene does not eliminate the need for gloves when recommended or required.

Hands MUST be disinfected:

BEFORE gloves are worn

- AND -

AFTER gloves are removed.



Why?

1. Gloves are not 100% effective in preventing hand contamination
2. Glove materials may contain imperfections that are invisible to the naked eye.
3. The warm environment within gloves can promote the growth of germs that are already present on your skin
4. Hands may become contaminated as gloves are removed

The bottom line is this:

Cal Stat must be used to reduce the levels of bacteria on your skin BEFORE and AFTER glove use!

Glove Safety: Some of the "Do's"

When should gloves be worn?

Gloves are used to protect the Health Care Worker, to protect the patient, and to reduce cross contamination between the patient, worker, and environment.

Standard Precautions: Used for ALL patients

Glove use is recommended when contact is anticipated with non-intact skin, mucous membranes, bodily fluids, or items contaminated with body fluids or excretions.

Special Precautions: For patients on Airborne, Contact, Droplet, Neutropenic or other precautions

Gloves may be required for ALL contact with the patient (including intact skin) and/or for contact with items in the patient's environment.

See the posted signs or the Infection Control Manual for further information on the specific precaution requirements for your patient.

Is there a correct way to put gloves on, or take them off?

Yes. If you are required to wear gloves as part of your job, you should already be trained in their correct use.

If you are unsure of the proper technique, contact your Nurse Manager or the Infection Control Unit for a review demonstration.

Gloves: Some of their Limitations

Glove materials do not provide a perfect barrier.

1. Gloves often have microscopic holes or tears that are invisible to the naked eye - or the holes develop with wear and use.
2. Germs can pass through those holes - just as air can pass imperceptibly through the wall of a blown-up balloon.



How well do gloves prevent hand contamination?

The Good News is...
They are 70-80% effective.

The Bad News is...
They are ONLY 70-80% effective!

Gloves do not protect you from germs that are already present on your skin.

Gloves provide a protective covering for your skin, but they also create a warm, moist environment where bacteria from your skin can multiply - especially when gloves are worn for extended periods of time.

Don't forget to use Cal Stat BEFORE and AFTER glove use!

Glove Safety: Some of the "Don'ts" (and the reasons why)

Gloves should **NEVER** be worn from patient to patient, or from a dirty to clean environment.

Doing so can...

1. spread pathogens.
2. cause infections.



Don't let your gloves become a launching pad for germs!

When gloves are removed, microscopic spatter may contaminate hands or the environment.

Gloves should be removed carefully, following proper removal procedure - not with a stretch and a snap.

After removal, dispose of used gloves immediately in the nearest appropriate receptacle.

Do not contaminate the environment with your used gloves!

- Gloves should not be worn into public areas (i.e.: main hallways, elevators, stairs, cafeteria) unless you are:

Actively transporting a patient, specimen or used equipment which requires the use of gloves - or -

Performing cleaning or maintenance work that requires gloves.

- When gloves must be worn in public areas, use a clean, ungloved hand (or an assistant) to open doors, push elevator buttons, etc.
- Do not discard used gloves on floors, stretchers, lunch trays, stairs, public hallways, etc. where others may come into accidental contact with them, or where they will create rubbish.

Use the closest appropriate waste container instead.

NEVER wash gloves!

Washing gloves can weaken the glove material further and flush germs into or out of the microscopic holes in the gloves.

*There can be a **GREATER** risk of infection
if gloves are used improperly,
or if they are worn as a substitute for Hand Hygiene.*

Fingernail Policy for Health Care Workers at MGH

Fingernails should be no longer than inch.

Studies show that longer nails tend to harbor more organisms, and they have been linked to outbreaks of infection at other hospitals.

Fingernails must be kept clean

Nail Polish

1. Nail polish is allowed, but discouraged.
2. If worn, nail polish should be:

Clear

Clear polish allows good visualization of soil or debris under the nails.

Smooth and intact

Chipped polish and rough edges allow the entrapment and growth of organisms.

Artificial Nails & Nail Jewelry

Artificial nails and nail jewelry are PROHIBITED for caregivers!

They create a harbor for germs, and have been linked to outbreaks of serious infections at other hospitals.



Hand Jewelry for Health Care Workers



Rings are allowed, but excessive rings or other hand jewelry is discouraged.

Some studies have shown that skin underneath rings has a higher bacterial count than comparable skin areas on fingers without rings.

Other studies have shown that bacterial colony counts are similar between the hands of people who do wear rings, and others who don't.

Further studies are indicated.

Hand Hygiene for Patients and Visitors

Handwashing

Patients and visitors should be encouraged to wash their hands with plain soap and water as needed.

Cal Stat

Patients and visitors may use Cal Stat when disinfection is appropriate.

Visitors should be encouraged to use Cal Stat when assisting with patient care, visiting a patient on precautions, or visiting more than one patient.

Sanidex ALC wipes

Patients who are unable to wash their hands due to location or condition may use Sanidex ALC wipes for hand hygiene.

1. Disposable 5x8 inch sheets that contain an alcohol-based antiseptic agent.
2. May be stocked on clean utility carts.
3. Useful for disinfecting small equipment (e.g., stethoscopes) between patients
4. May be used for Hand Hygiene by patients who are unable to wash hands due to location or condition

Sanidex ALC product limitation

Sanidex ALC wipes do not provide the same level of disinfection as Cal Stat when used for Hand Hygiene.

The wipes are considered no more effective than handwashing with plain soap and water due to their inability to saturate all areas of hands and fingers for 15 seconds or more.

Employees may NOT use Sanidex ALC wipes as a substitute for handwashing or Cal Stat.

Hand Hygiene Product Dispensers

Wall dispensers are used for all hand hygiene products.

Cal Stat is also available in pump bottles for areas where wall dispensers are impractical. Pocket dispensers are discouraged because your clothing may be contaminated when reaching for the product.

The USA on your unit is responsible for refilling, cleaning and maintaining the wall dispensers.

(Pump bottles should never be "topped off" or refilled, as this could result in decreased effectiveness of the product or contamination of the dispenser.)

Empty or clogged wall dispensers should be reported to the USA on your unit.

Broken or missing dispensers should be reported to your OC or the Environmental Services Department.

Hand Hygiene Questions or Problems?

Contact your Nurse Manager,
Operations Coordinator, or
Infection Control Practitioner.

You may also contact the
Infection Control Unit
at extension 6-2036.

A special note about "C. diff"

Alcohol-based handrubs are more effective than soap and water for routine Hand Hygiene, but hand *washing* (followed by Cal Stat use) is recommended if you are dealing with a pathogen called *Clostridium difficile* - more commonly known as "C. diff."

Like other pathogens, *C. diff* can cause infection and illness - but it can also form spores that can contaminate the patient's environment. Spores can survive for long periods of time on environmental surfaces, they can be spread to other people or places by contaminated hands or gloves, and they are resistant to many things - including alcohol, the disinfectant in Cal Stat.

As a result, handwashing with soap and water is recommended after contact with a patient who has a known *C. diff* infection - or the patient's environment - even after gloves are worn and removed. The soap and scrubbing action will help to physically remove any spores that may be present. After washing, dry hands thoroughly and apply Cal Stat to disinfect any remaining germs.

TIP: Careful daily cleaning of environmental surfaces will help to reduce the spore-forming opportunities of these organisms, and physically remove spores that do develop.

Special cleaning, described on the back of the "Contact Precautions Plus" sign, is recommended when the patient's *C. diff* infection resolves, or when the patient is transferred or discharged.

Contact your nurse or the Infection Control Unit for more information about *C. diff*.

HAND HYGIENE QUIZ

1. What is the BEST way to prevent the spread of germs that cause infections?

- a. Make sure your vaccinations are up to date
- b. Store food properly
- c. Block coughs and sneezes with a tissue or your folded arm
- d. Use good hand hygiene

2. What is the fastest and most effective form of Hand Hygiene for Health Care Workers?

- a. Wash hands with soap and water
- b. Use an alcohol-based handrub

3. When should hands *always* be washed?

- a. When hands are visibly soiled
- b. Before eating
- c. After using the bathroom
- d. All of the above

4. When should hospital employees perform Hand Hygiene?

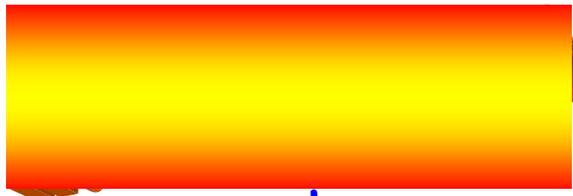
- a. Before and after contact with the patient
- b. Before and after contact with the patient's environment
- c. When hands are soiled, before eating, and after using the bathroom
- d. All of the above

5. What special procedures may be recommended when caring for patients with an infection caused by a spore-forming organism, such as "C.diff?"

- a. Wash hands with soap and water after contact
- b. Use Cal Stat after handwashing
- c. Clean environmental surfaces frequently
- d. All of the above

Answers

- 1. d
- 2. b
- 3. d
- 4. d
- 5. d



at
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STOP

Stop the Transmission of Pathogens!

The Hand Hygiene Program was developed by the Infection Control Unit, Patient Care Services, and the STOP Task Force of MGH.

(STOP = Stop the Transmission of Pathogens)
(CDC = Centers for Disease Control)

Modifications may be made in the program in accordance with updated CDC recommendations or higher standards set by MGH.

January 2004