


Infection Prevention and Control A Foundation Course

2014


A TRADITION OF INDEPENDENT THINKING



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WHO Guidelines on Hand Hygiene in Health Care

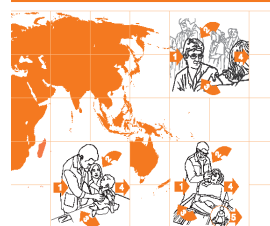
First Global Patient Safety Challenge
Clean Care is Safer Care



SAVE LIVES
Clean Your Hands

Hand Hygiene in Outpatient and Home-based Care and Long-term Care Facilities

A Guide to the Application of the WHO Multimodal Hand Hygiene Improvement Strategy and the "My 5 Moments for Hand Hygiene" Approach




World Health Organization

WHO Provides a Consensus on Hand Hygiene

Recommendations given on

1. Indications for Hand Hygiene
2. Hand Hygiene Technique
3. Recommendations for surgical hand preparation
4. Selection and handling of hand hygiene agents
5. Skin care
6. Use of Gloves
7. Other aspects of hand hygiene –nails & jewellery
8. Educational and motivational programme for health-care workers
9. Governmental and Institutional Responsibility
 - Healthcare administrators
 - National government




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WHO - My 5 Moments Approach

Thorough review of the evidence WHO proposes an approach for Hand Hygiene which

- focuses on the critical times for hand hygiene when there is a direct risk for HCAI and
- Is applicable to all areas where healthcare is delivered including primary care, LTCF and home based care.



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The 5 part WHO Multimodal Hand Hygiene Improvement Strategy

Teach it

System change – alcohol-based handrub at the point of care

+

Training and education

+

Sell it

Observation and feedback

+

Reminders in the workplace


+

Creating a safety culture

Build it

Check It

Live it



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Form No Acute Hospitals: Hand Hygiene Core and Non-Core Data Collection Form

Healthcare facility: _____ Directorate: _____ Unit/Ward/Dept: _____ End time: _____ Duration: _____ Period number: _____ (Info for local audits, HPSIC will provide for national reports) Start time: _____

HCW codes*	Core data set				Optional data set	
	HCW code	Hand Hygiene Indication	Hand Hygiene Action	Time	Barriers to technique	Technique as per SARI 2005 or as locally agreed
Nurse/Midwife 1.0 Any nurse or midwife 1.1 Nurse 1.2 Midwife 1.3 Student nurse or midwife 1.4 Non-core nurse/midwife ³	1	<input type="checkbox"/> Inf. pat. <input type="checkbox"/> Inf. surgpt. <input type="checkbox"/> AB.b.i. <input type="checkbox"/> AB.pat. <input type="checkbox"/> AB.p.surg. Auxiliary 1.9 Any auxiliary 2.0 Porter 2.1 Healthcare assistants 2.2 Receptionist/clinician 2.3 Security 2.4 Other auxiliary 2.7 Non-core auxiliary ³	<input type="checkbox"/> HR <input type="checkbox"/> HW <input type="checkbox"/> Missed <input type="checkbox"/> Gloves	<input type="checkbox"/> > 15 sec ⁴ <input type="checkbox"/> < 15 sec ⁴ <input type="checkbox"/> Not observed	<input type="checkbox"/> None <input type="checkbox"/> Waiting more than one plain ring ⁵ <input type="checkbox"/> Waiting a wrist wash <input type="checkbox"/> Slaves to wrist <input type="checkbox"/> Nail varnish present <input type="checkbox"/> Table cloth present	<input type="checkbox"/> Correct <input type="checkbox"/> Incorrect <input type="checkbox"/> Not observed
Medical staff 3.0 Any medical staff 3.1 HCW on medical team 3.2 HCW on surgical team 3.3 HCW on medical or A&E dept 3.4 HCW in paediatrics 3.5 HCW in Obstetric 3.6 Consultant 3.7 Medical officer 3.8 Non-core medical staff ³	2	<input type="checkbox"/> Inf. pat. <input type="checkbox"/> Inf. surgpt. <input type="checkbox"/> AB.b.i. <input type="checkbox"/> AB.pat. <input type="checkbox"/> AB.p.surg. Allied Health/Other 4.0 Allied health/other 4.1 Physiotherapist 4.2 Speech & language 4.3 Podiatrist 4.4 Comms technician 4.5 Laboratory staff 4.6 Dietician 4.7 Pharmacist 4.8 Pharmacist 4.9 Occupational therapists 4.10 Receptionist 4.11 Pastoral care 4.12 Play specialist/therapist 4.13 Non-core allied health/other ³	<input type="checkbox"/> HR <input type="checkbox"/> HW <input type="checkbox"/> Missed <input type="checkbox"/> Gloves	<input type="checkbox"/> > 15 sec ⁴ <input type="checkbox"/> < 15 sec ⁴ <input type="checkbox"/> Not observed	<input type="checkbox"/> None <input type="checkbox"/> Waiting more than one plain ring ⁵ <input type="checkbox"/> Waiting a wrist wash <input type="checkbox"/> Slaves to wrist <input type="checkbox"/> Nail varnish present <input type="checkbox"/> Table cloth present	<input type="checkbox"/> Correct <input type="checkbox"/> Incorrect <input type="checkbox"/> Not observed
Allied Health/Other 4.0 Allied health/other 4.1 Physiotherapist 4.2 Speech & language 4.3 Podiatrist 4.4 Comms technician 4.5 Laboratory staff 4.6 Dietician 4.7 Pharmacist 4.8 Pharmacist 4.9 Occupational therapists 4.10 Receptionist 4.11 Pastoral care 4.12 Play specialist/therapist 4.13 Non-core allied health/other ³	3	<input type="checkbox"/> Inf. pat. <input type="checkbox"/> Inf. surgpt. <input type="checkbox"/> AB.b.i. <input type="checkbox"/> AB.pat. <input type="checkbox"/> AB.p.surg. Allied Health/Other 4.0 Allied health/other 4.1 Physiotherapist 4.2 Speech & language 4.3 Podiatrist 4.4 Comms technician 4.5 Laboratory staff 4.6 Dietician 4.7 Pharmacist 4.8 Pharmacist 4.9 Occupational therapists 4.10 Receptionist 4.11 Pastoral care 4.12 Play specialist/therapist 4.13 Non-core allied health/other ³	<input type="checkbox"/> HR <input type="checkbox"/> HW <input type="checkbox"/> Missed <input type="checkbox"/> Gloves	<input type="checkbox"/> > 15 sec ⁴ <input type="checkbox"/> < 15 sec ⁴ <input type="checkbox"/> Not observed	<input type="checkbox"/> None <input type="checkbox"/> Waiting more than one plain ring ⁵ <input type="checkbox"/> Waiting a wrist wash <input type="checkbox"/> Slaves to wrist <input type="checkbox"/> Nail varnish present <input type="checkbox"/> Table cloth present	<input type="checkbox"/> Correct <input type="checkbox"/> Incorrect <input type="checkbox"/> Not observed

1. To be completed when entering data into M3 Excel tool.
 2. HCWs can be classified by using generic codes (e.g. 1.0, 2.0), specific codes (e.g. 2.1, 3.1) or a combination of both.
 3. Non-core refers to staff who are not regular members of the multidisciplinary teams in the ward/unit.
 4. As per local guidelines.
 5. One table-cloth ring may be used for social and aseptic hand hygiene.

Guideline: Monitoring Programme for National Standards for the Prevention and Control of Healthcare-Associated Infections
Health Information and Quality Authority

Hand Hygiene Observation Tool – At least 10 opportunities to be observed per area visited

Employee Category

N = Nurse/Nurse Aide
D = Doctor
A = Ancillary staff
AL = Allied health staff

Hand Hygiene Opportunity (HHO)

A = Before touching a patient
B = After touching a patient
C = Before clean/aseptic procedure
D = After body fluid exposure risk
E = After touching the patient's surroundings

	Employee Category	Hand Hygiene Opportunity (HHO)	Hand Hygiene Episode Observed after HHO	>=15 sec	More than one plain ring	Wearing a Watch	Sleeves to Wrist	Nail varnish present	False Nails Present	Correct Technique	Comment
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

All sections should be completed and comments are required 35

Hand Hygiene

At the right time

and

In the right way

Hand Hygiene - At the right time

What are your 5 moments for Hand Hygiene?

Identify the 5 Moments for Hand Hygiene and why is carried out at that moment

1. _____
Why _____
2. _____
Why _____
3. _____
Why _____
4. _____
Why _____
5. _____
Why _____

Today Focus

Hand Hygiene

At the right time

and

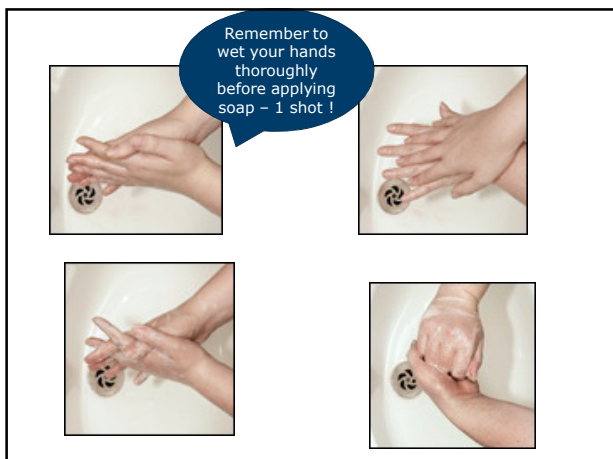
In the right way



Hand Washing Technique

3 Stage

1. Preparation
 - Remove all jewellery and roll up sleeves.
2. Washing & Rinsing
 - Wet hands under running water
 - Apply soap work up a lather
 - Cover all surfaces using six step technique rubbing hands for 20-30 secs
 - Rinse hands under running water
3. Drying
 - Pat hands dry with paper towel



NAILS AND JEWELLERY

Before providing care...

- Remove nail polish** - it can harbour micro-organisms
- Wash under rings** - guidance permits a plain wedding band
- Do not use nailbrushes** - they can lead to abrasions, a potential site for infection
- Remove wrist jewellery** - stay loose below the elbow
- Pay attention to washing under the nails** - the majority of micro-organisms are found here
- Keep nails short** - they are easier to clean and less likely to tear gloves
- Do not wear artificial nails** - they have been linked to fungal infections
- Remove rings** - they may tear gloves and harbour micro-organisms

Are you hand hygiene ready?

HEALTHCARE A&Z
Infection Control Training from Healthcare A&Z, www.healthcareaz.org © 2009

What products should we use for Hand Hygiene ?

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Two Ways to Clean Hands

Where healthcare is delivered alcohol-based hand rub(AHR) is the preferred method for hand hygiene when hands are **not visibly soiled**.

Soap and running water must be used for hand washing when

- hands are visibly soiled
- caring for persons with diarrhoeal illness or where there is potential for spread of microorganisms which are resistant to AHR e.g. *C.difficile*.

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Alcohol Based Hand Rub Products

"alcohol based hand rubs are the only known means for rapidly and effectively inactivating a wide array of potentially harmful micro-organisms on the hands."




Pittet et al 2004

WHO recommends alcohol based hand rubs as there is growing evidence to show they are/have

- ✓ Fast acting
- ✓ Broad spectrum of antimicrobial activity with minimal risk of generating resistance
- ✓ Suitability in areas with limited facilities
- ✓ Capacity to promote compliance
- ✓ Economic benefit by reducing infection rates


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Time Management






Hand washing up to 1 ½ minutes for entire procedure

Alcohol hand rubs 15-30 secs, can be done on the move,



Hand Hygiene using an Alcohol Hand Rub




6 Step Technique

- Alcohol hand rubs must only be used on **clean** hands.
- Dispense amount as per manufacturer's instructions.
- Cover all surfaces of the hands, **ONCE** using the 6 step technique as outlined.
- Duration 20-30 seconds.

Continue rubbing hands until the hands are completely dry.

- ✓ Cover all surfaces once using the 6 step technique
- ✓ Duration 20-30 secs
- ✓ Continue rubbing until hands are completely dry




Hand Hygiene

At the right time

and

In the right way




What are the Five Moments for Hand Hygiene ?



5 Moments for Hand Hygiene

• A Moment is when there is a perceived or actual risk of a micro-organism transmission from one surface to another on the hands



5 stages of Hand Transmission

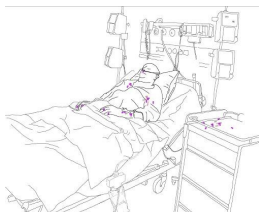
- one** Organisms present on residents/clients skin and immediate environment surfaces
- two** Organisms transfer onto health-care worker's hands
- three** Organisms survive on hands for several minutes
- four** If hand hygiene isn't carried out or not done correctly this results in hands remaining contaminated
- five** Contaminated hands then transmit germs via direct contact with residents or resident's immediate environment

Hand transmission: Step 1

(The Lancet Infectious Diseases 2006)

Organisms present on patient skin and environment surfaces.

- Organisms (*S. aureus*, *P. mirabilis*, *Klebsiella* spp and *Acinetobacter* spp.) present on intact areas of some patients' skin
- Nearly 1 million skin squames containing viable organisms are shed daily from normal skin
- Patient environment (bed linen, furniture, objects) becomes contaminated (especially by staphylococci and enterococci) by patient organisms

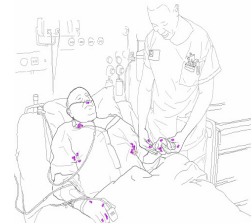


Hand transmission: Step 2

(The Lancet Infectious Diseases 2006)

Organisms transfer on health care providers' hands – examples:

- HCW could contaminate their hands with microorganisms during "clean" activities (lifting patients, taking the patient's pulse, blood pressure, or oral temperature)
- 15 per cent of nurses working in an isolation unit carried significant amounts of *S. aureus* on their hands
- In a general hospital, 29 per cent nurses carried *S. aureus* on their hands and 17-30 per cent carried Gram-negative bacilli

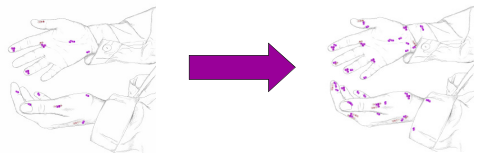


Hand transmission: Step 3

(The Lancet Infectious Diseases 2006)

Organisms survival on hands

- Following contact with patients and/or contaminated environment, organisms can survive on hands for differing lengths of time (2-60 minutes)
- In the absence of hand hygiene, the longer the duration of care, the higher the degree of hand contamination

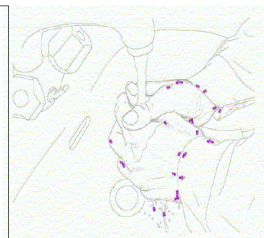


Hand transmission: Step 4

(The Lancet Infectious Diseases 2006)

Defective hand cleansing results in hands remaining contaminated

- Insufficient amount of product
- Suboptimal technique and duration of hand hygiene action leads to poor hand cleaning
- Transient organisms may still be recovered on hands following handwashing with soap and water
- Hand hygiene with an alcohol-based hand rub has been proven significantly more effective



Hand transmission: Step 5

(The Lancet Infectious Diseases 2006)

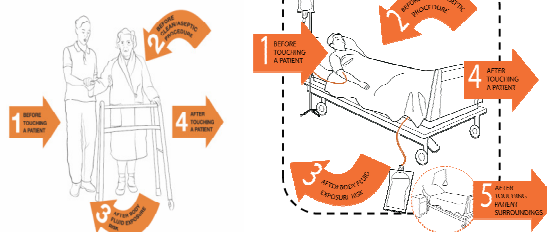
Contaminated hands cross-transmit organisms

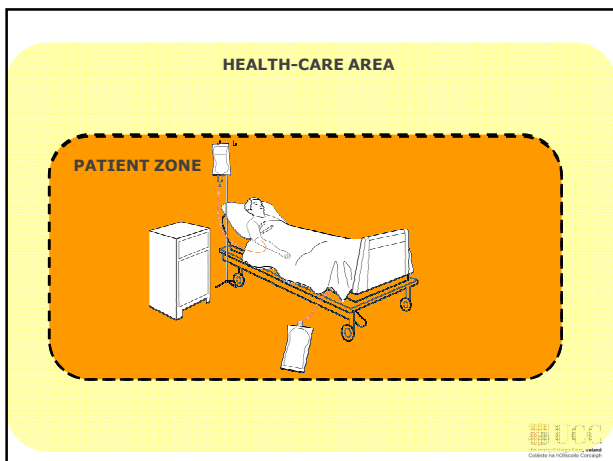
In many outbreaks, organism transmission from patients or the environment to other patients through health care providers' hands has been demonstrated.



The 5 Moments apply to any setting where health care involving direct contact with residents/patients takes place

Your Moments for Hand Hygiene
Health care in a residential home





Patient zone:

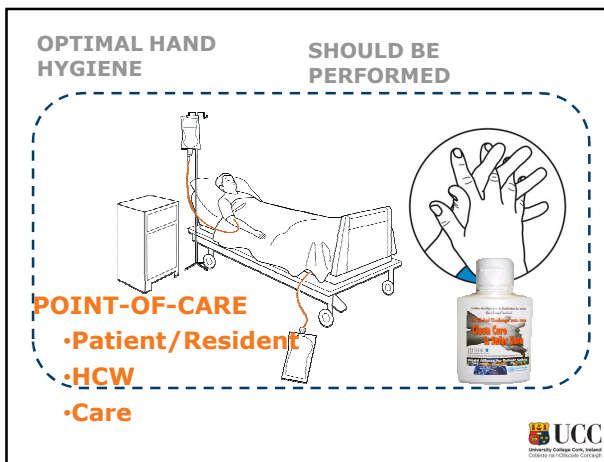
- Patient/resident/clients surfaces and items that are temporarily and exclusively dedicated to the person
- For example bed rails, bedside table, bed linen, chairs, infusion tubing, monitors, knobs and buttons, and other medical equipment.
- This area becomes contaminated by the residents/patients own flora.

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Health-care zone:

- All surfaces in the health-care setting outside the residents/patient zone.
- For example other residents/patients and their residents/patient zones and the wider health-care environment.
- The health-care area is characterized by the presence of various and numerous microbial species, including multi-resistant germs.

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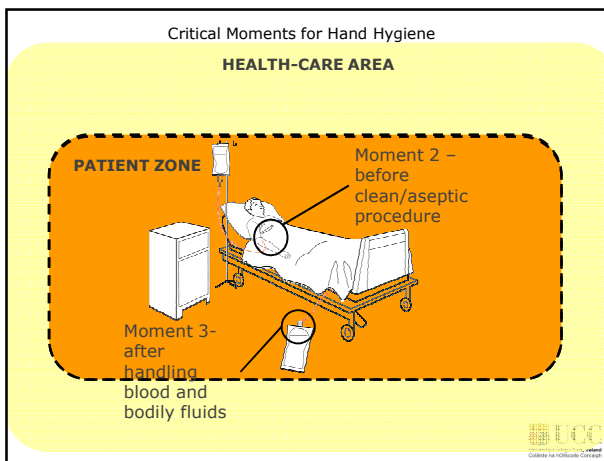
Products in the Right Place

Point of care - refers to the place where three elements occur together:

- 1.the resident
- 2.the staff
- 3.care involving patient contact is taking place

- Busy staff need access to hand hygiene products where care is taking place.
- Providing alcohol-based hand rub at the point of care (e.g., within arm's reach) is important to improve hand hygiene.
- Products at Point of care can be achieved in a variety of methods. (e.g., ABHR attached to the bed, wall, equipment, and/or carried by the staff)

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1. Before touching a patient / client

- **When?** Clean your hands before touching the resident / patient when approaching him or her
- **Why?** To protect the resident/patient from harmful germs carried on your hands which could lead to colonisation of infection

Examples:

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



2. Before clean / aseptic procedure

- **When?** Clean your hands immediately before clean tasks or aseptic procedures
- **Why?** To protect the resident/patient from harmful germs including the patient's own germs from entering his or her body

Examples:

- Before brushing the patient / client's teeth, instilling eye drops, examining mouth, nose, ear with or without an instrument, inserting a suppository / pessary, suctioning mucous
- Before dressing a wound with or without instrument, giving injections, drawing blood
- Before inserting an invasive medical device or disrupting / opening any circuit of an invasive medical device
- Before preparing food
- Before preparing medications, pharmaceutical products, sterile material.



3. After body fluid exposure risk

- **WHEN?** Clean your hands as soon as the task involving an exposure risk to body fluids has ended (and after glove removal)
- **WHY?** To protect you from colonisation or infection with patient's harmful germs and to protect the health-care environment from germ in body fluids

Examples:

- 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 and after disrupting and opening an invasive circuit
- After removing an invasive medical device
- After removing any form of material offering protection (dressing, gauze, sanitary towel, etc)
- After handling a sample containing organic matter, after clearing excreta and any other body fluid, after cleaning any contaminated surface and soiled material (soiled bed linen, dentures, instruments, urinal, bedpan, lavatories, etc)



4. After touching a patient

- **When?** Clean your hands immediately after contact with body fluids **including after glove removal**
- **Why?** To protect yourself and the health care environment from harmful patient germs contained in body fluids

Examples:

- After shaking hands, stroking a child's forehead
- After you have assisted the patient in personal care activities: to move, to bath, to eat, to dress, etc
- After delivering care and other non-invasive treatment
- After performing a physical non-invasive examination: taking pulse, blood pressure, chest auscultation, recording ECG



5. After touching patient surroundings

- **When?** After contact with the residents/patients immediate environment (bed, furniture etc) when leaving even - without touching the patient's environment
- **Why?** To protect yourself and the healthcare environment from harmful germs which may be in the immediate environment or on equipment used by the resident.

Examples:

- After an activity involving physical contact with the patient / client immediate environment: changing bed linen with the patient / client out of the bed, holding a bed rail, clearing a bedside table
- After a care activity: adjusting perfusion speed, clearing a monitoring alarm
- After other contacts with surfaces or inanimate objects (chair, bed table etc)



Making this work in LTCF's

- ✓ Where residents are cared for in a dedicated space with dedicated equipment – 5 moments apply
- ✓ Where residents are semi- autonomous they have their own room or shared room but they also move within the facility- 4 moments apply to where healthcare is delivered

Remember 4 and 5 moments do not cover any social contacts with or among LTCF residents unrelated to healthcare - shaking hands



Social Settings

Shared activities areas –dining room, day room etc:

- In common areas where residents/clients gather, the environment is shared by many people.
- To reduce spread of organisms, staff and resident should clean hands before beginning and after ending the activity.
- Some residents may need help cleaning their hands before they begin and after they end an activity.

If staff provide any "HEALTHCARE" where shared activities occur, the 4 moments for Hand Hygiene are to be followed.



Hand Hygiene- at the right time What are the Moments for Hand Hygiene in Residential Care?

Your Moments for Hand Hygiene Health care in a residential home



Outpatients Setting 1

In outpatient settings **moment 5 after touching the patient's surroundings** only applies where the patient is placed **in a dedicated space for a certain amount of time with dedicated equipment** – in this case the environment will become contaminated – e.g. dental treatment area, shedding in a wound care clinic

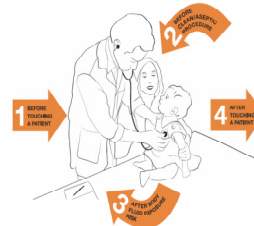
Your 5 Moments for Hand Hygiene Dental Care



Outpatient Settings 2

• In the outpatient setting the patient is considered the patient zone as the space and equipment is **not exclusively dedicated** to the patient for any prolonged time e.g. vaccination clinic. **Moment 5 after touching the patient's surroundings does not apply**

Your Moments for Hand Hygiene Paediatric Consultation



HCW carrying out observations in a four bedded room in a hospital.


- HCW is recording vital signs in a four bedded bay and starts by approaching patient A, brings the machine to the bed space
- HCW places the thermometer in the patients ear, checks pulse and then records the results on the chart.
- The patient is diabetic so the HCW performs a finger prick and uses the BGM to get a reading & records the reading
- The person has a urinary catheter so the HCW bends down to look at the bag which is full
- HCW leaves the room and walks to the sluice to get a container
- HCW returns to the patient and proceeds to empty the bag
- HCW walks to the sluice and discards the urine and returns to the patient
- HCW records the volume on the appropriate chart.
- HCW goes to patient B to carry out observations

HCW assisting residents in a dining room

- Staff member enters the dining room
- Staff member assists residents to sit to the dining room table
- Staff member places meals on the dining room table
- Staff member assists a resident to cut food
- Staff member attends to a residents enteral feeding system, manipulating the connection and adjusting the feed rate.
- Staff member returns to the dining room table to assist a resident to pour a drink
- Staff member leaves the dining room


Visit to a General Practitioner's Office

- The doctor is in his office and the patient enters the room.
- The patient and doctor sit down and talk to each other while the doctor goes through the patients record. The doctor asks the patient to lie down on the couch
- The doctor performs a physical examination by listening to the patients heart and chest, checks the patients tendon reflex and measures the blood pressure.
- At the end of the physical examination the doctor helps the person to get up
- The doctor walks back to the desk. Makes notes on a computer and writes a prescription. The patient sits down again and they discuss his condition.
- The patient leaves and the next patient enters the room.



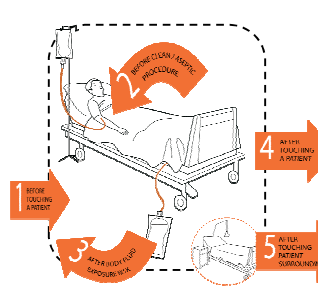
Staff member changing a residents incontinence wear

- Staff member enters the residents room and speaks to the resident
- Staff member explains to the resident and takes necessary items from the locker and dons disposable gloves
- Staff member removes and fold incontinence wear and places it in a disposable bag
- Staff member cleans the resident before replacing incontinence wear
- Staff member disposes of waste and then removes and discards gloves in the waste bag
- Staff member positions the resident in a comfortable position and replaces the covers
- Staff member leaves the room




Hand Hygiene - At the right time

What are your 5 moments for Hand Hygiene?




Identify the 5 Moments for Hand Hygiene and why is carried out at that moment

1. _____
Why _____
2. _____
Why _____
3. _____
Why _____
4. _____
Why _____
5. _____
Why _____




Your 5 Moments for Hand Hygiene



Dental Care



Health care in a residential home




Paediatric Consultation

Five Key Points for Hand Hygiene

1. Hand hygiene must be performed exactly where **you** are **delivering health care** (at the point-of-care)
2. During **health care delivery**, there are 5 moments (indications) when it is essential that **you** perform hand hygiene ("My 5 Moments for Hand Hygiene" approach) (Remember 4 moments in non -hospital settings)
3. **You** should use an **alcohol hand rub**, if available as it makes hand hygiene possible right at the point-of-care, it is faster, more effective, and better tolerated.
4. You should always **wash your hands with soap and water** when **visibly soiled**, caring for patients/residents known or suspected to have *C.difficile* associated **diarrhoea**
5. You must perform hand hygiene using the **appropriate technique** (6 steps) and time duration.



References

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- World Health Organisation (WHO) (2009). WHO guidelines on Hand Hygiene in Healthcare: First Global Patient Safety Challenge, clean care is safer care. WHO Press, Geneva.
- World Health Organisation (2009). Hand Hygiene: Why, How & When? http://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf
- World Health Organisation (2012) Hand Hygiene in Outpatient and Home-based Care and Long-term Care Facilities A Guide to the Application of the WHO Multimodal Hand Hygiene Improvement Strategy and the "My Five Moments for Hand Hygiene" Approach http://apps.who.int/iris/bitstream/10665/78060/1/9789241503372_eng.pdf?ua=1

