WHO (World Health Organization) “My Five Moments for Hand Hygiene” Concept

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A Manual for WHO “My Five Moments for Hand Hygiene” Concept

1. BEFORE PATIENT CONTACT
2. BEFORE ASEPTIC TASK
3. AFTER BODY FLUID EXPOSURE RISK
4. AFTER PATIENT CONTACT
5. AFTER CONTACT WITH PATIENT SURROUNDINGS
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Objective of Manual

This manual has been created to help the HCWs to perform hand hygiene actions in correct and timely manner according to WHO “My Five Moments for Hand Hygiene” concept.

Manual is helpful for HCWs especially in developing countries where internet and audiovisual education aids are limited. We have given scenarios according to each indication for hand hygiene. We hope that after reading the manual you will more able to perform hand hygiene in correctly and timely manner.

Any suggestion will be welcomed

Thanks

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Important

All informations presented in this manual are mainly derived from two sources

1. “My five moments for hand hygiene” a user-centred design approach to understand, train, monitor and report hand hygiene

2. Clean Care is Safer Care WHO (http://www.who.int/gpsc)
My Five Moments for Hand Hygiene Concept

Hand hygiene is a core element of patient safety for the prevention of healthcare-associated infections and spread of antimicrobial resistance. Its promotion represents a challenge that requires a multi-modal strategy using a clear, robust and simple conceptual framework. ‘My five moments for hand hygiene’ describes the fundamental reference points for healthcare workers (HCWs) in a time-space framework and designates the moments when hand hygiene is required to effectively interrupt microbial transmission during the care sequence. The concept applies to a wide range of patient care activities and healthcare settings. It proposes a unified vision for trainers, observers and HCWs that should facilitate education, minimize inter-individual variation and resource use, and increase adherence. ‘My five moments for hand hygiene’ bridges the gap between scientific evidence and daily health practice and provides a solid basis to understand, teach, monitor and report hand hygiene practices. To know the concept clear and better you should first read below two topics.

A) The negatives outcomes of microorganisms’ transmission pathways: Health care associated colonization and infection
B) Conceptualisation of the risk: Two Zones, Two Critical Sites

A) The negatives outcomes of microorganisms' transmission pathways: Health care associated colonization and infection

For conceptual clarity, it is useful to know two important outcomes of transmission pathways. Colonisation denotes the presence of micro-organisms on body sites without invading the tissue and without triggering a symptomatic host defence reaction; infection denotes tissue invasion of micro-organisms triggering an inflammatory host response.

Transmission of micro-organisms from the health-care environment (e.g. furniture, equipment, walls, doors, documents, neighbouring patients, etc.) to a patient most often results in cross-colonisation and not in infection. Cross-colonisation with multi-resistant micro-organisms represents an important target for prevention because it contributes to increasing antimicrobial resistance and the reservoir of potential pathogens. With respect to cross-colonisation, it is important to...
recognise three facts: first, colonised or infected patients represent the main reservoir for healthcare-associated micro-organisms; second, the environment in the healthcare facility contains a wide variety of different healthcare-associated micro-organisms and represents a secondary source for transmission; and third, the immediate patient environment becomes colonised by the patient flora.

Cross-transmission can result in exogenous HCAI, in particular if the patient’s defence against the implicated micro-organism is low or if it is directly introduced into a vulnerable body site, or mucous membrane. Most HCAIs, however, are of an endogenous nature, and due to micro-organisms already colonising the patient before the onset of infection. This implies that hands may play a role in this process by transferring micro-organisms from a colonised body site to a site to be protected from germs in the same patient, e.g. from the perineum to a tracheal tube, or from the leg skin to a catheter hub. Care-induced breaks of physical and

Figure 1: Distribution of S aureus on body sites of the colonized patient from general population (http://infection.thelancet.com Vol 8 February 2008)
biological defence mechanisms by invasive procedures and devices. In addition to patient colonisation and/or infection, two additional negative outcomes are targeted by hand hygiene: infection in HCWs with pathogens contained in body fluids and cross-colonisation of inanimate objects in the healthcare environment and colonisation of HCWs by patient flora.
In summary, four negative outcomes constitute the prevention target for hand hygiene:

(1) Cross-colonisation of patients

(2) Endogenous and exogenous infection in patients
(3) Infection in HCWs

(Figure 5)

(4) Cross-colonisation of the healthcare environment including HCWs

(Figure 6)
B) Conceptualisation of the risk: Two Zones, Two Critical Sites

To understand better my five moments for hand hygiene, you must know terms zone & critical sites. The terms ‘zone’ and ‘critical sites’ were introduced to allow a ‘geographical’ visualisation of key moments for hand hygiene. Focusing on a single patient, the healthcare setting is divided into two virtual geographical areas, the patient zone and the healthcare zone (Figure 7).

The patient zone contains the patient X and his/her immediate surroundings. This typically includes the intact skin of the patient and all inanimate surfaces that are touched by or in direct physical contact with the patient such as the bed rails, bedside table, bed linen and infusion tubing and other medical equipment. It further contains surfaces frequently touched by HCWs while caring for the patient such as

KEY POINTS: You should know after reading topic A

1) Colonisation ...The presence of microorganisms on body sites without invading the tissue and without triggering a symptomatic host defence reaction  
2) Cross-colonisation 
   i) of patients...transmission of micro-organisms from the health-care environment (e.g. furniture, equipment, walls, doors, documents, neighbouring patients, etc.) to a patient 
   ii) of health care environment...transmission of micro-organisms from the already colonised patients to health care environment (e.g. furniture, equipment, walls, doors, documents, neighbouring patients, etc including HCWs). 
3) Infection ...denotes tissue invasion of micro-organisms triggering an inflammatory host response. 
   i) Exogenous infection... introduction of the infection to patient from health care environment. 
   ii) Endogenous infection.... introduction of infection due to microorganisms already colonising the patient before the onset of infection.
4) Four negative outcomes that should be targeted to prevent the transfer of germs by hand hygiene actions.
monitors, knobs and buttons, and other ‘high frequency’ touch surfaces within the patient zone. It has been assumed that the patient flora rapidly contaminates the entire patient zone, but that it is being cleaned between patient admissions.

The healthcare zone contains all surfaces outside the patient zone of patient X, i.e. all other patients and their patient zones and the healthcare facility environment. Conceptually, the healthcare zone is contaminated with microorganisms that might be foreign and potentially harmful to patient X, either because they are multi-resistant or because their transmission might result in exogenous infection.

Within the patient zone, two critical sites should be distinguished (Figure 7): sites to be protected from germs corresponding to body sites or medical devices that have to be protected against micro-organisms potentially leading to HCAIs, and body fluid sites leading to hand exposure to body fluids and blood-borne pathogens. Critical sites may co-exist: drawing blood for example would result in a site to be protected from germs and a body fluid site at the same time at the site of needle perforation of the skin.
1) Patient zone... The patient zone contains the patient X and his/her immediate surroundings
2) The healthcare zone ...contains all surfaces outside the patient zone of patient X, i.e. all other patients and their patient zones and the healthcare facility environment including HCWs.
3) The sites to be protected from germs... corresponding to body sites or medical devices that have to be protected against microorganisms potentially leading to HCAIs.
4) Body fluid sites.... sites that leads to hand exposure to body fluids and blood-borne pathogens
5) Critical sites may co-exist at same.

The geographical representation of the two zones and the two critical sites (Figure 7) is useful to introduce the five moments for hand hygiene. The correlation between these five moments and the indications for hand hygiene according to WHO Guidelines on Hand Hygiene in Healthcare is given in Table I. To further facilitate ease of recall and expand the ergonomic dimension, the five moments for hand hygiene are numbered according to the habitual care workflow.
<table>
<thead>
<tr>
<th>Moment</th>
<th>End points of hand transmission</th>
<th>Prevented negative outcome</th>
<th>Examples</th>
<th>Link to WHO Guidelines for Hand Hygiene in Health Care?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before patient contact</td>
<td>Donor surface: any surface in the healthcare zone. Receptor surface: any surface in the patient zone</td>
<td>Patient cross-colonisation; rarely exogenous infection</td>
<td>Shaking hands, helping a patient to move around, getting washed, taking pulse, blood pressure, chest auscultation, abdominal palpation</td>
<td>Before and after touching patients (IB)</td>
<td>The two moments before and after touching a patient were separated because of their specific sequential occurrence in routine care and unequal negative outcome in case of failure to adhere, and usual adherence level.</td>
</tr>
<tr>
<td>Before aseptic task</td>
<td>Donor surface: any other surface. Receptor surface: site to be protected from germs</td>
<td>Patient endogenous infection; rarely exogenous infection</td>
<td>Oral/dental care, secretion aspiration, skin lesion care, wound dressing, subcutaneous injection; catheter insertion, opening a vascular access system; preparation of food, medication, dressing sets</td>
<td>Before handling an invasive device for patient care, regardless of whether or not gloves are used (IB)</td>
<td>This concept was enlarged to cover all transfer of micro-organisms to vulnerable body sites potentially resulting in infection.</td>
</tr>
<tr>
<td>After body fluid exposure risk</td>
<td>Donor surface: body fluids site. Receptor surface: any other surface</td>
<td>Healthcare worker infection</td>
<td>Oral/dental care, secretion aspiration, skin lesion care, wound dressing, subcutaneous injection; drawing and manipulating any fluid sample, opening draining system, endotracheal tube insertion and removal; clearing up urines, faeces, vomit, handling waste (bandages, napkin, incontinence pads), cleaning of contaminated and visibly soiled material or areas (lavatories, medical instruments)</td>
<td>After removing gloves (IB)</td>
<td>‘After body fluid exposure risk’ covers this recommendation; see text for further comments.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>After contact with body fluids or excretions, mucous membranes, nonintact skin, or wound dressings (IA)</td>
<td>This risk was generalised to include all tasks that can potentially result in hand exposure to body fluids. A paradox of body fluid exposure was resolved by including the notion of exposure risk instead of actual exposure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If moving from a contaminated body site to a site to be protected from germs during patient care (IB)</td>
<td>See comment (2) ‘Before aseptic task’ (continued on next page)</td>
</tr>
<tr>
<td>Moment</td>
<td>End points of hand transmission</td>
<td>Prevented negative outcome</td>
<td>Examples</td>
<td>Link to WHO Guidelines for Hand Hygiene in Health Care&lt;sup&gt;27&lt;/sup&gt;</td>
<td>Comments</td>
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<tr>
<td>After patient contact</td>
<td>Donor surface: any surface in the patient zone with touching a patient. Receptor surface: any surface in the healthcare zone</td>
<td>Healthcare worker crosscolonisation; environment contamination</td>
<td>Before and after touching patients (IB)</td>
<td>See comment (1) ‘Before patient contact’</td>
<td>The two moments before and after touching a patient were separated because of their specific sequential occurrence in routine care and unequal negative outcome in case of failure to adhere, and usual adherence level.</td>
</tr>
<tr>
<td>After contact with inanimate surroundings</td>
<td>Donor surface: any surface in the patient zone without touching the patient. Receptor surface: any surface in the healthcare zone</td>
<td>Healthcare worker crosscolonisation; environment contamination</td>
<td>Changing bed linen, perfusion speed adjustment, monitoring alarm, holding a bed rail, clearing the bedside table</td>
<td>After contact with inanimate objects (including medical equipment) in the immediate vicinity of the patient (IB)</td>
<td>Retained to cover all situations where the patient’s immediate and potentially contaminated environment is touched but not the patient</td>
</tr>
</tbody>
</table>

<sup>27</sup> A Manual for WHO “My Five Moments for Hand Hygiene” Concept

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<sup>a</sup> Ranking system for evidence according to WHO guidelines<sup>27</sup>: category IA, strongly recommended for implementation and strongly supported by well-designed experimental, clinical, or epidemiological studies; category IB, strongly recommended for implementation and supported by some experimental, clinical, or epidemiological studies and a strong theoretical rationale.
**Concept “My Five Moments for Hand Hygiene” Explained With Help of Scenarios**

To perform hand hygiene opportunities in timely and correct manner, we have given scenarios of each indication according to my five moments for hand hygiene. We hope that after reading these scenarios you will be more able to know the concept. In each scenario HCW should supposed to be female and patient is male. Hand hygiene action performed is hand rubbing with alcohol based formulations. Also read examples of each indication carefully because some tasks look simple and apparently present no risk but they may cause contamination of germs.

* denotes hand hygiene action at place.

* Hand hygiene must be performed regardless of the fact that gloves are used or not.

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**Moment 1: Before Patient Contact**

<table>
<thead>
<tr>
<th><strong>1</strong> Before Patient Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXAMPLES:</strong></td>
</tr>
<tr>
<td>• Courtesy and comfort gestures: shaking hands, stroking an arm</td>
</tr>
<tr>
<td>• Direct physical contact: helping a patient to move around, to get washed, giving a massage</td>
</tr>
<tr>
<td>• Clinical examination: taking pulse, blood pressure, chest auscultation, abdominal palpation</td>
</tr>
</tbody>
</table>

**When:** This indication applies when the health care worker enters the patient surroundings to make contact with patient. You should clean yours hands before touching either the patient or his / her surroundings and after last hand contact with care environment.

**Why:** This indication is justified by the risk of germ transmission from the care environment to the patient. Hand hygiene action is performed to protect the patient from harmful germs carried on yours hands.

**Action:** Hand hygiene must be performed before touching the patient. The health care worker must not touch any surface in the care environment after having performed hand hygiene; the patient is thus protected.

**Note:** Contacts of the same kind of following an “initial” contact with patient do not constitute indications for hand hygiene unless the health care worker leaves the patient zone.

From the two-zone concept, a major moment 1 for hand hygiene is naturally deduced. It occurs between the last hand-to-surface contact with an object belonging to the healthcare zone and the first within the
patient zone best visualized by crossing the virtual line between the two zones. Hand hygiene at this moment will mainly prevent cross-colonization of the patient and, occasionally, exogenous infection. A concrete example would be the temporal period between touching the door handle and shaking the patient’s hand: the door handle belongs to the healthcare zone and the patient’s hand to the patient zone.

You may understand better by reading following different scenarios. From which you can easily conclude that when indication for before patient contact applies.

Situation:

**Indication 1: before patient contact**

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaking hands</td>
</tr>
</tbody>
</table>

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**Scenario A: Hand hygiene action before direct physical contact**

HCW enters the room by opening the door (last contact with health care zone). She performs hand hygiene (hand rubbing) while approaching to the patient. She helps the patient to bring out his arm from under the sheet (first contact with patient).

(Figure 9) Hand hygiene action before direct physical contact

**Discussion:**

In the above scenario HCW performs the hand hygiene before direct physical contact. This is simple example of indication for hand hygiene before patient contact. From above scenario you can easily understand that you have to perform hand hygiene before direct contact with patient skin. So HCW performed hand hygiene action correctly at right moment.

**Scenario B: Hand hygiene action before contact with patient surroundings**

HCW enters the room by opening the door (last contact with health care zone). She performs hand hygiene (hand rubbing). She moves the night table (contact with patient surroundings). She shakes hand with patient (first direct contact with patient) and palpates the pulse.
In above scenario, HCW perform hand hygiene while entering the patient zone. After hand hygiene action, first she has contact with patient surroundings and then direct contact with patient by shaking hand. You may think that she has touched patient surroundings and not performed hand hygiene before direct physical contact. Night table belongs to the patient zone; there is no need to perform hand hygiene again before direct physical contact with patient after touching the patient surroundings. We hope that from above discussion you can easily understand that while entering the patient zone if you have already performed hand hygiene; there is no need of again performing hand hygiene after touching the patient surroundings. So, HCW performed hand hygiene action at right moment to prevent the germs.

**Scenario C: Hand hygiene action after touching the patient surroundings and before the direct physical contact**

HCW enters the room by opening the door (last contact with health care zone). She moves the night table (first contact with patient surroundings). She performs hand hygiene (hand rubbing) while approaching to the patient. She helps the patient to bring his arm from under the sheet (first direct physical contact).
Discussion:
In above scenario, HCW has first contact with patient surroundings and performed hand hygiene before direct contact with patient. Contact with patient surroundings does not strictly need for hand hygiene. As long as you stay in the patient zone but you have not direct contact with patient and touched the patient’s objects like night table, furniture, there is no need for performing hand hygiene before contact with patient surroundings. But as move to direct patient contact then it becomes a must condition to perform hand hygiene. So action performed correctly.

Scenario D: Hand hygiene action at wrong movement
HCW while in the corridor performs hand hygiene and opens the door (last contact with health care environment) and goes to patient and shakes hand with patient (first contact with patient).
Discussion:
In above scenario HCW hand hygiene action is missed because while entering the patient zone she had contaminates her hand by touching the door handle. She has to perform hand hygiene again before patient contact. While you are in the health care zone and perform hand hygiene and then touched any surface like door handle in health care zone. You have again contaminates yours hand because these surfaces like door handle are potential source of pathogens. You have to perform hand hygiene again.

**Scenario E: Multiple contacts with in the paint zone**
HCW enters the room by opening the door and performing the hand hygiene while approaching the patient. She helps the patient to bring his arm from under the sheet (first direct physical contact) and measure blood pressure. She moves the night table (contact with patient surroundings). She takes the patient right arm (direct physical contact) and assesses the finger mobility. She bends to examine urine bag and touch the patient bed (contact with patient surroundings). She pours a glass of water for the patient and also helps to drink it by holding his head (direct physical contact).
(Figure 13) Multiple contacts with in the patient zone

Discussion:
In above scenario, you can understand that HCW has several contacts with patient and patient surroundings but no aseptic task indication applies nor after body fluid exposure risk indication. First she has contact with patient, then patient surroundings and vice versa. HCW performed hand hygiene only once before first patient contact. There is no need for further hand hygiene as long as she stays in the patient zone. So you conclude that if no before aseptic task nor after body fluid exposure risk indication occurs during patient care activity, single hand hygiene action is sufficient to cover all activities in the patient zone.

KEY POINTS: You should know for indication before patient contact

- Always do hand hygiene before direct physical contact with patient.
- It is not mandatory to perform hand hygiene before touching patient surroundings.
- If you have performed hand hygiene action in health care zone then don’t touch any surface like door handle in the health care zone because these surfaces are potential sites of pathogens and contaminate yours hands. If touched any surface in the health care zone then you should perform hand hygiene again.
- Single action hand hygiene performed is sufficient to cover all the activities as long as you stay in the patient zone during patient care unless a before aseptic task or after body fluid exposure risk indication applies.
Moment 2: Before Aseptic Task

When: This indication applies before any task involving direct or indirect* contact with mucous, damaged skin, an invasive medical device (catheter, probe), or health care equipments and products. You should clean yours hands before any aseptic task.

Why: This indication is justified by the risk of germ transmission to the patient via inoculation. These germs may come from the care environment or from the patient himself. Hand hygiene action is performed to protect the patient from harmful germs including the patient own germs, entering the patient body.

Action: Hand hygiene must be performed immediately before the task i.e. after having performed hand hygiene, the health care worker must touch only surface required by the task. This is prerequisite for asepsis, the patient is thus protected.

EXAMPLES:
- Contact with mucous membrane: oral/dental care, giving eye drops, secretion aspiration
- Contact with non-intact skin: skin lesion care, wound dressing, any type of injection
- Contact with medical devices: catheter insertion, opening a vascular access system or a draining system
- Preparation of food, medications, dressing sets

Once within the patient zone, usually after a hand exposure to the patient’s intact skin, clothes or any other object, the HCW might engage in an aseptic task on a site to be protected from germs such as opening a venous access line, giving an injection, or performing wound care. Importantly, hand hygiene required at this moment aims at preventing colonisation and HCAI. In line with the predominantly endogenous aetiology of these infections, hand hygiene is taking place between the last exposure to a surface, even within the patient zone and immediately before access to a site to be protected from germs. This is important because HCWs customarily touch another surface within the patient zone before contact with a site to be protected from germs. For some tasks on sites to be protected from germs, e.g. lumbar puncture, surgical procedures, tracheal suctioning, etc., the use of gloves is standard procedure. In this case, hand hygiene is required before donning gloves.
because gloves alone may not prevent contamination entirely.

Situation:

Indication 2: before aseptic task.

Taking blood pressure  Injection in a catheter  Replacing a dressing

Below we are given some scenarios for the indication of hand hygiene before aseptic task. We hope after reading you will be more able to understand.
**Scenario A: Hand hygiene action before direct aseptic task**

HCW enters the room and places the instrument tray with the items ready for injection on the night table (last contact with care environment). The patient is lying in bed asleep with a peripheral venous catheter on his arm directly accessible to her. She pours the antiseptic onto the swabs. She performs hand hygiene by hand rubbing. She opens the tap on the peripheral venous catheter, gives the injection and closes the tap again.

(Figure 14) Hand hygiene action before direct aseptic task.

**Discussion:**

In the above scenario, indication for aseptic task is unique in this scenario. HCW has no direct contact with the patient. She has directly performed aseptic task without touching any surface in the patient zone, not the patient and patient surroundings. She performs hand hygiene correctly at right moment.
Scenario B: Hand hygiene action before aseptic task within a care sequence

HCW enters the room and places the instrument tray with the items ready for injection on the night table (last contact with care environment). She performs hand hygiene by hand rubbing (indication: before patient contact). She helps the patient to bring his arm out from under the sheets (first patient contact). She moves the night table (contact with patient surroundings). She pours antiseptic onto the swabs. She performs hand hygiene by hand rubbing. She opens the tap on the peripheral venous catheter, gives the injection and closes the tap again (aseptic task).

**Note:** Below are illustrations of above scenario with different versions. After touching the patient and patient surroundings, after touching patient and after touching patient surroundings.

(Figure 15) Hand hygiene action before aseptic task within care sequence.
Discussion:
In above the scenario, hand hygiene action has been performed after touching the patient and patient surroundings and before access to a site to be protected from germs for the indication before aseptic task. Hand hygiene action needed immediately before doing the aseptic task. If you are in the patient zone and you have already performed hand hygiene but you have to again perform hand hygiene action before access to a site to be protected from germs (doing aseptic task) after touching the patient or patient surroundings to prevents the patient from his own germs that comes from the patient itself or from patient surroundings (endogenous infection). In above scenario, hand hygiene action has been performed correctly and in timely manner.

KEY POINTS: You should know for indication before aseptic task
● Always perform hand hygiene action before every aseptic task.
● Hand hygiene action is needed immediately before aseptic task. If you have touch patient or the patient surroundings in the patient zone after hand hygiene action, you should perform hand hygiene again before aseptic task (recall endogenous infection).
3 After Body Fluid Exposure Risk

**EXAMPLES:**
- Contact with mucous membrane and with non-intact skin, as detailed in the indication “before aseptic task”
- Contact with medical devices or clinical samples: drawing and manipulating any fluid sample, opening a draining system, endotracheal tube insertion and removal
- Clearing up urine, faeces, vomit
- Handling waste (bandages, napkin, incontinence pads), cleaning of contaminated and visibly-soiled material or areas (lavatories, medical instruments)

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**When:** This indication applies after any task which actually or potentially involves exposure of the hands to a body fluid. Clean your hands immediately after an exposure to body fluid risk (and after glove removal).

**Why:** This indication is justified by risk of germ transmission from the patient to the health care worker and of their dissemination into care environment. Hand hygiene action is performed to protect yourself and health care environment from harmful pathogens.

**Action:** Hand hygiene must performed immediately after task i.e., the health care worker must not touch any surface until HCW has performed hand hygiene; the health care worker and the care environment are thus protected.

**Note 1:** The action may be postponed until health care worker has left the patient surroundings if the health care worker has to remove and process equipment on the appropriate premises. The health care worker must restrict him or herself exclusively to be removed and processed.

**Note 2:** If health care worker wears gloves to perform the task involving a risk, these must be removed after task has been performed in order to practice hand hygiene at appropriate moment.

**Note 3:** Any health care worker operating “downstream” from actual care and involved in handling the body fluids (i.e., laboratory technician, pathologist), contaminated and soiled equipment (i.e., sterilization worker), contaminated and soiled waste (i.e., maintenance or utility worker) is concerned by this indication.

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After a care task associated with a risk to expose hands to body fluids, e.g. after accessing a body fluid site, hand hygiene is required instantly and must take place before any hand-to-surface exposure, even within the same patient zone. This has a double objective. First and most importantly, it reduces the risk of colonisation or infection of HCWs with infectious agents which can occur even in the absence of visible soiling. Second, it reduces the risk of a transmission of micro-organisms from a body site of which flora may be source of contamination to another body.
site (including non-intact skin, mucous membrane or medical device) within the same patient. This routine moment for hand hygiene concerns all care actions associated with a risk of body fluid exposure and is not identical to the hopefully very rare case of accidental visible soiling calling for immediate hand washing. In some occasion, both critical sites, site to be protected from germs and the critical body fluid site may co-incide (Table I). Disposable gloves are meant to be used as a ‘second skin’ to prevent exposure of hands to body fluids. However, hands are not sufficiently protected by gloves and hand hygiene is strongly recommended after glove removal. Even if glove removal represents a strong cue to hand hygiene action, the concept chooses to identify this moment for hand hygiene with the associated risk (e.g. exposure to body fluids) rather than with the additional protective action (e.g. glove use). This has the double advantage of being more consistent with the risk-driven logic of the overall concept and to cover all times when gloves are not worn.
Situation:
Indication 3: After body fluid exposure risk

Situation relating to note 1 (action postponed):
Indication 3 postponed: After body fluid exposure risk

We have given some scenarios for the indication after body fluid exposure risk. We hope after reading these scenarios. You will better understand the indication.

Scenario A: Hand hygiene action after body fluid exposure with in care sequence (action missed)
The HCW is drawing a blood sample (blood exposure risk). When she finishes, she removes the tourniquet, puts a plaster on the puncture site and puts the equipment together on the tray (continuing blood exposure risk). She takes off her gloves and throws them into the bin (continuing blood exposure risk). She takes the patient’s pulse (next patient contact).

(Figure 16) Hand hygiene action after body fluid exposure within care sequence (action missed)
Discussion:
Hand hygiene must be performed immediately after body fluid exposure risk, before touching either the patient again or any surface and object within the patient’s surroundings or care environment, to prevent potential dissemination of germs. Any care activity implying contact with body fluids constitutes a risk because exposure may not be visible but may have happened. In this scenario, HCW did not perform hand hygiene at the right moment. She should perform hand hygiene after glove removal before next activity. Gloves are not intended to protect from the germs. So you conclude that you have to perform hand hygiene immediately after body fluids exposure and before next patient activity whether you have worn gloves are not.

Scenario B: Hand hygiene action after body fluid exposure with in care sequence (action performed)
The HCW is drawing a blood sample (blood exposure risk). When she finishes, she removes the tourniquet, puts a plaster on the puncture site and puts the equipment together on the tray (continuing blood exposure risk). She takes off her gloves and throws them into the bin (continuing blood exposure risk). She performs hand hygiene with hand rubbing. She takes the patient’s pulse (next patient contact)

(Figure 17) Hand hygiene action after body fluid exposure within care sequence (action performed).

Discussion:
Above scenario is same as A but hand hygiene action performed correctly and rightly. Read the discussion of scenario A.
**Scenario C: Hand hygiene action (hand washing) after body fluid exposure with soap and water.**

The HCW is drawing a blood sample (blood exposure risk). When she finishes, she removes the tourniquet, puts a plaster on the puncture site and puts the equipment together on the tray (continuing blood exposure risk). She gathers up equipments, goes to washbasin, and throws waste into bin (continuing blood exposure risk). She removes her gloves and throws them into bin, (continuing blood exposure risk). She washes her hands with soap and water.

(Figure 18) Hand hygiene action (hand washing) after body fluid exposure with soap and water.

**Discussion:**

Above scenario, HCW performs hand hygiene at right moment. She performs hand hygiene action with soap and water after body fluid exposure. Hand washing is recommended when hands are visibly soiled.
Scenario D: Hand hygiene action after body fluid exposure (action postponed but performed at right premises)

The HCW is drawing a blood sample (blood exposure risk). When she finishes, she removes the tourniquet, puts a plaster on the puncture site and puts the equipment together on the tray (continuing blood exposure risk). She takes the tray with equipments and goes out of the room with opened door and goes to station where she throws waste into bin and removes her gloves and throws them into bin. She performs hand hygiene with hand rub from a dispenser installed there.

(Figure 19) Hand hygiene action after body fluid exposure (action postponed but performed at right premises)

Discussion:

In this scenario, the HCW postponed hand hygiene action. She first gathers equipment in tray and take away with her and goes to station where she performed hand hygiene after removal the gloves. HCW has performed action correctly. You can postponed yours hand hygiene action after body fluid exposure but you should restrict yourself exclusively to contact with equipment to be removed and processed and hand hygiene should be done at appropriate premises. You should avoid touching any surface in health care environment during postponed period and perform hand hygiene at right premises.
KEY POINTS: You should know about indication after body fluid exposure

- Always perform hand hygiene immediately after body fluid exposure. You should not touch any surface in patient zone or care zone until you have performed hand hygiene.
- If yours hands are visibly soiled after body fluid exposure then you should use water and soap for hand hygiene.
- You can postponed yours hand hygiene action but you should restrict yourself exclusively to contact with equipment to be removed and processed and hand hygiene should be at appropriate premises.

Moment 4: After Patient Contact

| When: This indication applies when the health care worker leaves the patient surroundings after touching the patient and his / her surroundings and before having the first contact with the health care environment. |
| Why: This indication is justified by the risks of germs transmission to health care worker and their dissemination into care environment. You should perform hand hygiene action to protect yourself and health care environment from harmful germs. |
| Action: Hand hygiene must be performed after having touched the patient and patient surroundings i.e., the health care worker must not touch any surface in the health care environment until hand hygiene has been performed. The health care worker and care environment are protected. |
| Note: The action may be postponed until health care worker has left the patient surroundings if the health care worker has to remove and process equipment on the appropriate premises. The health care worker must restrict him or herself exclusively to be removed and processed. |

After a care sequence, when leaving the patient zone and before touching an object in the healthcare zone, hand hygiene action substantially reduces contamination of HCWs’ hands with the flora from
patient X, minimises the risk of dissemination to the healthcare environment, and protects the HCWs themselves. It is noteworthy that HCWs usually touch an object within the patient zone and not the patient before leaving. Hence, the term ‘after patient contact’ is somewhat misleading and should be understood as ‘after contact with the patient or his/her immediate surroundings.’
Situation:
Indication 4: After patient contact

Shaking hands  Taking blood pressure  Returning to the office

Situation relating to note (action postponed):
Indication 4 postponed: after patient contact

Making up the bed (bed-bound patient)  Discarding sheets  Tidying a bedside table

Indication 4

Below we are given a scenario for the indication of hand hygiene after patient contact. We hope after reading you will be more able to understand.

Scenario A: Hand hygiene action after patient contact
The HCW takes the blood pressure (last contact with patient). She leaves the patient and goes to a trolley with a chart (no contact). She performs hand hygiene with hand rubbing. She writes in the file on the trolley and then leaves the room with trolley (first contact with care environment).

(Figure 20) Hand hygiene action after patient contact
Discussion:
Hand hygiene action has been performed correctly. Trolley is not part of patient zone. It belongs to care zone. Hand hygiene has been performed before touching the trolley and after the patient contact. It has been clear from above discussion, hand hygiene should be performed after patient contact before touching any surface in health care environment.

KEY POINTS: You should know for indication after patient contact.
- Always perform hand hygiene action after patient contact
- You should perform hand hygiene before touching any surface in health care environment after patient contact. If some belongings to care environment like trolley in the patient zone, you should perform hand hygiene before touching them because these are parts of the care zone not the patient zone.
- You can postponed yours hand hygiene action but you should restrict yourself exclusively to contact with equipment to be removed and processed and hand hygiene should be at appropriate premises
Moment 5: After Contact with Patient Surroundings

**EXAMPLES:**
- Changing bed linen, perfusion speed adjustment, monitoring alarm, holding a bed rail, cleaning the night table

**When:** This indication applies when health care worker leaves the patient surroundings after having touched the equipments, furniture, medical devices, personal belongings, or other inanimate surfaces, without having been in contact with the patient. You must clean yours hand after touching the patient surroundings and before having the first contact with health care environment.

**Why:** This indication is justified by the risk of germ transmission to the health care worker and of the dissemination into health care environment.

**Action:** Hand hygiene must be performed after contact with patient surroundings i.e., the hands must touch no surface in the care environment until hand hygiene has been performed. The health care environment is thus protected.

**Note:** The action may be postponed until health care worker has left the patient surroundings if the health care worker has to remove and process equipment on the appropriate premises. The health care worker must restrict him or herself exclusively to be removed and processed.

The fifth moment for hand hygiene is a variant of moment 4. It occurs after hand exposure to any surface in the patient zone but without touching the patient. This typically extends to objects contaminated by the patient flora that are extracted from the patient zone to be decontaminated or discarded. Because hand exposure to patient objects without physical contact with the patients is associated with hand contamination, hand hygiene is required.
Situation:
Indication 5: After contact with patient surroundings

- Adjusting perfusion speed
- Tidying the bedside table
- Leaving the room

Situation relating to note (action postponed):
Indication 5 postponed: After contact with patient surroundings

- Tidying the bedside table
- Removing dirty dishes
- Returning to the offices

A Manual for WHO "My Five Moments for Hand Hygiene" Concept
Reading below scenarios can help you better to understand to perform hand hygiene for indication after contact with patient surroundings.

**Scenario A: Hand hygiene action after contact with patient surroundings**

HCW enters the room. She tidies up the night table (pick up the empty bottle and glass) and cleans the table top. She places clean glass and water bottle on the table. She performs hand hygiene with hand rub and leaves the room.

(Figure 21) Hand hygiene action after contact with patient surroundings

**Discussion:**

In above scenario, there is no contact with patient but hand hygiene is performed after contact with patient surroundings (objects and surfaces in the patient zone). So hand hygiene action is performed at right moment.

**Scenario B: Hand hygiene action (not patient surroundings)**

HCW enters the room. She tidies up the night table (pick up the empty bottle and glass) and cleans the table top. She places clean glass and water bottle on the table. During this time, patient asks for water and she pours water into the glass (contact with patient surroundings). She performs hand hygiene with hand rub (indication: before patient contact). She helps the patient to sit up in bed (first patient contact). She performs hand hygiene with hand rub (after patient contact) and leaves the room.
Discussion:
In above scenario, HCW have no initial intention to contact with patient but she performs hand hygiene action when patient asks for water. It is mandatory to perform hand hygiene before patient contact when situation implies direct contact. Since HCW has contact with patient, next indication is no longer after patient surroundings but it changed to after patient contact. Hand hygiene actions performed by health worker correctly at right moment.

**KEY POINTS:** You should know for the indication after contact with patient surroundings.

- Always perform hand hygiene action after patient contact with patient surroundings.
- You should perform hand hygiene before touching any surface in health care environment.
- If some belongings to care environment like trolley in the patient zone, you should perform hand hygiene before touching them after contact with patient surroundings because these are parts of the care zone not the patient zone.
- You can postponed yours hand hygiene action but you should restrict yourself exclusively to contact with equipment to be removed and processed and hand hygiene should be at appropriate premises.
Special Circumstances

A) Coincidence of Two moments for hand Hygiene
Two moments for hand hygiene may sometimes fall together. Typically this occurs when going from one patient to another without touching any surface outside the corresponding patient zones. Naturally, a single hand hygiene action will cover the two moments for hand hygiene. It may also occur in the same patient.

Situation 1:

Indication 1: Before patient contact

Indication 2: Before aseptic task

Indication 3: After body fluid exposure

Indication 4: After patient contact

For same patient look at the situation 2:

Indication 1

Indication 2

Indication 3

Indication 4

You may better understand by reading the following scenarios.

Scenario A: Hand hygiene action between two patients... (Not performed)
The doctor examines the patient X. When she finished the exam, leaves the patient and shakes the hands of the patient (last contact with patient). She approaches the patient Y and greets him by shaking his hands (first contact with patient).
(Figure 23) Hand hygiene action between two patients… (Not performed)

Discussion:
In above scenario, hand hygiene action is missed for two indications before patient contact and after patient contact that corresponds to single opportunity. Hand hygiene should be performed after patient contact. If you have not touch any surface outside the corresponding the patient zone, there is no need to perform hand hygiene for the next indication.

Scenario B: Hand hygiene action between two patients… (Performed)
The doctor examines the patient X. When she finished the exam, leaves the patient and shakes the hands of the patient (last contact with patient). She performs hand hygiene with hand rub. She approaches the patient Y and greets him by shaking his hands (first contact with patient).

(Figure 24) Hand hygiene action between two patients… (Performed)
Discussion:
In above scenario, hand hygiene action is performed for two indications before patient contact and after patient contact that corresponds to single opportunity. Hand hygiene action is performed at right moment.

**KEY POINTS: You should know for coincidence of two moments for hand hygiene**
- Single hand hygiene action is sufficient to cover two indications for two patients if you have not touch any surface in the patient zone or health care zone.

B) Hand Hygiene Action during Sequence Break
You may better understand how hand hygiene action should be performed during sequence break by reading below two scenarios.

**Scenario A:** Hand hygiene actions during sequence break… (No action performed)
HCW enters the room and goes towards the patient. She performs hand hygiene. She shakes hand and examines the patient knee. The pager beeps up and she excuses and leaves the room through opened door. She answers telephone in the corridor and she comes back through open door. She carries on physical examination.

(Figure 25) Hand hygiene actions during sequence break… (No action performed)
Discussion:
In the above scenario hand hygiene action missed two times. When doctor leaves the room, she should perform hand hygiene before touching any surface in care zone like telephone in the corridor and should perform hand hygiene before touching the patient again. So, it is clear that when you are going to leave the patient zone for any interruption, perform hand hygiene and also when you want to continue the patient care activity, you should perform hand hygiene again after returning. If you have not touch any surface in the health care environment then it is not mandatory to perform hand hygiene again to continue the care activity.

Scenario B: Hand hygiene action during sequence break… (Action performed at right moment)
HCW enters the room and goes towards the patient. She performs hand hygiene. She shakes hand and examines the patient knee. The pager beeps up and she excuses and performs hand hygiene and leaves the room through opened door. She answers telephone in the corridor and she comes back through open door and performs hand hygiene before starting again the physical examination. She carries on physical examination.

(Figure 26) Hand hygiene action during sequence break… (Action performed at right moment)
Discussion:
In above scenario, hand hygiene is performed at right and correct moments. Read the discussion of scenario A for better understanding.

KEY POINTS: You should know for hand hygiene action during sequence Break
- For any reason, you want to leave the patient zone, perform hand hygiene before touching any surface in care zone and perform hand hygiene before returning to patient.
- If you are not intended to or not touch any surface in health care zone. This does not apply.