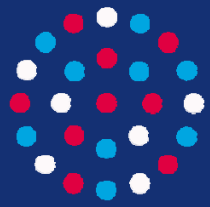


Health  
Protection  
Scotland



# Application of the World Health Organization's 5 moments for hand hygiene



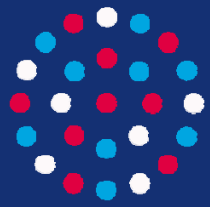
Health  
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# Learning outcomes



Delegates will be able to demonstrate an understanding of:

- Microbial transmission via hands in healthcare settings
- The 5 moments for hand hygiene
- The applicability of each moment in healthcare settings.

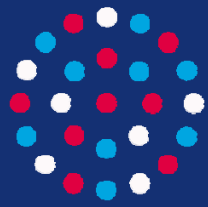


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## Section 1

Microbial transmission via hands  
in healthcare settings



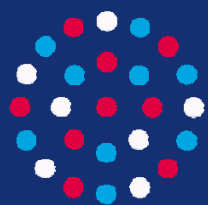
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# Hand Transmission



- ❖ Hands are the most common vehicle to transmit healthcare associated infection
- ❖ Transmission of microorganisms from one patient to another via healthcare workers' hands requires **5 sequential steps**

**Hand hygiene is the single most effective measure to reduce healthcare associated infection**



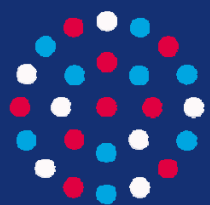
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Scotland

# Hand Transmission



There are five stages of hand transmission

<b>One</b>	Microorganisms <b>present</b> on patient skin and immediate environmental surfaces
<b>Two</b>	Microorganisms <b>transfer</b> onto healthcare workers' hands
<b>Three</b>	Microorganisms <b>survive</b> on hands for several minutes
<b>Four</b>	Suboptimal or omitted hand cleansing results in hands <b>remaining contaminated</b>
<b>Five</b>	Contaminated hands <b>transmit</b> microorganisms via direct contact with patient or patient's immediate environment



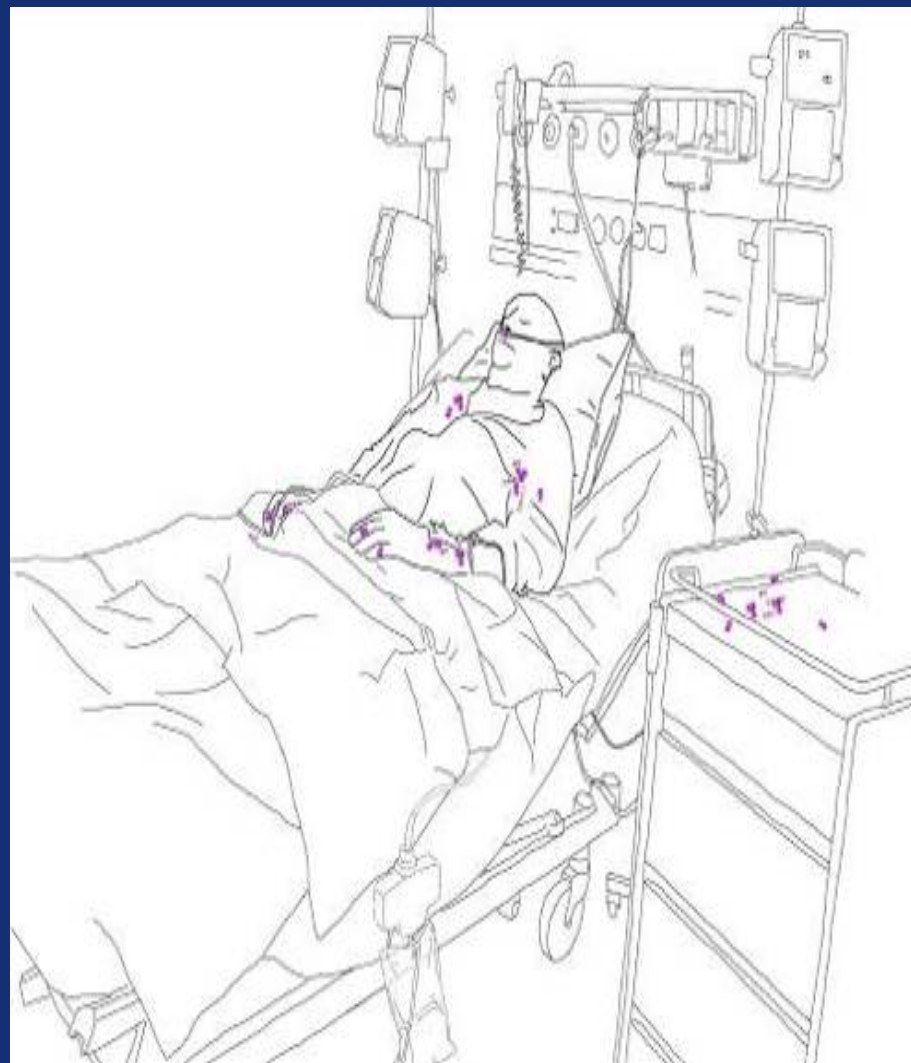
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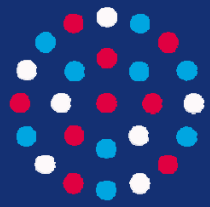
# Hand transmission: Step 1

**NHS**  
National  
Services  
Scotland

**Microorganisms are present on patient skin and surfaces in the patient surroundings**

- ❖ Microorganisms (*Staphylococcus aureus* and *Klebsiella* spp.) are present on intact areas of some patients' skin
- ❖ Patient immediate surroundings (e.g. furniture, objects) become contaminated (especially by *staphylococci* and *enterococci*) by patient microorganisms





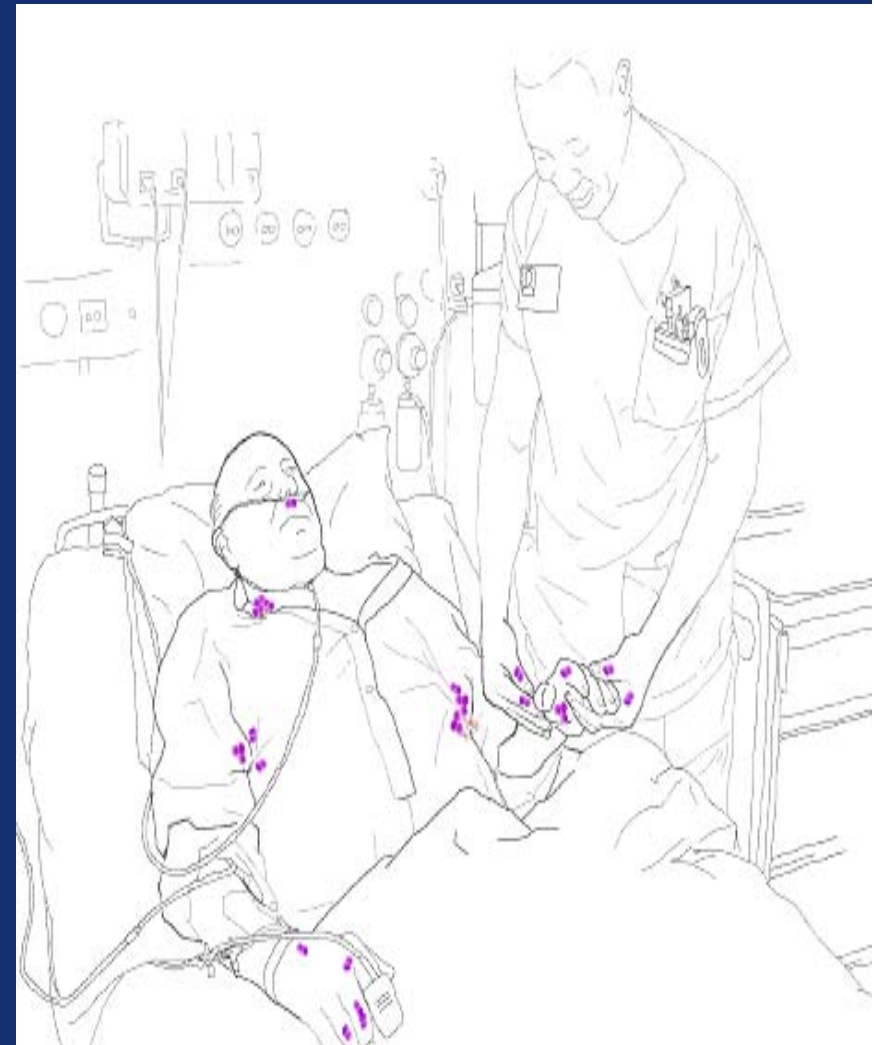
Health  
Protection  
Scotland

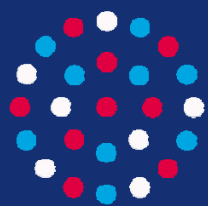
# Hand transmission: Step 2



**Patient microorganisms  
contaminate healthcare  
workers' hands by direct and  
indirect contact**

- ❖ Nurses could contaminate their hands during “clean” activities (lifting patients, taking the patient's pulse, blood pressure)





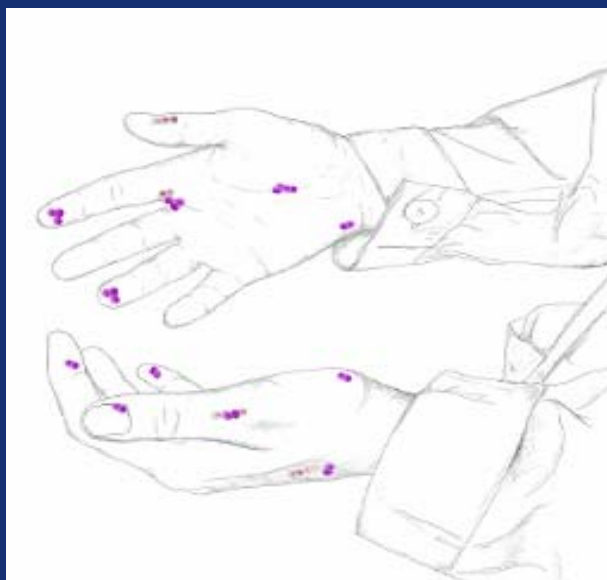
Health  
Protection  
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# Hand transmission: Step 3



## Microorganisms survive and multiply on healthcare workers' hands

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



Pittet D et al. *The Lancet Infect Dis* 2006



Health  
Protection  
Scotland

# Hand transmission: Step 4



## Defective hand cleansing results in hands remaining contaminated

- ❖ Insufficient amount of product and/or insufficient duration of hand hygiene action lead to poor hand decontamination
- ❖ Transient microorganisms are still recovered on hands following handwashing with soap and water, whereas handrubbing with an alcohol-based hand rub has been proven significantly more effective



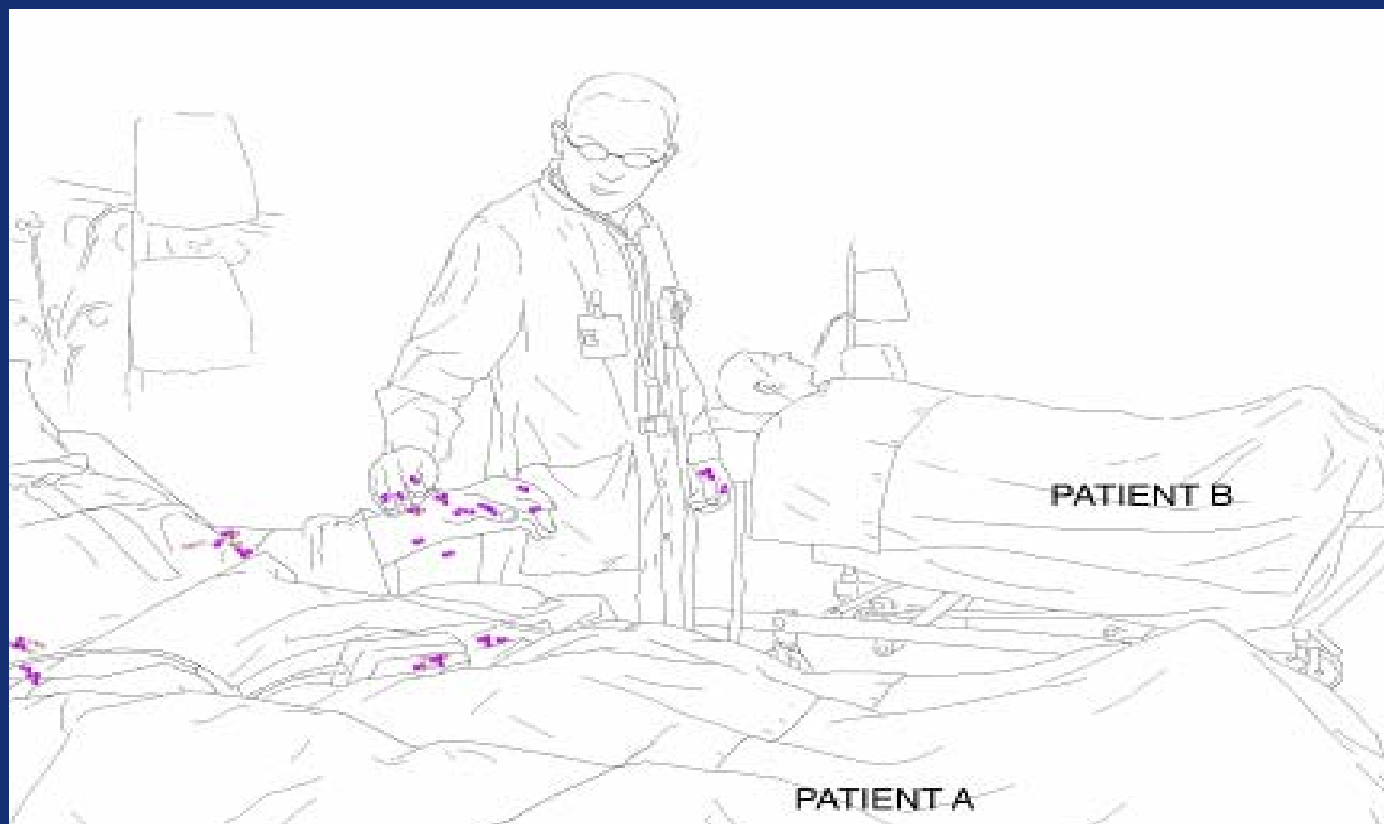


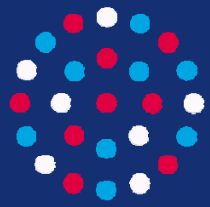
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# Hand transmission: Step 5



**Cross-transmission of microorganisms between patient A and patient B via health-care worker's hands**



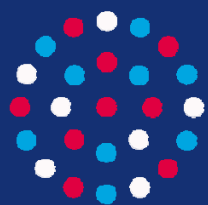


Health  
Protection  
Scotland

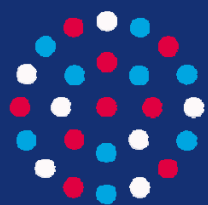
# End of Section 1 Questions



- a) Why is hand hygiene so important?
- b) What microorganisms are commonly transmitted by hands?
- c) What type of product could be best for decontamination of visibly clean, but potentially contaminated hands?



- a) Why is hand hygiene so important?
- Hand hygiene is the single most effective measure to reduce healthcare associated infection
- b) What microorganisms are commonly transmitted by hands?
- *Staphylococcus aureus*, *Enterococcus* spp. and *Klebsiella* spp.
- c) What type of product is best for decontamination of visibly clean, but potentially contaminated hands?
- An alcohol based hand rub

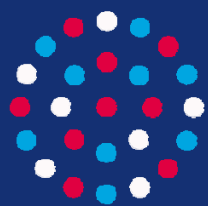


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Protection  
Scotland



## Section 2

Introduction to the World Health  
Organization's 5 moments for  
hand hygiene



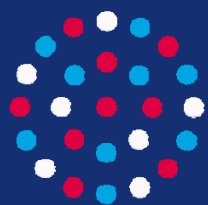
Health  
Protection  
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# Your 5 moments for hand hygiene



During health care delivery, there are 5 moments when it is essential that **you** perform hand hygiene ("My 5 Moments for Hand Hygiene" approach)





Health  
Protection  
Scotland

# Your 5 moments for hand hygiene



1 BEFORE  
TOUCHING A  
PATIENT

**WHY?** TO PROTECT THE **PATIENT** AGAINST HARMFUL GERMS CARRIED ON YOUR HANDS

2 BEFORE  
CLEAN/ASEPTIC  
PROCEDURE

**WHY?** TO PROTECT THE **PATIENT** AGAINST HARMFUL GERMS, INCLUDING THE PATIENT'S OWN GERMS, ENTERING HIS OR HER BODY

3 AFTER BODY  
FLUID EXPOSURE  
RISK

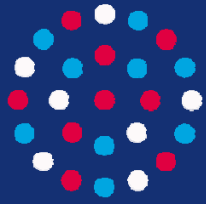
**WHY?** TO PROTECT **YOURSELF** AND THE **HEALTHCARE ENVIRONMENT** FROM HARMFUL PATIENT GERMS

4 AFTER  
TOUCHING A  
PATIENT

**WHY?** TO PROTECT **YOURSELF** AND THE **HEALTHCARE ENVIRONMENT** FROM HARMFUL PATIENT GERMS

5 AFTER  
TOUCHING  
PATIENT  
SURROUNDINGS

**WHY?** TO PROTECT **YOURSELF** AND THE **HEALTHCARE ENVIRONMENT** FROM HARMFUL PATIENT GERMS

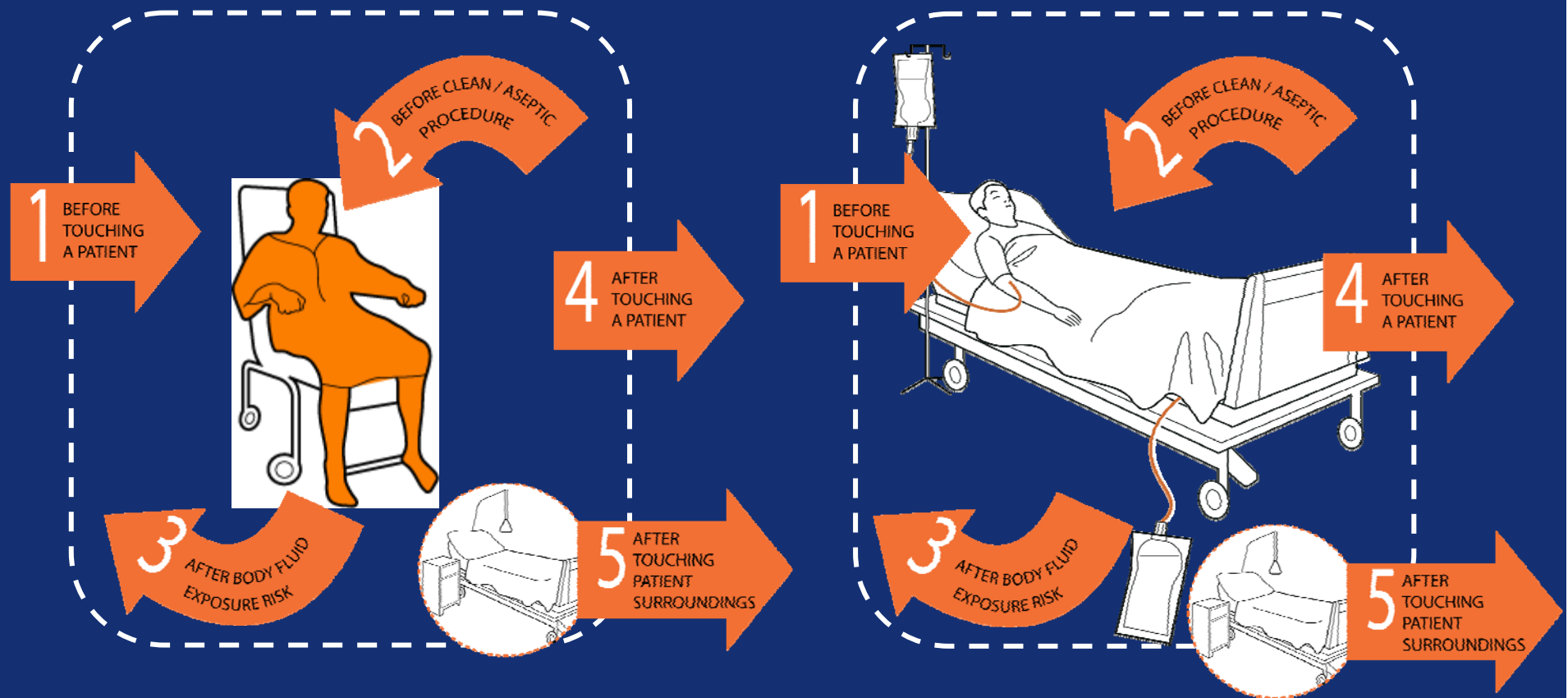


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# Your 5 moments for hand hygiene



The 5 Moments apply to any setting where healthcare involving direct contact with patients takes place





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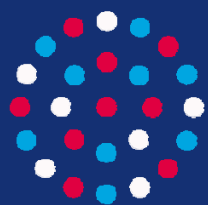
## Your 5 moments for hand hygiene



Alcohol based hand rubs are recommended for ensuring effective hand hygiene in all patient care situations except when:

- ❖ Hands are visibly soiled
- ❖ The patient is experiencing vomiting and/or diarrhoea
- ❖ There is direct hand contact with any body fluids i.e. if gloves have forgotten to be worn
- ❖ There is an outbreak of Norovirus, *Clostridium difficile* or other diarrhoeal illnesses

**In these instances hands should always be cleaned with liquid soap and warm running water**



# How to Handrub

1a



Apply a palmful of the product in a cupped hand, covering all surfaces;

1b



2



Rub hands palm to palm;

3



Right palm over left dorsum with interlaced fingers and vice versa;

4



Palm to palm with fingers interlaced;

5



Backs of fingers to opposing palms with fingers interlocked;

6



Rotational rubbing of left thumb clasped in right palm and vice versa;

7



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

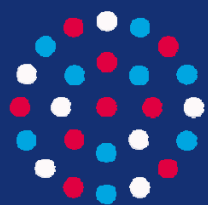
8



Once dry, your hands are safe.

To effectively reduce the growth of microorganisms on hands, **handrubbing** must be performed by following all of the illustrated steps.

**This takes only 20–30 seconds.**



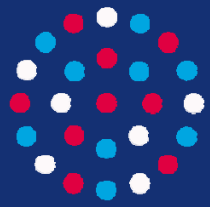
Health  
Protection  
Scotland

# How to Handwash



 <p>0</p>	 <p>1</p>	 <p>2</p>
<p>Wet hands with water;</p>	<p>Apply enough soap to cover all hand surfaces;</p>	<p>Rub hands palm to palm;</p>
 <p>3</p>	 <p>4</p>	 <p>5</p>
<p>Right palm over left dorsum with interlaced fingers and vice versa;</p>	<p>Palm to palm with fingers interlaced;</p>	<p>Backs of fingers to opposing palms with fingers interlocked;</p>
 <p>6</p>	 <p>7</p>	 <p>8</p>
<p>Rotational rubbing of left thumb clasped in right palm and vice versa;</p>	<p>Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;</p>	<p>Rinse hands with water;</p>
 <p>9</p>	 <p>10</p>	 <p>11</p>
<p>Dry hands thoroughly with a single use towel;</p>	<p>Use towel to turn off faucet;</p>	<p>Your hands are now safe.</p>

To effectively reduce the growth of microorganisms on hands, **handwashing must last 40–60 secs** and should be performed by following all of the illustrated steps



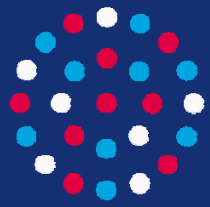
Health  
Protection  
Scotland

## End of Section 2 Questions



**Is it suitable to use alcohol based hand rub?**

- a. When hands are visibly soiled?
- b. There is direct contact with blood or body fluids?
- c. When hands are not visibly soiled or visibly dirty?



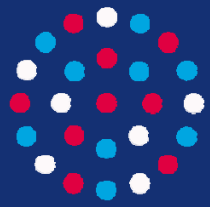
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Protection  
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## End of Section 2 Answers



**Is it suitable to use alcohol based hand rub?**

- a. When hands are visibly soiled? **✗**
- b. There is direct contact with blood or body fluids? **✗**
- c. When hands are not visibly soiled or visibly dirty? **✓**

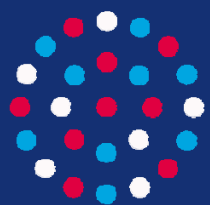


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## Section 2

# Introduction to the patient zone

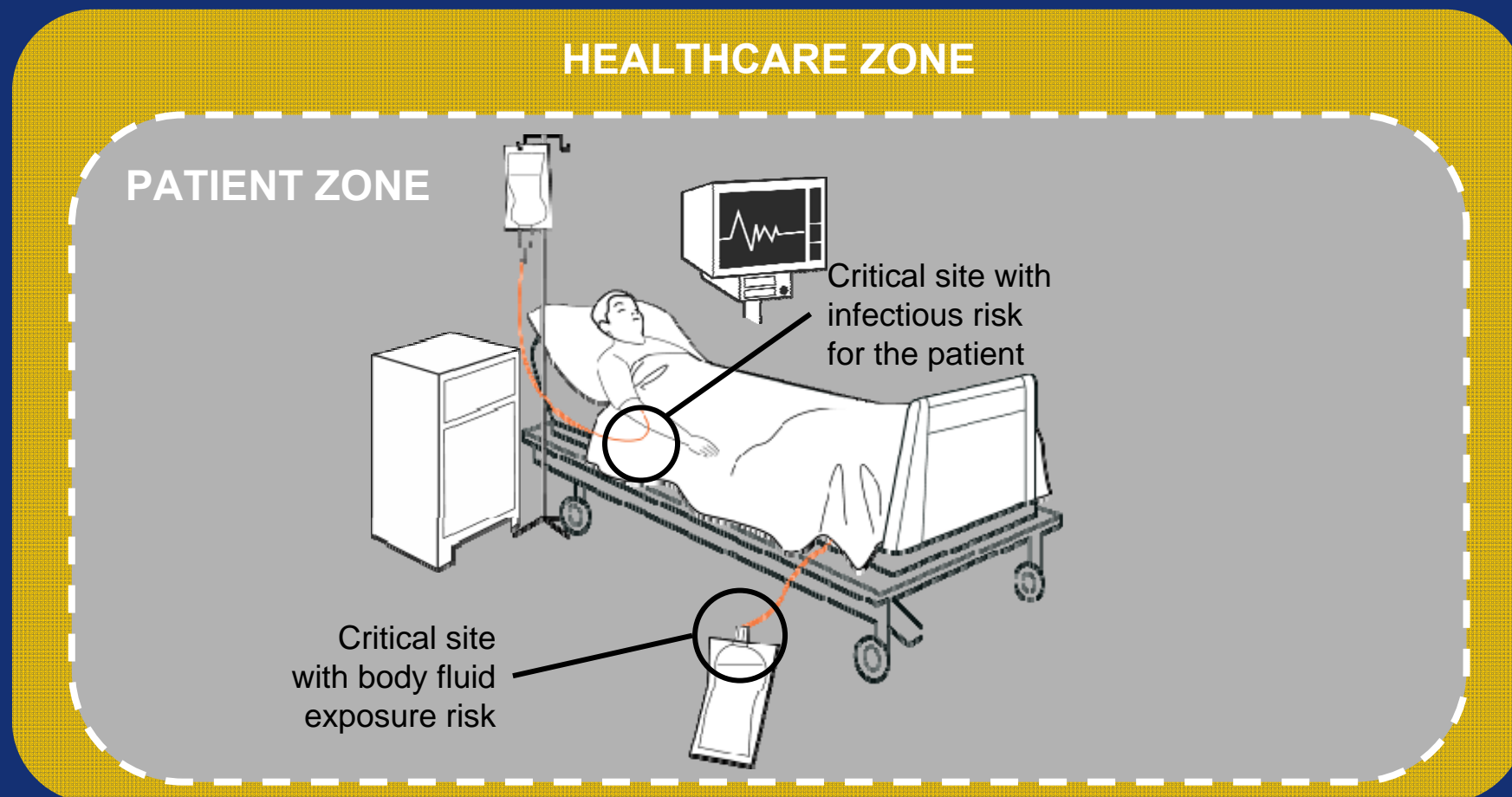


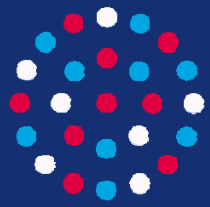
Health  
Protection  
Scotland

# Patient Zone



Hand hygiene must be performed exactly where **you** are delivering healthcare to patients (at the point-of-care)





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# Patient Zone

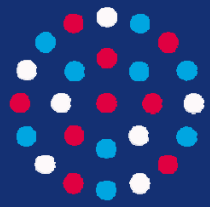


**Patient zone:** it contains a patient and his/her immediate surroundings.

➤ This typically includes: the patient's intact skin, all inanimate surfaces that are touched by or in direct physical contact with the patient (e.g. bed rails, bedside table, bed linen, chairs, infusion tubing, monitors, knobs and buttons, and other medical equipment).

**Healthcare area:** it contains all surfaces in the healthcare setting outside the patient zone of patient X.

➤ It includes: other patients and their patient zones and the healthcare facility environment. The healthcare area is characterised by the presence of various and numerous microbial species, particularly multi-resistant germs.

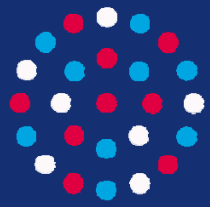


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## End of Section 3 Questions



- a) What would typically be found within the patient zone?
  
- b) What would typically be found within the healthcare zone?



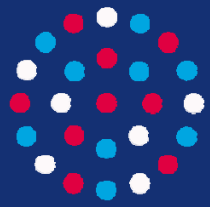
Health  
Protection  
Scotland

# End of Section 3

## Answers



- a) What would typically be found within the patient zone?
  - **Patient X, bed rails, bedside table, infusion tubing, medical equipment**
  
- b) What would typically be found within the healthcare zone?
  - **Other patients, other patient zones, the healthcare facility environment**

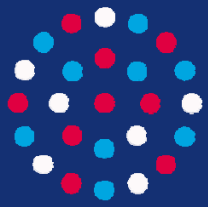


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## Section 4

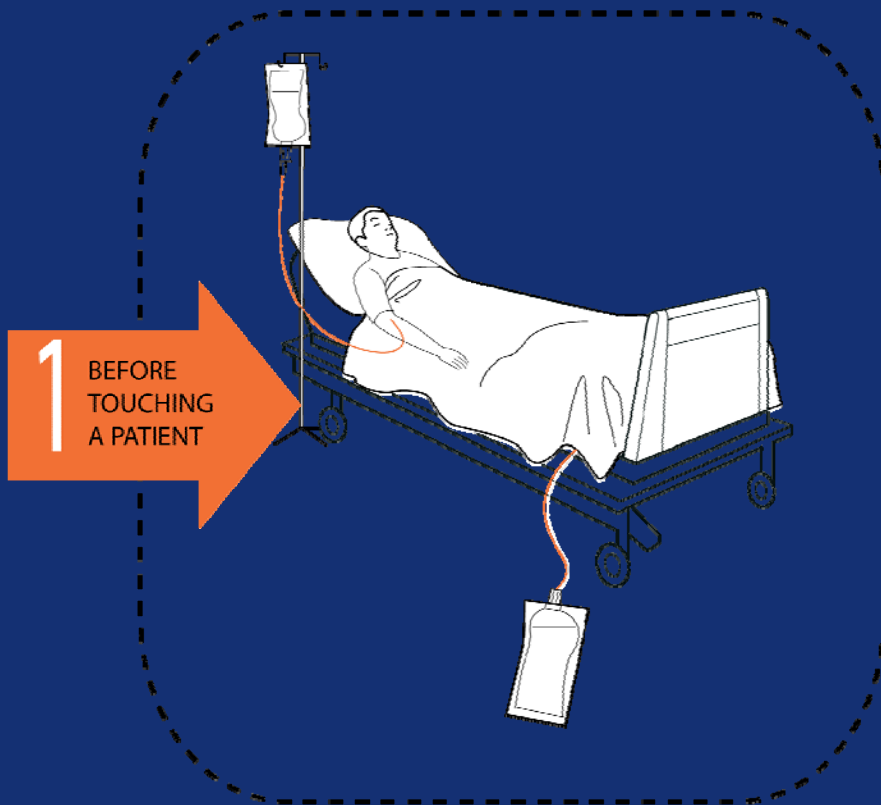
Review of the 5 moments in  
practice



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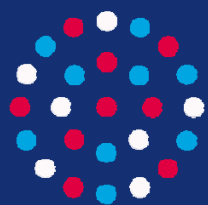
# Moment 1:

## Before touching a patient



Some examples may be:

- ❖ Shaking hands
- ❖ Helping a patient to move around and get washed
- ❖ Applying an oxygen mask
- ❖ Taking a pulse
- ❖ Checking blood pressure
- ❖ Recording an ECG



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Protection  
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## Moment 2:

### Before clean/aseptic procedure



Some examples may be:

- ❖ Wound dressing
- ❖ Catheter insertion
- ❖ Skin lesion care
- ❖ Subcutaneous injection
- ❖ Opening a vascular access system or draining system



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Scotland

## Moment 3:

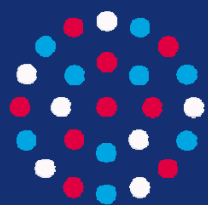


### After body fluid exposure risk



Some examples may be:

- ❖ Drawing and manipulating a fluid sample
- ❖ Cleaning up urine, faeces, vomit
- ❖ Handling waste (bandages, incontinence pads)
- ❖ Cleaning visibly soiled material (soiled bed linen, bedpan, medical instruments)



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## Moment 4:

### After touching a patient

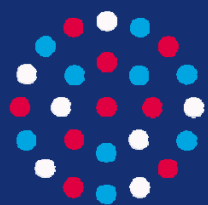


4

AFTER  
TOUCHING  
A PATIENT

Some examples may be:

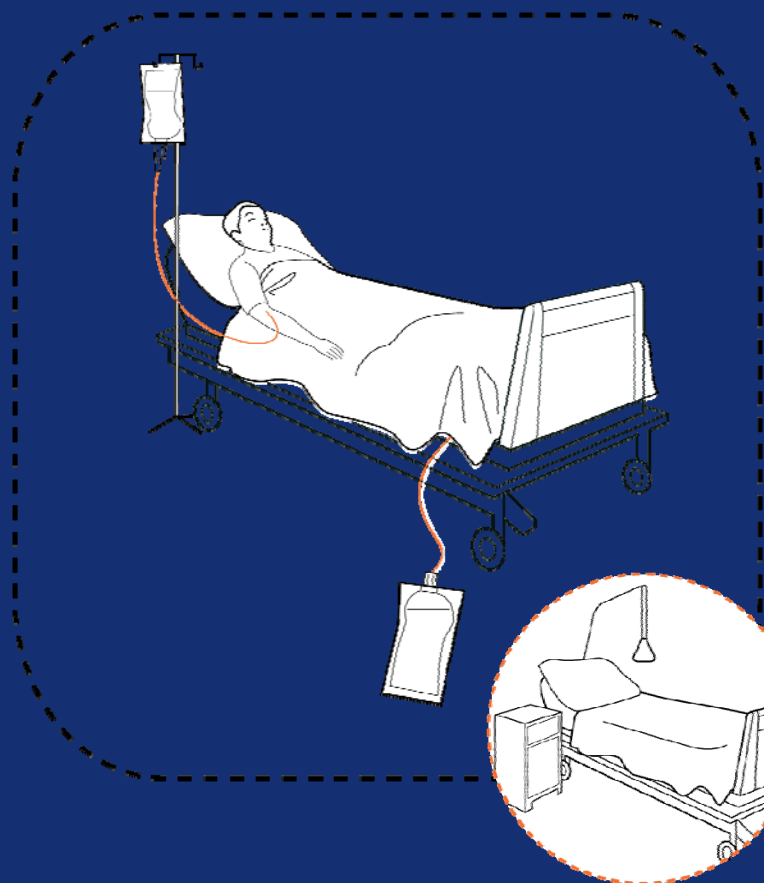
- ❖ Shaking hands
- ❖ Helping a patient to move around and get washed
- ❖ Applying an oxygen mask
- ❖ Taking a pulse
- ❖ Checking blood pressure
- ❖ Recording an ECG



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## Moment 5:

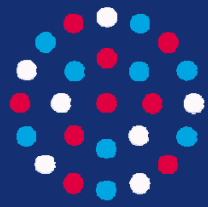
### After touching patient surroundings



Some examples may be:

- ❖ Clearing the bedside table
- ❖ Holding a bed rail
- ❖ Leaning against a bed
- ❖ Changing bed linen

**5** AFTER  
TOUCHING  
PATIENT  
SURROUNDINGS



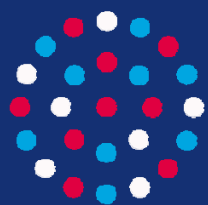
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## End of Section 4 Questions



In which of the following situations should hand hygiene be performed?

- a) Before having direct contact with a patient
- b) Before inserting an invasive device (e.g. intravascular catheter)
- c) When moving from a contaminated body site to a clean body site during an episode of patient care
- d) After having direct contact with a patient or with items in the immediate vicinity of the patient



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## End of Section 4 Answers



In which of the following situations should hand hygiene be performed?

- a) Before having direct contact with a patient ✓
- b) Before inserting an invasive device (e.g. intravascular catheter) ✓
- c) When moving from a contaminated body site to a clean body site during an episode of patient care ✓
- d) After having direct contact with a patient or with items in the immediate vicinity of the patient ✓