



# CPD4dentalnurses

YOUR FUTURE IN YOUR HANDS

## **Disinfection and Decontamination: Hand Hygiene Protocols in Dentistry**

**Aims:** To provide an overview of the importance of effective hand hygiene in dental practice and its role in preventing the transmission of infection.

**Objectives:** On completion of this verifiable CPD article the participant will be able to demonstrate, through completion of a questionnaire, the ability to:

- Explain the structure and main functions of the skin and its role as a barrier to infection.
- Differentiate between transient and resident skin flora and describe their relevance to infection control in dentistry.
- Identify the regulatory framework governing hand hygiene, including its link to the Health and Social Care Act 2008 and CQC “safe” key question.
- Describe the aims and objectives of the WHO 2025 “SAVE LIVES: Clean Your Hands” campaign.
- Apply the core principles of effective hand hygiene in line with HTM 01-05 and WHO’s “5 Moments for Hand Hygiene.”
- Select and correctly use appropriate equipment and products for different levels of hand hygiene (social, clinical, surgical).
- Recognise the importance of hand care in maintaining skin integrity and preventing occupational dermatitis.
- Demonstrate correct hand hygiene techniques, including the distinction between hand washing and hand rubbing.
- Outline the essential components of a hand hygiene policy for dental practice.

### **Introduction**



Hand hygiene is a term that applies to routine handwashing, antiseptic handwash and hand rubs, or surgical hand antisepsis.<sup>1</sup> Every year, organisms on the hands of healthcare personnel are responsible for more than 2 million documented healthcare associated infections. Practising good hand hygiene techniques substantially reduces

potential pathogens on the hands, and the World Health Organisation states that hand hygiene is the most important measure for reducing the risk of transmitting organisms to patients and healthcare workers.<sup>2</sup> The Care Quality Commission will consider hand hygiene when they review the safe key question which relates to the Health and Social Care Act 2009 (Regulated Activities) regulation 12 (safe care and treatment).

Dental practices have a duty of care to ensure hand hygiene is managed in accordance with current guidelines:

- HTM 01-05: Decontamination in primary care dental practices (WHTM 01-05 in Wales and SHTM 01-05 in Scotland).
- The Health and Social Care Act 2008: Code of practice on the prevention and control of infections and related guidance.

Full references are available in the further reading section at the end of this article.

### The Skin and Microorganisms

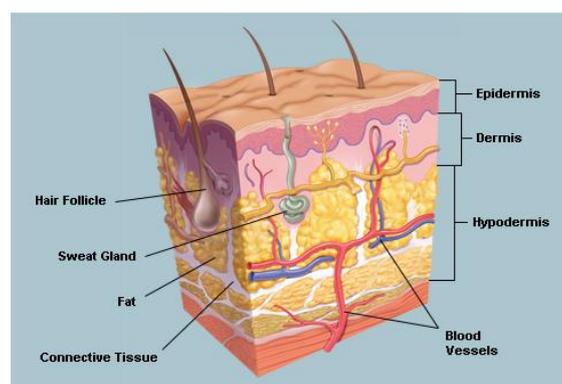
The skin is a vital organ that covers the entire surface of the body. It is the largest organ in the body, with a total area of about 2 square metres.

The functions of the skin are to:

- Prevent loss of moisture.
- Reduce harmful effects of UV radiation.
- Act as a sensory organ (touch and temperature).
- Help regulate temperature.
- Protect against microbes and the injuries from the environment.
- Play a role in the immune system.
- Production of vitamin D.<sup>3</sup>

The skin is made up of three main layers:

- **The Epidermis** - This is the outermost layer of the skin which provides a waterproof barrier and creates skin tone. It is constantly being regenerated.
- **The Dermis** - This is the layer beneath the epidermis and contains connective tissue, hair follicles, sebaceous glands and sweat glands.
- **The Hypodermis** - (sometimes called the subcutaneous layer)- This is deeper tissue that is made up of fat and connective tissue.



Microorganisms are located in both the superficial and deeper layers within the skin. In 1938, Price established that bacteria recovered from the hands could be divided into two categories.<sup>4</sup> These are:

- **Transient Flora** - Transient flora colonise the superficial layers of the skin and are associated with healthcare acquired infections. In the dental surgery, these microorganisms may be acquired during direct contact with the patient or by contact with contaminated work surfaces within the proximity of the patient. The microbes may pass through defects in the epidermis and may infect dental personnel or be transferred to other patients. They are a temporary flora and are easily removed by handwashing.
- **Resident Flora** - Resident flora are contained in the deeper layers of the skin and are the microorganisms that reside on a person's body. They are a permanent flora and, if disturbed, can re-establish themselves. Resident flora are not removed with routine handwash and are not usually associated with transmission of infection.<sup>5</sup>

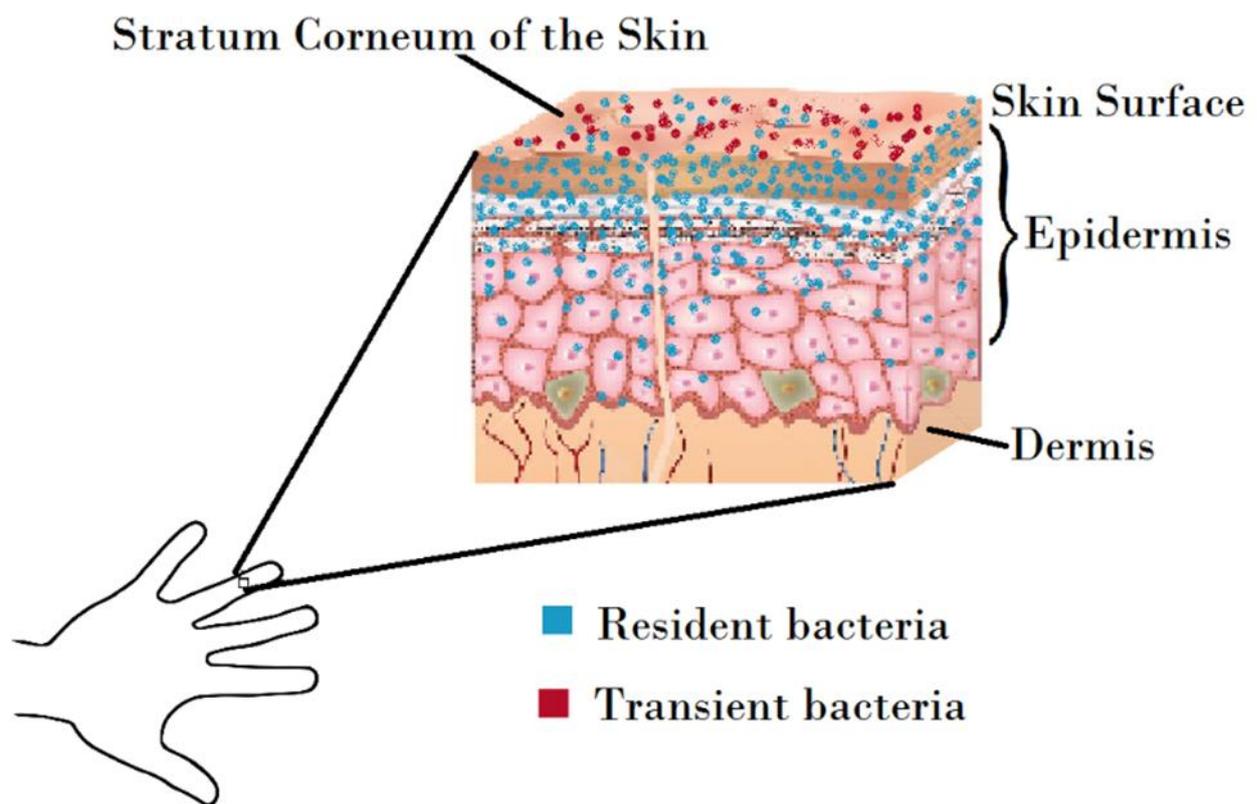


Diagram representing resident bacteria (blue) and transient bacteria (red)<sup>6</sup>

The goal of hand hygiene is to **reduce** resident flora and **remove** transient flora.

## The World Health Organisation World Hand Hygiene Day 2025



The Save Lives: Clean your Hands annual global campaign was launched in 2009 as part of a major global effort to improve hand hygiene in health care. The WHO state that hand hygiene is “one of the most effective actions you can take to reduce the spread of pathogens and prevent infections.”<sup>7</sup>

The 2025 SAVE LIVES: Clean Your Hands campaign aligns with the urgent need for countries to swiftly implement the global action plan and monitoring framework on infection prevention and control (IPC), supported by an accompanying implementation guide, and to sustain ongoing improvements in IPC, as emphasised in the latest WHO IPC global report.

Among the WHO’s key indicators is the establishment of hand hygiene compliance monitoring and feedback as a national indicator, to be implemented in all reference hospitals by 2026.

Furthermore, the WHO Framework for Action 2024–2030 on Water, Sanitation and Hygiene (WASH), waste, and electricity services underscores the importance of universal safe access to these essential services to ensure quality of care, particularly in relation to climate and health. This involves integrating WASH and waste management requirements into health system planning, programming, financing, implementation, and monitoring, efforts that are closely supported by IPC initiatives.

Consequently, it is reaffirmed that countries and health care facilities should continue to prioritise optimal hand hygiene practices, using the correct technique and adhering to the WHO’s 5 Moments for Hand Hygiene, together with appropriate glove use. These practices should be promoted through increased awareness and actively supported by IPC practitioners as part of a coordinated IPC team and programme.<sup>8</sup>

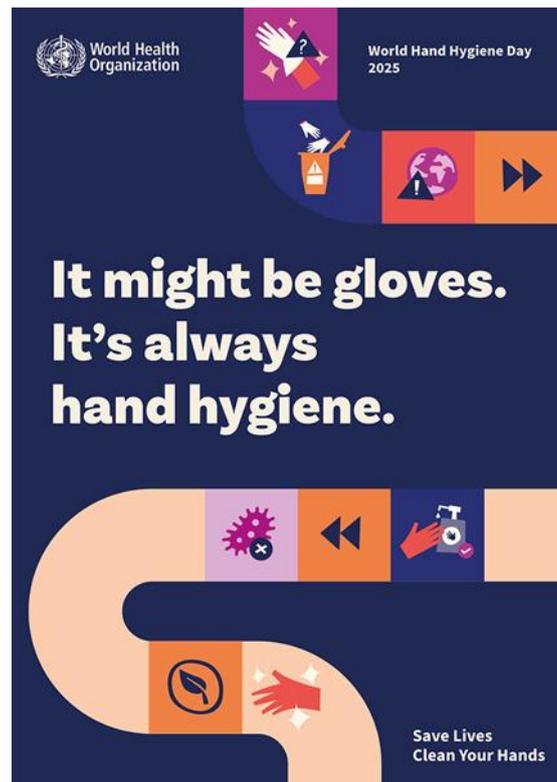
The World Hand hygiene Day slogan for 2025 is, “**It might be gloves. It’s always hand hygiene**”

The objectives of the World Hand Hygiene Day 2025 are to:

- “**Promote optimal hand hygiene practices** (using the appropriate technique and according to the WHO 5 Moments) and the times for **appropriate glove use** within the health care workflow.

- **Promote inclusion of hand hygiene within national IPC strategies**, as well as standard operating procedures (SOPs) at facility level, according to the recommendations of the WHO global action plan and monitoring framework 2024-2030.
- **Raise awareness of the environmental and climate impact of gloves on waste generation and management**, especially when used unnecessarily.<sup>8</sup>

The message highlights that healthcare professionals need to be aware that the wearing of gloves is not a substitute for hand hygiene.



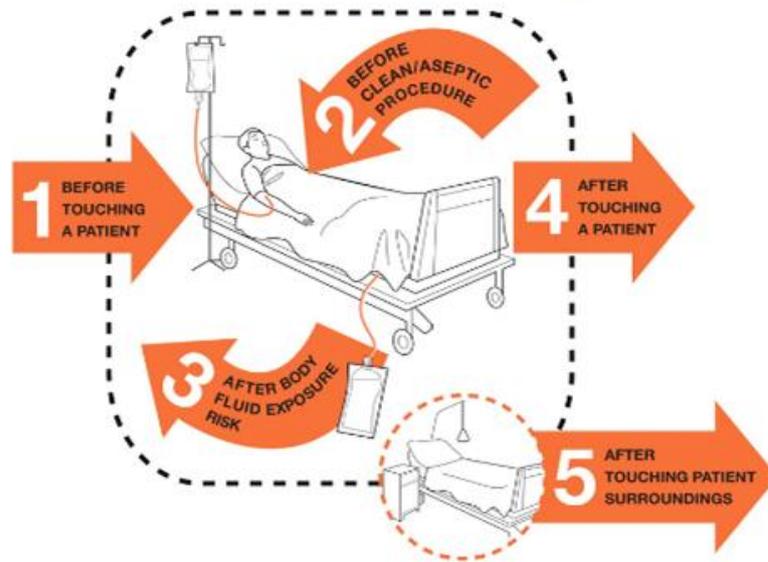
### When and How Should Hand Hygiene Be Performed?

HTM 01-05 states that “hand hygiene should be practised at the following stages in the decontamination process to minimise the risk of contamination:

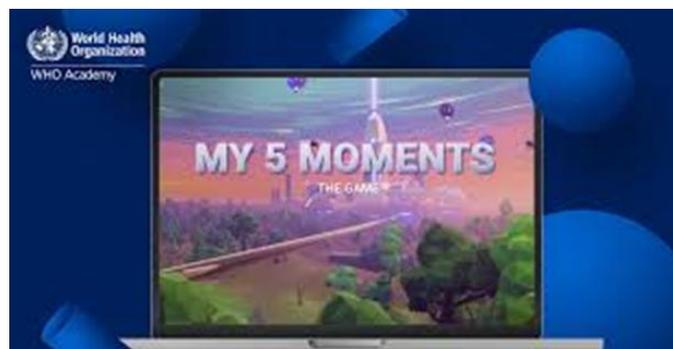
- before and after each treatment session;
- before and after the removal of PPE;
- following the washing of dental instruments;
- before contact with instruments that have been steam sterilised (whether or not these instruments are wrapped);
- after cleaning or maintaining decontamination devices used on dental instruments; and,
- at the completion of decontamination work.”<sup>9</sup>

The WHO five moments of hand hygiene are as follows:

# Your 5 Moments for Hand Hygiene



World Hand Hygiene Day 2024 saw the launch of a “new, novel serious game entitled ‘My 5 Moments: The Game’.” The game is designed to “encourage healthcare workers and students to creatively engage with the principles of hand hygiene in their real life encounters.”<sup>8</sup>



The game is available at: <https://5mgame.lxp.academy.who.int/>

Essential Quality Requirements (EQR) and training in hand hygiene should be part of staff induction and be provided to all relevant staff within dental practices periodically throughout the year. Dedicated handwashing facilities should be provided, and the practice should have a policy for hand hygiene.

**There are three levels of hand hygiene:**

**Level 1: Social Hand Hygiene** - The aim of social hand hygiene is to render the hand physically clean and to remove microorganisms picked up during the course of social activities. The aim of this type of hand hygiene is to remove transient microorganisms.

HTM 01-05 state that mild liquid soap should be used when washing hands. Plain soap is effective at inactivating enveloped viruses due to the oily surface membrane that is dissolved by soap, killing the virus. In addition, the mechanical action of handwashing will remove germs. Bar soap should not be used.

**Level 2: Hygienic or Clinical Hand Hygiene** - The aim of clinical hand hygiene is to remove or destroy transient microorganisms and to reduce resident microorganisms. This type of hand hygiene aims to provide a residual effect during times when hygiene is important in protecting yourself and others (such as in the dental surgery). An approved antibacterial liquid soap may be used. Hand washing should be carried out at the start and end of each clinical session as a minimum, and if hands are visibly soiled. For all other times, the WHO advise that an alcohol based antimicrobial hand rub is the preferred means for routine hygienic antisepsis if hands are not visibly soiled.<sup>2</sup> The hand rub should conform to BS EN 1500 standard.<sup>9</sup>

**Level 3: Surgical scrub** - The aim of surgical hand hygiene is to remove or destroy transient microorganisms and to substantially reduce resident microorganisms during times when surgical procedures are carried out. This type of surgical antisepsis takes a minimum of 2-6 minutes and involves the hands and forearms. Manufacturers' instructions should be followed.<sup>1</sup>

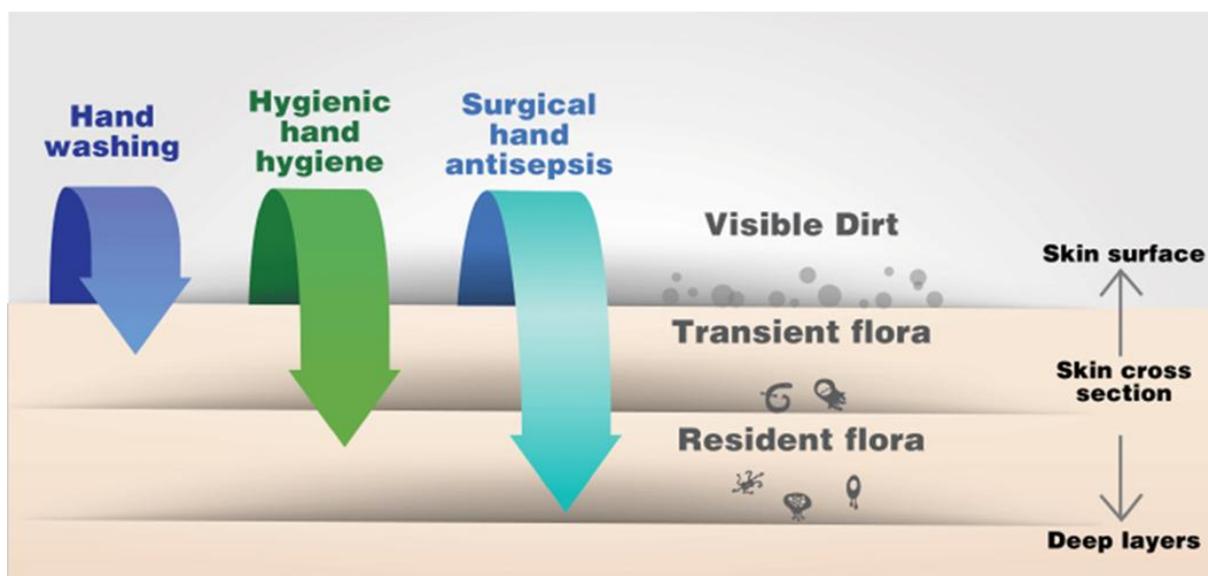


Diagram showing the three levels of hand hygiene <sup>10</sup>

It is important that hands are dried effectively after washing because wet surfaces transfer microorganisms more easily than when they are dry, and inadequately dried hands are prone to skin damage. Disposable paper towels should be used to prevent recontamination of washed hands.<sup>9</sup>

A cleanable poster depicting a 6-8 step method should be displayed above every clinical wash-hand basin in the dental practice.<sup>9</sup>

The following posters detail how to handwash and use alcohol rub.<sup>2</sup>

# How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

 Duration of the entire procedure: 20-30 seconds



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



Rub hands palm to palm;



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



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



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



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



Once dry, your hands are safe.



World Health  
Organization

Patient Safety

A WHO Initiative for Safer Health Care

SAVE LIVES

Clean Your Hands

# How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

 Duration of the handwash (steps 2-7): 15-20 seconds

 Duration of the entire procedure: 40-60 seconds



Wet hands with water;



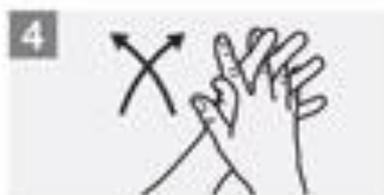
Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



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



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



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



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



Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.



World Health  
Organization

Patient Safety

A World Alliance for Better Health Care

SAVE LIVES

Clean Your Hands

## Facilities Required for Handwashing



### Wash-hand basins

A separate wash-hand basin should be provided for hand washing. Under best practice arrangements, the hand basin:

- Should not have a plug or overflow and should be fitted with a remote running trap (this means that the U-bend is not directly under the plug hole).
- Should have sensor operated or lever operated mixer tap.
- Taps should not discharge directly into the draining aperture because this may generate aerosols.<sup>9</sup>

### Soap Dispensers

Under best practice arrangements, liquid soap should be dispensed in wall mounted dispensers with disposable cartridges, and the nozzle should be kept clean. These should be mounted above or adjacent to the hand washing sink.

Refillable hand-wash containers should not be used because bacteria can multiply with many of these products and therefore are a potential source of contamination.<sup>9</sup>

### Gloves

Hand hygiene practices combined with wearing gloves are essential elements of infection control. Neither one is a substitute for the other. Heavy duty household gloves should be worn during the cleaning of instruments.

### Bins

A foot operated or sensor operated waste bin should be used.

### Jewellery and nails

The effectiveness of hand hygiene may be compromised by the presence of jewellery and artificial nails. Fingernails should be kept clean, short and smooth. HTM 01-05 state that “when viewed from the palm side, no nail should be visible from the fingertip.” In addition, artificial nails and nail varnish should not be worn. A nail brush must not be used.<sup>9</sup>

All jewellery should be removed as this may make glove tears more likely and may harbour bacteria. A wedding ring is permitted but the skin beneath it should be washed and dried thoroughly.

### Skin Care

A hand cream should be used to avoid chapped or cracking skin. The hand cream should preferably be water based and ideally be wall mounted with disposable cartridges. Communal jars of hand cream are not recommended because they [pose a contamination risk. It is recommended that any staff should seek advice from their general practitioner if they develop eczema, dermatitis, or any other skin condition.<sup>9</sup> The primary defence against infection and transmission of pathogens is healthy unbroken skin.<sup>1</sup>

### Hand Hygiene Policy

A hand hygiene policy must be available in the dental practice. The following hand hygiene policy is taken from HTM 01-05 and describes the minimum requirements required within the policy:

- Carry out hand hygiene between each patient treatment, and before donning and after removal of gloves.
- Bar soap must not be used or made available in the practice.
- Do not scrub or use nail brushes because these can cause abrasion of the skin where microorganisms can reside.
- Nails must be kept clean and short and must be free of nail art, permanent or temporary enhancements or nail varnish.
- Nails should be cleaned using a blunt “orange” stick.
- Use good quality soft paper hand towels.
- Ensure that paper and drying techniques do not damage the skin.
- Use a hand cream following hand washing at the end of a session to counteract dryness and as required.
- Hand washing should take place at least at the beginning and end of every session, and if the hands are visibly soiled.
- Antimicrobial hand rubs conforming to BS EN 1500 can be used on visibly clean hands as an alternative to washing with soap and water
- If hands become sticky with the build-up of hand rub residue, they must be washed as normal using a proper hand hygiene technique.
- Alcohol impregnated wipes used for cleaning surfaces should not be used in place of hand rubs/gels, as they are not effective in decontamination
- Use a foot operated or sensor bin.<sup>9</sup>

### Conclusion

Hand hygiene is a term that applies to routine handwashing, antiseptic handwash and hand rubs, or surgical hand antisepsis. Practising good hand hygiene techniques substantially reduces potential pathogens on the hands and is therefore an important measure for reducing the risk of healthcare associated infections. All dental team members must be educated and trained on the importance of proper hand hygiene to protect themselves and their patients.

## **Personal Development Plan and Reflective Learning**

This CPD is linked to the following GDC Enhanced CPD Development Outcome:

**B: Effective management of self and effective management of others or effective work with others in the dental team, in the interests of patients; providing constructive leadership where appropriate.**

**C: Maintenance and development of knowledge and skill within your field of practice.**

**D: Maintenance of skills, behaviours and attitudes which maintain patient confidence in you and the dental profession and put patients' interests first.**

Reflective learning is now a requirement of the GDC Enhanced Professional Development Scheme. As such, you will now need to answer some reflective learning questions, before your certificate is generated. Examples will be provided. Please remember that you need to fill this in on completion of the exam but you can also update this at any time from your CPD log. If you take a few moments to write your reflection on completion, you will have fulfilled the Enhanced CPD requirements

Further Reading

[HTM 01-05- England 2013](#)

[WTHM 01-05 Wales 2014](#)

[SHTM 01-05 Scotland 2024](#)

[The Health and Social Care Act 2008: Code of practice on the prevention and control of infections and related guidance. \(updated 2022\)](#)

[WHO Hand Hygiene: How,Why,When?](#)

[WHO Hand Hygiene Day 2025 Resources](#)

## References

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2. The World Health Organisation (2009) "Hand Hygiene: Why, How and When?" Available at: [https://www.who.int/handhygiene](#) (accessed 05/11/2025)
3. Health and Safety Executive (2017) Structure and Functions of the Skin. Available at: <https://www.hse.gov.uk/skin/professional/structure.htm> (accessed 05/11/2025)
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