



CPD4dentalnurses

YOUR FUTURE IN YOUR HANDS

Infection Prevention and Control Part 1: Principles, Standards and Roles

Aims: To refresh the dental professional's knowledge of infection prevention and control (IPC) guidelines and how to apply them to practice.

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

- Demonstrate a basic knowledge of HTM 01-05 and related guidance.
- Demonstrate knowledge of the Chain of Infection and how it relates to Dental Practice.
- Understand the different roles and responsibilities in disinfection and decontamination procedures.
- Understand the difference between Essential Quality Requirements and Best Practice in disinfection and decontamination.
- Demonstrate knowledge of waste disposal including segregation.
- Demonstrate knowledge of dental disinfection and decontamination guidelines relevant to England, Northern Ireland, Scotland, and Wales.

Introduction

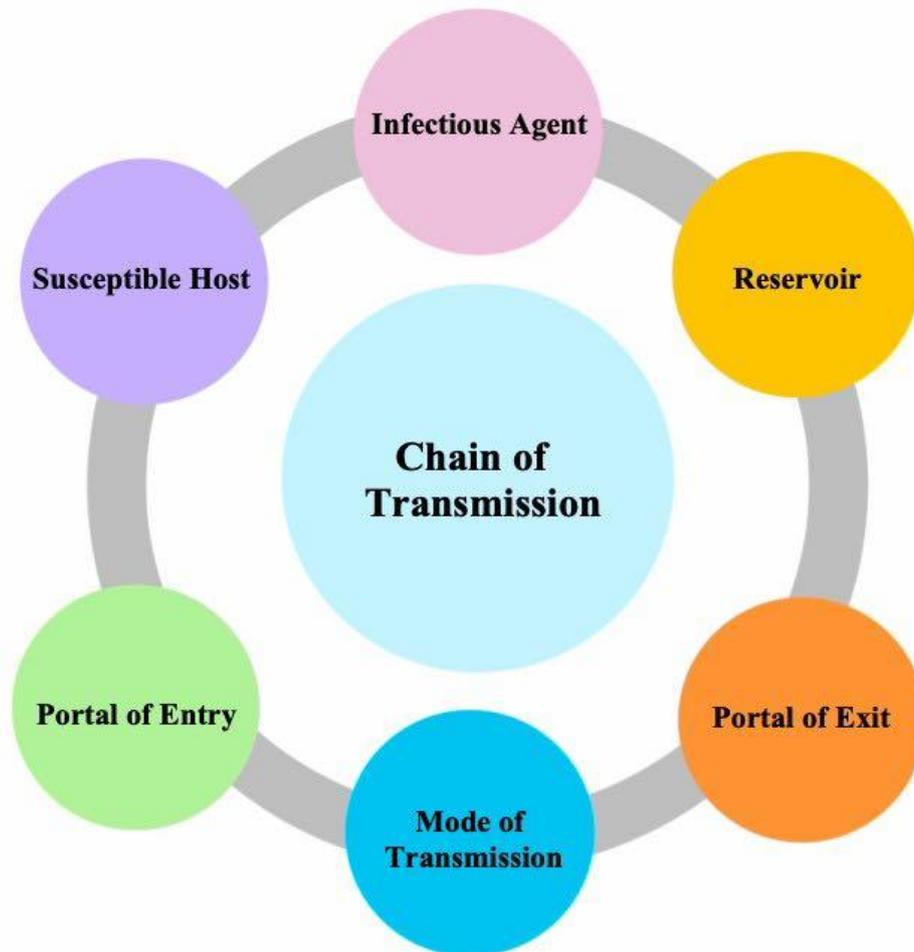


Infection prevention and control (IPC) is an essential responsibility for the dental team. Patients have the right to be treated in a surgery environment that is clean and sterile.¹ Decontamination is “the process by which reusable items are rendered safe for further use and for staff to handle.”¹ The decontamination of instruments and equipment is a necessary requirement to reduce the risk of cross-infection from patient to patient and also between patients and staff.

As part of their registration, dental professionals have a responsibility to demonstrate competence in all aspects of their work and take actions to protect patients. The

GDC's standards guidance 'Standards for the Dental Team', requires dental practices to follow current infection control guidance. Standard 1:5 states: 'You must treat patients in a hygienic and safe environment'²

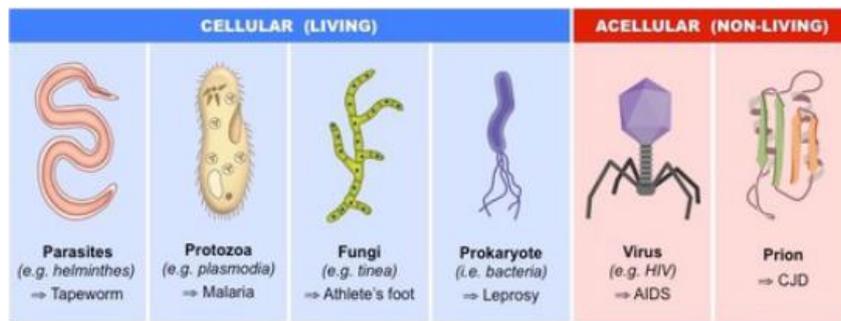
The Chain of Infection



Understanding the chain of infection is essential in dental practice to prevent the spread of infectious diseases and to protect both patients and staff. Decontamination, or the process of removing or neutralising pathogens, plays a critical role in breaking various links in the chain of infection. The Department of Health and Social Care (2024), states that “understanding how infection is spread is crucial for effective IPC.”³

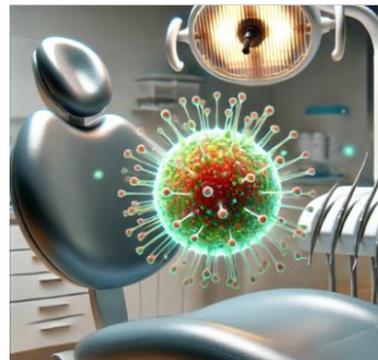
The section below gives examples of how each link in the chain of infection relates to decontamination efforts in a dental setting:

1. Infectious Agent



In dentistry, infectious agents can include bacteria, viruses, and fungi, such as *Staphylococcus*, Hepatitis, and Herpes simplex. Decontamination reduces these pathogens on surfaces, instruments, and hands. Effective sterilisation of dental instruments, use of antimicrobial agents, and routine cleaning help eliminate or minimise these infectious agents.

2. Reservoir



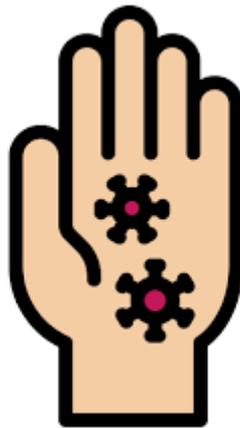
Reservoirs are environments where infectious agents thrive. In a dental practice, this could be equipment, surfaces, instruments, or even the staff and patients. Ensuring that dental chairs, worktops, and instruments are disinfected and sterilised to the correct standards removes these potential reservoirs. Decontamination practices, like sterilising instruments after each patient and using disposable items where possible, help keep surfaces and equipment free of pathogens.

3. Portal of Exit



Infectious agents exit the reservoir through saliva, blood, respiratory droplets, or other bodily fluids. In a dental setting, saliva and blood are commonly present. Using barriers like high-velocity suction, rubber dams, and protective barriers (Personal Protective Equipment), helps limit the release of infectious agents. Decontaminating surfaces immediately after a procedure and disposing of waste properly prevent the spread of these fluids (a full article on waste disposal is available on the website).

4. Mode of Transmission



Transmission in a dental practice can occur through direct contact with contaminated instruments, surfaces, or hands, as well as through respiratory droplets. Routine decontamination of all surfaces, instruments, and hands after each patient breaks this mode of transmission. Instruments are sterilised using validated autoclaves, surfaces are disinfected, and frequent handwashing and hand sanitising are required between each patient interaction (a full article on hand hygiene is available on the website).

5. Portal of Entry



Infection can enter a host through cuts, mucous membranes, or the respiratory tract. In dentistry, potential entry points for both patients and staff include the mouth, eyes, and any open skin. The dental team must adhere to protocols regarding personal protective equipment, safe use of sharps and decontamination procedures to reduce

these risks (a full article on the safe handling and disposal of sharps is available on the website).

6. Susceptible Host

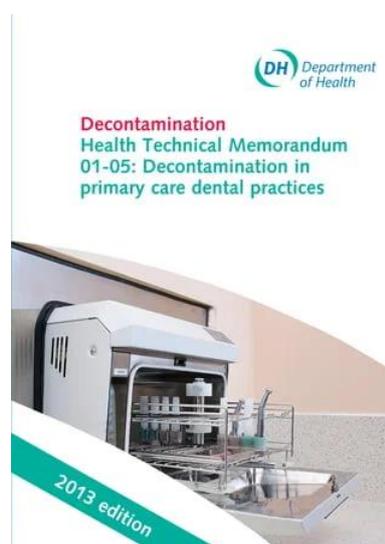


Patients and dental staff can be susceptible hosts, especially if they have weakened immune systems or pre-existing conditions. To minimise risk, decontamination protocols ensure that the environment is safe for everyone, particularly for vulnerable individuals. Vaccination for staff (e.g., against Hepatitis B), rigorous decontamination procedures, and use of personal protective equipment all work to reduce the likelihood of infection.³ (Further information on vaccination is available in the article on blood-borne viruses which is available on the website.)

National Quality Standards

Although each country in the UK has slight variations in its guidelines for good practice, they generally agree on most key issues, even if they occasionally use different terminology. The guidance for England, Northern Ireland, Scotland and Wales can be downloaded in the further reading section and should be read in conjunction with this article, which primarily focuses on HTM 01-05 (2013).

England



HTM 01-05 became a requirement in 2010 and was last updated in 2013. All dental practices must, as a minimum, comply with 'Essential Quality Requirements' (EQR).



The Care Quality Commission (CQC) inspects health and social care providers in England. Infection control within healthcare is the subject of continued debate.⁴

Since April 2011, all dental practices were required to register with the Care Quality Commission (CQC). Part of the requirements for registration with the CQC is to ensure that there is the provision of a “safe, clean environment and appropriate decontamination of dental equipment.”¹

In adhering to this, the aim is to achieve a re-processed dental instrument that is compliant with the Essential Requirements of the Medical Devices Regulations 2002.^{1,5}

Compliance with HTM 01-05 EQR and a documented plan showing how your practice will work towards implementing best practice, enables a practices to meet outcome 8 (regulation 12) of CQC.

The intention of the Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 Regulation 12, is “to prevent people from receiving unsafe care and treatment and prevent avoidable harm or risk of harm.” Furthermore, it states that: “Providers must prevent and control the spread of infection.”⁶ (The Health and Social Care Act 2008: Code of Practice on the Prevention and control of Infections and related Guidance, can be accessed from the further reading section at the end of this article.)

In England, all practices must have a plan to move towards best practice.

Best practice requirements are that:

- A cleaning process that should be carried out using a validated automated washer-disinfector.
- The decontamination facilities should be clearly separate from the clinical treatment area. This implies the use of a separate room or rooms for the accommodation of clean (output) and dirty (input) work.
- The storage of reprocessed dental instruments should be separate from the clinical treatment area.

In England, there is no time frame set for practices to reach best practice standard. However, the plan should outline the way forward in relation to best practice, for example:

- Measures to purchase and incorporate a washer disinfector.
- Measures to separate the decontamination process from the patient area.

Scotland



In Scotland, new revised best practice guidance relating to decontamination came into force at the end of April 2024. The best practice guidance is the Scottish Health Technical Memorandum (SHTM) 01-05.⁷

In Scotland, manual cleaning of instruments can only be used when other methods fail, such as if a washer disinfector fails or is under maintenance.

The Health and Social Care regulator is Health Inspectorate Scotland. (HIS).

Wales



Welsh Health Technical Memorandum (WHTM 01-05) (2014) focuses on practices meeting quality requirements.⁸

In Wales, all practices must have a plan to move towards best practice.

The regulator is Health Inspectorate Wales (HIW).

Northern Ireland



In Northern Ireland, the regulator is the Regulation and Quality Improvement Authority (RQIA).

The Department of Health, Social Services and Public Safety (DHSSPS) has broadly accepted the Department of Health (England) HTM 01-05 document. However, the amendment sheet can be downloaded at the end of this article.

In Northern Ireland, the DHSSPS do not accept manual cleaning as a validated process therefore, manual cleaning of instruments, can only be used when other methods fail, such as if a washer disinfector fails or is under maintenance, or the instrument is not compatible with automated processes.⁹

Standard Infection Control Precautions (SICPs)

The Department of Health (2024), states that SIPs “must be used for all patients, whether infection is known or not.” SICPs are the basic infection, prevention and control measures necessary to reduce the risk of spreading pathogens. They include:

- Hand hygiene.
- Respiratory and cough hygiene.
- Personal Protective Equipment.
- Safe management and care of equipment.
- Safe management of the environment.
- Management of laundry.
- Management of blood and body fluid spills.
- Waste management.
- Management of exposure.¹⁰

Roles and Responsibilities

Dental practices must clearly define roles relating to decontamination and ensure that staff are properly trained. HTM 01-05 specifies the following roles:

- Registered Manager.
- Decontamination Lead.
- Designated Person.
- User.
- Operator.
- Authorised Engineer (Decontamination).
- Competent Person (Pressure Vessels).
- Competent Person (Decontamination).
- Service Engineer/Test Person.
- Infection Control Nurse.
- Microbiologist.¹

Key personnel could be considered to be:

1)The Decontamination lead: Responsible for the overall decontamination procedures within practice and reports to the general manager.

2) The User: This person has day-to-day responsibility for the management of the decontamination equipment and processes and ensures the operators are trained to carry out decontamination procedures. They may also double as the decontamination lead.

3) Operator: The person who uses the equipment on a day-to-day basis and also carries out the daily and weekly tests.

4) Service engineer/Test person: Responsible for ensuring that the machines being used are functioning adequately and that validations are carried out in accordance with the manufacturer's instructions.

Essential Quality Requirements (EQR)

Practices must now have EQR in place. The following are EQR taken from HTM 01-05:¹

- Instruments should be reprocessed using a validated steam steriliser and at the end of the process the instruments should be in a sterilised state.
- The practice should have an up-to-date infection control policy which should be updated as per the Code of Practice or at two-year intervals, whichever is the shorter.
- Within the infection control policy there should be detailed procedures for the decontamination of instruments.
- The practice should have a nominated lead responsible for decontamination and infection control.

- Storage of chemicals should fall within Control of Substances Hazardous to Health (COSHH) guidance (A full article on COSHH is available on the website).
- There should be a clear procedure for the management of single use and reusable instruments. Prior to cleaning, instruments that can be sterilised should be segregated from items that are to be disposed of. Figure 1 shows the sign used to denote instruments that are single use. Instruments that are in packaging with this symbol must not be reprocessed and should be segregated and disposed of in clinical waste.



Fig.1 Sign denoting single use instruments

- Reprocessing of instruments should be undertaken using dedicated equipment. (A full article on reprocessing instruments is available on the website.)
- There should be provision of dedicated hand-washing facilities. In order to be compliant with HTM 01-05, hand wash basins should have sensor or lever operated taps (fig.2) and should not have a plug or an overflow. In addition, taps should not discharge directly into the drain aperture as this may generate aerosols.



Fig 2. Hand wash sinks should be lever or sensor operated and not have a plug or an overflow

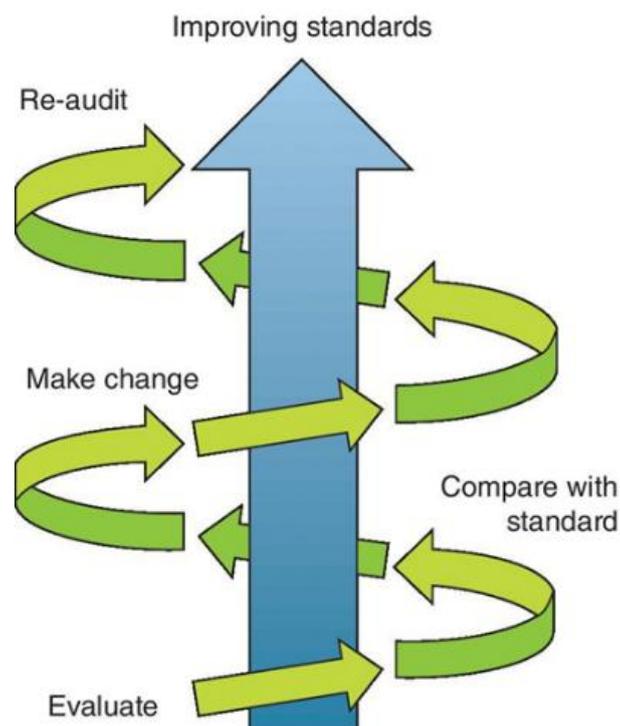
- There needs to be a cleaning and inspection process to ensure cleaning is achieved. Manual cleaning is the least preferred method of cleaning instruments as there is an increased risk of a sharps injury and the process cannot be validated. Prior to sterilisation, all instruments should be checked for debris by using a magnified inspection light.
- There should be separation of instrument reprocessing procedures from other activities. The surgery or decontamination room should have clear 'dirty' to 'clean' areas.

- Equipment used to decontaminate should be fit for purpose and maintained, periodically tested by a competent person.
- There should be appropriate and controlled disposal of waste.
- There should be documented training protocols and records for those staff engaged in instrument decontamination.
- Staff involved with decontamination should demonstrate current immunisation for hepatitis B and subject to local policy, tetanus.
- There should be effective cleaning of hand pieces in accordance with manufacturers' guidelines.
- Washing and rinsing of instruments can be achieved by:
 - Two dedicated sinks.
 - One sink with a removable bowl (which can be contained within the sink that can accommodate the instruments for rinsing). This is the least preferred option as it requires lifting and moving bowls of contaminated water with associated spillage risks. The practice should have clear processes and protocols in place to ensure that the removable bowl is not used for the washing of instruments.

The practice needs to carry out an assessment to identify changes needed to move from 'essential' to 'best practice' requirements.

Further information on best practice can be found in HTM 01-05 which can be downloaded from the link at the bottom of this article. It is mandatory in Northern Ireland and Scotland for dental practices to have a separate decontamination room and washer disinfectant.

Infection Prevention and Control Audit



Clinical audit and quality improvement form part of the practice's quality improvement and risk management. Complying with national guidance shows that you have valid quality assurance systems in place for infection prevention and control. As a minimum, decontamination processes should be audited every six months, with an appropriate review dependent on audit outcomes.¹²

Conclusion

Patients reserve the right to be treated in a surgery environment that is clean and sterile.¹ By understanding the Chain of Infection, national guidance, defined roles and responsibilities and Essential Quality Requirements, dental teams can establish robust policies and protocols that ensure patient care.

Personal Development Plan and Reflective Learning

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

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

Reflective learning is now a requirement of the GDC Enhanced Professional Development Scheme. As such, you will have the opportunity to provide reflection after completing the exam.

Further Reading

[England](#)

[Health and Social Care Act 2008: Code of practice on the prevention and control of infections](#)

[Northern Ireland](#)

[Scotland](#)

[Wales](#)

[Latest Guidance on Managing healthcare staff with symptoms of a respiratory infection or a positive COVID-19 test result \(released March 2023\)](#)

References

1. The Department of Health (2013) Health Technical Memorandum 01-05: Decontamination in primary dental care practice. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/170689/HTM_01-05_2013.pdf (accessed 05/12/2025)
2. General Dental Council (2013) Standards for the Dental Team. Available at: <https://www.gdc-uk.org/standards-guidance/standards-and-guidance/standards-for-the-dental-team> (accessed 05/12/2025)
3. Department of Health and Social Care (2024) Infection prevention and control resource for adult social care. Available at: <https://www.gov.uk/government/publications/infection-prevention-and-control-in-adult-social-care-settings/infection-prevention-and-control-resource-for-adult-social-care> (accessed 05/12/2025)
4. British Dental Association. Infection control in dentistry. Advice Sheet A12. London: BDA, 2003.
5. The Medical Devices Regulations (2002) Available at: <http://www.legislation.gov.uk/ukxi/2002/618/contents/made> (Accessed 05/12/2025).
6. Care Quality Commission (2023) Regulation 12: Safe care and treatment. Available at: <https://www.cqc.org.uk/guidance-providers/regulations-enforcement/regulation-12-safe-care-treatment> (accessed 05/12/2025)
7. NHS National Services Scotland (2024) SHTM 01-05. Available at: <https://www.nss.nhs.scot/publications/management-equipment-and-process-of-the-decontamination-of-dental-instruments-in-a-local-decontamination-unit-ldu-in-nhsscotland-shtm-01-05> (05/12/2025)
8. GIG CYMRU NHS Wales (2014)WHTM 01-05. Available at: <https://nwssp.nhs.wales/ourservices/specialist-estates-services/publications-and-information/welsh-health-technical-memoranda-whtms-health-technical-memoranda-htms/> (accessed 05/12/2025)
9. Health, Social Services and Public Safety (2013) Updated Northern Ireland Guidance on Decontamination in Primary Care Dental Practices: HTM 01-05 20113 Edition. Available at: <https://www.rqia.org.uk/RQIA/files/3f/3fcafc64-d793-4dc6-bb40-f1152a33297b.pdf> (accessed 05/12/2025)
10. Care Quality Commission (2023) Dental mythbuster 12: Validation of decontamination equipment . Available at: <https://www.cqc.org.uk/guidance-providers/dentists/dental-mythbuster-12-validation-decontamination-equipment> (accessed 05/12/2025)