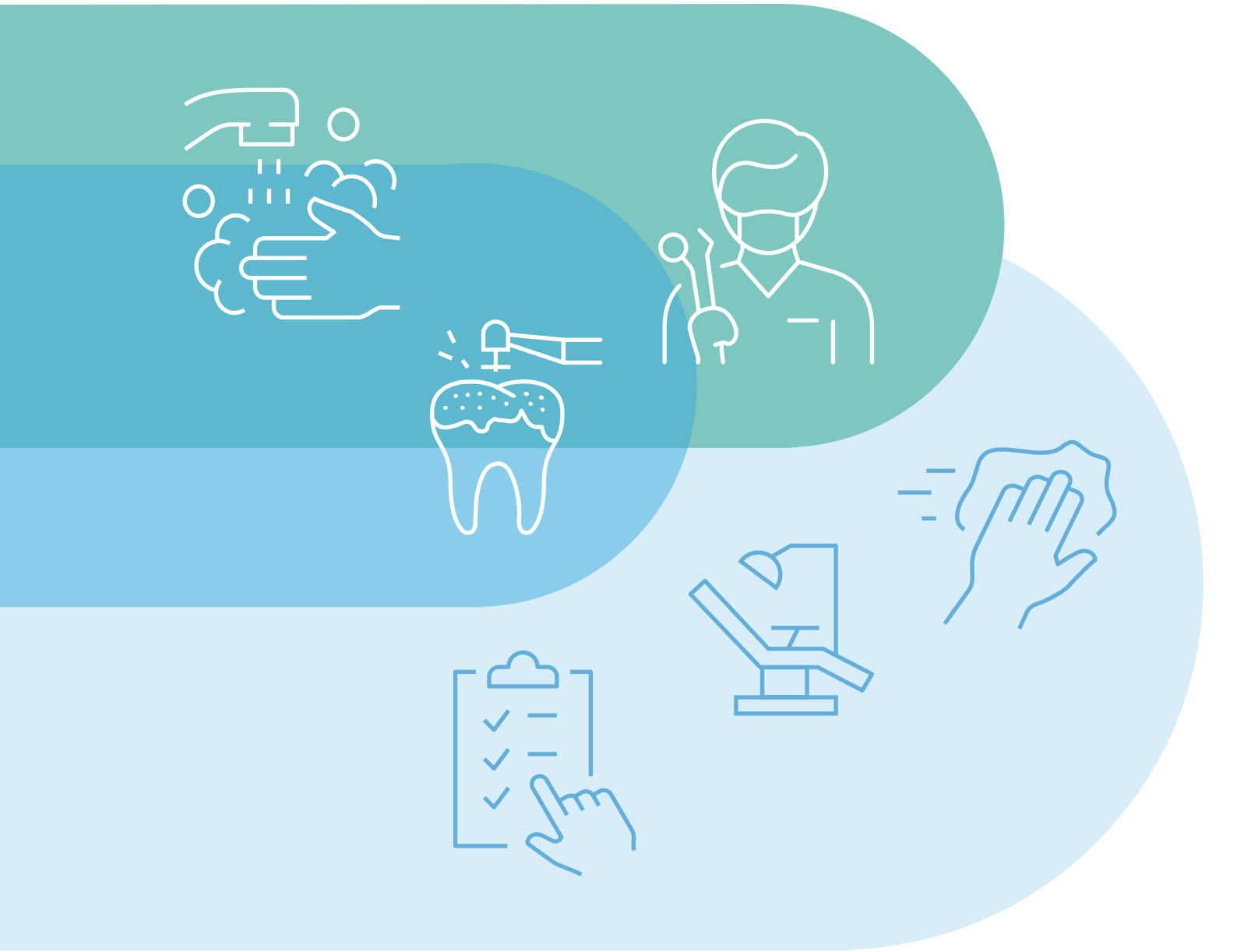
National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services

2nd Edition



RESIST
Antimicrobial Resistance and Infection Control Team

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Note: Original document is Version 0. First revision is Version 1. Second revision is Version 2, and so on.

Note: HSE National 3PGs should be formally reviewed every 3 years, unless new legislative/regulatory or emerging issues/research/technology/audit etc. dictates sooner.

VERSION CONTROL UPDATE			
Version No.	**Date reviewed**	**Section numbers changed**	**Approved by**
1	04/03/2024	As per below table.	David Walsh, National Director, Community Operations
SOP Number	**Key Changes to First Revision**		
1	• Aligned to NCEC Guideline • Additional text on Audit 1.7 • Key Compliance Points		
2	• Aligned to NCEC Guideline • Key Compliance Points		
3	• Aligned to NCEC Guideline • Key Compliance Points		
4	• Aligned to NCEC Guideline • Update to 4.7 • Key Compliance Points		
5	• Inclusion of Point of Care Risk Assessment (PCRA) • Aligned to NCEC Guideline • Updated video and poster resource links on donning and doffing PPE • Key Compliance Points		
6 (a)	• Change to SOP number • Aligned to NCEC Guideline • Reference to HSE Policy on the Management of Sharps and Prevention of Sharp Injuries (2022) • Key Compliance Points		
6 (b)	• Change to SOP number (originally SOP 7) • Aligned to NCEC Guideline • Key Compliance Points		
7	• Aseptic Technique is now a standalone SOP • Removal of reference to ANTT		
8	• Aligned to NCEC Guideline • Section 8.1 - Reference to Infection Control Guiding Principles for Buildings Acute Hospitals and Community Settings (May 2022) • Update to section 8.4 • Key Compliance Points		
9	• Addition of new symbol		

10 (a)	• Change to SOP number (originally SOP 10) • 10.2.1 Addition of Before Use text box • 10.2.2 Protein test increased to weekly test from quarterly test • 10.3.1 Addition of Before Use text box • 10.4.1 Addition of Before Use text box • 10.5.2 Update on Helix Text procedure • Key Compliance Points
10 (b)	• Change to SOP number (originally SOP 11) • Aligned to NCEC Guideline • 11.5 Domiciliary Care is now standalone SOP • Key Compliance Points
10 (c)	• New SOP on Decontamination of Inhalation Sedation (IS) Equipment
11	• New SOP on Domiciliary Care & School Screening
12	• Aligned to NCEC Guideline • Key Compliance Points
13	• Aligned to NCEC Guideline • Addition to 13.12 • Key Compliance Points
14	• Additional References Page 1 • Additional text in relation to disposal of controlled drugs 14.2 • Key Compliance Points
15	• Aligned to NCEC Guideline
16	• Aligned to NCEC Guideline • Aligned to Updated National Antimicrobial Prescribing Guidelines for Dentists • Update on Principles of Antimicrobial Stewardship in Dentistry • Key Compliance Points

Publication Information

Title:

National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services

Topic:

Infection Prevention and Control – HSE Dental and Orthodontic Services

National Group:

HSE Dental and Orthodontic Services

Short summary:

Guideline purpose to ensure that care is provided in a clean and safe environment that minimises the risk of transmitting infection.

Description:

Implementing appropriate infection prevention and control procedures is vital for patient and staff safety and is the responsibility of every member of the dental team. Understanding how infections are transmitted and how and when to apply the basic principles of IPC is essential for successful infection prevention and control. Dental and Orthodontic Staff compliance with these IPC standards is mandatory. IPC is integral to all clinical care.

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1. Purpose and Outcome

Title of Guideline:

HSE National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services.

Purpose and Outcome

The purpose of an Infection Prevention and Control (IPC) guideline in the dental setting is to help ensure that '*Care is provided in a clean and safe environment that minimises the risk of transmitting a healthcare-associated infection'* (HIQA (2018) Theme 2 Infection Prevention and control in the community).

Implementing appropriate infection prevention and control procedures is vital for patient and staff safety and is the responsibility of every member of the dental team. Understanding how infections are transmitted and how and when to apply the basic principles of IPC is essential for successful infection prevention and control. Dental and Orthodontic Staff compliance with these IPC standards is mandatory, an ethical obligation, and is fundamental to quality care and excellence in dentistry. IPC is integral to all clinical care and the manner in which it is provided.

The outcome of implementing this policy will be that a consistent approach will be applied across all HSE dental settings to ensure safe and supportive practice, to prevent the spread of infection and a reassurance to service users that interventions will be employed as appropriate to reduce any risk of harm to service users in receipt of dental care/treatment.

Patient-Centred Approach

Patient-centred healthcare is respectful of, and responsive to, the preferences, needs and values of patients and the best possible outcomes are more likely where patient-centred healthcare is a priority of the healthcare facility and a strong and consistent effort is made to respect patients' rights and expectations. To support a two-way approach to infection prevention and control and encourage the patient participation required to minimise cross-infection or transmission, it is important to:

- Take patients' perspectives into account when developing policies and programmes
- Familiarise patients with the infection prevention and control strategies that are employed in healthcare facilities to protect them, the people caring for them and the healthcare environment
- Discuss with patients the specific risks associated with their medical and/or surgical treatment
- Encourage patients to disclose their health or risk status if there is a potential risk or source of infection to healthcare workers or others within the healthcare facility
- Provide opportunities for patients to identify and communicate risks and encourage them to use feedback procedures for any concerns that they have about infection prevention and control procedures
- Provide educational materials about infection prevention and control.

Aim: By assisting HSE Dental and Orthodontic staff to improve the quality of the care they deliver in our service, this Guideline aims to promote and facilitate the overall goal of IPC: the creation of clean and safe dental and orthodontic healthcare environments through the implementation of evidence-based practices that minimise the risk of transmission of infectious microorganisms**.**

Scope: This document gives national guidance to all HSE dental and orthodontic staff on Infection Prevention and Control procedures in the community dental, orthodontic clinics, domiciliary and school settings.

Out of scope: This document does not include guidance on Dental Inpatient acute hospital services.

Target users: This document is applicable to all HSE Dental Staff members, Dentists, Specialist Dentists, Consultant and Specialist Orthodontists, Orthodontic Therapists, Oral Surgeons, Hygienists and Dental Nurses (including agency, locum and temporary staff or session staff). It is intended as a reference document to provide guidance and direction to all dental and orthodontic staff on Infection Prevention and Control procedures which are then supported by local protocols.

Population to whom it applies; The service users (and those accompanying them) attending HSE Dental and Orthodontic Services.

2. Standard precautions

All people potentially harbour infectious microorganisms. Standard precautions refer to those work practices designed to break the chain of infection. They are the minimum set of infection prevention control practices to be followed for all patients in all healthcare facilities at all times. Furthermore, all patients must be regarded as potentially infectious in any setting where healthcare is delivered. Implementing standard precautions as a first line approach to IPC in the healthcare environment minimises the risk of transmission of microorganisms from person to person, even in potentially high risk situations.

It is essential that standard precautions are applied at all times. This is because:

- People may be placed at risk of infection from others who carry infectious microorganisms
- People may be infectious before signs or symptoms of disease are recognised or detected, or before laboratory test results are available
- People may be at risk from infectious microorganisms present in the surrounding environment including environmental surfaces or from equipment
- There may be an increased risk of transmission associated with specific procedures and practice.

Successful infection prevention and control involves implementing work practices that reduce the risk of the transmission of microorganisms through a two-tiered approach:

I. Routinely applying **standard precautions** strategies to minimise risk to patients and healthcare staff; including hand hygiene, appropriate personal protective equipment, cleaning and safe handling and disposal of sharps.

II. Effectively managing microorganisms where standard precautions may not be sufficient on their own, these specific interventions control infection by interrupting the mode of transmission (**transmission-based precautions** formerly referred to as additional precautions). These measures are in addition to standard precautions.

Table 1: Examples of standard precautions
Department of Health (2023). NCEC National Clinical Guideline No. 30 Infection Prevention and Control.

How standard precautions are implemented:
Personal hygiene practices, particularly **hand hygiene, according to the WHO 5 moments** for Hand Hygiene, aim to reduce the risk of contact transmission of infectious agents (SOP 1).
Practising **respiratory hygiene and cough etiquette** reduces the risk of transmission of infection (SOP 2).
Appropriate use of **personal protective equipment**, which may include gloves, gowns, plastic aprons, masks/ face-shields and eye protection, aims to prevent exposure of the healthcare worker and patients to infectious agents (SOP 5).
Safe **handling and disposal of sharps, including safe injection practices,** assists in preventing transmission of blood-borne diseases to healthcare workers (SOP 6).
Environmental controls, including cleaning and spills management, assist in preventing transmission of infectious agents from the environment to patients (SOP 8).
Aseptic technique aims to prevent microorganisms on hands, surfaces or equipment from being introduced into a susceptible site (SOP 7).
Management of patient care equipment including **single-use equipment** (SOP 9) and the appropriate **reprocessing of reusable equipment and instruments** (SOP 10).
Appropriate **handling of waste** assists in reducing transmission of infectious agents (SOP 14).

3. Transmission-based precautions

Any IPC strategy should be based on the use of standard precautions as the minimum level of control.

Transmission-based precautions are required as additional work practices in situations where standard precautions alone may be insufficient to prevent transmission of infectious microorganisms. Transmission-based precautions should be tailored to the particular infectious microorganism involved and its mode of transmission. Transmission-based precautions are in addition to standard precautions, required where the patient is known or suspected of having a highly transmissible infection. These highly transmissible infections may be spread by one or more routes such as Contact, Droplet and/or Airborne transmission.

- **Contact precautions** are used when there is a known or suspected risk of direct or indirect contact transmission of infectious microorganisms that is not effectively contained by standard precautions alone, e.g. meticillin-resistant *Staphylococcus aureus* (MRSA). Direct contact transmission occurs when microorganisms are transferred from one person to another. Indirect contact transmission involves the transfer of microorganisms through a contaminated intermediate object, surface or person, for example the hands of a healthcare worker after touching an infected body part.
- **Droplet precautions** are used for patients known or suspected to be infected with microorganisms transmitted over short distances by large respiratory droplets. This can occur when an infected person coughs, sneezes or talks and during certain procedures. Respiratory droplets may transmit infection when they travel directly from the respiratory tract of an infected person to a susceptible mucosal surface (nasal, conjunctiva or oral) of another person, generally over short distances. They can contaminate surfaces in the treatment zone which can then be involved in onward transmission from the surface by contact transmission, e.g. Influenza virus, SARS-CoV-2 virus and Mumps virus.
- **Airborne precautions** are used for people who use healthcare services who are known or suspected to be infected with microorganisms transmitted from person to person by the airborne route and for microorganisms transmitted by droplets when aerosol generating procedures (AGPs) associated with an increased risk of infection are performed. Examples of microorganisms transmitted by aerosols are Mycobacterium tuberculosis and measles (rubeola virus), SARS-CoV-2, and chicken pox (varicella-zoster).

Transmission-based precautions are risk-based and are used in addition to standard precautions when required as outlined in the summary table below. **Non-urgent treatment should always be deferred if droplet or airborne precautions are necessary**. If the patient requires urgent treatment, the dentist must minimise the risk of exposing staff and other patients to infection and may need to seek advice from infection prevention and control specialists as appropriate.

Examples of strategies for implementing transmission-based precautions

- HCWs perform a Point of Care Risk Assessment (PCRA-Figure 1) when a person first presents to a service in any setting in order to anticipate and communicate the potential need for transmission-based precautions at every step of subsequent care.
- Wearing specific personal protective equipment, as determined by the Point of Care Risk Assessment (PCRA), and removal after use.
- Providing patient-dedicated equipment, which is appropriately decontaminated before and after treatment use.
- Providing a clean environment, which is appropriately cleaned and disinfected, before and after treatment use.
- Using specific air handling techniques when required.

Table 2: Examples of when transmission-based precautions are required

Summary of categories: Examples of when transmission-based precautions are required

Route	Contact	Droplet	Airborne
When are transmission-based precautions required	Patient confirmed infectious for: • MRSA • Norovirus • Confirmed/ Suspected *Clostridioides difficile* Infection • Carbapenemase-producing Enterobacteriales (CPE).	• Seasonal influenza • COVID-19 • Mumps virus	• Active tuberculosis, i.e. Active TB with mycobacterium tuberculosis • Influenza virus • COVID-19 • Chicken pox (varicella-zoster) • Measles
Additional PPE required for transmission-based precautions	• Gloves and apron	• Surgical face mask • Eye and face protection	• Respirator mask • Eye and face protection • Apron/Gown

4. Standard Operating Procedures

The HSE National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services incorporates the following standard operating procedures (SOPs);

Table 3: Standard Operating Procedures

SOP No.	Description
1	Hand Hygiene
2	Respiratory Hygiene and Cough Etiquette
3	Personal Responsibilities of Staff
4	Immunisation/Vaccinations
5	Personal Protective Equipment
6a	Management of Sharps/Prevention of Sharps Injuries
6b	Management of Occupational Blood and Body Fluid Exposures
7	Aseptic Technique
8	Routine Management of the Physical Environment
9	Appropriate Use of Single-Use Items
10a	Decontamination of Reusable Invasive Medical Devices
10b	Cleaning and Disinfection of Patient Care Equipment
10c	Decontamination of Inhalation Sedation (IS) Equipment
11	Domiciliary Care and School Screening
12	Care of Dental Suction Systems
13	Care of Dental Unit Waterlines and Water Quality
14	Waste Management
15	Service Animals
16	Dental Antimicrobial Stewardship, Infectious Diseases and Multidrug Resistant Organisms (MDROs)

SOP 1 Hand Hygiene

Effective hand hygiene is the single most important strategy in preventing healthcare associated infections (HCAIs). Healthcare associated infections (HCAIs) are infections that can develop either as a direct result of healthcare interventions such as medical or surgical treatment, or from being in contact with a healthcare setting. The term HCAI includes any infection acquired as a direct result of treatment in any health or social care setting or as a result of healthcare delivery in the community.

1.1 Hand hygiene education and training is vital to ensure that staff have the knowledge and skills to identify opportunities for hand hygiene and to perform hand hygiene using an effective technique. Staff must complete mandatory hand hygiene training on induction and **at least every two years thereafter.**

The following hand hygiene training approaches are recommended:

- Face to face learning theory and practical from a Hand Hygiene trainer/IPC link practitioner/Infection prevention and control nurse (IPCN).
- Blended approach: theory online e-learning module and practical learning from a Hand Hygiene trainer/ IPC link practitioner/IPCN.

The 'AMRIC Hand Hygiene' online training module can be accessed at: **www.hseland.ie**

Click on the 'hubs and resources', select AMRIC Hub, view hub, select modules tab which links to all the AMRIC modules, select Hand hygiene and enrol.

1.2 Dental facilities should have the following in place to support effective hand hygiene:

- Dedicated clinical hand wash basins (as per HBN 00-10 specifications) with liquid soap dispenser (cartridge type), paper towel dispenser and a foot operated non healthcare risk waste container
- Access to HSE approved alcohol-based hand rubs (ABHRs) at the point of care
- Alcohol-based hand rubs that meet the requirements of European Standard EN 1500 should be used for routine hand hygiene practices
- HSE hand wash/alcohol-based hand rub signage displaying the approved hand hygiene technique
- Access to HSE approved hand creams/moisturisers. Staff should regularly use hand moisturising agents to reduce irritation and maintain the integrity of the skin
- It is advisable that hand hygiene and hand care products are from a range made by a single manufacturer as this can reduce risk of incompatibility between the products

1.3 Staff should implement the following:

- Wear short sleeved clothing when delivering patient care with the forearms bare for 5 to 10cm above the wrist
- Remove wrist jewellery
- Remove hand jewellery (a single plain band (no stones) may be worn)
- Keep fingernails short and clean, and not wearing artificial fingernails and/or nail polish
- Cover cuts and abrasions with a waterproof dressing

1.4 Perform hand hygiene using an ABHR or soap and water using an appropriate technique (e.g. WHO) in line with the WHO 5 Moments for Hand Hygiene.

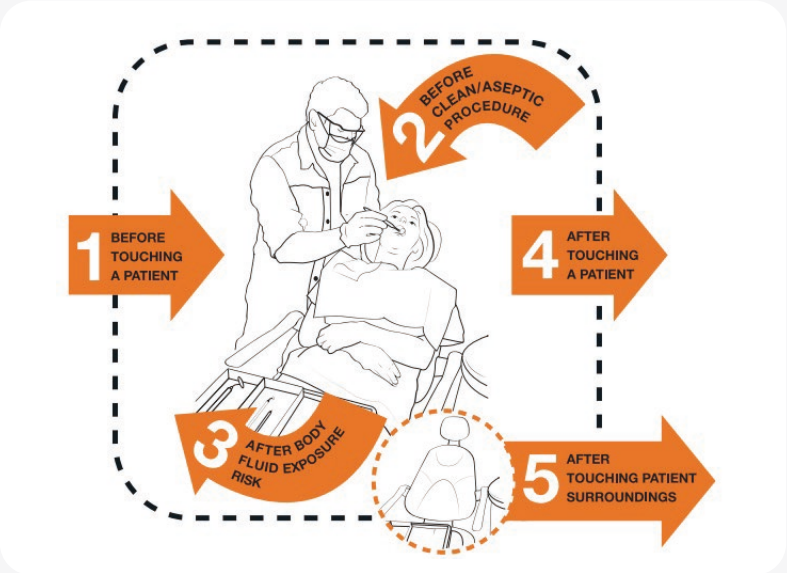

Table 4: World Health Organisation – 5 Moments for Hand Hygiene.

1. Before touching a patient	**When:** Clean your hands before touching a patient **Why:** To protect the patient against harmful germs carried on your hands
2. Before clean/aseptic procedure	**When:** Clean your hands immediately before performing a clean/aseptic procedure **Why:** To protect the patient from harmful germs (including the patient's own) from entering his/her body.
3. After body fluid exposure risk	**When:** Clean your hands immediately after a procedure involving exposure risk to body fluids (after glove removal) **Why:** To protect yourself and the environment from harmful patient germs
4. After touching a patient	**When:** Clean your hands after touching a patient at the end of the encounter or when the encounter is interrupted **Why:** To protect yourself and the environment from harmful patient germs
5. After touching patient surroundings	**When:** Clean your hands after touching any object or furniture in the patient's surroundings when a specific zone is temporarily and exclusively dedicated to a patient – even if the patient has not been touched. **Why:** To protect yourself and the environment from harmful patient germs

1.5 Additional situations when hand hygiene should be performed:

- At the start and end of the working day
- After visiting the toilet
- When visibly soiled
- Before putting on gloves and after removing gloves
- Before handling computer keyboards, laptops, mobile phones, tablets in clinical areas
- After handling laundry/equipment/waste
- After blowing/wiping/touching own nose and mouth
- Before preparing medication
- Before handling or eating food.

1.6 Hand Hygiene Considerations

Hand hygiene can be carried out in the following ways:

- Using alcohol-based hand rub (ABHR)
- Washing with plain liquid soap and water followed by patting dry with single use towels.

Best practice is for dental staff to use ABHR between patient appointments and during interruptions within the appointment. ABHR can be used as frequently as necessary. Alcohol-based hand rub gel/foams are the preferred method for hand hygiene when the hands are not soiled and are visibly clean. Moisturiser must not be applied before glove placement. A moisturiser (compatible with glove wearing) should be applied up to four times a day, e.g. when leaving the clinical area. When hands are visibly soiled, ABHR is not recommended and hands must be washed with soap and water.

Hand hygiene in the presence of gastrointestinal tract infection, e.g. *Clostridioides difficile*/noroviruses;

- In the presence of known or suspected *Clostridioides difficile* and viruses such as norovirus hand hygiene must be performed as follows: If gloves are worn and appear intact on removal, then alcohol-based hand rub remains the agent of choice for hand hygiene. If gloves have not been worn, if gloves have been breached or if there is visible contamination of the hands despite glove use, use soap and water to facilitate the mechanical removal of spores.
- After washing, hands should be dried thoroughly with a single-use paper towel.
- Where possible people who are actively infectious should not attend for dental care except in an emergency.

Use alcohol-based hand rub/Gels/Foam:

Hand rubs are very effective antimicrobial agents. They should be applied to hands for a minimum of 20 seconds or as per manufacturer's instructions, using an adequate volume to completely wet the hands.

ABHR

Alcohol-based hand rubs that meet the requirements of European Standard EN 1500 with between 60% and 80% v/v ethanol or equivalent should be used for all routine hand hygiene practices. These are kinder to the skin than soaps or antiseptic hand wash. Repeated use of an alcohol hand rub can lead to an excessive build up emollient on the hands; this should be removed by periodic washing with soap and water. Ensure that all alcohol has evaporated before handling compressed medical oxygen cylinders or equipment.

Use of emollient hand cream/moisturiser

Appropriate use of HSE-approved emollient hand lotion or moisturisers added to hand hygiene preparations is an important factor in maintaining skin integrity, encouraging adherence to hand hygiene practices and assuring the health and safety of healthcare workers.

Healthcare workers should be educated about the risk of irritant contact dermatitis and other skin damage and should have access to appropriate healthcare if they experience a workplace related skin condition. An emollient hand cream should be applied regularly, such as after performing hand hygiene, before a break or going off duty. Hand cream should be provided in a manner that reduces the risk of spread of microorganisms as a result of contamination of the cream or the container. Where moisturising creams are required for use when administrating medical gases, oil based creams should not be used.

Key factors in effective hand hygiene and maintaining skin integrity include:

Effective Hand Hygiene

- Use ABHR for hand hygiene at all times unless indicated otherwise. It is faster, more effective, better tolerated and can always be available at point of care
- Perform hand hygiene using the correct technique and time duration i.e. ABHR 20-30 seconds or Soap and Water 40-60 seconds
- Follow the WHO *5 Moments of Hand Hygiene* approach. Perform hand hygiene when there is an indication to do so
- The exposure of all surfaces of hands and wrists to the preparation used
- The use of rubbing to create friction.

To maintain skin integrity

- Wet hands before dispensing soap
- Ensure hands are completely dry after hand hygiene
- Regular use of a HSE approved emollient hand cream/moisturiser

Alcohol-Based Hand Rub Technique

- Effective hand hygiene using alcohol-based hand rub (ABHR) involves a series of steps and should take at least 20 seconds.
- Hands should be free of dirt and organic material (alcohol is ineffective in the presence of dirt).
- Dispense, as per manufacturer's instructions, the required volume of alcohol-based rub/gel into the palm of the hands to adequately cover hands.
- Use the WHO technique – listed below.
- Each step is repeated to ensure the ABHR will come into contact with all surfaces of the hands and wrist without the product drying out.

Steps to be followed or procedure or sequence to be followed when applying ABHR:

1. Dispense enough ABHR to cover all hand surfaces rub hands palm to palm.
2. Right palm over left dorsum with interlaced fingers and vice versa.
3. Palm to palm with fingers interlaced.
4. Back of fingers to opposing palm with fingers interlocked.
5. Rotational rubbing of left thumb clasped in right palm and vice versa.
6. Rotational rubbing backwards and forwards with clasped fingers of right hand, including wrist, in left palm and vice versa.
7. Once dry your hands are safe.

Hand Washing Technique

- Effective hand washing technique involves a sequence of events and should take 40-60 seconds for entire procedure.
- Wet hands and wrists under running water.
- Dispense liquid soap (enough to form lather) into a cupped hand.
- The liquid soap must come into contact with all surfaces of the hands and wrists using the technique listed below.
- Each step includes five repeats of the movement.

Steps to be followed or procedure or sequence to be followed when carrying out handwashing:

1. Wet hands with water
2. Apply enough soap to cover all hand surfaces.
3. Rub hands palm to palm.
4. Right palm over left dorsum with interlaced fingers and vice versa.
5. Palm to palm with fingers interlaced.
6. Backs of fingers to opposing palms with fingers interlocked.
7. Rotational rubbing of left thumb clasped in right palm and vice versa.
8. Rotational rubbing backwards and forwards with clasped fingers of right hand in left palm and vice versa.
9. Rinse hands with water.
10. Dry hands thoroughly with single use towel.
11. Use towel to turn off tap (if elbow operated taps are unavailable).
12. Your hands are now safe.

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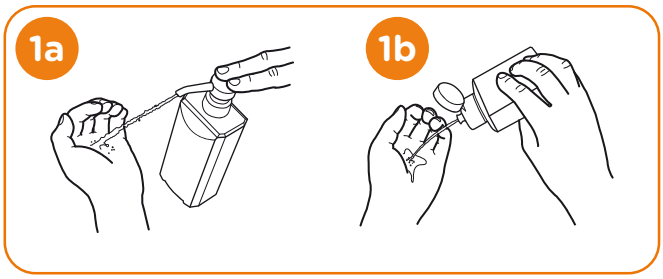
How to handrub

Rub hands with hand sanitiser for hand hygiene. Wash hands when visibly dirty.

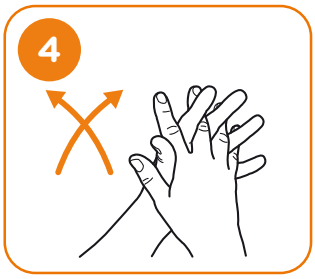
Length of time to use handrub: 20-30 seconds



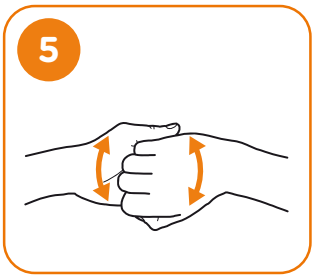
Apply a palmful of the product in a cupped hand, covering all surfaces

Rub hands palm to palm

Right palm over the back of the left hand with interlaced fingers and do same on other hand

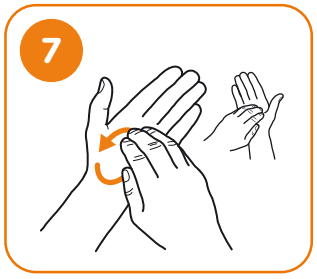


Palm to palm with fingers interlaced

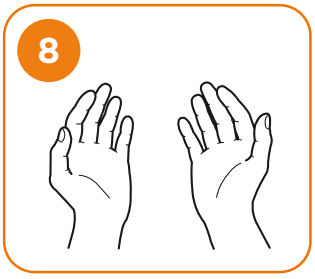


Backs of fingers to opposite palm with fingers interlocked

Rotational rubbing of left thumb clasped in right palm and do same on other hand



Rub in a circle with clasped fingers of right hand in left palm do same on other hand



Once dry, your hands are safe

RESIST

www.hse.ie/infectioncontrol

Refer to HSE Hand Washing and Hand Rubbing Technique posters

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How to hand wash

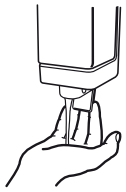
Wash hands when visibly soiled. Otherwise, use handrub with hand sanitiser.

Length of time to spend washing: 40-60 seconds

1

Wet hands with water

2

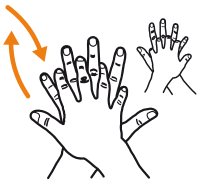


Apply enough soap to cover all hand surfaces

3

Rub hands palm to palm

4



Right palm over the back of the left hand with interlaced fingers and do same on other hand

5

Palm to palm with fingers interlaced

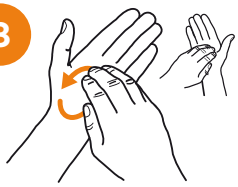
6

Backs of fingers to opposite palm with fingers interlocked

7

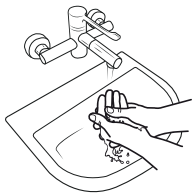
Rotational rubbing of left thumb clasped in right palm and do same on other hand

8



Rub in a circle with clasped fingers of right hand in left palm do same on other hand

9

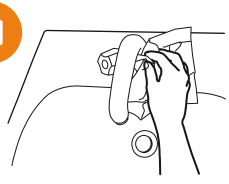


Rinse hands with water

10

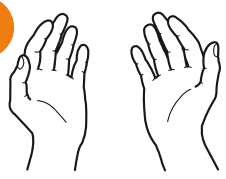
Dry hands thoroughly with a clean towel or single use towel

11



For non-clinical hand wash basins turn off the tap with a tissue

12



Your hands are now safe

RESIST

www.hse.ie/infectioncontrol

Refer to HSE Hand Washing and Hand Rubbing Technique posters

1.7 Audit

It is recommended that an audit on facilities be carried out in the Dental/Orthodontic Surgery to monitor that appropriate products are available to carry out effective Hand Hygiene as advised by Dental Council's IPC Code of Practice (2015).

Key Compliance Points for SOP 1 Hand Hygiene

- Staff must complete hand hygiene training on induction and **at least every two years therafter.**
- Wear short sleeved clothing when delivering patient care with the forearms bare for 5cm to 10cm above the wrist.
- Keep fingernails short and clean, and not wearing artificial fingernails and/or nail polish.
- Avoid wearing wrist jewellery/rings with stones (one plain band only).
- Perform Hand Hygiene using an ABHR or soap and water using an appropriate technique in line with the WHO *5 Moments for Hand Hygiene.*
- Key factors in effective hand hygiene and maintaining skin integrity include:

  Effective Hand Hygiene

  - Use ABHR for hand hygiene at all times unless indicated otherwise. It is faster, more effective, better tolerated and can always be available at point of care.
  - Perform hand hygiene using the correct technique and time duration
  - Follow the WHO *5 Moments of Hand Hygiene* approach. Perform hand hygiene when there is an indication to do so.
  - The exposure of all surfaces of hands and wrists to the preparation used
  - The use of rubbing to create friction.

  To maintain skin integrity

  - Wet hands before dispensing soap.
  - Dry hands completely after hand hygiene.
  - Use a HSE- approved emollient hand cream/moisturiser regularly.

- Refer to HSE Hand Washing and Hand Rubbing Technique posters

SOP 2 Respiratory Hygiene and Cough Etiquette

Respiratory hygiene is vital to prevent the spread of respiratory infections (influenza, COVID-19, Respiratory syncytial virus (RSV) and colds) via aerosol and droplet contamination. Respiratory hygiene and cough etiquette must be applied as per standard infection prevention and control precautions at all times.

Covering sneezes and coughs prevents infected persons from dispersing respiratory secretions into the air. Hand hygiene must be performed after coughing, sneezing, using tissues, after contact with respiratory secretions or objects contaminated by these secretions. Wearing a surgical face mask (if tolerated) assists in reducing dissemination of respiratory virus in symptomatic patients and should be offered to all patients with symptoms of viral respiratory tract infection presenting in a healthcare setting. Use of a mask is in addition to and not instead of the requirement to maintain distance from others. In the context of increasing respiratory illness in the community, more general use of surgical face masks by patients and staff in the healthcare setting may be advised to manage risk of virus shedding by pre-symptomatic, minimally symptomatic or asymptomatic individuals.

Steps in respiratory hygiene and cough etiquette

Where possible people who are actively infectious should not attend for dental care except in an emergency. Post visual alerts including signs, posters at the entrance to the facility and in strategic places (e.g. waiting areas, elevators, cafeterias) to provide patients and HCWs with instructions (in appropriate languages) about hand hygiene, respiratory hygiene, and cough etiquette. Anyone with signs or symptoms of a respiratory infection, regardless of the cause, should follow or be instructed to follow respiratory hygiene and cough etiquette as follows:

- Cover the nose with disposable single use tissues when coughing, sneezing, wiping and blowing nose.
- Use tissues to contain respiratory secretions.
- Dispose of tissues in the nearest waste receptacle or container after use.
- If no tissues are available, cough or sneeze into the inner elbow rather than the hand.
- Perform hand hygiene after contact with respiratory secretions and contaminated objects or materials.
- Keep contaminated hands away from the membranes of the mouth, eyes and nose.
- In healthcare facilities, patients with symptoms of respiratory infections should sit as far away from others as possible and wear a surgical face mask if they can tolerate this. If available and compatible with patient care, healthcare facilities should place these patients in a separate area while waiting for care.
- It is important to note that some people cannot tolerate wearing a mask therefore access to healthcare cannot be declined on the basis that a person is not able to wear a mask.

Healthcare workers with viral respiratory tract infections should not attend for work and should follow current national guidelines in relation to work exclusions. (Refer to 3.7.2 NCEC **Infection Prevention and Control (IPC) National Clinical Guideline 30**)

In the context of increasing respiratory illness in the community or in the context of specific infectious diseases there may be a requirement for longer periods of absence from work.

Respiratory hygiene posters are available to download here or to order free from HSE Health Promotion.

Elearning resources are available on the following link:

Log on to HSELanD at **www.HSeLanD.ie**. Click on the 'hubs and resources', select AMRIC Hub, view hub, select modules tab which links to all the AMRIC modules.

Click on AMRIC Respiratory Hygiene and Cough Etiquette to access this module, select view module and select Enrol.

Link to Respiratory Hygiene poster

Key compliance points for SOP 2 Respiratory Hygiene and Cough Etiquette

1. Where possible people who are actively infectious with respiratory symptoms should not attend for dental care except in an emergency.
2. Post visual alerts including signs, **posters** at the entrance to the facility and in strategic places (e.g. waiting areas, elevators, cafeterias) to provide patients and HCWs with instructions on respiratory hygiene and cough etiquette to highlight the need to:
   - Cover the nose with disposable single use tissues when coughing, sneezing, wiping and blowing nose.
   - Use tissues to contain respiratory secretions.
   - Dispose of tissues in foot pedal operated non-healthcare risk waste container.
   - Perform hand hygiene when hands have been in contact with respiratory secretions.

SOP 3 Personal Responsibilities of Staff

3.1 Surgery Clothing

Personal Preference

The guiding principle is that all staff who work in healthcare settings must accept that the requirement for staff and patient health and safety takes priority over any personal preferences with respect to dress and appearance regardless of the basis for that preference.

Uniform

- Refer to section 3.3.1 NCEC **Infection Prevention and Control (IPC) National Clinical Guideline 30**.
- Studies show that uniforms can become contaminated with a variety of pathogens.
- Uniforms and scrub suits are not Personal Protective equipment (PPE). In areas of clinical practice where there is a high risk of repeated exposure to blood and other body substances, it is recommended that uniforms/scrub suits be worn and then the appropriate personal protective equipment be donned.
- Healthcare workers should wear a clean uniform/scrub suit for each shift. Uniforms should preferably be washed at 60°C with laundry detergent.
- Staff should have sufficient uniforms and scrub suits to comply with this arrangement. The clinical day should begin with staff changing from their own clothes into their uniform in the work environment and uniforms must be removed at lunch-time, if leaving the building and before travelling home.
- If uniform becomes visibly soiled during an operative procedure, they must be changed between patients.
- Short sleeves are recommended. Disposable sleeves are available if required.
- A dental healthcare worker who wishes to cover their forearms has a responsibility to ensure that the following requirements are fully complied with:
    1. The top must be made from a fabric that permits hot wash (60°C in detergent).
    2. A freshly laundered uniform/scrub suit must be worn for each shift/each day working in the dental clinic.
    3. The top must be specifically for use in the dental clinic and must not be worn while travelling to or from work.
    4. The sleeves must fit closely to the forearm at least 5-10 cm above the wrist to ensure that it does not interfere with correct performance of hand hygiene and does not become wet when performing hand hygiene.
- Shoes must protect feet from injury. Closed-in, impervious shoes must be worn in the clinical setting. Open-toed footwear/sandals/flip-flops/canvas or permeable fabrics are not permitted. Used uniforms must be treated as contaminated, even if not visibly soiled.
- If dental staff need to wear any items of their own clothing in the surgery then similar hygiene measures should be employed in accordance with local policy.
- Disposable shoe covers are not appropriate for IPC purposes.
- Staff should have name badges on display, which may be wipeable or embroidered onto uniforms.
- Dangling or clip on ear rings should not be worn. Small stud or secured small hoop earrings may be worn.
- The wearing of lanyards and neckties should generally be avoided as evidence indicates these pieces of clothes may facilitate transmission of infection. Prior to entering clinical areas, long hair must be tied back and secured off the collar, using minimum accessories. Long fringes should be clipped back off the face. Beards must not make contact with the patient or clinical environment when treating a patient.

3.2 Mobile devices

The increasing use of mobile phones and tablets present unique challenges in the healthcare setting, because they are frequently touched by the hands of HCWs (with and without gloves), they are used in multiple patient rooms and other potentially contaminated environments or are carried in pockets or on lanyards. It is important that all mobile devices, including tablet computers, mobile phones and personal digital assistant devices (PDAs) are used and managed safely, to minimise the risk of cross-infection and ensure patient care and safety is not compromised. The following precautions should be taken by HCWs:

- Avoid bringing personal mobile devices with you when attending to a patient who requires transmission-based precautions, when performing any activity that requires extended close patient contact or when performing an aseptic technique.
- Perform hand hygiene as per the 'WHO 5 moments' before and after each patient interaction and before and after touching any device.
- Before using a mobile device, remove your gloves and perform hand hygiene
- Avoid inappropriate use of a mobile device during clinical procedures. If a HCW has to take a call or text, they should remove themselves from the activity, remove their gloves and clean their hands.
- Use of mobile devices in the clinical setting should be limited in so far as possible. Mobile phones should not be on display in the dental surgery, therefore protected from spray and splatter.
- Mobile devices for use in the clinical environment should be of a design that allows them to be appropriately decontaminated. For example, an intact case/cover that will withstand cleaning and disinfection.
- HCWs should adhere to local policies about which cleaning product (wipe or solution) to use for decontaminating mobile devices.
- Devices should be intact to allow effective cleaning/disinfection. For example, without cracked screen, casing or cover.
- Accessories including charging lead and bluetooth keypads should be intact, with no bare wires, no cracks in plugs or case, so as to allow effective cleaning/disinfection.
- Devices used for clinical care/treatment/management must be cleaned/disinfected before, in between patients and after use.
- Devices/tablets given to a patient for use must be cleaned/disinfected before use by another patient.
- Tablets or touch screens located in public places with open access must be cleaned at least twice daily or more frequently if the device is visibly contaminated.
- HCWs should always clean their own personal devices at least daily or at the beginning and end of each shift.
- Always decontaminate hands before and after phone use in the clinical environment.

3.3 Food in the dental surgery

- Eating and drinking is not allowed in the clinical area.
- Food and drink should only be consumed in a staff tea room or other designated non-clinical area.
- Food should not be stored in a clinical fridge.

3.4 Acute overt clinical symptoms

Healthcare workers must exclude themselves from work and visitors must stay away from healthcare facilities when they have symptoms of a communicable infectious disease. They must adhere to exclusion periods related to all infectious diseases.

Annual influenza vaccination of healthcare workers and vaccination against SARS-CoV-2 as advised by per national immunisation guidelines have an important role to play in protecting those who use healthcare services from exposure to Influenza viruses and SARS-CoV-2 virus. Annual seasonal influenza vaccination should be promoted in all healthcare settings (see SOP 4 for more detail).

Every healthcare facility should have comprehensive written policies regarding disease specific work restriction and exclusion, which include a statement of authority defining who can implement such policies. (NCEC **Infection Prevention and Control (IPC) National Clinical Guideline No. 30, 2023)**

Key compliance points for SOP 3 Personal Responsibilities of Staff

1. Healthcare workers should wear a clean uniform/scrub suit for each shift. Uniforms should preferably be washed at 60°C with detergent.
2. The clinical day should begin with staff changing from their own clothes into their uniform in the work environment and uniforms must be removed at lunch-time, if leaving the building, or before travelling home.
3. Healthcare workers religious beliefs and cultural practices can be considered in addition to adherence with IPC; however these are secondary to IPC requirements.
4. Mobile phones should not be on display in the dental surgery, therefore protected from spray and splatter.

SOP 4 Immunisation/Vaccinations

Immunisation is one of the most effective healthcare interventions to minimise the risk of acquiring or spreading infections. National guidelines on immunisations required for HCWs are available at https://www.hse.ie/eng/health/immunisation/.

All healthcare facilities and healthcare providers should specify a framework for the assessment, screening and vaccination of healthcare workers to minimise the risk of transmission of vaccine preventable diseases. This must align with relevant national guidance and legislation.

Particular attention should be paid to immune status, skin conditions, pregnancy as well as risk factors for specific groups of people.

All healthcare workers should be appropriately vaccinated in accordance with current national recommendations (Immunisation Guidelines for Ireland). Refer to section 3.7.1 of the NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30 in relation to health status screening and vaccination.

Annual influenza and COVID 19 vaccination of healthcare workers and at-risk patients have an important role to play in protecting those who use healthcare services from exposure to Influenza A and B virus and COVID 19.

Guidance on immunisation is available at **https://www.gov.ie/en/publication/a057e-infection-prevention-and-control-ipc/**

Healthcare facilities should have education programmes to support their immunisation policy and reinforce the need for compliance.

4.1 All healthcare workers must be assessed by the occupational health department prior to commencement of work in dental and orthodontic service and records of relevant vaccinations/health clearance certificates be retained.

4.2 In practice, all staff members (whether they are new employees, currently in post, locum, temporary workers or supernumerary workers) who are at risk through contact with blood or body fluids should be immunised against Hepatitis B Virus, unless immunity to this as a result of natural infection or previous immunisation has been established.

4.3 All staff must be informed of the benefits and limitations of vaccination and non-vaccination and encouraged to avail of the annual Influenza vaccination. The flu vaccine can be lifesaving and the HSELanD Flu training module should be completed as part of the induction process. **HSELand Flu Vaccine Course https://www.hse.ie/eng/health/immunisation/pubinfo/flu-vaccination/healthcare-workers/**

4.4 Advice from the Occupational Health should be sought for clarification if and when necessary.

4.5 It is recommended that staff know their vaccination status in relation to other viruses they may be occupationally exposed to. Examples are included below:

Table 5: Examples of viruses (non-exhaustive list)

Viruses
• Hepatitis B virus infection; • Varicella-zoster virus (chickenpox, shingles); • Measles virus; • Mumps virus; • Rubella virus (German measles).

Recommended vaccinations:

- Healthcare workers should be up to date with recommended vaccines, such as DTaP (diphtheria, tetanus, acellular pertussis) and measles, mumps and rubella (MMR) vaccines and catch up vaccines.
- Healthcare workers should check which vaccines they ought to have received and what documentation they need to support this.

4.6 Exposure prone procedures

Exposure prone procedures (EPP) are invasive procedures where there is potential for direct contact between the skin, usually finger or thumb of the healthcare worker and sharp objects or surgical instruments – such as needles, sharp body parts (for example fractured bones) spicules of bone or teeth – in body cavities or in poorly visualised or confined body sites, including the mouth of the patient. During EPPs there is an increased risk of transmitting blood borne viruses (BBV's) between healthcare workers and people who use healthcare services.

There are two major risks related to healthcare workers that arise out of EPPs:

- Healthcare workers can become infected with a BBV.
- Healthcare workers who already have a BBV may transmit the virus to a patient.

Due to the nature of EPPs, HCWs who perform EPPs are at a higher risk of acquiring a BBV from a patient and, rarely, also of transmitting a BBV to a patient.

Dental Nurses must not, under any circumstances, have work practices that allow them to put their fingers within a patient's oral cavity.

All clinical staff carrying out exposure-prone procedures must comply with '*HSE Circular 012 – 2009 Prevention of Transmission of Blood Borne Diseases in the Healthcare Setting'* concerning the transmission of blood borne diseases and provide evidence that they are not infectious for hepatitis B and also for hepatitis C infection in the case of all new staff.

Further information is available by accessing the following links:

1. **https://www.hse.ie/eng/staff/resources/hr-circulars/hse-hr-circular-012-2009-re-implementation-of-recommendations-of-report-on-the-prevention-of-transmission-of-blood-borne-diseases-in-the-health-care-setting.pdf**
2. **https://www.hpsc.ie/a-z/hepatitis/hepatitisc/guidance/File,4352,en.pdf**
3. **https://www.gov.uk/government/publications/general-dentistry-exposure-prone-procedure-categorisation**

Key compliance points for SOP 4 Immunisation/Vaccinations

1. All healthcare workers should be appropriately vaccinated in accordance with current national recommendations (Immunisation Guidelines for Ireland).
2. Healthcare facilities should have education programmes to support their immunisation policy and reinforce the need for compliance.
3. Records of vaccination and follow up should be retained by Occupational Health and health clearance certificate retained by Dental or Orthodontic Department.
4. All clinical staff carrying out exposure-prone procedures must comply with '*HSE Circular 012 – 2009 Prevention of Transmission of Blood Borne Diseases in the Healthcare Setting'.*

SOP 5 Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) as part of standard precautions involves the use of a variety of barriers, used singly or in combination to protect skin, mucous membranes, airways and clothing from contact with infectious agents.

PPE includes gloves, gowns, aprons, masks, face shields and protective eyewear. PPE also provides protection against other hazards in the healthcare facility such as chemicals and physical injury.

The most suitable type of PPE varies according to the nature of the patient interaction and the equipment used, and is a matter of professional judgment following risk assessment. Where there is a risk of splashes of blood or body substances, impermeable protective clothing must be worn.

Managers must ensure that PPE is made available and that staff members are trained in the use of PPE. All members of staff are responsible for ensuring the correct use and disposal of PPE.

Refer to HSELanD module on PPE: Log on to HSELanD at **www.HSeLanD.ie**. Click on the 'hubs and resources', select AMRIC Hub, view hub, select modules tab which links to all the AMRIC modules. Click on AMRIC Personal Protective Equipment to access this module, select view module and select Enrol.

5.1 Personal Protective Equipment Considerations

Point of Care Risk Assessment (PCRA Figure 1), as part of standard precautions, is to be carried out before each patient/client interaction. It is the responsibility of every HCW to undertake a point of care risk assessment PRIOR to performing a clinical care task, as this will inform the level of IPC precautions needed, including the choice of appropriate PPE.

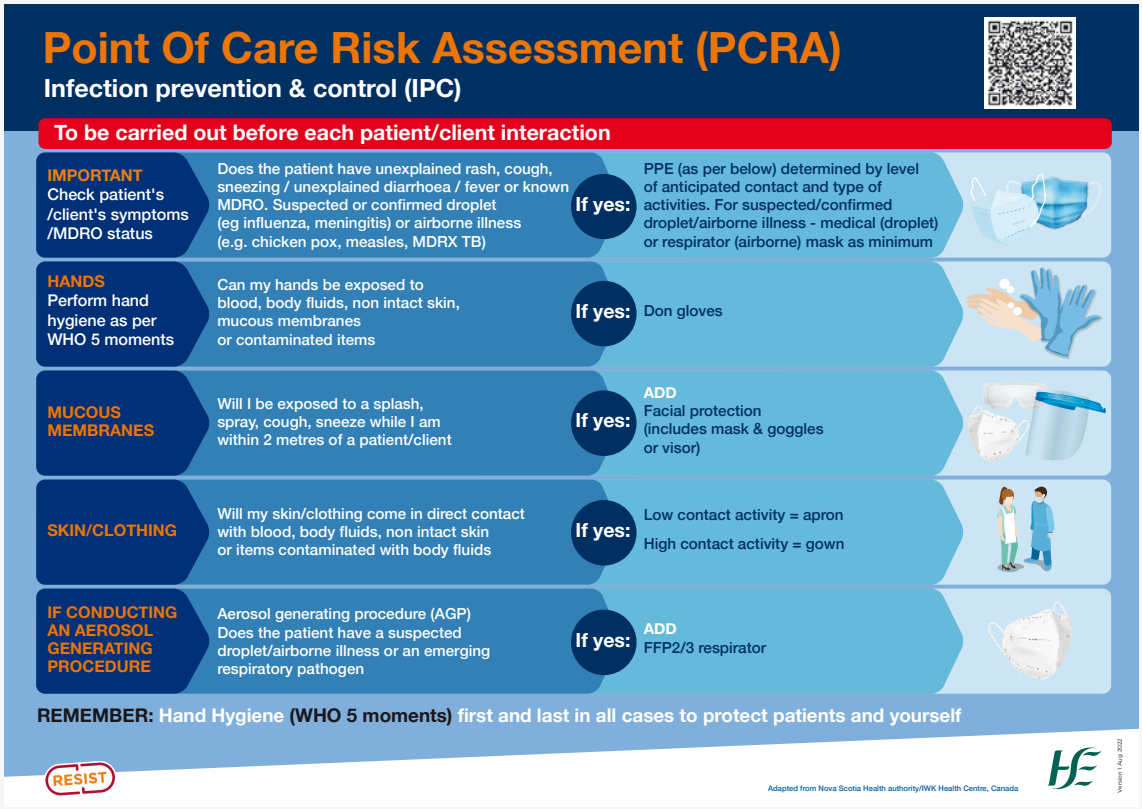
Where possible, people who are actively infectious should not attend for dental care except in an emergency.

For further information on PCRA and how to use a PCRA please see links

https://www.hpsc.ie/az/microbiologyantimicrobialresistance/infectioncontrolandhai/posters/A3%20Poster%20Resist.final%20online%20version.pdf

https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/resources/general/how-to-use-a-point-of-care-risk-assessment-pcra-for-infection-prevention-and-control-copy.pdf

Figure 1: Point of Care Risk Assessment



5.2 Personal Protective Equipment

PPE Item	Recommended Guidance
5.2.1 Glove wear	• Wear gloves whenever there is potential for contact with blood, body fluids, mucous membranes, non-intact skin and contaminated instruments (RIMD) and equipment. • Non-latex procedure gloves are single use items, and are the preferred glove for clinical use in the HSE. • Sterile gloves should be used when the hands are likely to come into contact with normally sterile areas. (Refer to SOP 7 Aseptic Technique). • Heavy duty gloves are only required if indicated by risk assessment. **Indications for Gloves on:** • Anticipated contact with saliva, blood, other body fluids, mucous membranes or non-intact skin. • Contact with a patient (and his/her immediate surroundings during contact precautions). • Dental sedation with intravenous access device insertion and removal. • Prior to handling dental reusable invasive medical devices (RIMD). • When handling chemicals and waste. • Cleaning and disinfection of the clinical environment.

PPE Item	Recommended Guidance
	Indications for Gloves off: • As soon as gloves are damaged or thought to be damaged. • When contact with blood, another body fluid, non-intact skin and mucous membrane has occurred and has ended. • When contact with a contaminated body site on a patient has ended. • When surgery cleaning/contaminated instrument handling activity has ended. • After decontamination of RIMD. • When there is an indication for hand hygiene (WHO 5 Moments for Hand Hygiene). • Post-needlestick or percutaneous injury. Dispose of gloves into general waste unless contaminated with blood and/or saliva (healthcare risk waste).
5.2.2 Eye protection	Clinicians and dental nurses must protect their eyes and those of their patients from foreign bodies, aerosol and splatter by wearing protective glasses or visors during operative procedures. An individual's prescription glasses/contact lenses are not adequate eye protection. Glasses/visors with top and side protection must be used. Clinicians who wear loupes must use the appropriate visor as recommended by the manufacturer and clean them before leaving the clinical environment. **Indications for eye protection** • When chair side for a clinical procedure. • When there is potential for aerosol spray or splashes. • When dealing with chemicals and waste. • When decontaminating instruments and surfaces such as placing instruments in/removing instruments from the ultrasonic cleaner. Patients undergoing examination or clinical treatment must wear protective glasses at all times to protect their eyes against possible injury. Visors and glasses must be inspected after each appointment and cleaned using a dual detergent/disinfectant wipe or as per manufacturer's instructions. Visors must be disposed of when cracked or damaged or if they are single use items. **In the event of a splash to eyes** Rinse the eyes with a copious amount of sterile irrigation fluid or cold water. If contact lens in place; rinse eyes with lens in place with sterile irrigation fluid, then remove lens and rinse again. Lenses allow the chemical to stay in contact with the eye. Seek advice from your optician. Report to line manager/designated Medical First Aider and Emergency Department if necessary.

PPE Item	Recommended Guidance
5.2.3 Surgical face masks	• Point of Care Risk Assessment to be completed to determine most appropriate mask to be worn. • Surgical face masks are single use items and are recommended for all dental procedures. Tips for surgical face masks: i. The mask must be donned appropriately, to allow for easy removal without touching the front of the mask; ii. Must be close fitting to cover the nose and mouth of the wearer; iii. Must not be allowed to dangle around the HCW's neck or chin; iv. Avoid touching the outer surface of the mask during or following procedure as it should be assumed that it is contaminated. v. Must be changed between patients or when wet or torn. It must be removed to eat, drink or use a phone; vi. Perform hand hygiene after the surgical face mask is removed. **Follow the instructions below for putting on the face mask.** See 5.3 for the correct sequence for putting on PPE to prevent contamination of the face, mucous membranes and clothing. • *Face Mask with Ear Loops:* Hold the mask by the ear loops. Place a loop around each ear. • *Face Mask with Ties:* Bring the mask to your nose level and place the ties over the crown of your head and secure with a bow. • Determine which side of the mask is the top. The side of the mask that has a stiff bendable edge is the top and is meant to mould to the shape of your nose. • Determine which side of the mask is the front. The coloured side of the mask is usually the front and should face away from you, while the white side touches your face. **Follow the instructions below for removing the face mask.** See 5.3 for the correct sequence for removing PPE to prevent contamination of the face, mucous membrane and clothing. • Carry out hand hygiene before touching the mask. • *Face Mask with Ear Loops:* Hold both of the ear loops and gently lift and remove the mask. • *Face Mask with Ties:* Untie the bottom bow first then untie the top bow and pull the mask away from you as the ties are loosened. • Dispose of surgical face masks into general waste unless contaminated with blood and/or saliva and/or providing care to a patient/client with a respiratory viral infection (healthcare risk waste). • Perform hand hygiene after removing the mask in order to prevent contamination of your face and the surgery environment.

PPE Item	Recommended Guidance
5.2.4 Respirator masks Airborne precautions	• Respirator masks should be available to staff. • Respirator masks to be worn by healthcare workers in all settings where they are caring for patients with suspected or confirmed respiratory disease and for infectious microorganisms for which airborne precautions are indicated include measles virus (rubeola), chickenpox (varicella), M. tuberculosis, influenza, and SARS-CoV-2. • Respirator masks to also be worn in settings where the infection prevention and control team advice indicates that there is a high risk that patients with unsuspected COVID-19 or respiratory viral infections are likely to be present. • Respirator masks are designed to protect the wearer from breathing in small airborne particles which might contain viruses. • In order for a respirator mask to offer the maximum desired action the wearer should be properly fitted and trained in its safe use. The purpose of fit testing is to identify which size and style of respirator is suitable for an individual, and to ensure that it is worn correctly. It also provides an opportunity to ensure healthcare workers are properly trained in the correct use of the mask. • A well-fitted respirator mask should be worn for prolonged or close contact or when carrying out aerosol-generating procedures on patients with a suspected or confirmed infection/respiratory virus. • Healthcare workers must perform fit checks every time they put on a respirator mask to ensure it is properly applied. No clinical activity should be undertaken until a satisfactory fit has been achieved. Fit checks ensure the respirator is sealed over the bridge of the nose and mouth and that there are no gaps between the respirator and face. Healthcare workers must be trained in performance of a fit check. • The manufacturer's instructions for fit checking of individual brands and types of respirator mask should be referred to at all times. • Healthcare workers who have facial hair, including a one to two-day beard growth, must be aware that an adequate seal cannot be guaranteed between the respirator mask and the wearer's face. • Respirator masks must be changed if wet or damaged and once removed they should be disposed of and not re-used. • Respirator masks are single use items. • Respirator masks must be used with other necessary personal protective equipment (PPE) such as gowns, gloves and compatible eye protection. • Respirator masks should be discarded after each use into healthcare risk waste.

PPE Item	Recommended Guidance
5.2.5 Gowns/aprons	• Disposable plastic aprons: are recommended to protect staff uniform and clothes from contamination when providing direct patient care and when carrying out environmental and equipment decontamination. Disposable plastic aprons are suitable for low contact activity. • Fluid resistant gowns: are recommended when there is a risk of splashing of blood and or other body fluids as a disposable plastic apron does not provide adequate cover to protect HCW's uniform or clothing. • If non-fluid resistant gowns are used and there is a risk of splashing with blood or other body fluids a disposable plastic apron should be worn underneath or over the gown. • Aprons and gowns should be removed in a manner that prevents contamination of clothing or skin. The outer contaminated side of the apron or gown is turned inward and rolled into a bundle and then discarded into a designated container for healthcare risk waste if visibly contaminated. If the apron or gown is dry and if there is no visible contamination it may be discarded as non-risk waste.

PPE procurement and storage:

- Only PPE which is HSE/AMRIC approved and on contract should be procured and used in the HSE Dental and Orthodontic Service.
- PPE should be stored in an appropriate area which maintains the integrity of the item and packaging.

5.3 Putting on and taking off PPE

Video resources for the donning and doffing of PPE are available here: https://www.hpsc.ie/az/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/videoresourcesforipc/

PPE should be donned and removed in the following sequence so that the chance for skin or environmental contamination is reduced. Hand Hygiene is always the final step after the removal and disposal of PPE.

Donning (Putting on) PPE

HOW TO PUT ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

Before you put on PPE key points to remember

- Identify any hazards, risk assess & manage the area
- Do not bring your mobile phone or bleep with you into isolation area
- Gather the necessary PPE
- Secure hair back off face
- Be bare below the elbows
- Remove all jewellery
- Perform hand hygiene

For prolonged wearing of PPE or high consequence infectious disease also remember:

- Be well hydrated
- Have taken a toilet break
- Have a trained observer (PPE buddy)
- Consider waste management

!

Conduct a point of care risk assessment (PCRA) to help support your choice of appropriate PPE

1

Perform hand hygiene

2

Put on a gown or apron if required, as per PCRA.
Apron: Tie at waist
Gown: fasten at back of neck & at waist to the side or back

3

Put on a mask (Surgical mask/type IIR or FFP2/3), if required, as per PCRA.
Note there are different types of masks/ respirators.
Refer to the manufacturer's instructions.

!

Click here for advice on FFP2 respirator fit check

4

Put on eye protection (face shield/ goggles) if required, as per PCRA.

5

Put on gloves if required, as per PCRA.
If wearing a gown, put on gloves over the cuff.

6

Visually check yourself (in a mirror or with a trained observer/PPE buddy, if required).

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Links to posters ttps://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/posters/

Doffing (Removing) PPE

Poster Links https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/posters/

Key compliance points SOP 5 Personal Protective Equipment

1. Point of care risk assessment, as part of standard precautions, is to be carried out before each patient/client interaction as this will inform the level of IPC precautions needed, including the choice of appropriate PPE.
2. Wear gloves whenever there is potential for contact with blood, body fluids, mucous membranes, non-intact skin and contaminated equipment.
3. Sterile gloves must be worn for aseptic procedures and contact with sterile sites.
4. Clinicians and dental nurses must protect their eyes and those of their patients from foreign bodies, aerosol and splatter by wearing protective glasses or visors during operative procedures.
5. Surgical face masks are single use items and are recommended for all dental procedures.
6. Current guidance indicates that respirator or surgical face masks should be worn by healthcare workers in all settings where they are caring for patients with suspected or confirmed respiratory disease, e.g. influenza, COVID-19.
7. The wearer should be fit-tested and masks should be fit-checked to ensure the respirator is sealed over the bridge of the nose and mouth and that there are no gaps between the respirator and face.
8. Ensure that masks are removed once treatment is complete, and not left dangling around the neck.
9. Disposable plastic aprons are suitable for low contact activity. Fluid resistant gowns: are recommended when there is a risk of splashing of blood and or other body fluids.
10. PPE should be donned and removed in accordance with national guidelines.
11. Hand hygiene is always the final step after the removal and disposal of PPE.

SOP 6a Management of Sharps/Prevention of Sharps Injuries

Eliminating workplace hazard and risk is a fundamental principle of all work health and safety legislation. In Ireland Statutory Instrument Number 135 of 2014, which may be cited as European Union (Prevention of Sharps Injuries in the Healthcare Sector) Regulations 2014 is the key element of legislation in this area.

https://www.irishstatutebook.ie/eli/2014/si/135/made/en/print#:~:text=(1)%20A%20relevant%20employer%20shall,in%20accordance%20with%20this%20Regulation

Sharps injuries in healthcare settings may result in the transmission of blood borne viruses (BBV) such as hepatitis B (HBV), hepatitis C (HCV) or human immunodeficiency virus (HIV). Fortunately while the majority of sharps injuries don't lead to infections, the effects of the injury and anxiety about its potential consequences, including the side effects of post exposure prophylaxis can have a significant impact on an injured healthcare worker (National Health Service UK, Managing the Risks of Sharps Injuries, 2015).

The risk assessment in conjunction with the hierarchy of controls method is a well-recognised approach used to prevent sharps injuries. The first priority is to eliminate and reduce the use of needles and other sharps where possible. Next is to isolate the hazard, thereby protecting an otherwise exposed sharp, through the use of an engineering control.

The possibility of sharp injuries cannot be eliminated in dental treatment but use of available safety devices is recommended and handling of sharps should be kept to a minimum, e.g. needle safety systems, adhesive sharps pads (engineering controls).

Sharps injuries can occur in any healthcare setting, including non-hospital settings such as in home healthcare and long-term care facilities. Sharps Injuries most often occur:

- During a clinical procedure
- After the procedure and before disposal
- After the procedure (Public Health England, 2014)

What are sharps?

S.I. No. 135/2014 – European Union (Prevention of Sharps Injuries in the Healthcare Sector) Regulations 2014 defines sharps as 'objects or instruments necessary for the exercise of specific healthcare activities, which are able to cut, prick or cause injury or infection', e.g. Needles, burs, orthodontic wires, scalpel, suture, local anaesthetic cartridge, matrix band, endodontic files, reamers, etc. (NB: this list is not exhaustive).

Healthcare facilities should have sharp safety programmes, which include consideration of incidents that should be reported as defined in legislation related to health and safety in the workplace. The Safety, Health and Welfare at Work (reporting Accidents and Dangerous Occurrences) Regulations 2016 is the relevant legislation in Ireland.

https://www.irishstatutebook.ie/eli/2016/si/370/made/en/print

What is a significant sharps injury?

- Penetration of the skin by a needle or other sharp that may contain blood or body fluid, e.g. needle stick injury.
- Human scratches/bites (where blood is drawn).

Significant contamination

- Contamination of broken skin with blood.
- Splashes of blood/body fluids onto mucous membranes (e.g. mouth/eyes).

6.1 All healthcare facilities in Ireland are required by law to comply with S.I. No. 135/2014 – European Union (Prevention of Sharps Injuries in the HealthCare Sector) Regulations 2014 in order to safeguard the health and well-being of patients and Dental Healthcare Workers.

6.2 All Dental Staff must understand and comply with this SOP, the **HSE Policy on the Management of Sharps and Prevention of Sharp Injuries 2022**, the NCEC Infection Prevention and Control National Clinical Guideline No. 30 and the Health Protection Surveillance Centre (HPSC) Emergency Management of Injuries (EMI) toolkit.

6.3 Key points to prevent a sharps injury include:

- Dispose of single-use sharps immediately after use into an approved sharps container at the point-of-use.
- Disposal of single use syringes and needles without dismantling.
- Not passing sharps directly from hand to hand.
- Keep handling to a minimum.
- Use safety devices to ensure correct technique for opening and disposing of glass vials, e.g. midazolam and adrenalin.
- Do not break, bend or recap needles.
- Use blunt needles when using irrigation syringes.
- Use single ended examination probes. Care is advised when using double ended instruments.

- The clinician (Dentist/Hygienist/Orthodontist/Orthodontic Therapist) is responsible for the safe use, handling and disposal of the single use sharp into the sharps container at the point of use, e.g. syringe, orthodontic wires, irrigation syringe needles or any such sharp. They should not be passed to the dental nurse for disposal.
- Sharps containers must be appropriately placed so that they're at an accessible height for the healthcare worker but out of reach of children and others to prevent hands and fingers entering the disposal unit.
- They should also be placed in a secure position or mounted on the wall to prevent tipping (approximately 1.3m minimum off the ground).
- Placement of wall mounted units should be away from general waste containers to minimise the risk of incorrect disposal. Sharps containers should be chosen to provide appropriate access for the range of sharps in use in a specific location.
- Sharps containers must conform with UN Standard 3291.
- Orthodontic wire sharps must be disposed of using a safe system by the clinician, e.g. adhesive pads or an alternative system.
- Each sharps container must be correctly assembled, signed and dated on assembly. Care to be taken with orientation of lid to ensure correct operation.
- A temporary closure mechanism on the sharps container must be in place when not in use.
- Sharps containers must not be filled above the mark that indicates the maximum fill level. Sharps containers must be securely locked when below or at the maximum fill level, signed, dated and tagged prior to disposal. It is the responsibility of the whole dental team to lock, sign (name should be legible) and to tag sharps containers. The tag number must be recorded and records kept for not less than three years.
- Sharp containers, awaiting disposal, must be transported safely in an upright position to a designated secure collection point away from public access.

6.4 Staff must be familiar with the local procedures for managing sharps injuries, which follow the EMI toolkit. **A laminated copy of the steps in the event of a sharps injury must be displayed in all clinics**. **https://www.hpsc.ie/a-z/emi/**

6.5 Sharps containers must be disposed of in line with HSE Waste Policy. Refer to SOP 14 for further information on Waste Management.

6.6 The local protocol for management of sharps/prevention of sharps injuries must be available in all clinics and should include local arrangements for staff to access post-exposure prophylaxis where the recipient of the sharps injury is assessed in conjunction with the risk assessment based on the EMI toolkit Appendix 20, if required.

6.7 Staff are mandated to report all injuries to local manager and Occupational Health Department and complete the appropriate National Incident Report Form (NIRF) in line with the HSE Incident Management Framework. **https://www.hse.ie/eng/about/who/nqpsd/qps-incident-management/incident-management/hse-2020-incident-management-framework-guidance.pdf**

6.8 Local polices must identify the route and process for notification of serious incidents to the Senior Accountable Officer (SAO) within 24 hours of occurrence.

6.9 Management of a sharps injury

The EMI toolkit – Emergency Management of Injuries 2024 outlines in detail the procedures to be followed and include patient management forms for general practice, information leaflets for source and recipient of injuries. **https://www.hpsc.ie/a-z/emi/**

HSE Policy on the Prevention of Sharps Injuries

https://healthservice.hse.ie/filelibrary/staff/policy-on-the-management-of-sharps-and-prevention-of-sharp-injuries.pdf

Refer to Table 6 Administrative Controls

If any member of staff sustains an inoculation injury or contamination incident involving exposure to blood or body fluids, first aid treatment should be carried out immediately and medical help sought if required.

6.9.1 Needle Stick/Sharps Injury

- Gently encourage bleeding under running water.
- Do not suck or squeeze the wound.
- Wash the wound thoroughly with soap under running water for 2-3 minutes.
- Cover the area with a waterproof dressing or bandage.
- Dispose of sharp carefully into the appropriate puncture resistant sharps box.

6.9.2 Next Steps – Need to decide if the exposure was significant or not

- This will depend on the type of material involved, e.g. blood stained or not and the type of injury sustained, e.g. skin break or not.
- If the exposure was significant, report to line manager or designated manager on the day.
- Complete Appendix 20 (Appendix 20 On-site assessment form (Dental/Primary care)) EMI Toolkit **https://www.hpsc.ie/a-z/emi/**
- Identify the source patient if possible.
- Document details of the inoculation incident.
- Attend local Emergency Department with completed onsite assessment for dental practice.
- If exposure was deemed significant then you have two patients to consider; the source and the recipient.

6.9.3 Post-Exposure Prophylaxis – Key Points

- For the purpose of this section post-exposure prophylaxis is used to refer to the medical response given to prevent the transmission of blood borne pathogens following a potential exposure to HIV. The decision to prescribe post-exposure prophylaxis (PEP) should be made on a case by case basis. The decisions should take into account consideration of the need for counselling, the assessment of risk of exposure to the infection, testing and depending on the outcome of the exposure assessment, the prescription of anti-retroviral drugs with appropriate support and follow up.
- When PEP is recommended, it should be prescribed and started as close to the time of exposure as possible. Ideally it should commence within two hours of exposure and certainly within 72 hours. Eligibility for PEP and the type of regime prescribed should be based on national or local guidance individualised as appropriate for the healthcare worker taking account of a number of factors, including the transmission risk associated with the exposure.
- If PEP is commenced the continuing requirement for PEP should be reviewed in the context of subsequent laboratory results on the person who represents the source of exposure. If there is a confirmed requirement for PEP the duration should be in accordance with current guidance.
- For additional information see **https://www.hpsc.ie/a-z/emi/**
- Management of possible exposure to other conditions:
  - Hepatitis B – healthcare workers with evidence of previous immunity to hepatitis B require no follow up. Non-immune individuals require follow up.
  - Hepatitis C – healthcare workers potentially at risk require a baseline blood sample and follow up testing. Follow up testing may include testing for hepatitis C virus.
  - Healthcare workers should be informed about the symptoms of hepatitis C and advised to seek medical advice if any symptoms are displayed.
  - Tetanus – tetanus status should be assessed for any healthcare workers who sustain abrasions or wounds.

Table 6: Administrative Controls – Management of Sharps and Prevention of Sharp Injuries

Administrative controls
(Ref: HSE Policy on the Management of Sharps and Prevention of Sharp Injuries 2022)

Work practice controls aim to change the behaviour of workers to reduce exposure to occupational hazards.

Examples include:

- Prohibit needle recapping or resheathing
- Adequate number of easily accessible UN approved sharps containers provided
- Provide the person assembling and closing the sharps containers with manufacturers instruction
- Correct assembly of sharps containers to include signature/date of assembly
- Keep sharps container in a safe place, out of reach of children, at a height that allows safe disposal and secure position to avoid spillage
- Engaging the temporary safety closure mechanism on sharps container when not in use
- Display a notice of the procedure for disposal as close as possible to the area where sharps are used or stored
- Establishing a means for the safe handling and disposal of sharps devices before the beginning of a procedure
- Disposing of sharps immediately after use (i.e. at point of care) in designated sharps container (e.g. attached to a dispensing trolley)
- Ensure that needles are not bent or broken prior to use or disposal
- Dispose of needle and syringes as one unit into specified sharps container
- Do not carry sharps in the hand; always use a tray or receiver
- Securely closing/tagging/signing of identification label and safely disposing of sharps container when they are three-quarters full or filled to manufacturers fill line
- Establishing a safe system of work to deal with accidental sharps spillages
- Establishing a system of work for healthcare professionals generating sharps waste when undertaking domiciliary visits (Refer to SOP 11) to include safe assembly, use, storage, temporary closure, final closure and return to healthcare facility
- Where healthcare facilities accept sharps containers from their clients or clients not known to their service, ensure a safe system of work is in place and communicated to all relevant employees and service users to include information on safe assembly, use, storage, temporary closure, final closure and return to healthcare facility
- Always use standard precautions

https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/posters/HSE%20West%20Standard%20Precautions%20Poster%20A3.pdf

Policies and practices which aim to limit exposure to the hazard include:

- Ensuring health and safety responsibilities of all employees are clear, well-co-ordinated and adequately resourced to include identification of named persons with responsibility for safe assembly, securely closing and tagging of sharps containers
- Ensuring that when ¾ full, sharps containers are secured and stored in a designated locked area waiting collection/disposal
- Establishment of a sharps injury prevention committee with accountability to the Health and Safety Committee or equivalent

- Having a procedure in place for the treatment and follow-up for employees who have sustained a sharps injury (**www.emitoolkit.ie**)
- Ensuring there is reference to sharps injury prevention in infection, prevention and control and procurement policies
- Replacement of all unsafe devices with safer sharp devices (safety engineered devices) where available and appropriate and it is reasonably practicable to do so
- Implementation of safe systems of work to include high risk areas such as theatres and emergency care
- Provision of consistent information and training that includes: safe systems of work; correct use and disposal of sharps; the use of safety engineered medical devices incorporating sharps protection, measures to be taken in the event of a sharps injury; and how to use personal protective equipment (PPE) provided
- Promotion of a no-blame culture with emphasis on safety at work as a priority
- Incident reporting procedures and reviews that include feedback to employees/employee groups involved
- Regular review of incident reports, trends, patterns to identify training
- Vaccination programmes and follow up procedures
- Implement an audit programme covering the selection, safe handling, use and disposal of sharps

Key Compliance Points SOP 6a Management of Sharps/Prevention of Sharps Injuries

- All dental staff must understand and comply with this SOP, HSE Policy on the Management of Sharps and Prevention of Sharp Injuries 2022, NCEC Infection Prevention and Control National Clinical Guideline No. 30 and the Health Protection Surveillance Centre (HPSC) Emergency Management of Injuries (EMI) toolkit.
- Before using any sharp medical devices such as needles or scalpels always plan for their safe handling and immediate disposal at point of use. Sharps containers must be disposed of in line with HSE Waste Management Policy.
- Staff are mandated to report injuries to local manager and Occupational Health Department and complete the appropriate National Incident Report Form (NIRF) in line with the HSE Incident Management Framework. **https://www2.healthservice.hse.ie/organisation/qps-incident-management/nims/**
- Staff must be familiar with the local procedures for managing sharps injuries, which follow the EMI toolkit. A laminated copy of the steps in the event of a sharps injury must be displayed in all clinics. EMI Toolkit Appendices 2 and 3 can be used for display. **https://www.hpsc.ie/a-z/emi/**
- Complete Appendix 20 (Appendix 20 On-site assessment form (Dental/Primary care)) EMI Toolkit **https://www.hpsc.ie/a-z/emi/** where necessary.
- Training should form part of induction for all staff and regular sharps audits using HSE template should be completed. Level 1 NHSF audit queries if sharps audits have been conducted in past year, demonstrating an onus on services to complete.

SOP 6b Management of Occupational Blood and Body Fluid Exposures

Occupational blood and body fluid exposure may occur through percutaneous and/or mucocutaneous inoculation and human bites.

- Percutaneous exposure (covered in SOP 6a) is defined as a puncture or laceration of the skin caused by a needle or sharp object contaminated with blood or body fluids.
- Human bite is defined as a bite which causes bleeding or a break in the skin.
- Mucocutaneous exposure is defined as aspiration, ingestion or splashing of blood or body fluids to the nose, lips, mouth, eyes and onto non-intact skin (and splashing to extensive areas of skin).

Procedure for mucocutaneous exposure of blood and body fluids

- Clinician to complete On-site-assessment form (Dental/Primary Care) Appendix 20 Health Protection Surveillance Centre (HPSC) Emergency Management of Injuries (EMI) toolkit https://www.hpsc.ie/a-z/hepatitis/emitoolkit/.
- Attend local Emergency Department for initial management of the inoculation injury. Bring completed assessment form with you.
- Report to line manager/designated Medical First Aider and Emergency Department if necessary.
- Complete a National Incident Report Form (HC NIRF 01), https://www.hse.ie/eng/about/who/nqpsd/qps-incident-management/nims/nirf-01-v12-person-interactive.pdf.
- Any attendance at the Emergency Department must be reported to Occupational Health at the earliest opportunity. The local protocol must be available in all clinics and should include appropriate local contact details.
- EMI Toolkit Appendix 4 can be used for display https://www.hpsc.ie/a-z/emi/.

Additional procedural steps for below exposures

Procedure following splashes to mouth	Rinse mouth thoroughly with water. Do not swallow water.
Procedure following splash to eye	Firstly rinse the eyes with a copious amount of sterile irrigation fluid or cold water. If contact lens in place; rinse eyes with lens in place with sterile irrigation fluid, then remove lens and rinse again. Seek advice from your medical practitioner.
Procedure following exposure to intact skin	Wash skin with water.
Procedure following exposure to non-intact skin	Wash skin with water. Cover with a sterile waterproof dressing if required.
Procedure following human bite/scrapes	Wash with water. Cover with a sterile waterproof dressing if required. Refer to EMI Human Bite Algorithm https://www.hpsc.ie/a-z/hepatitis/emitoolkit/human%20bite%20algorithm.pdf

Refer to section 3.7.3 Managing exposures to occupational hazards of the NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30 (2023) for further information.

Key Compliance Points SOP 6b Management of Occupational Blood and Body Fluid Exposures

- The healthcare workers should receive immediate care and treatment (first aid) and if inoculation injury deemed to be significant then they should attend local Emergency Department.
- Bring a completed Injury in Dental Practice or Primary Care Medical Practice form with you (Appendix 20 EMI Toolkit).
- Link to EMI Toolkit for additional information.
- Treatment protocols include removal of contaminated clothing, thorough washing of the injured area with soap and water and flushing of affected mucous membranes with large amounts of water.

SOP 7 Aseptic Technique

Aseptic technique protects patients during invasive clinical procedures by employing a variety of infection prevention and control measures that minimise, as far as practicably possible, the presence of pathogenic microorganisms. A number of approaches to promote aseptic technique are available.

Aseptic technique is used to prevent contamination of key parts (for example the part of an intravenous catheter that will be within the vein) and key sites (the place where the catheter will be introduced into the vein) by microorganisms. When aseptic technique is performed asepsis is ensured by:

- Using sterilised equipment
- Hand hygiene
- Identifying and protecting key parts and key sites
- Cleaning and disinfecting key sites
- Use of a non-touch technique
- Use of sterile equipment
- Disinfecting key parts prior to use (scrub the hub).

Aseptic technique is a technique used to prevent contamination of key parts and key sites by microorganisms that could cause infection. In aseptic technique, asepsis is ensured by identifying and then protecting key parts and key sites and by standard aseptic technique.

There are three types of aseptic technique:

Table 7: Types of Aseptic Technique

Sterile Aseptic Technique: Hospital Setting	Surgical Aseptic Technique: Community Setting	Standard Aseptic Technique: Community Setting
Aims to achieve total absence of microorganisms. This technique is employed in a hospital operating suite.	Achieves a safe level of asepsis for procedures that are technically complex, over extended periods of time and can often have large/ open/multiple key sites, e.g. oral surgery in some community settings.	Achieves a safe level of asepsis for technically simple and short procedures. These procedures involve few key parts/sites, e.g. dental treatment in the community setting (including where intravenous sedation is practised).

Refer to HSELanD Aseptic technique training

SOP 8 Routine Management of the Physical Environment

In a healthcare setting, cleaning is everyone's responsibility. Cleaning is a major part of IPC. Therefore, it is important to thoroughly clean the treatment area on a regular basis.

Cleaning is the removal of dirt, dust, soil, stains and marks etc. from items or surfaces. Cleaning should be undertaken as soon as possible after the area or item gets dirty, otherwise the loose dirt/soil will be more difficult to remove. All areas should be clean, tidy and well-maintained and be uncluttered with only appropriate, cleanable, well-maintained furniture, fixtures and fittings used.

All cleaning agents must be used in accordance with the manufacturer's instructions and appropriately stored in a labelled cupboard. Any hazardous chemicals must be stored in a locked and labelled cupboard. Safety data sheets and chemical agents risk assessments must be available to staff. All cleaning equipment must be well maintained and in good repair. Cleaning equipment should be cleaned and dried between uses and micro fibre flat mop heads and cloths should be colour coded and either disposable or laundered daily.

Each location should have sufficient cleaning arrangements in place to ensure that floors, containers, window sills, cupboard doors, handles etc. are maintained according to hygiene standards.
(Refer to Appendix 4 Sample Cleaning Checklist for contract cleaner).

It can be useful to have a colour coded system for reusable cloths and/or mops

- Red – for bathrooms.
- Green – for kitchens.
- Blue – for non-clinical areas such as offices and waiting rooms.
- Yellow – for clinical and decontamination areas.

Clinical equipment should be procured to include manufacturer instructions for cleaning and decontamination. Staff should undertake cleaning and decontamination of all clinical equipment (both the clinical component and body of equipment) according to manufacturer's instructions. Training in care of equipment is particularly important when new items of equipment are introduced into the clinic. Checklists are recommended.

Refer to sections 3.1.3 Routine management of the physical environment and 6.2.2 of the NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30 (2023).

8.1 Management of the treatment areas

8.1.1 Surgery Design

- Consideration of infection control requirements must be undertaken when designing and/or renovating surgeries and when purchasing surgery equipment as per HSE National procurement contracts.
  - Clinical hand wash sinks should be as per HBN 00-10 specifications.
  - Refer to section 3.11.1 Mechanisms for influencing HCAI through environmental design of the NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30 (2023) and the HSE Infection Control Guiding Principles for Buildings – Acute Hospitals and Community Settings for further detail **https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/buildingsandfacilitiesguidance/Infection%20Control%20Guiding%20Principles%20for%20Building.pdf**

8.1.2 Ventilation

- Ventilation and air quality are important considerations in the management of aerosols within the working environment.
- Ensure adequate natural ventilation to the greatest extent practical. The goal is gentle air circulation rather than strong air movements.
- Ideally rooms should be mechanically ventilated and controlled to provide a comfortable working environment.
- Detailed guidance can be found in Health Technical Memorandum 03-01 Specialised Ventilation for Healthcare premises. **https://www.gov.uk/government/publications/guidance-on-specialised-ventilation-for-healthcare-premises-parts-a-and-b**
- In non-purpose-built facilities, the control of airflow is a challenging issue and the practice should consider how good ventilation can be achieved without resorting to unreasonably complex or expensive ventilation systems.
- Ventilation, either natural ventilation or mechanical ventilation depending on the nature of the healthcare service should be appropriate for the setting.
- The use of freestanding or ceiling-mounted fan units, however, is not recommended.
- Stand-alone air cleaning devices have been demonstrated to reduce the level of microorganisms in the air in healthcare environments. They have not been demonstrated to reduce the incidence of infection in healthcare settings. They may be considered for use in some settings where ventilation is inadequate.
- Mechanical Ventilation and air flow control systems need to be maintained regularly by suitably qualified staff according to an agreed maintenance plan and accurately documented in a maintenance record.
- Refer to the HSE Infection Control Guiding Principles for Buildings – Acute Hospitals and Community Settings for further detail.

https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/buildingsandfacilitiesguidance/Infection%20Control%20Guiding%20Principles%20for%20Building.pdf

8.2 Zoning and worktop organisation

8.2.1 Zoning and patient positioning

- Each clinical space must be divided into areas that are clearly defined as clean/non-contaminated or contaminated areas. This process is called ‘zoning’. Zoning facilitates an efficient way to decontaminate the surgery between patients.
- It is advisable to clearly designate zones that become contaminated from droplets, aerosol and splatter generated during dental treatment.
- The contamination zone is an area of approximately two metres around the patient being treated. The clean zone is outside of this area.
- Working surfaces must be cleaned and disinfected between patients and as per cleaning schedule and areas likely to be contaminated (zoned areas) should be cleaned and disinfected between patients.

8.2.2 Worktop Organisation

- Keep all surfaces clear of clutter as items left on the worktops can become contaminated from aerosols generated during procedures and from unnecessary handling.
- Only materials for immediate use should be placed on the work surface in the designated working zone.
- Equipment that is used frequently should be barrier protected.
- Cotton roll/cotton pellet and burs should be kept out of the contaminated area and be dispensed to the patient tray before treatment.
- If additional instruments or materials need to be retrieved from the drawers/storage areas during a patient treatment it must be by a method that does not contaminate other instruments or materials.

8.3 Use of surface barriers

Impervious barriers (which do not allow fluid to pass through) must be employed to protect equipment and areas that are difficult to decontaminate and are vulnerable to contamination during patient treatment.

The use of a surface barrier is an aid to ensuring that surfaces are clean before every patient use. Cleaning is often required in addition to surface barrier use particularly if the surface has not been completely covered, if the surface barrier has been breached or if there has been release of body fluids.

Caution should be exercised when removing these barriers to prevent contamination of the area or equipment protected.

- Barriers must be used in the following areas and must be changed between patients:
  - Handle and control panel of dental cart, bracket table, dental handpiece motors, and overhead light handle.
  - Headrests may be covered or cleaned between patients.
  - Air/water syringe control buttons and handpieces should be barrier protected. It is not necessary to cover the air and water tubing with barriers where the tubing is smooth and can be disinfected easily with wipes.
  - Curing light: A curing light sleeve should be used to cover the fibre optic part of the curing light and also to cover the handle. The air inlet and exhaust should not be covered as this will cause the device to overheat.
  - X-ray film or digital sensor plates: X-ray films or phosphor plates without a pre-existing barrier must be covered with a suitable barrier, e.g. specifically designed hygiene envelopes or medical quality adhesive barrier wrap.
  - Phosphor plates: Follow manufacturer's instructions for the correct barrier selection and compatible cleaning wipe.
  - When changing barriers, every effort should be made to avoid contaminating the surface that has been covered. Where the surface has been contaminated either in use or during removal of the barrier, it must be cleaned/disinfected using the one-stage cleaning process (dual detergent/ disinfectant wipes) as outlined in 8.4.
  - All surfaces which are covered with barriers must be cleaned and disinfected at the end of each session.

8.4 Each stage of the day

There are three types of HSE approved wipes available for use. These products must comply with EN 16615:2015.

a) Detergent only wipe – cleans only

b) Disinfectant only wipe – disinfects only

Two stage procedure using a) detergent wipe followed by b) a disinfectant wipe.

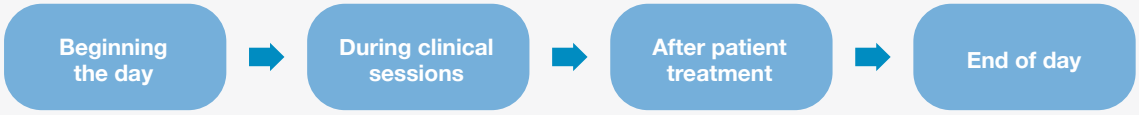
c) Dual detergent/disinfectant wipe – cleans and disinfects

One stage procedure

Consult the product safety data sheet prior to using or changing a product. Choose a product that is compatible with the surface material. This is important in order to avoid damage to the equipment.

Method to use: start with the least contaminated area. If using the two stage procedure, start with the detergent wipe followed by the disinfectant wife. Wipes may be used for a single piece of equipment (one wipe per item) or the contaminated surfaces in the patient treatment area. Wipe in an 'S' shaped pattern, taking care not to go over the same area twice and in line with manufacturer's instructions/guidelines. Allow the surface to air dry. Wipes should not be used for general purpose routine cleaning.

Wipes should not be allowed to dry out. Effective cleaning and disinfecting can only be performed when the wipes remain moist. This may mean needing to dispose of dried wipes and replace with new moist wipes and continue cleaning from where you left off. The wipe container must be kept tightly closed when not in use and stored according to manufacturer's instructions. Care must be taken with liquids which can evaporate.



8.4.1 Beginning of day	• At the beginning of the day clinical surfaces should be cleaned as per cleaning schedule, which details the methods used and products approved by HSE Procurement. This is to ensure that any dust generated overnight is removed before commencing the clinical session. • Perform hand hygiene. • Fill the dental unit water bottle. Flush all dental unit water lines on dental cart. • Flush the suction system. • Apply barrier protection as appropriate.
8.4.2 During clinical session	• If additional instruments and materials have to be retrieved from outside the contaminated zone during a patient treatment, this must be by a method that does not contaminate other instruments or materials in the drawers. • Open drawers by elbow touch (where present), remove gloves and perform hand hygiene before dispensing additional materials. Or if necessary, retrieve instruments using a no touch technique. • Where possible, avoid giving local anaesthetic and then sending the patient to the waiting room and treating another patient. However, if this situation is unavoidable local anaesthesia must be treated as a "minor procedure" for IPC purposes, i.e. surfaces must be cleaned and disinfected after administration of the local anaesthetic if another patient is to be treated while the patient waits in the waiting area for local anaesthetic to take effect.

8.4.3

After patient treatment

- Zoning facilitates an efficient way to clean and disinfect the surgery between patients. Refer to 8.2.1.
- Surgery can be cleaned and disinfected rapidly as follows;
  - Wear PPE as per PCRA while cleaning and disinfecting surfaces.
  - Flush air/water through the handpiece/scaler/3 in 1 syringe(s), with tip or bur in place, for 15-30 seconds into a receptacle/disposable cup before removing handpiece/scaler from the dental unit. All suction tubes, when used, should be flushed after each patient with a cup of water and appropriate disinfectant after any particularly bloody procedure.
  - This procedure must be carried out after every patient (assuming handpieces are used) and is intended to flush out contaminants that may have been retracted through the handpiece air/water line system.
  - Remove any remaining sharps and dispose in appropriate sharps container.
  - Remove all disposables from instrument tray and dispose of into healthcare risk waste.
  - Remove and dispose of all disposable barriers, 3-in-1 tips and aspirator tips into healthcare risk waste.
  - Place instruments into the designated, secure instrument transport box labelled 'contaminated' for removal to Local Decontamination Unit (LDU).
  - Instruments must not be allowed to dry out prior to cleaning. If instruments cannot be decontaminated within 30 minutes of use, they should be kept moist. This can be achieved by using a non linting absorbent pad/gauze and a few mls of water or enzymatic cleaner (no free liquid) in a transport container or by using a product specifically intended for this purpose and in accordance with manufacturer instructions.
  - Place patient safety glasses, amber shield etc. on clean paper towel. Remove gloves, carry out hand hygiene and don new gloves. Clean and disinfect safety glasses and amber shield with a dual detergent/disinfectant wipe for each item.
  - Remember to surface disinfect air motor and/or coupling after each use with a dual detergent/disinfectant wipe.
  - If the area is heavily contaminated (e.g. after surgical procedure), more dual detergent/disinfectant wipes may need to be used.
  - Follow manufacturer's instructions for contact time of the cleaning disinfectant wipes used.
  - It is not necessary to disinfect the entire chair between patients unless obviously contaminated.
  - Remove PPE and perform hand hygiene after cleaning/disinfection is completed.

8.4.4 End of day

- At the end of a clinical session all work surfaces, including apparently uncontaminated surfaces in the clean and contaminated zones, must be cleaned and disinfected.
  - Disinfect the aspirator, its tubing, clean spittoon (if present) and clean amalgam trap
  - Decontamination room
    - Ultrasonic Cleaner- drain down, clean and dry
    - Autoclave
      - If not connected to a continuous water supply, drain the clean and contaminated autoclave reservoirs, clean and disinfect and leave dry at the end of the day
      - Clean autoclave chamber with damp, non linting material
      - Leave empty with doors open
      - Clean and disinfect the outside of the autoclave
  - Clean and disinfect all work surfaces of decontamination room
- Once cleaning and disinfection is completed dispose of wipes, paper towels gloves and face mask into non-healthcare waste unless contaminated with blood and/or saliva (then dispose of into healthcare risk waste). Carry out hand hygiene.
- Ensure the surgery floors are thoroughly cleaned at least every day and more frequently if there is obvious contamination.
- Change out of uniform and clinical shoes before leaving clinic. Perform hand hygiene.

8.5 Patient mouth rinsing

- For IPC purposes the use of a spittoon is not recommended.
- Suction devices can be used to assist patients in removing liquids from their mouth both during and after treatment is completed. Where use of a spittoon is unavoidable, it must be cleaned and disinfected between patients using an appropriate cleaning and disinfection method. It must also be disinfected at the end of each session.
- If no longer in use, the spittoon should be removed and the wastewater pipe work disconnected.
- If no longer in use, the cup filler water outlet and the bowl rinse waterlines should be disconnected from the dental waterline loom and all associated pipework disconnected.
- However if this is not possible, then the spittoon should be cleaned and disinfected with suction disinfectant solution.

8.6 Instrument trays

Instrument trays are at high risk of clinical contamination during clinical sessions. Therefore appropriate care must be taken to prevent cross contamination within the dental surgery.

- It is recommended that a disposable instrument tray or an impervious tray liner is used to cover the entire bracket table, e.g. plastic backed paper.
- If a disposable instrument tray is not used, then the instrument tray must be cleaned and disinfected after each patient procedure.
- Instrument trays or any other item must not be placed on the patient's chest.

8.7 Dental surgery computers

- Refer to 3.2 Mobile Devices.
- All computer equipment must be located as far away as feasibly possible from the dental treatment area and should be located in the clean zone. However, areas outside the patient zone can be contaminated by aerosol generated during dental procedures.
- Surgeries should have wipeable keyboards. These should be cleaned using dual detergent/disinfectant wipes. In absence of wipe able keyboards, the keyboard and mouse must be covered with an impervious barrier to prevent contamination of the keyboard by aerosol. These barriers, when used, must be changed or cleaned/ disinfected between patients as per the manufacturer instructions.
- Signature pads and touch screens when used must also be compatible with infection control procedures.

8.8 Aerosols and blood/saliva splatter

- The prevention of the transmission of microorganisms by aerosol and splatter relies on all staff implementing standard precautions.
- Saliva/blood splatter has larger particle size and occurs in the treatment zone.
- Good surgery ventilation reduces the risk of aerosol and splatter transmission (where artificially ventilated, the air changes should be in line with recommendations. There should be a minimum of 10 air changes per hour or as advised by consulting heating engineer).
- High volume suction during operative care and wearing of surgical face masks, goggles and gowns reduces the risk to clinical staff from aerosols and splatter generated by turbines and ultrasonic equipment.
- Rubber dam isolation reduces aerosols and is recommended to be used for all endodontic treatment and otherwise as appropriate.
- Refer to 8:10 for larger spill management.

8.9 Environmental cleaning

- Each location must have a specific set of tasks for environmental service cleaning staff members who have specific areas for cleaning in the dental setting which does not include dental equipment.
- Environmental service cleaning staff should have access to dedicated housekeeping rooms.
- Daily: all rooms and corridors within the practice should be cleaned and damp dusted.
- Cleaning contractors should be clear as to what their roles are in cleaning i.e. signed checklists should be available for inspection.
- Clean frequently touched surfaces with detergent solution at least daily, when visibly soiled and after every known contamination. Clean general surfaces and fittings when visibly soiled and immediately after spillage.
- Refer to Core elements Health Building Note 00-03: Clinical and clinical support spaces, Generic clinical support spaces: Facilities management, Cleaners' room for recommendations.
- General surfaces and the cleaning requirements for each can be divided into two groups as illustrated in the table below:

Table 8: Cleaning requirements for routine environmental cleaning

Minimally touched surfaces	Frequently touched surfaces
Floors, ceilings, walls and blinds	**Doorknobs, bed rails, table-tops, light switches and sanitary ware**
A detergent solution (diluted as per manufacturer's instructions) is adequate for cleaning general surfaces and non-patient care areas. Damp mopping is preferable to dry mopping. Flat mops are recommended for effective cleaning and these should be decontaminated in washing machines dedicated for this purpose. Cleaning cloths should be colour coded in line with the area of the environment/function for which they are intended. They should be set aside for washing or disposal after each use. Walls and blinds should be cleaned when visibly dusty or soiled. Window curtains should be regularly changed in addition to being cleaned when soiled or exposed to MDROs.	Should be cleaned more frequently than minimally touched surfaces. Detergent solution (diluted as per manufacturer's instructions) can be used with the exact choice of detergent determined by the surface and likely degree of contamination. Detergent impregnated wipes may be used for a single piece of equipment or a small area but should not be used routinely as a replacement for the mechanical cleaning process. Particular attention is required to ensure that sinks, shower and related fittings are cleaned on a regular basis and that water drains freely and thoroughly so that there is no pooling of water.

Ref: NCEC Infection Prevention and Control National Clinical Guideline No. 30, 2023

Refer to Appendix 4 Sample Cleaning Checklist for contract cleaner

8.10 Management of Spills (Blood and Body Fluids)

Spills of blood and other high risk body fluids represent an infection risk and should be removed as soon as possible as described below. Practice surgery staff dealing with spillages should be trained in appropriate management of spillages. The surgery staff member who discovers the spill is responsible for making it safe.

Process for spills management

Strategies for decontaminating spills of blood and other body substances (e.g. vomit, urine) differ based on the setting in which they occur and the volume of the spill:

- healthcare workers can manage small spills by cleaning with detergent solution.
- for spills containing large amounts of blood or other body substances, workers should contain and confine the spill by:
  - Positioning a warning sign "cleaning in progress" beside the contaminated area.
  - Keeping patients/other persons away from the contamination until it is effectively and appropriately dealt with.Donning appropriate PPE and ensure to cover cuts/abrasions with a waterproof dressing.
  - Removing visible organic matter with absorbent material (e.g. disposable paper towels).
  - Removing any broken glass or sharp material with forceps.
  - Soaking up excess liquid using an absorbent agent.

Soft furnishings can also be wet vacuumed. Following cleaning of soft furnishings, they must be allowed to dry before reuse. Alcohol solutions should not be used to clean spillages.

Table 9: Processes for managing spills

Volume of spill	Process
Spot cleaning	• Select appropriate personal protective equipment (for example gloves and disposable apron). • Wipe up spot immediately with a damp cloth tissue or paper towel or detergent wipe. • Discard contaminated materials/cloths. • Perform hand hygiene.
Small spills (up to 10 cm diameter)	• Select appropriate PPE (for example gloves and disposable apron). • Wipe up spill immediately with absorbent material such as paper towels. • Place contaminated absorbent material into impervious container or plastic bag for disposal. • Clean the area with warm detergent solution using disposable cloth, wipe or sponge. • Wipe the area with sodium hypochlorite solution or wipe and allow to dry. • Perform hand hygiene.
Large spills (greater than 10 cm diameter)	• Select appropriate PPE (for example gloves and disposable apron). • Cover area of the spill with absorbent material such as paper towels and allow to absorb. • Remove the absorbent material with absorbed fluid and place in an impervious container or plastic bag for disposal. • If necessary the process of covering the area with absorbent material such as paper towels may be repeated to absorb remaining fluid. • Place all contaminated items into an impervious container or plastic bag for disposal. • Discard contaminated materials. • Mop the area with detergent solution. • Wipe the area with freshly prepared sodium hypochlorite solution and allowed to dry. • Perform hand hygiene.

(NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30)

Spill kit

A spill kit may be convenient for some services as a way to ensure that these supplies are readily available in one location when required. Supplies for dealing with a spill of blood or body fluids should be readily available in each area where healthcare is delivered and should include a scoop and scraper, single-use gloves, protective apron, surgical face mask and eye protection, absorbent agent, clinical waste bags and ties, and detergent. All parts should be disposable to ensure that cross-contamination does not occur.

Note: Correct dilution of sodium hypochlorite is essential when required

- 10,000 ppm (1% solution sodium hypochlorite) for large volume blood spills
- 1,000 ppm (0.1% solution sodium hypochlorite) for spots splashes and small volume blood, spills of urine, vomit and faeces.
- Tablet and liquid products are available which can be dissolved in a recommended volume of water, to give the correct dilution for use.
- A 1-litre graduated jug is required for this purpose.
- The outer surface can be cleaned and disinfected if contaminated, using the chlorine solution after use and left inverted to dry. Chlorine releasing agents are corrosive to metal and should be rinsed and dried after contact. Check individual manufacturer's instructions regarding length of time solution remains effective.

- Where indicated disinfection may also be required following routine cleaning. It is best practice to refer to the manufacturer's instructions and product safety data sheet prior to using disinfectants. Choosing a disinfectant that is compatible with the surface material is integral in order to avoid damage to the equipment.
- All items used during a spillage must be disposed of, or decontaminated appropriately. The Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and product sheets should also be referred to in order to ensure safe management of spillages, e.g. disinfectants being used in accordance with manufacturer's instructions for reconstitution, storage, contact times and expiry dates.

REACH – **https://osha.europa.eu/en/legislation/directives/regulation-ec-no-1907-2006-of-the-european-parliament-and-of-the-council**

Key Compliance Points SOP 8 Routine Management of the Physical Environment

- Each clinical space must be divided into areas that are clearly defined as clean/non-contaminated or contaminated areas. This process is called 'zoning'. Zoning facilitates an efficient way to decontaminate the surgery between patients.
- Ensure adequate natural ventilation to the greatest extent practical. The goal is gentle air circulation rather than strong air movements
- Verify that working areas are kept free of clutter and are easy to clean and disinfect.
- Impervious barriers must be employed to protect equipment and areas that are difficult to clean and disinfect and are vulnerable to contamination during patient treatment.
- Daily workflow (start of day, between patients, end of day) must follow consistent protocols to ensure that contaminated surfaces, instruments and equipment are appropriately cleaned and disinfected.
- Dental staff use a risk assessment approach to identifying frequently touched surfaces.
- All dental clinics should have a documented cleaning schedule that outlines clear responsibilities of staff (dental and environmental service cleaning staff) frequency of cleaning required and the products that should be used to clean.
- Spills of blood and other high risk body fluids represent an infection risk and should be removed as soon as possible followed by prompt cleaning and disinfection of the area contaminated. The staff member who discovers the spill is responsible for making it safe.

SOP 9 Appropriate Use of Single-Use Items

It is very difficult and sometimes impossible to decontaminate some instruments and devices. Therefore in such circumstances, disposable devices must be used, e.g. disposable suction tips. These single use items are marked with the universal single use symbol which indicates that the item is intended for one use or for use on a single patient during a single procedure, and then disposed of correctly. No attempt should be made to re-use single use items. The responsibility for classifying a device as single use lies with the manufacturer.

Figure 2: Single use symbols

Single Use Item Symbol **Do not re-sterilise**

9.1 Dental instruments and dental/medical devices which are licensed as 'single-use' items must not be reused. If in doubt check with the manufacturer of the product. Technical sheets should be available.

9.2 Single use items include the following dental items, which must be disposed of after a single use in the dental clinic. (NB: this is not an exhaustive list);

- Local anaesthetic needles and cartridges
- Scalpel blades
- Saliva ejectors
- Single use 3/1 tips
- Steel burs, including surgical steel burs
- Diamond burs
- Matrix bands
- Endodontic files, reamers, spiral fillers and barbed broaches etc.
- Impression trays (disposable)
- Prophylaxis brushes and cups
- Disposable examination kits
- Orthodontic brackets, arch wires and auxiliaries, molar bands, temporary anchorage devices.
- Inhalation sedation disposable equipment

SOP 10a Decontamination of Reusable Invasive Medical Devices (RIMD)

The "decontamination" process is a combination of procedures that include transportation, cleaning, disinfection and/or sterilisation used to render a re-usable invasive medical device safe for further episodes of use. The most important way of reducing the risk of transmission of infectious agents is by ensuring that the decontamination of all instruments is as effective as possible. Decontamination is performed in a suitable location, ideally external to the dental surgery. Where this is not possible and instruments have to be decontaminated in the dental surgery refer to Appendix 5.

- **Cleaning** is the process that physically removes soiling including large numbers of microorganisms and the organic material on which they thrive.
- **Disinfection** describes a process that eliminates many or all pathogenic microorganisms on inanimate objects, with the exception of bacterial spores.
- **Sterilisation** refers to a physical or chemical process that completely kills or destroys all forms of viable microorganisms from an object, including spores. Sterility is an absolute condition – an item is either sterile or not sterile.

Appropriate PPE must be worn at all stages of the decontamination process. New reusable instruments must be decontaminated prior to first use.

Acquisition of RIMD: All equipment used to decontaminate medical devices is CE approved and conforms to relevant European Standards. Installation, commissioning servicing and annual revalidation of decontamination equipment is in compliance with European Standards and National Guidance and the Medical Device Regulation 2017/745 EEC.

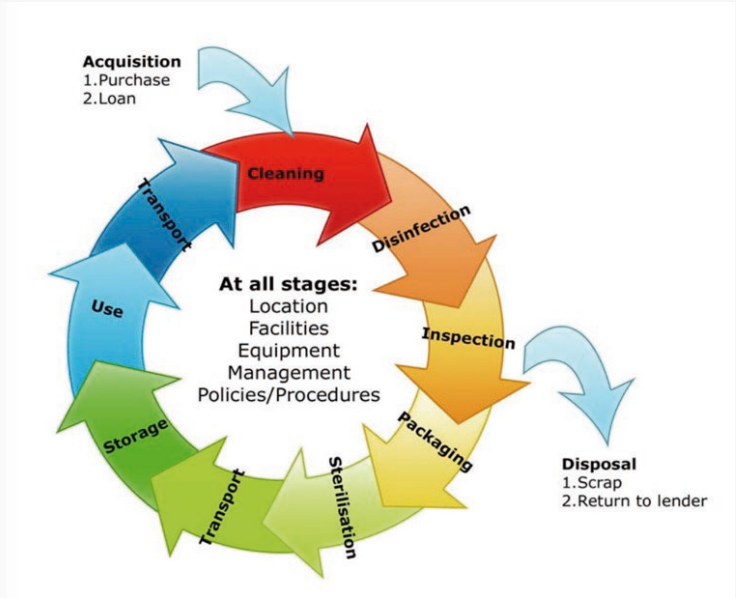
Examples include: Washer Disinfector must conform to: EN 15883- Part 1, 2 and 5 Ultrasonic Cleaner must conform to: EN 15883-Parts 1, 2 and 5 Small Steam Steriliser must conform to: EN 13060. Decontamination of Reusable Invasive Medical Devices complies with manufacturer's instructions (Health Service Executive Guidance for the Application of Standards and Recommended Practices for Local Decontamination Units (LDUs) in Primary Care, Dental, Podiatry and GP Practice).

When procuring RIMD, it is essential that it is compatible with HSE standards and recommended practices.

All reusable invasive medical devices must be CE Marked. 

The Decontamination Lifecycle

Figure 3: The lifecycle diagram used in this document is © Crown Copyright. Source – Department of Health, United Kingdom



10.1 Use and Transportation of RIMD

- Having ensured clinicians have disposed of single use sharps, remove instruments to the decontamination area in a sealed, leak proof transport box where appropriate. The transport box should be colour coded or identifiable as containing contaminated dental RIMD.
- It is essential not to contaminate the outer surfaces of the transport box.
- The box must not be overfilled.
- The transport box needs to be cleaned using a dual detergent/disinfectant wipe.

10.2 Cleaning of RIMD

Cleaning must precede all disinfection and sterilisation processes. At a minimum, ensure that manufacturer's instructions are followed for the cleaning of all instruments. If an instrument is not clean it cannot be sterilised. It must involve the removal of organic and inorganic contamination. Good working practice means that debris must be removed by the clinician/dental nurse at the point of use (e.g. body fluids and dental cement) from RIMD with a safe technique.

- Washer disinfectors are the preferred method for cleaning/disinfecting RIMD. The use of washer disinfectors will minimise handling of sharp instruments and the risk of sharps injury.
- In the absence of a washer-disinfector the next most appropriate method of cleaning of RIMD is in an ultrasonic cleaner. An ultrasonic cleaner will not disinfect medical devices and thus devices pre cleaned in an ultrasonic cleaner will still be contaminated and present a sharps injury risk.
- Each stage of the cleaning process must be reviewed and signed off before release to next stage of decontamination process. Use manual sign offs to indicate that instruments have gone through ultrasonic cleaning where print outs are not available to sign.
- Instruments must not be allowed to dry out prior to cleaning. If instruments cannot be decontaminated within 30 minutes of use, they should be kept moist. This can be achieved by using a non-linting absorbent pad/gauze and a few millilitres of water or enzymatic cleaner (no free liquid) in a transport container or by using a hydrating solution specifically intended for this purpose and in accordance with manufacturer instructions. The container needs to be a sealed, leak proof box labelled "contaminated".

- If instruments cannot go through the full decontamination cycle (cleaned and sterilised) within 24 hours, they should be cleaned and thermally disinfected in the washer disinfector, bagged, clearly identified as contaminated and sterilised the next day.
- If instruments cannot go through the washer disinfector, they should be cleaned using the Ultrasonic Cleaner, rinsed and dried, and stored in a secure box clearly labelled as contaminated. They then must be cleaned and thermally disinfected in the washer disinfector, bagged, and sterilised the next day.
- In clinics where no washer disinfector is available, instruments should be cleaned in the ultrasonic cleaner, rinsed and dried, and stored in a secure box clearly labelled as contaminated. They then must be re-cleaned in the Ultrasonic Cleaner, dried, bagged, and sterilised the next day.
- Pre-moistened instrument bags (e.g. Duck Bags TM) or solutions/similar which prevent soiled RIMD from drying out prior to decontamination for up to 5 days, are also available, and must be used according to manufacturer's instructions. Instruments stored in pre moistened instrument bags or solutions are contaminated and must go through the full decontamination cycle (cleaned and thermally disinfected (WD)/cleaned (UC) and sterilised at earliest opportunity.

10.2.1 Procedure: Cleaning of instruments in the ultrasonic cleaner

Before Use

- Ultrasonic cleaner must conform to: EN 15883-Part 1, 2 and 5.
- Staff must be trained in the correct use of the ultrasonic cleaning equipment.
- The ultrasonic cleaner must be validated at least annually to confirm functionality using the standards EN 15883.
- The ultrasonic cleaner must be commissioned prior to initial use or undergo local acceptance test (see Table 10.2.2). Only when all the above tests have been passed should the ultrasonic cleaner be accepted for use in the decontamination process. These results should be used as a benchmark for on-going comparison.
- All new ultrasonic cleaners must have a printout facility
- Where existing ultrasonic cleaners have no printer, a manual sign off of each cycle must be undertaken.

- The ultrasonic cleaner is used for the removal of surface debris, prior to autoclaving. As stated previously, an ultrasonic cleaner will not disinfect medical devices and thus devices pre-cleaned in an ultrasonic cleaner will still be contaminated and present a sharps injury risk to the user.
- RIMD do not require ultrasonic cleaning prior to cleaning in the washer-disinfector
- Heavily soiled instruments when contained in the basket of the ultrasonic cleaner should be immersed in water and not held under running water in the decontamination sink. This is done prior to automated cleaning so as to avoid splashing. Blood must be removed from dental instruments as quickly as possible, as it is more difficult to remove when congealed.
- Fill the ultrasonic cleaner with the correct dilution of recommended enzymatic solution according to manufacturer's instruction.
- The cleaning liquid must be degassed for 5 minutes prior to use and each time the solution is changed. If there is no specific degas function then run a 5 minute cycle with no instrument load ensuring manufacturer's instructions are followed.
- All suitable RIMD must be immersed in the cleaning solution.
- Hinged instruments should be opened.
- The ultrasonic cleaner must not be overloaded.
- Handpieces and ultrasonic scalers must not be placed in the ultrasonic cleaner. Refer to 10.3.1.1.
- The ultrasonic cleaner must be located close to the instrument rinsing sink to facilitate filling and emptying.
- The ultrasonic cleaning cycle must **not** be less than five minutes.
- Do not add instruments to the ultrasonic cleaner when a cycle is in progress.

- Do not interrupt the cycle once started.
- At the end of the ultrasonic cycle, rinse the instruments under running water whilst contained in the ultrasonic cleaner basket. At this stage, if visible debris is noticed on the instruments they should be returned to the ultrasonic cleaner for reprocessing.
- If visible debris is not removed it will interfere with microbial inactivation and compromise the sterilisation process.
- Dry the instruments with disposable, non-linting paper towels.
- Change liquid solution at least every 4 hours or more frequently if contaminated. Document the change of solution.
- Drain, clean and dry the ultrasonic cleaner at the end of the day.

Table 10: Procedure for testing ultrasonic cleaner

10.2.2 Procedure: Testing ultrasonic cleaner Minimum testing required for safe use of an ultrasonic cleaner in Primary Care
Performed by dental staff
Initial tests prior to first use (user) • A foil test must be done using manufacturer recommended detergent and this must show suitable activity. • Cavitation functions must be validated by wand test/sonocheck. • A load checker test must be performed to test cleaning efficacy. Only when all the above tests have been passed should the ultrasonic cleaner be accepted for use in the decontamination process. These results should be used as a benchmark for on-going comparison.
Daily checks (user) 1. Ultrasonic cleaner is emptied and dried overnight. 2. Remove and clean strainers and filters, etc. 3. Cleaning efficacy visual test.
Weekly tests (user) 1. Only routine testing will detect ultrasonic cleaner performance deterioration and prevent ineffective ultrasonic cleaning. A soil test (load check) must be performed weekly to test cleaning efficacy. It is performed under normal conditions with no instrument load. A record of date, serial number of ultrasonic cleaner, result of test (pass/fail), and signature is logged. Once pass/fail is documented, dispose of indicator appropriately. If test fails, carry out a second test; if it fails again, ultrasonic cleaner is taken out of use and contact the service engineer. 2. Protein residue test.
Quarterly tests (user) 1. Cavitation functions should be validated quarterly by wand or foil or sono test tube.
Performed by independent validator and service engineer
Annual service, Annual validation tests (EN 15883) 1. Annual safety checks 2. Automatic control tests (if automatic cycle control is fitted) 3. Cleaning efficacy test 4. Test for ultrasonic activity

Refer to Appendix 6 Testing of RIMD decontamination equipment – Glossary

Refer to Appendix 7 for an Ultrasonic Cleaner Tracing and Test Sheet

10.3 Cleaning and Disinfecting of RIMD

10.3.1 Procedure: Cleaning of instruments in Washer Disinfector

Before use

- Washer Disinfector must conform to: EN 15883- Parts 1, 2 and 5.
- Staff members must be trained in its correct use by the supplier.
- The Washer Disinfector must be validated at least annually to confirm functionality using the standards EN 15883.
- The Washer Disinfector must be commissioned prior to initial use or undergo local acceptance test (see Table 10.3.2). Only when all the above tests have been passed should the Washer Disinfector be accepted for use in the decontamination process. These results should be used as a benchmark for on-going comparison.

- Washer disinfectors provide a verifiable cleaning/disinfection process.
- **RIMD do not require ultrasonic cleaning prior to cleaning in the washer-disinfector**
- A data-logger/printer or network cable needs to be supplied to ensure each cycle is recorded, reviewed and signed off by the user prior to inspection and packaging.
- Always operate according to manufacturer's instructions.
- Use a recommended enzymatic cleaner and ensure appropriate chemical storage.
- Daily checks of arms and filters – Refer to 10.3.2. Ensure manufacturer's instructions are followed in relation to filter changes to prevent build-up of debris.
- Ensure instruments are placed appropriately in baskets or tray systems, with no overloading or over lapping of instruments. Small items need to be placed in appropriate holders.
- On completion of the washer-disinfector cycle ensure that the temperature has reached 90oC (under counter washer-disinfector) with a holding time of 1 minute. Follow manufacturer's recommendations for counter top washer disinfectors.
- Documentation is required for every washer-disinfector cycle and should contain the following:
  - Washer-disinfector serial number.
  - Cycle number.
  - Type of cycle used.
  - Date and time of start of cycle.
  - Critical parameters for the specific washer-disinfector cycle.
  - Results of washer-disinfector process.
  - Signature of designated, appropriate personnel who have been trained in decontamination practices, confirming whether or not the process cycle was within recommended parameters.
  - Any notes or observation for the process cycle.
- A weekly load checker test (soil test) must be performed to test the efficacy of instrument cleaning and a record kept of the test result. See 10.3.2 for further information.
- Instruments must be inspected following washer-disinfector cycle prior to packaging under task lighting.
- If visible debris is noted on the disinfected instruments, reject the load.
  - Check that the instruments were placed appropriately in baskets or tray systems, with no overloading or over lapping of instruments. Check enzymatic detergent levels. Check correct cycle was chosen. If errors were noted, correct same and repeat the cycle.
  - If the load failed because of residual cement on instruments, alert clinical staff to the fact cement had not been cleaned off the instruments at the chair side.
  - Put the contaminated instruments through the ultrasonic cleaner if available, or manually clean the instruments.

- Washer disinfectors must be commissioned, serviced annually and be subjected to annual validation by a competent person. Reports must be kept of all validation, servicing and repairs to comply with EN15883.
- All records should be maintained for a minimum period of 11 years or for the lifespan of the washer disinfector if this is longer.

10.3.1.1 Dental handpiece cleaning and disinfection

- Dental handpieces must be cleaned, decontaminated and sterilised (fully decontaminated) after every patient.
- Automatic handpiece oilers, ideally with compressed air, must be used
- Where possible, handpiece motors should be decontaminated according to manufacturer's instructions.
- At all times, manufacturer's instructions should be followed.

Handpiece cleaning and disinfection with washer disinfector	Handpiece cleaning without washer disinfector
• Washer-disinfectors are ideal for use, to facilitate internal cleaning of the handpiece prior to sterilisation in an autoclave. • Handpieces should be cleaned and disinfected after use in a washer disinfector equipped with adaptors that facilitate irrigation of the internal lumen and channels. • Dental handpieces are only internally cleaned in the washer disinfector when appropriate adaptors are fitted to machine for this purpose. Where all adaptors are not occupied during the cycle, the empty adaptors may need to be capped (as per manufacturer's instructions).	• Where a washer disinfector is not available, clean the outside of the handpiece with a dual detergent/disinfectant wipe. Do not clean or immerse the handpiece in disinfectant. Do not place in the ultrasonic cleaner.

- Follow the manufacturer's instructions in relation to lubricating the handpiece.
- Following automated or manual cleaning and oiling, the handpiece is placed in an appropriate autoclave bag and the bag carefully sealed prior to sterilisation in the autoclave.
- In an 'out of hours' situation, when it may not be possible to complete the decontamination process, follow the instructions above. However, once the handpiece has been thermally disinfected (if washer disinfector is available) and bagged, it should be quarantined in a designated transport box labelled "contaminated" and sterilised at earliest opportunity.

Table 11: Procedure for testing washer disinfector

10.3.2 Procedure: Testing Washer Disinfector Minimum testing required for safe use of a Washer Disinfector in Primary Care
Performed by dental staff
Daily checks (user) 1. Check spray arm rotation for free movement and remove and clean strainers and filters etc. 2. Check spray nozzles for blockage (paying particular attention to those fitted to carriages for instruments).
Weekly tests (user) 1. A soil test (load check) must be performed weekly to test cleaning efficacy. A record of date, serial number of washer-disinfector, result of test (pass/fail), and signature is logged. Once pass/fail is documented, dispose of indicator appropriately. If test fails, carry out a 2nd test; if it fails again, washer disinfector is taken out of use and contact the service engineer. Put appropriate signage on the washer disinfector to alert staff that it is out of service. 2. Protein residue test.
Performed by independent validator and service engineer
Yearly service **Yearly validation tests (EN 15883)** 1. Yearly safety checks 2. Automatic control tests 3. Verification of calibration of washer-disinfector 4. Chemical additive dosing tests for reproducibility and low level detection 5. Cleaning efficacy test 6. Thermometric test for thermal disinfection

(Note: This is the minimum set of tests required to establish continued performance of the Washer Disinfector to specification). Validation of decontamination reprocessing equipment must be independently measured using dataloggers equipment that has been calibrated and measured to source documents.

Refer to Appendix 6 Testing of RIMD decontamination equipment – Glossary

Refer to Appendix 8 for a Sample Washer Disinfector Tracing and Test Sheet

Key Compliance for reprocessing stages prior to sterilisation:

- Ensure there is a method to safely transfer items from clinic to reprocessing area, e.g.. The container needs to be a sealed, leak proof box labelled “contaminated”.
- Determine how each instrument in the practice will be appropriately reprocessed after each stage.
- Determine how items will be managed if they cannot be immediately reprocessed.

10.4 Inspection and packaging of RIMD

10.4.1 Inspection of instruments

- Inspect all instruments under task lighting prior to packing to ensure that they are clean, intact and that there are no chips, worn spots, flaking or other damage or visible contaminants.
- If the RIMD does not pass visual inspection, it must be returned for a repeat cleaning cycle or replaced.

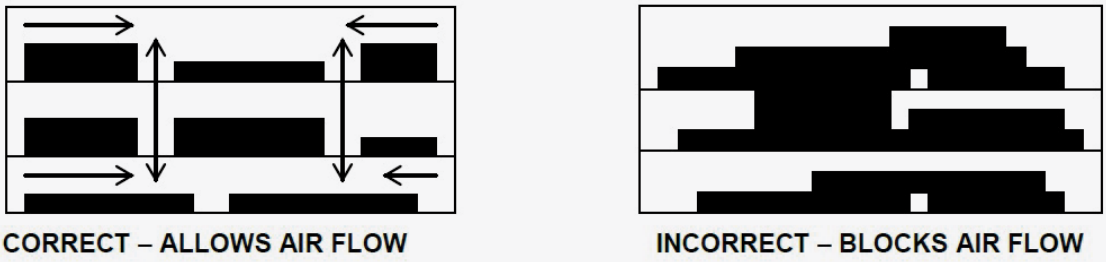
10.4.2 Packaging of instruments

- After the cleaning and inspection process is complete, the RIMD should be bagged/wrapped.
- Bagging/pouches allows the RIMD to be protected by an effective bio-barrier during storage.
- Seal the bags carefully according to manufacturer's instructions along the adhesive strip. A selection of bag sizes should be available. Autoclave bags must be available in the contaminated zone.
- Only when the load is ready to be put into the autoclave, does dental staff member label the pouches/packs on the clear side, and commence the cycle using a labelling gun specific to each autoclave.
- The label should record the date, cycle number and autoclave serial number. The autoclave serial number is pre-set on the labelling gun. Therefore, a labelling gun should not be used with a different autoclave without re-setting the autoclave number on the labelling gun. The labelling gun should be kept in the contaminated zone in the surgery/Local Decontamination Unit (LDU).
- The label must be legible – if not, the ink cartridge must be changed. A corresponding label must be placed on instrument track/trace record sheet.

10.4.3 Loading of autoclave

- Items are loaded within the boundaries of the autoclave chamber so that they do not touch the chamber walls.
- Items packed in flexible packaging materials (pouches) can be loaded on edge to edge with paper against laminate, or flat on the tray. The directional placement of the autoclave pouch on the tray should be according to manufacturer's instructions. Steam must be able to contact each instrument with no overloading of pouches or cassettes.
- Only the trays provided with autoclaves should be used.
- Load trays loosely to capacity.
- Closed non-perforated containers do not allow steam penetration and are not suitable for use.

Figure 4: Loading of autoclave



- The above diagram illustrates the correct procedure for loading of items in the autoclave.

10.5 Sterilisation of RIMD

Before Use:

A Class B vacuum autoclave must be used to sterilise dental RIMD. It is important that systems are in place to record (track) the sterilising stage of the decontamination cycle of RIMD and to be able to link these RIMD with patients on whom they have been used (trace). The autoclave must be commissioned to EN 13060 and EN 17665, and be subject to a planned preventative maintenance programme and annual re-validation.

10.5.1 Sterilisation of RIMD

- Vacuum steam sterilisation in an autoclave is the most practical method for sterilising reusable invasive medical devices in dental clinics. It is rapid, non-toxic and can effectively destroy microorganisms and thus is the method of choice for sterilising dental RIMD.

- Do not overload the autoclave. Space out bags of instruments, placing the bags on their side in a rack or “clear side up” if on a tray.
- The Universal Program 134°C wrapped instruments cycle is the only cycle that must be used for dental instruments in a Class B autoclave.
- Press start on the cycle to commence the process.
- On completion of the cycle, staff must validate that the cycle reached the required parameters for the required time as follows:
- **The printout for each cycle must be examined. The dental staff member must highlight the cycle number, the temperature reached and the time temperature held i.e. 134°C for a minimum of 3 minutes. The instrument track/trace record sheet (Appendix 9) must be completed and signed.**

  The printout must be legible and attached to the instrument track/trace record sheet – if not legible change the print ribbon of the printer. The printout should be stored in a clean, dry area away from light to prevent thermal ink printout fading.
- Where autoclave cycle data is recorded in electronic format, cycle parameters must be checked and signed off before instruments are used/placed in storage.
- If the bag is damaged or if the colour indicator has not changed, the instruments must be re-bagged and re-sterilised before use and the reasons for the failure investigated.
- If the bag is wet, staff should repack and reprocess the wet items. Staff should report issue, arrange a service call out and ideally take note of the following:
  - What time of the day are the wet loads occurring? (time of day, second cycle of day, etc.)
  - Where in chamber was the affected pack? (top/middle/bottom/front rear, etc.)
  - Was the load a typical load or was it light/heavy/mixed?
  - Photograph of full load, showing pack position.
  - Photograph of pack showing moisture.
- Provided that the cycle has passed, remove instruments from the autoclave ensuring that the colour indication has changed and the bag is intact.
- Bags must be stored in a clean, dry location.
- They may be stored in a clean, dry location **for 12 months if packaging is intact.**
- Before instruments are removed from the autoclave bag for patient use, the bag must be examined for damage and checked that the colour indicator has changed.
- When an instrument pack is used the details from the label must be attached to/entered on to the patients chart/record (trace).
- At the end of the day the autoclave must be drained if not connected to a continuous water drain. Drain according to manufacturer’s instructions.

Sterilisation of all RIMD prior to sending for repair/maintenance:

- If a handpiece or other piece of dental equipment is to be sent for repair/service or maintenance, it must be cleaned and sterilised. A completed Decontamination Record form must be completed and sent with the handpiece.
- Remember to surface disinfect air motor and/or coupling after each use with a dual disinfect/detergent wipe. Some air motors are autoclavable and there will be a symbol on the motor to indicate this or check with the supplier. Most couplings are not autoclavable. Follow manufacturer guidelines.

10.5.2 Testing of Autoclaves

Table 12: Procedure for testing autoclave
Sterilisation temperature, steam pressure and hold time

Minimum Sterlisation Temperature	Corresponding Steam Pressure	Maximising Permissible Temperature	Minimum Sterilisation Hold Time
134°C	2.30 Bar gauge	137°C	3 Minutes

Weekly and Annual Testing of Autoclave	
Performed by dental staff	**Class B Vacuum Autoclave**
Daily Checks	
Check door seals and locks	Yes
Steam penetration test (Refer to 10.5.2 (ii))	Yes
Cycle record and tracing sheet (Appendix 9)	Yes
Weekly checks/tests	
1. Air leakage test i.e. Vacuum test (Refer to 10.5.2(i))	Yes
Performed by independent validator and service engineers	
Annual Service	**Yes**
Annual Validation Tests for Autoclaves	**Yes**
1. Air leakage test (automatic)	Yes
2. Air leakage test (manual) (temperature and pressure sensors)	Yes
3. Automatic control test	Yes
4. Verification of calibration of steriliser instruments	Yes
5. Thermometric tests for a full load	Yes
6. Porous load dryness test	Yes
7. Test for performance re-qualification as required by the user	Yes
8. Air leakage test (automatic) (sensors removed)	Yes
9. Steam penetration test	Yes
10. Insurance company pressure test (18 mths)	Yes

Annual testing and servicing is performed by a qualified engineer.

(Note: Instruments used in the validation of decontamination equipment must be independently calibrated to published standards)

Refer to Appendix 9 for a Sample Autoclave Tracing and Test Sheet

10.5.2 (i) Vacuum/Air Leakage test

- **A vacuum test must be done weekly on a cold, empty autoclave on the first day of the week when the clinic is in use.**
- This must be the first cycle of the day.
- Close autoclave door and select Vacuum Test. Press start.
- At the end of the cycle, highlight the leak rate, and cycle number.
- The leak rate must be at or below 1.3mbars.
- Attach a label to the track and trace sheet showing the cycle number, date and autoclave serial number. Indicate pass/fail of cycle and sign same.
- If the Vacuum test fails, run the cycle again as per manufacturer's instructions.
- If it fails again, do not use autoclave, inform a senior member of staff.
- Put appropriate signage on autoclave to alert staff that it is temporarily out of service.
- Report the problem to senior member of staff who will arrange an appropriate competent person to call-out, check the machine and inform when machine can be released back into service.
- Write up details of the fault in the 'record of autoclave faults/repairs' book held with each autoclave.

10.5.2 (ii) Steam Penetration Test, e.g. Helix Test or Bowie-Dick Test

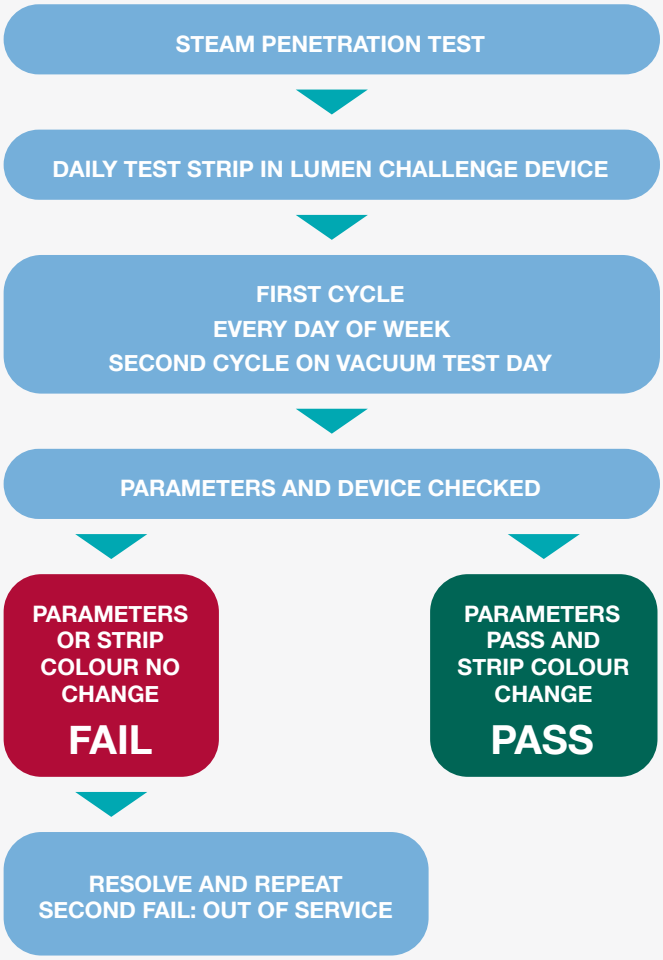
- A steam penetration test must be done daily to test the steam penetration into a lumened instrument, e.g. handpiece. The Helix test is recommended unless the Bowie-Dick test is specified by autoclave manufacturer (note 3).
- The Helix/Bowie-Dick test is designed as a test cycle with a defined holding time.
- Is it not recommended to place a Bowie-Dick or Helix test into an instrument cycle as the longer exposure time invalidates the indicator.
- The chamber should be otherwise empty for Helix/Bowie-Dick test, as the empty chamber has lots of air to remove and is the challenge intended.
- **This is the first cycle each day (when a vacuum test is due, the Helix test should be done after the vacuum test).**
- For autoclaves not connected to water supply, first put RO/Sterile/Purified water into the water reservoir. Place a loaded challenge device (Helix Device or Bowie-Dick Device) on a tray in an otherwise empty autoclave.
- Ensure there is a paper insert in the challenge device (Helix Device) and that it is inserted correctly i.e. folded once and inserted into the device, closed end first.
- The device should not touch the internal walls of the autoclave.
- Close door and select Helix/Bowie-Dick cycle. Press Start.
- When cycle is complete check parameters reached i.e. Temperature 134°C held for a minimum of 3 minutes.
- Highlight on printout the temperature reached, the hold time and the cycle number.
- Remove challenge device and confirm that there has been a complete colour change of paper insert.
- Attach the insert to the dated diary sheet. Indicate pass/fail of cycle and sign same.
- Attach a print out of successful steam penetration test to the track and trace log (Appendix 9) showing the cycle number, date and autoclave serial number.
- When the Helix test kit is used, follow manufacturer's instructions regarding when a new device must be purchased. The device must not be used if damaged by wear and tear.
- If the steam penetration test fails, repeat the process as per manufacturer's instructions. If the test fails again, do not use the autoclave, inform a senior staff member. Put appropriate signage on autoclave to alert staff that it is temporarily out of service. Report the problem to senior member of staff who will arrange an appropriate call-out, check the machine and inform when machine can be released back into service.
- Write up details of the fault in the 'record of autoclave faults/repairs' book held with each autoclave.

Note 1: Manufacturers of Class B autoclaves will indicate if a warm up cycle is needed prior to running daily tests.

Note 2: Manufacturers will specify a specific cycle to be used for the steam penetration test, e.g. a Bowie-Dick cycle. This cycle may have a reduced drying time and/or specific sterilisation holding time.

Note 3: Manufacturers of the Class B autoclaves will specify whether it is a Helix test or Bowie-Dick test that is needed daily.

Steam Penetration Test Workflow



Refer to Appendix 6 (i) for further information on Process Challenge Device and Chemical Indicators.

10.5.2 (iii) Autoclave maintenance records

- A separate folder/log book containing the test sheets must be kept for each autoclave.
- All maintenance and service records associated with the individual autoclave must be kept in its individual folder/log book.
- If an autoclave is moved to a different location, then its individual folder/log book, etc. must go with it.

10.5.2 (iv) Care of the autoclave

- Autoclaves can become contaminated with endotoxins, particles, oil and other materials that will compromise their proper functioning. It is therefore very important to keep reservoirs and sterilisation chambers clean. In autoclaves not connected to a continuous water supply, drain both feed and waste reservoirs at the end of the day. It is essential that the tubing and strainers are cleaned regularly in autoclaves not connected to a continuous water supply. If these are not cleaned regularly they can become contaminated.
- Only sterile or other appropriate quality water (e.g. reverse osmosis (RO) or distilled water) must be used in autoclaves.

The following steps will help to minimise contamination of the autoclave, improving the decontamination process:

- Make sure that all instruments are clean and intact before placing in the autoclave.
- Drain the autoclave at the end of the day if not connected to a continuous water supply or if the equipment is not going to be used again that day. If connected to a continuous water supply, the waste water must be drained at the end of the day, unless it drains automatically. Follow the manufacturer's instructions.
- Lubricate handpieces in accordance with the manufacturer's instructions and place in a bag before putting them in the autoclave. This will reduce oil contamination of the autoclave.

There are occasions when an autoclave will need to be validated outside of the annual requirement. Changes to be considered (if applicable) shall include:

- Replacement of a process control part which could cause a process parameter to change (e.g. replacement of a drain probe or replacement of a Central Processing Unit card)
- Replacement of a part which could cause an increase in leakage into the autoclave chamber
- Variation of homogeneity in the autoclave chamber
- New or modified software and/or hardware
- Any change to a process parameter or
- Any change of packaging and/or packaging procedure; load configuration.

Key Compliance points for sterilisation:

- Autoclaves must be serviced annually and be subjected to annual validation and pressure checks by a competent qualified person.
- They must also be subject to pressure testing every 18 months by a competent engineer.
- Reports must be kept of all validation, servicing and repairs of autoclaves. The expertise of an authorised engineer is recommended if there are any concerns with validation reports.
- An authorised engineer provides expertise on all aspects of the operation and testing of decontamination equipment (ref HTM 0105). Responsibilities include but are not limited to the following:
- Audit of reports on validation, revalidation and yearly tests.
- To advise management on programmes of periodic testing and operational procedures regarding Decontamination equipment.
- Click here for a list of authorised engineers **https://www.iheem.org.uk/expert_tags/decontamination/**

10.5.3 Unloading of autoclaves

- Declaring a product sterile, based on the records demonstrating that the process parameters have been met is called parametric release.
- On completion of the cycle, the load is removed from the autoclave and a visual inspection made to ascertain that the load is dry, and that sterilisation indicators have made the required colour change.
- Packaging is checked to ensure it is intact. Items in punctured packaging must be repackaged and re-sterilised.

- Check physical indicator data (display, data card or printout) at the completion of cycle to ascertain the required parameters have been met (known as parametric release). Highlight the parameters, sign the printout and file it accordingly.
- Directly after the sterilising process, items are vulnerable to recontamination by moisture or improper handling.
- Allow instruments to cool before storing.

10.6 Storage of sterilised RIMD

- All decontaminated RIMD must be stored in such a way that their integrity and sterile state is maintained. Dental RIMD packs should be stored in a clean, dry environment and protected from sharp objects that may damage the packaging.
- They must be stored in a way that maintains the integrity of the packaging bags. Packs should also be rotated and subject to minimal handling before use.
- They may be stored in the surgery in a dedicated drawer or best practice recommends storage in a dedicated clean store or a storage area within the clean room of the decontamination area.
- Bags should be inspected in the surgery before opening to ensure they have not been compromised (damaged, wet or open), are correctly labelled, are in date (12 months) and chemical indicator is the correct colour.

If a bag is dropped on the floor, it must not be used. If in doubt re-clean, repack and re-sterilise.

Refer to the HSE Standards and Recommended Practices for Dental Services (Local Decontamination Unit) for further information. Access through link:

https://www.hse.ie/eng/about/who/nqpsd/qps-improvement/hse-guidance-of-standards-and-recommended-practices-for-decontamination.pdf

Key Compliance Points for SOP 10 Decontamination of Reusable Invasive Medical Devices (RIMD)

- Staff must aware of the proper use, packing and maintenance of decontamination equipment.
- Ensure all decontamination equipment conforms to relevant EN Standard
- Check that the daily, weekly and annual testing of equipment in use has been documented.
- Check that all dental staff members involved are aware of parameters for passing sterilised RIMD and know what to do when parameters have not been reached.
- Ensure annual service and validation of all decontamination equipment is scheduled with an appropriate competent person.

SOP 10b Cleaning and Disinfection of Patient Care Equipment

10.1b Procedures for disinfection when taking and processing X-ray films

10.1.1b Taking an intra-oral X-ray:

- Ensure that the radiographic film/intra-oral sensor to be used is covered with a barrier envelope. Those films that do not come with a manufacturer's barrier envelope must be covered with one.
- All equipment must be prepared in advance with barrier envelopes. These barriers must be changed after each patient. X-ray holders must be cleaned, ideally thermally disinfected and then sterilised after each patient.
- Staff should receive training on how to clean and disinfect as appropriate all parts of the X-ray machines used in the clinic according to the manufacturer's instructions. This is particularly important as new complex equipment such as cone beam technology has been introduced into some clinics.

Areas of potential contamination to be noted are:

Table 13: Areas of potential contamination on X-ray equipment

Intraoral X-ray equipment	Extra-oral X-ray equipment:
• The cone of the X-ray machine. • The back of the head of the machine. • A point on the arm of the machine and any other areas used to position equipment. • The hand control.	• The bite block. • The hand control. • Head supports. • Ear rods. • Nose bar.

- After use, these areas should be decontaminated using a dual detergent/disinfectant wipe and as per manufacturer's instructions.
- If used, the thyroid collar should be cleaned and disinfected with a dual detergent/disinfectant wipe.
- A sterile X-ray holder must be used for each patient and this must be decontaminated and sterilised after each patient as per HSE decontamination protocols.
- Clean remainder of machine as per manufacturer instructions.

10.1.2b Taking an Orthopantomogram (OPG):

- The bite block must be either covered with a suitable disposable barrier enveloped or reprocessed between patients. Follow manufacturer's instructions.

10.1.3b Processing an X-ray film:

- The barrier envelopes must be removed outside of the processor and disposed of as healthcare risk waste.
- Intra-oral digital sensors/plates should be cleaned and disinfected as per the manufacturer instructions (do not use a dual detergent/disinfectant wipe).
- The uncontaminated film is then ready for processing.
- X-ray developer and fixer must be changed regularly and log of changes kept. The used developer and fixer must be stored safely and collected by an authorised waste disposal company.
- Do not mix developer and fixer fluid in the same waste container.

10.2b Mixing surfaces including glass slabs

- Glass slabs and dappen dishes do not tolerate sterilising, they can chip and break. Single use dappen dishes and paper mixing pads should be used where possible.
- Where glass slabs must be used, a clean and disinfected glass slab must be used for each patient. Removal of excess cement from the slab and the mixing spatulas at the point of use is essential to facilitate the cleaning process. The use of bur brushes is prohibited.
- Mixing spatulas must be cleaned, ideally thermally disinfected in a washer disinfector and then sterilised after each patient.
- Where paper pads are used, the material can be mixed on the pad, the sheet must then be removed, presenting the material to the operator on a single sheet and disposed of after use.

10.3b Amalgam carrier/dappen dishes

- A sterile amalgam carrier must be used for each patient. Amalgam carriers should be reprocessed in accordance with manufacturer's instructions.
- A disposable dappen dish must be used for each patient.
- All excess amalgam must be removed from both the amalgam carrier and the dappen dish and disposed of in a designated amalgam waste container.
- The dappen dish and the amalgam capsule must be disposed of in a labelled designated amalgam waste container.
- The amalgam carrier must be cleaned in the washer disinfector/ultrasonic cleaner prior to sterilisation.

10.4b Impressions, trays and laboratory work disinfection

- Single use impression trays must not be reused (they should not be sent back from the laboratory).
- All impressions and all stages of laboratory work and dentures must be cleaned and disinfected and placed in a sealed bag with a completed Disinfection Record form attached (appendix 11) before being sent to the laboratory and on returning from the laboratory prior to placing in the patient's mouth.
- Separate disinfection baths, which are clearly labeled and appropriately positioned for incoming and outgoing appliances for laboratory work should be used;
  - As there are a number of products available, disinfection bath solutions should be made up and changed depending of usage in line with manufacturer's instruction.
  - Refer to section 3.1.1 of the NCEC Infection Prevention and Control National Clinical Guideline No. 30, for examples of product concentration calculations for incoming and outgoing laboratory work.
- Incoming laboratory prostheses and removable appliances must be cleaned thoroughly to remove any environmental contamination.
- All impressions must be rinsed with cold water to remove saliva and blood. Rinse under low flow to avoid splashing as droplet splatter may carry microorganisms.
- Any heat tolerant items used for laboratory work, e.g. face-bows should be cleaned and sterilised after use on a patient.
- Clean the bath, leave to dry and store appropriately.
- A Disinfection Record form must be completed for each patient and attached to lab-work docket. Refer to Appendix 11 for Sample Disinfection Record.

10.4.1b Zinc oxide eugenol, silicone and elastomeric impressions:

- Disinfect by immersion in sodium hypochlorite solution (1:10 dilution) for at least 10 and not more than 20 minutes. Solution should be made up fresh for each session and emptied at the end of the clinical session. Clean the bath, leave to dry and store appropriately.
- Rinse under a low flow to avoid splashing as droplet splatter may carry microorganisms.
- Rinse thoroughly and gently agitate to remove any residual disinfectant.
- Place in the laboratory bag for collection. A completed disinfection form must be attached to the bag.

10.4.2b Alginate impressions:

- Rinse the impression carefully under low flow running water (not in hand wash sink) to remove debris and place in sodium hypochlorite solution (1:10 dilution) for 10 minutes.
- Rinse the impression again under running water, wrap in wet gauze/paper towel and bag. A completed disinfection form must be attached to the bag. Do not staple through the body of the bag.

10.4.3b Metal frame dentures/removable orthodontic appliance:

- Place the metal frame denture/appliance in sodium hypochlorite (1:10 dilution) for 2-3 minutes (but no longer) to avoid metal corrosion
- Rinse thoroughly with water and agitate to remove residual disinfectant.
- Place in the laboratory bag for collection. A completed disinfection form must be attached to the bag.

10.4.4b Incoming laboratory appliances (including orthodontic appliances)

- Incoming laboratory made appliances/dentures must be disinfected before delivery to patient by immersing in hypochlorite solution (1:10 dilution) for 2-3 minutes and rinsed thoroughly with water afterwards. A separate disinfection bath should be used for outgoing and incoming laboratory work.
- Trimming of acrylic orthodontic appliances or dentures that have been worn already by the patient: Prior to trimming, rinse under low flow running water, disinfect appliance in 1:10 solution for 2-3 minutes and rinse thoroughly under low flow running water afterwards. Trimming can proceed.

10.4.5b Stone working models

- Avoid contact between the stone model and contaminated appliances.
- If contact is unavoidable, the working stone model should be covered with a suitable barrier.

10.4.6b Clinical photography

- Remove gloves and perform hand hygiene before handling clinical cameras.
- A sterilised set of cheek retractors, mouth mirrors and retraction forks should be used for each patient when taking clinical photos.
- Cheek retractors, mouth mirrors and bite forks are sent for cleaning/disinfection and sterilisation after each patient use.

Key Compliance Points for SOP 10b Cleaning and Disinfection of Patient Care Equipment

- Staff must ensure barrier envelopes are placed on radiographic equipment, where appropriate, and changed after each patient.
- Staff should receive training on how to clean and disinfect as appropriate all parts of the X-ray machines used in the clinic according to the manufacturer's instructions.
- Single use dappen dishes and paper mixing pads should be used where possible.
- Single use impression trays must not be reused.
- All impressions and all stages of laboratory work and dentures must be cleaned and disinfected.
- Separate disinfection baths (solution 1:10 dilution of sodium hypochlorite solution) should be used for incoming and outgoing laboratory work.
- As there are a number of products available, disinfection bath solutions should be made up and changed depending of usage in line with manufacturer's instruction.

SOP 10c Decontamination of Inhalation Sedation (IS) Equipment

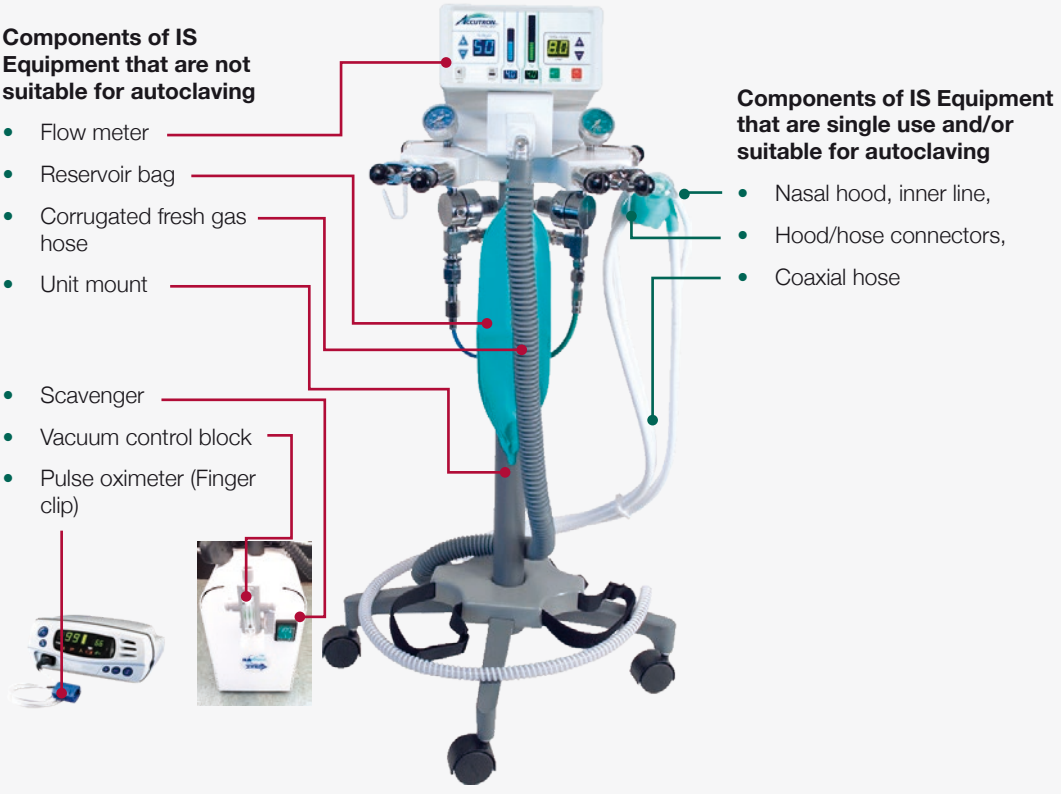
Point of care risk assessment (Figure 1) as part of standard precautions, is to be carried out before each patient/client interaction. It is the responsibility of every HCW to undertake a point of care risk assessment PRIOR to performing a clinical care task, as this will inform the level of IPC precautions needed, including the choice of appropriate PPE. IS units have dedicated one way valves, meaning that the inside of the IS unit and reservoir bag do not become contaminated by human breath, therefore only certain components of the system are contaminated by patient contact. In units which are correctly maintained and serviced, the valves are preserved.

Parts of the equipment that do not come in contact with the patient such as flowmeter and vacuum hose can be protected from contamination by using impermeable barriers.

A loose fitting impermeable **clear** barrier should be used, where possible, to prevent contamination from aerosol or operator contact, e.g. flow meter, vacuum hose.

All items must be disassembled before the decontamination process begins to ensure the process is effective.

Figure 5: Inhalation Sedation Equipment



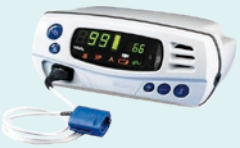
10.1c Components of IS Equipment not suitable for thermal disinfecting and autoclaving

- The components in Table 14 are cleaned and disinfected using a dual detergent/disinfectant wipe (as per manufacturer's instructions, in between patient use, and for routine cleaning as per cleaning schedule).
- **The dual detergent/disinfectant wipe should be squeezed tight to remove any excess moisture. Ensure equipment is switched off before wiping down.**

- Never spray the flow meter and associated equipment.
- Care should be used with cleaning products on IS equipment as damage may be caused including:
  - Tidal marks behind the flow meter perspex cover.
  - Fluid in the oxygen and nitrous oxide flow tubes.
  - Damage to flow tube seals.
  - Internal damage to valves and diaphragms.

Table 14: IS Equipment not suitable for thermal disinfecting and autoclaving

Vacuum control block Clean and disinfect the vacuum block with a dual detergent/disinfectant wipe (as per manufacturer's instructions, in between patient use, and for routine cleaning as per cleaning schedule). The vacuum block is a delicate item, care is needed when handling. Ensure that no moisture gets inside and store the vacuum block in a clean lidded wipeable container for future use.	
Reservoir bag Externally clean reservoir bags with a mild detergent or a neutral liquid soap.	
Corrugated fresh gas hose The fresh gas hose must be detached from the IS machine to be appropriately decontaminated. Decontaminate the external surface of the hose with a dual detergent/disinfectant wipe.	
Vacuum hose and clip The vacuum hose must be detached from the scavenger to be appropriately decontaminated. Decontaminate the hose with a dual detergent/disinfectant wipe.	

Unit Mount	Flow Meter	Pulse oximeter	Scavenger
			

10.2c Disposable breathing apparatus

Disposable, single use breathing apparatus are available. These range from nasal hoods and inner liners to coaxial hoses. If it is not possible to have a validated decontaminated process for tubing and coaxial hoses, singe use items are recommended.

Table 15: Disposable single use IS equipment components

Nasal Hoods	Inner Liners	Coaxial hoses
		

These disposable systems are not suitable for thermal disinfection and autoclaving and are single use items **not** for reuse.

This effectively means that you can change and dispose of all components of the breathing system which come into contact with the patient, following use.

Disposable single use IS equipment components should be disposed of in healthcare risk waste after use.

10.3c Components of IS Machine suitable for decontamination

In the event of staff using reusable IS equipment components; they **must** be decontaminated and changed between patients using a validated process.

- These components (Table 16) should be thoroughly cleaned and disinfected before sterilisation. Best practice would require that all components be cleaned and disinfected using a washer disinfector, with suitable adapters for the coaxial hose tubing, before being packed for sterilisation.
- Ensure to delicately handle the inner liner for the nasal hood. It contains a thin flapper valve which is easily torn or broken.
- Care should be taken when packing these components into autoclave pouches. Avoid kinks and do not cross the tubing.
- When loading these components into the autoclave care must be taken as the pouches can easily rip, tear or puncture. The autoclave must not be overloaded and so it may take multiple cycles to process this equipment correctly.

Table 16: Components of IS Equipment suitable for Decontamination

Coaxial hose and coaxial hose slide adjuster		
Nasal hood, inner liner and hood/hose connectors		
Fresh gas hose y connector **Vacuum hose y connector**		

SOP 11 Domiciliary Care and School Screening

Domiciliary dental care aims to deliver considered and appropriate oral healthcare to individuals whose circumstances make it impracticable, unreasonable or impossible to attend a HSE clinic or hospital site to receive dental care.

11.1 Infection Prevention and Control in the Domiciliary Setting

- In providing dental care in domiciliary settings standard precautions apply in all situations.
- All staff should be cognisant of their duties and responsibilities relating to hand hygiene practices in line with the WHO 5 Moments for Hand Hygiene and in accordance with SOP 1 Hand Hygiene. Hand hygiene can be carried out in the following ways:
  - Use of alcohol-based hand rubs (ABHR).
  - Washing with plain liquid soap and water followed by patting dry with single use towels if setting allows.

Uniform (in accordance with SOP 3 – Personal responsibilities of staff)

- Surgical scrub tops must be worn to enable the staff member to have forearms bare for 5 to 10cm above the wrist (Bare above the wrist).
- Shoes that protect the toes and heels from potential injury must be worn.

PPE (in accordance with SOP 5 – Personal Protective Equipment (PPE))

- All members of staff engaging in domiciliary care must correctly wear the appropriate personal protective equipment (PPE) for the situation in which they are working. The appropriate PPE must be selected following a point of care risk assessment (PCRA) of the situation.
- Refer to SOP 5 Personal Protective Equipment (PPE) for further information.

11.2 Organisation of Equipment

- Dental staff will need to carry all necessary dental equipment with them.
- Equipment and instruments should be packed into the domiciliary dental 'trolley' – a clean, sealed, labelled transport mode for equipment and materials. Figure 6 demonstrates suggested packing of a domiciliary dental trolley.

Figure 6: Suggested packing of Domiciliary Dentistry Trolley

- There must be no long-term storage of sterilised reusable dental instruments in the domiciliary dental service trolley. Long-term storage in the trolley may lead to the integrity of the packaging being compromised.
- Instruments should only be placed into the trolley when a domiciliary visit is anticipated and the instruments deemed potentially necessary for the expected task(s).

11.3 Healthcare Risk Waste Management

- Waste should be disposed of in accordance with SOP 14 Waste Management
- Segregation of waste at the point of waste generation must occur via:
  - non-healthcare risk (black) and healthcare risk (yellow) waste bags taken to the domiciliary location.
  - sharps container for disposal of used sharps (with the use of an integrated sharps tray).
  - designated transport boxes, marked as 'contaminated' for contaminated reusable dental instruments.
  - a designated 'tooth pot' for correct disposal of extracted teeth.
- A single, rigid, sealed container must be used for the transport of waste back to the surgery/Local Decontamination Unit (LDU) from the domiciliary location and labelled accordingly.

Figure 7: Suggested Waste Management Transport System

- Safe secure transport of used dental instruments and appropriately segregated waste material back for normal processing within the Local Decontamination Unit (LDU).
- A single box with clip lid, all waste & contaminated items contained in closed secure boxes/bags within

Sharps Bin
- Outer surface cleaned using disinfectant wipes
- Remains closed but not locked (multiple uses)
- Stored in main waste box & in locked store

Instrument Boxes
- Instruments removed to washer disinfector directly (U/S bath only if required)
- Inner & outer surface cleaned using dual detergent/disinfectant wipes

Box is emptied on return whilst wearing gloves and inner and outer surfaces cleaned using dual detergent/disinfectant wipes

Non-healthcare waste Black/Clear
- Removed and placed in appropriate bin in LDU

Healthcare Risk Waste –Yellow
- Removed and placed in appropriate bin in LDU

Tooth Pot
- Outer surface cleaned using dual detergent / disinfectant wipes
- Remains closed & stored in the main waste box – suitable for multiple uses)

- Healthcare risk waste bags should be tied using the swan neck technique at the end of the domiciliary visit(s) and;
  - The yellow healthcare risk waste bag placed into the main waste management box for transport back to the surgery/LDU for correct disposal.
  - Black/Clear non-healthcare risk waste bag must be tied and may be disposed of at domiciliary location if appropriate.
- Contaminated reusable dental instruments are placed in designated transport boxes, labelled as 'contaminated' and transported back to the clinic for appropriate management. Transport boxes must be safe, secure and leak-proof.

- Debris must be removed by the clinician/dental nurse at the point of use (e.g. body fluids and dental cement) from RIMD with a safe technique.
- In order to prevent hardening of debris, instruments must not be allowed to dry out after use and prior to cleaning or if the time to reach the LDU is greater than 30mins.
- Instruments are placed in an appropriately labelled, sealed and leak-proof box, lined with a non-linting material.
- Instruments are sprayed using an enzymatic cleaner in order to keep instruments moist during transport.
- Sharps should be disposed of in accordance with SOP 6 Management of Sharps/Prevention of Sharps Injuries.
- A sharps container must be contained (upright) within the main waste management box for the correct and safe disposal of sharps. When transporting a sharps container it should be held by the handle. The sharps container must be closed using the temporary closure between appointments but does not have to be permanently locked until the fill line is reached, allowing use for multiple domiciliary visits. The sharps container may be kept within the waste management transport box in an upright position, with the box stored in a secure location.

11.4 Instrument Tracking

- For off-site instrument tracking purposes a paper domiciliary dental care patient record with a designated area for autoclave labels from instrument packages should be used if off-site access to the electronic record management system is not feasible.

11.5 'Screening' visits/Large group visits

The same principles as listed above for individual patients will apply in this scenario, however some amendments will apply:

- Single-use, disposable examination mirrors and/or illuminated mirror heads may be used during large group screenings. These may be disposed of in the yellow, healthcare risk waste bags after use.
- The single waste management box with sharps container should be brought for the transport of healthcare risk waste and any sharps that may be generated during a large group screening, e.g. single use, disposable sharp probes for examination.

SOP 12 Care of Dental Suction Systems

Recent research (Boyle et al., 2015) has shown that conventional aspiration disinfection without disassembly of the suction handpieces (i.e. the part which is attached to the suction tubing/holds the disposable suction tips/regulates the suction volume), results in inadequate cleaning and disinfection of the suction system components. This inadequate decontamination leaves significant reservoirs of microbial contamination in suction hoses, filters and suction handpieces. Thus, there is a risk of cross-contamination and cross-infection from dental suction systems.

The risk is greater for immunocompromised as opposed to immunocompetent persons. For these reasons, dental suction systems have to be effectively decontaminated.

The Centers for Disease Control and Prevention (CDC) has confirmed that under certain operating conditions there is a potential risk of backflow due to pressure changes that can cause suctioned fluids to be retracted into the patient's mouth. Furthermore, contamination on the internal surfaces of suction handpieces can leak contaminated fluids to the exterior, especially around suction strength regulator valves. Handling such handpieces can transfer contamination to the gloved hands of dental staff.

Dental healthcare personnel should be aware that backflow might occur in the following situations and take measures to avoid this:

- When they use a saliva ejector holding the tubing above the patient's head
- When patients close their lips and form a seal around the tip of the ejector that creates a partial vacuum
- When the saliva ejector is used at the same time as other evacuation (high volume) equipment

12.1 Procedure for Suction System Cleaning

At the start of the day

- Perform hand hygiene and don gloves.
- The suction tubes should be flushed first thing in the morning with a cup of water to flush the disinfectant through from the previous application.

After each patient

- Remove the disposable aspirating tip and the barrier after use and dispose of in healthcare risk waste.
- All suction tubes, when used, should be flushed after each patient with a cup of water and appropriate disinfectant after any particularly bloody procedure.
- Suction handpieces and suction holders should be wiped with approved surface disinfectant.
- Remove gloves and perform hand hygiene. Place new barriers and aspirating tips.

After each session

- Each surgery will need a minimum of 3 sets of suction handpieces to ensure service delivery is unaffected.
- Run manufacturer approved disinfectant through the suction system.
- Remove suction handpiece which contain a volume regulator having run manufacturer approved disinfectant through system, disassemble, clean, disinfect (washer disinfector), sterilise and reassemble before use.
- Care should be taken to reassemble suction handpieces correctly. Prior to this, suction handpiece o-rings should be inspected and replaced if worn or damaged. Damaged o-rings will cause suction handpieces to leak aspirated fluids. O-rings should be periodically lubricated with an appropriate lubricant (silicone).
- Smooth bore suction handpiece without volume regulators are adequately cleaned by aspiration disinfection or according to manufacturer's instructions.

End of the day

- The suction tubing should be flushed with an appropriate disinfectant at the end of the day.
- The effectiveness of the suction is greatly enhanced by ensuring filters are clean. Filters should be cleaned at the end of the day after disinfection of the suction system. Suction filters should be cleaned according to manufacturer's instructions. Suction filters should be replaced if torn or damaged.
- Amalgam trapped in the amalgam filter must be disposed of appropriately in amalgam waste container.
- It is imperative that solutions containing sodium hypochlorite or any foaming detergents are not used to disinfect suction units.
- Flush manufacturer approved disinfectant solution through the suction handpiece which contains a volume regulator.
- Disassemble suction adaptors, clean, disinfect, sterilise and reassemble.
- Care should be taken to reassemble suction handpieces correctly. Prior to this, suction handpiece o-rings should be inspected and replaced if worn or damaged.
- Smooth bore suction handpiece without volume regulators are adequately cleaned by aspiration disinfection or according to manufacturer's instructions.
- Dental suction motors must be turned off when the surgery is not in use.
- Worn, damaged or clogged suction tubing should be replaced. Label and date as clean.

End of life suction motors

- Staff members need to arrange that the waste amalgam is collected by the appropriate waste disposal company, the unit must be disinfected with the manufacturer approved disinfectant prior to disposal by the supplier.

Key Compliance Points for SOP 12 Care of Dental Suction Systems

- The suction tubes should be flushed first thing in the morning with a cup of water to flush the disinfectant through from the previous application.
- All suction tubes, when used, should be flushed after each patient with a cup of water.
- After each clinical session, remove suction handpiece which contain a volume regulator having run manufacturer approved disinfectant through system, disassemble, clean and disinfect (washer disinfector), sterilise and reassemble.
- Each surgery will need a minimum of 3 sets of suction handpieces to ensure service delivery is unaffected.
- The suction tubes should be flushed with an appropriate disinfectant at the end of the day and after any particularly bloody procedure.
- Worn, damaged or clogged suction tubing should be replaced.

SOP 13 Care of Dental Unit Waterlines (DUWL) and Water Quality

Rationale

Dental Unit Waterlines (DUWLs) can become contaminated by oral and environmental microorganisms and microbial biofilm and this can be a potential source of cross infection for patients and staff and a potential danger to human health. Biofilm build up is continuous and relentless in DUWLs and water bottles due to the narrow bore tubing, the temperature in the surgery and the long periods of inactivity, approximately 12 hours in a normal working day. These factors all promote bacterial growth. Biofilms once built up are very difficult to remove and penetration of disinfectants into biofilms is problematic. Regular cleaning and disinfection of DUWLs reduces this hazard and helps DUWLs to deliver good quality output water.

1. There are a number of products available for DUWL treatments and these should be used according to manufacturer instructions.
2. Staff should ensure the correct dosage of recommended treatment agent is administered into waterline bottle. Waterline treatment agents should be stored in locked and labelled cupboards and staff trained in their use.
3. Regular disinfection of DUWLs will minimise the potential for Legionella/biofilm contamination. Dental practitioners should contact the manufacturer of their specific Dental Chair Unit (DCU) model for guidance on products and procedures for waterline disinfection. It is vital when using liquid DUWL treatment agents to use the correct dilution (use a measuring device) and ensure that expiry dates are adhered to for the product. The storage of these and all chemicals must be in a locked and labelled cupboard/room and up-to-date material safety data sheets must be available to staff.
4. Routine microbial monitoring of DUWLs will inform the clinician on the quality of the water output from DUWLs and allow corrective action to be taken when necessary.
5. Ensure adequate records are maintained regarding the water quality, treatment and monitoring (DUWLs/Bottles, Taps, Distillers and Reverse Osmosis machines) and that these records are audited.

13.1 *Legionella* risk assessment – Summary Table

As per current Irish National Legionella Guidelines legislation (HPSC, 2009) each Dental Department is required to carry out an annual *Legionella* risk assessment. This risk assessment should look at the following criteria outlined in the summary table below:

Table 17: ***Legionella*** risk assessment – Summary Table

What are the main water risks in the dental surgery for *Legionella* and other pathogenic microbes?	These include: • Aerosolised water from DUWLs which can be swallowed, inhaled or introduced into open wounds. • Water temperature between 20-50°C. • Stagnant water, infrequently used waterlines and slow handpiece waterline where water is not routinely used. • Build-up of deposits in water (hard water minerals). • Hand wash basin and taps.	
Who is at risk?	**High risk**	**Low risk**
	Immuno-compromised, medically compromised individuals and the elderly.	Patients and those accompanying them. Dental staff and patients.

How can we reduce DUWL risks in the surgery?

Handpiece lines, scalers and air water syringes including cuspidor

Treating/Disinfecting of DUWL	Duration
Continuous/intermittent biocides.	Use according to manufacturer's instructions
Periodic shocking of lines after periods of inactivity.	As required
Morning flushing of all DUWLs.	Two minutes
Flushing DUWLs between patients.	15-30 seconds
Flushing of DUWLs at end of the session.	Two minutes
Disconnection and removal of unused water lines/cuspidors to prevent back contamination, e.g. dental chair units.	As required
DUWL bottle hygiene – in relation to the bottle's lifespan refer to manufacturer's instructions.	Minimum once a week

Testing of DUWLs	Duration
Validated laboratory procedure for *Legionella* bacteria testing.	Annually – provided results are within acceptable limits.
Aerobic heterotrophic bacteria total viable counts.	Six monthly – provided results are within acceptable limits.
Pseudomonas aeruginosa.	Six monthly – at the same time as aerobic heterotrophic bacteria total viable counts test.

How can we reduce risks from hand wash basins?

Ideally hand wash basins should have an offset drain outlet that is not impacted by tap water flow. Only clinical hand wash sinks with an offset drain outlet that is not impacted by tap water flow should be used in clinical environments.

Sensor taps

Although sensor taps may improve hand hygiene, evidence suggests that there is a greater risk of internal surfaces and components of these types of taps becoming contaminated with microorganisms and biofilm in comparison to manually operated taps.

Dental surgery hand wash basin

- Testing of water temperature should be undertaken bi-annually at the same time aerobic heterotrophic count tests are undertaken.
- Cold water should be below, <20°C degrees and hot water greater than > 50°C* degrees.
- It is permissible to use mixer taps fitted with a TMV set to 38-40°C to avoid scalding. If water from a mixer tap is below 37 degrees (at hottest position) after one minute of running the water, the TMV valve needs to be adjusted by a professional
- Daily cleaning of hand sink and taps
  1) First step: clean and dry tap(s)
  2) Second step: clean sink surface
  3) Third step: clean the wastewater outlet

Use a dual detergent disinfectant wipe.

Infrequently used surgeries/taps

- All taps should be flushed on Monday mornings or after several days' inactivity (after holidays).
- Run the taps weekly/prior to use.
- Three minutes hot and three minutes cold.
- Mixer taps three minutes in coldest and three minutes hottest position.

13.2 DUWL testing

The efficacy of the waterline cleaning system should be tested using the following validated test procedures. There are a number of commercial companies and public analyst laboratories who perform this testing. Dental units have dental waterlines supplying several instrument hoses, three-in-one air/water syringes, patient's cup filler and cuspidor bowl rinse outlets. All these waterlines are normally interconnected, however where clinics have deactivated water lines to, e.g. slow handpiece and cuspidor it is important that these unused waterlines are disconnected from the dental unit waterline network to prevent back contamination of waterlines supplying other instruments.

13.2.1

DUWLs should be tested for:

(a) Aerobic heterotrophic bacterial count (six monthly) after the first flush of the day

- Testing will usually be carried out by an accredited testing company on your behalf.

Table 18: Aerobic heterotrophic bacterial counts

Aerobic heterotrophic bacterial counts below	
≤100 cfu/ml	Good
≤500 cfu/ml	Recommended by Centers for Disease Control and Prevention(CDC) and the American Dental Association (ADA)

- Aerobic heterotrophic bacterial counts must be undertaken at six-monthly intervals for controlled systems (i.e. counts within acceptable parameters), or more frequently if high bacterial counts are recorded.
- Results >500 cfu/ml indicate the system needs to be shocked to reduce bacterial counts and DUWL will need to be re-tested as advised by laboratory.
- If building works in the clinic impact on water systems, DUWL will need to be re-tested for aerobic heterotrophic bacterial counts and *Legionella* bacteria.
- The *Pseudomonas aeruginosa* test should be carried out at the same time as the aerobic heterotrophic counts test (six monthly).

(b) *Legionella* bacteria (annually in spring or summer)

- Testing will usually be carried out by an accredited testing company on your behalf. Before and after flushing samples should be taken and tested.
- Samples should be tested for *Legionella pneumophila* serotype 1, *Legionella pneumophila* other than serotype 1 and *Legionella* species by an accredited laboratory using Buffered Charcoal Yeast Extract Agar (BCYE) according to ISO 11731 (including acid lysis).
- Some accredited laboratories will do the sampling on site. However if not, it is best to send samples by courier to the laboratory within a few hours of collection. Do not store in a fridge.
- It is best to have the water samples tested by an accredited laboratory. Ideally water samples should be processed within a few hours.

Table 19: *Legionella* bacteria results

Legionella Bacteria results	For dental chair units
0	Ideal
<100 (cfu/litre)	Resample immediately consider shock disinfection if in upper end of range
>100 (cfu/litre)	Remedial action required shocking/Disinfect and retest until satisfactory control level is achieved

Refer to Appendix 12 for procedures on testing for Aerobic heterotrophic bacterial count and *Legionella* bacteria.

13.3 Dental unit waterline bottle hygiene

- Appropriate PPE must be worn (as per PCRA) safety goggles, mask, gloves and apron.
- Cleaning of DUWL bottles should be carried out at a minimum once a week on the last schedule day of the individual surgery in use.
- When handling/changing the clean water bottle, clean gloves must be worn. A major source of contamination of water bottles is bacteria and skin cells from operator's hands.

Table 20: Procedure for DUWL bottle hygiene

Method A: (follow manufacturer's instructions)	Method B:
1. Clean with non-foaming detergent (not domestic detergent) by swirling soapy water solution in bottle. 2. A soft brush may be used on collar area. This brush should be replaced weekly. 3. Following the cleaning, rinse the bottle thoroughly with clean water, allow it to dry and store inverted. 4 .Replace with clean dry bottle on the dental unit (to prevent aerosol contamination).	1. Some manufacturers have marketed chemical products to aid in the cleaning of the bottle, please use these according to manufacturer instructions. 2. An alternative bottle should be attached to waterlines, when undertaking this work (to prevent aerosol contamination).

- Water bottles have a lifespan and need to be replaced if damaged or according to manufacturer's instructions.

13.4 Care of Dental Unit Waterlines after periods of inactivity

DUWLs must be shocked with a biocide particularly after holidays and periods of inactivity in line with biocide manufacturer's instructions. Residual Disinfectant strip tests are recommended for use for checking for residual disinfectants in DUWLs after shocking and flushing.

13.5 Flushing of Dental Unit waterlines

- DUWLs should be flushed with water for two minutes at the beginning and end of a treatment session to flush out retracted oral material and stagnant water.
- DUWLs should be flushed with water for 15-30 seconds between patients to flush out retracted fluids and particles. All waterlines on the dental unit should be included in the flushing process. Where a water line is not in use, the waterline should be disconnected at source.

13.6 Care of the handpiece/scaler lines

- After use flush/run water through the handpiece/scaler waterlines for 15-30 seconds, e.g. a disposable cup can be used to collect water or the unit may have an automated flushing system.
- Remove, clean, oil and sterilise the handpiece/scaler as per SOP 10 on decontamination.
- The couplings/tubing must be cleaned with a dual detergent/disinfectant wipe.
- Care of standalone ultrasonic scalers should be treated as a dental unit waterline.

13.7 Care of the 3-in-1 (air/water) water lines

As with the dental handpiece, the dental air/water syringe enters the patient's mouth and is therefore at risk of contamination by oral fluids. The following procedure is recommended for the air/water syringe:

- After use flush water through the 3-in-1 syringe for 15-30 seconds.
- Disposable tips should be removed.
- The impervious barrier is removed and discarded.
- The air/water syringe surface is cleaned with appropriate detergent/disinfectant system/wipe.
- The surface is allowed to dry and a new impervious barrier and a new disposable tip is placed for the next patient.

13.8 Sterile water

- Water used in the autoclave must be sterile/distilled/RO/deionised and of sufficient quality to meet manufacturer's recommendation.
- Sterile saline is used for irrigation during surgical procedures with a sterile delivery system.
- Sterile water can only be considered sterile until it is opened (assuming it is used before expiry date) – thereafter it will become contaminated.
- It is important that sterile water is dated on opening and used immediately or as soon as is practical after opening (i.e. within one day) if the quality is to be guaranteed. It should be stored in the fridge.

13.9 Care of the water distiller

Water quality is critical to the decontamination of instruments. Particles and other contaminants must be kept to an absolute minimum. The following procedure will help to keep the water quality up to an adequate standard:

- Appropriate PPE must be worn; as per PCRA, i.e. safety goggles, mask, gloves and apron.
- Clean the distiller and associated bottle according to manufacturer instructions.
- Clean the distiller before use. A proprietary cleaner as supplied or recommended by the manufacturer of the distiller should be used. Make sure to rinse well after cleaning.
- Do not leave switched on overnight.
- If possible store distilled water in a glass bottle. Otherwise, put the cap on the plastic container immediately after distilling the water. This will stop bacteria and other agents getting into the water. Keep distilled water in a fridge. Use refrigerated distilled water within 24 hours. This may necessitate using sterile water, after weekends and after the surgery has not been used for a number of days, until enough fresh distilled water has been produced.
- It is critical that the bottle/container used to store distilled water is clean. Refer to 13.3.
- Do not allow water to come into contact with electrical connections.
- Water distilled on the premises is not recommended for use during a boil water notice.

13.10 Care of Reverse Osmosis (RO) water unit

- Prior to installing an RO water unit, determine the quality of source water to the clinic and have records on the hardness and chlorine concentrations as the level of residual chlorine is important as it can destroy RO membranes.
- Determine how will treated RO water be monitored to determine if the system fouling or suffering from scale information or if the RO membranes are deteriorating.
- Always use RO unit according to manufacturer's instructions.

- Membranes should be changed as directed or when RO water quality starts to deteriorate.
- RO water quality should be checked weekly by using a conductivity meter. The reading should comply with the unit manufacturer's instructions and be documented. Changes in reading are indicative of potential problems, consistent readings give a good indication of reliable water quality.
- Always run the RO supply for 20 seconds before using the water at the beginning of the day.
- Always use fresh RO water and do not store the water.
- It is not advised to use RO water during a boil water notice, instead you should use boiled or bottled water.
- Staff must ensure that the machine is regularly serviced and validated according to manufacturer's instructions. Evidence of this should be available for inspection.

13.11 Water (Tap) Flushing Protocol Template for infrequently used dental surgeries

In order to ensure the quality and safety of the water supply it is essential that all infrequently used surgery taps must be flushed weekly and especially before use. (See Section 13.1 Summary Table)

- Run cold tap for three minutes.
- Run hot tap for three minutes once water is hot.
- Mixer tap: run cold side three minutes and hot side three minutes.
- A bi-annual temperature test should be performed to ensure cold water is below 20 degrees and hot water is above 50 degrees having run water for two minutes.
- Keep a central register of the flushing regimes for each department including frequencies and ensure signed record of the flushing procedure is available in each clinical area.

13.12 Boil water notice

- A boil water notice when issued to staff and public means that the water is unsafe to drink or for use clinically.
- Patients should rinse with still bottled water/commercially distilled water and these can also be used for hand hygiene.
- Staff can use anti-bacterial hand rubs if hands are not visibly soiled. If visibly soiled, use bottled water with soap for hand washing.
- Use still bottled water/commercially distilled water for rinsing dental impressions and for diluting disinfectant solutions.
- Immuno-compromised patients should be re scheduled during a boil water notice.
- Follow the local water utility's guidance on the flushing of all incoming waterlines from the public water system (e.g. taps, waterlines, and dental equipment).
- Once the boil water notice has been lifted, flush all dental waterlines and water containing pipe work/fixtures/fittings within the surgery and its environment, e.g. water taps, showers. Change any water filters that are in use to, e.g. taps, water supply to autoclaves/washer disinfectors, distilling machines. Shock all DUWLs with and biocide prior to use in patient treatment.
- Disinfect DUWL as recommended by manufacturer and change filters in water treatment devices as per manufacturer instructions.
- Further advice can be obtained from Uisce Eireann Irish Water website. https://www.water.ie/water-supply/water-quality/boil-water-notice/

Key Compliance Points for SOP 13 Care of Dental Unit Waterlines (DUWL) and Water Quality

1. Routine microbial monitoring of DUWLs will inform the clinician on the quality of both the source water and the water output from DUWLs and allow corrective action to be taken when necessary.
2. Cleaning of DUWL bottles should be carried out at a minimum once a week.
3. It is important that sterile water is dated on opening and used immediately or as soon as is practical after opening (i.e. within one day) if the quality is to be guaranteed. It should be stored in the fridge.
4. In order to ensure the quality and safety of the water supply it is essential that all infrequently used surgery taps must be flushed weekly and especially before use.
5. Ensure adequate records are maintained regarding the water quality, treatment and monitoring (DUWLs/Bottles, Taps, Distillers and Reverse Osmosis machines) and that these records are audited.

SOP 14 Waste Management

14.1 Disposal of healthcare risk waste

"Healthcare risk waste" is defined as solid or liquid waste arising from healthcare or health related facilities. There are two categories of waste each of which must be segregated and disposed of separately, non-healthcare risk waste and healthcare risk waste. Each site specific waste management plan must extend to include healthcare risk waste. Healthcare workers should be trained in the correct procedures for waste handling. The dental team is responsible for arranging the safe disposal of healthcare risk waste, thereby protecting patients, staff and public. Each dental area must ensure that it complies with waste legislation including the generation and storage of waste transfer forms. The use of recycling containers is recommended and should be chosen in appropriate sizes for each location. The Green Healthcare website (**https://greenhealthcare.ie/**) provides useful information on sustainable waste management.

Non-healthcare risk waste	Healthcare risk waste
This waste is not hazardous and is disposed of in the usual domestic waste disposal system.	This waste is potentially hazardous to anyone who comes in contact with it (infectious, biological, chemical or radioactive or by being categorised as sharp). Such waste has come in contact with patients' body fluids such as blood and/or saliva.

For additional information on waste management, refer to:

HSE Waste Management Awareness Handbook **https://www.hse.ie/eng/about/who/healthbusinessservices/national-health-sustainability-office/files/hse-waste-management-handbook.pdf**

HSE Guidelines for the Segregation, Packaging and Removal of Waste Medicines from HSE Pharmacy Departments and Aseptic Units 2022 **https://www2.healthservice.hse.ie/organisation/national-pppgs/hse-guidelines-for-the-segregation-packaging-and-removal-of-waste-medicines-from-hse-pharmacy-departments-and-aseptic-units-2022/**

Waste Management Act 1996 **http://www.irishstatutebook.ie/eli/1996/act/10/enacted/en/html**

S.I. No. 126/2011 European Communities (waste directive) Regulations 2011 **http://www.irishstatutebook.ie/eli/2011/si/126/made/en/pdf**

S.I. No. 349/2011 – European Communities (Carriage Of Dangerous Goods By Road and Use of Transportable Pressure Equipment) Regulations 2011 **http://www.irishstatutebook.ie/eli/2011/si/349/made/en/print**

S.I. No. 135/2014 – European Union (Prevention of Sharps Injuries in the Healthcare Sector) Regulations 2014 **https://www.irishstatutebook.ie/eli/2014/si/135/made/en/print**

S.I. No. 370/2016 The Safety, Health and Welfare at Work (reporting Accidents and Dangerous Occurrences) Regulations 2016 is the relevant legislation in Ireland **https://www.irishstatutebook.ie/eli/2016/si/370/made/en/print**

S.I. No. 277/2019 European Communities (Carriage Of Dangerous Goods By Road And Use Of Transportable Pressure Equipment) (Amendment) Regulations 2019. **http://www.irishstatutebook.ie/eli/2019/si/277/made/en/print**

Irish Dental Council Code of Practice Relating to Infection Control in Dentistry (2015)

Department of Health. (2023) NCEC Infection prevention and control (IPC) National Clinical Guideline No. 30

HSELanD Waste Management eLearning Programme

14.1.1 Segregation of waste

- This should take place at the point of generation.
- All staff should be familiar with the types of waste being generated within the practice and be trained on appropriate segregation.
- Waste should be contained in the appropriate receptacle, identified by colour and label, and disposed of according to the facility waste management plan
- All practices should stock suitable and consistent packaging, which is vital in enabling the different forms of waste to be handled, transported and disposed of in a manner which is safe and consistent with the nature of the waste.
- Clinical hand wash basins should not be used for disposal healthcare risk waste such as body fluids.
- Wipes, paper towels gloves and face mask should be disposed of into non-risk waste stream unless contaminated with blood and/or saliva (then dispose of into healthcare risk waste).
- The risk of infection in staff is low if waste is handled correctly.

14.1.2 Packaging of waste

- Practice staff should use appropriate personal protective equipment (PPE).
- Gloves should be worn when handling waste; an apron can be used to protect clothes if handling wet waste.
- Hand hygiene should be performed after handling waste (even if gloves are worn).
- In general all containers, including wheeled containers for bagged waste, should conform to basic requirements relating to:

Manufacturing:

All packaging must be manufactured and tested to the approved UN standards.

Colour coding:

Lid colours of rigid waste containers are used to indicate the disposal stream.

Blue (sharps), Purple (pharmaceutical), Black (large or bulk metal objects).

Labelling:

All packaging used for healthcare risk waste must be marked with a diamond shaped risk label with class number “6” and biohazard symbol and the relevant 4 digit UN number (e.g. UN3291).

Filling:

Containers must not be over-filled. In general rigid waste containers should not be more than three-quarters filled (or beyond manufacturer’s fill line) while waste bags should not be more than two thirds filled.

Closure and Storage:

It is essential that lids of rigid containers are fitted and closed in accordance with the manufacturer’s recommendations. Once closed the person must sign that the container is sealed correctly. Plastic bags should be closed using a “swan-necking” technique (see 14.1.3) and tied with a coded tag. Bags/containers that have been appropriately sealed, tagged and labelled should be stored in a designated secure area (inaccessible to the public) awaiting collection.

Traceability:

All waste containers/bags must be tagged with a unique reference number which is traceable to the point of production. Proprietary closure ties which incorporate a reference number system are now extensively used. Each healthcare waste generator should retain records of tags issued to particular locations for a recommended period of not less than three years. Transportation of healthcare risk waste is governed by several sets of regulations (and must conform to ADR* requirements).

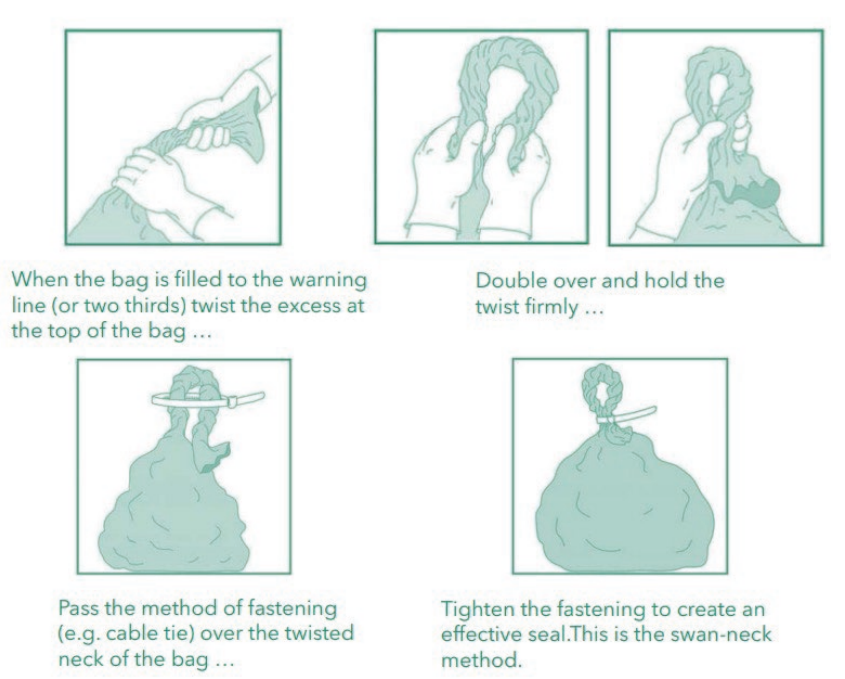
*ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road.

Refer to Appendix 13 for segregation and packaging on Healthcare risk and non-risk waste

14.1.3 Disposal of waste

- Healthcare risk waste must be placed in yellow healthcare risk waste bags within a rigid hands-free operated bin.
- Apply the swan neck sealing method as demonstrated below.

Figure 8: Swan Neck Sealing Method



- It is important that clinical sharps containers are not filled to more than ¾ of their capacity to avoid sharps injuries and they should be in the temporary lock position when not in use.
- When ¾ full, sharps containers should be locked, signed and stored upright in a secure location awaiting collection.
- It is essential that each healthcare risk waste bag/sharps container is tagged and the tag number recorded for reasons of traceability and accountability.
- Amalgam waste/dappen dishes used to hold amalgam/used amalgam capsules must be placed and stored in the appropriate amalgam waste containers and collected by an authorised waste disposal company.
- Extracted teeth should be placed in specific waste 'tooth boxes/pots' available from the waste contractor. Alternatively they can be cleaned and returned to the patient.
- The following items are suitable for disposal in clinical sharps containers but this list is not exhaustive (Refer to SOP 6a for further information):
    - Needles
    - Matrix bands/orthodontic bands
    - Orthodontic wires
    - Temporary anchorage devices
    - Removable appliances and fixed appliances
    - Burs
    - Scalpel blades and disposable scalpel blades
    - Endodontic instruments such as files, reamers, broaches
    - Empty local anaesthetic cartridges
    - Etch tips (where possible etchant gel should be placed in a disposable dappen dish and a disposable brush used to apply same).

14.2 Disposal of pharmaceutical waste

- Out of date pharmaceuticals, e.g. local anaesthetic may be disposed of by arrangement with a local pharmacist or in designated pharmaceutical containers – (yellow bin and purple lid).
- Out of date or unwanted controlled drugs must be denatured prior to disposal in the pharmaceutical bin so they cannot be retrieved, recovered or reused, e.g. Midazolam. Controlled Drug Denaturing Kits are available from waste management companies.
- Pharmaceutical waste should NOT be disposed of in blue lidded clinical sharps containers.
- Aerosols should be disposed of in the appropriate containers which are supplied by the waste collectors.
- If in doubt about the disposal of any item, contact the waste management company.

14.3 Disposal of end of life instruments

- End of life instruments should be decontaminated and be disposed of in the black lidded bin.
- End of life mirror heads should be disposed of in the sharps container.
- Contact the local healthcare risk waste operator for recommendations regarding disposal.

14.4 Disposal of plaster models (e.g. orthodontic study models, plaster casts) made of plaster containing gypsum

- Gypsum is prohibited from domestic landfill sites. Arrange special collection receptacle with waste management company.
- Models should be segregated from other waste, anonymised, and coded as 18 01 04, and either sent for recycling as gypsum or for disposal in a specifically designated landfill site.
- In a small number of cases, the model may become contaminated with body fluids if the appliance or crown is retried on the model after insertion in the patient's mouth. In this case, models should then be disposed of in a yellow waste bag as healthcare risk waste.

Key Compliance Points for SOP 14 Waste Management

- Each dental area must ensure that it complies with waste legislation.
- Waste is segregated at the point of generation.
- All staff must be aware of what constitutes healthcare risk waste.
- All healthcare risk waste must be tagged with a unique reference number, which is traceable to the point of production, and disposed of in the correct waste stream.

SOP 15 Service Animals

- A service animal is any animal trained to do work or perform tasks for the benefit of a person with a disability. A service animal is not considered a pet but rather an animal trained to provide assistance to a person because of a disability.
- Supporting the people who are accompanied by assistance animals such as guide dogs for people with visual impairment is particularly important. People with disabilities accompanied by service animals should be allowed access with their service animals to places of public accommodation, including healthcare facilities.
- No evidence suggests that animals pose a more significant risk of transmitting infection than people; therefore, service animals should not be excluded from such areas unless a patient's situation or a particular animal poses risk that cannot be mitigated through reasonable measures. (CDC, 2003)
- Ensure routine environmental cleaning is performed after animal visit.
- Ensure regular hand hygiene is performed before and after entering a patient care area, before and after handling an animal, and after toileting an animal.

Refer to section 7.5 of the NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30 – Allowing animals into healthcare facilities for further information.

SOP 16 Dental Antimicrobial Stewardship and Infectious Disease and Multidrug Resistance Organisms (MDRO)

Antimicrobial resistance is a major public health issue and has become a global concern. The World Health Organisation informs that about 2 million people become infected with bacteria resistant to antibiotics each year. Antimicrobial resistance (AMR) remains a major public health concern in the WHO European Region, with estimates from the European Union/European Economic Area (EU/EEA) alone showing that each year more than 670 000 infections are due to bacteria resistant to antibiotics and approximately 33 000 people die as a direct consequence. A high rate of antibiotic prescribing is associated with increasing levels of antibiotic resistance in hospital and community settings. This can lead to the need for more expensive and broader spectrum antimicrobial use to treat common infections. World experts believe it is unlikely that major new classes of antibiotics will be developed in the near future. Therefore it is necessary that existing classes of antibiotics are managed to reduce the effect of emerging resistance and it is our collective responsibility to ensure prudent use of antibiotics. **https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/**

Dental antimicrobial stewardship is concerned with promoting appropriate antimicrobial selection when there is a clinical need for an antimicrobial agent i.e. the optimal drug, dose and duration. Evidence based dental antimicrobial guidelines have been developed by the Dental Infections Expert Advisory Group of the Antimicrobial Guidelines Working Group, which is a sub-group of the National Antimicrobial Resistance and Infection Control Programme as a resource for dentists.

These guidelines are available online at: **https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/conditions-and-treatments/dental/dental-guidelines/**

The dental antimicrobial prescribing guidelines facilitate antimicrobial prescription in primary dental care in order to optimise positive patient outcomes, while minimising associated risks such as adverse events and the emergence of antimicrobial resistance. The guidelines provide advice, taking account of best available evidence.

Antibiotics are prescribed by dentists for treatment, as an adjunct to surgical treatment and for the prevention of infection. Indications for the use of systemic antibiotics in dentistry are limited, as most dental conditions are best managed by local measures. Infection Prevention and Control practices are an important part of an effective response to antimicrobial resistance. Good dental health and appropriate vaccination prevent infections, reducing the need for antimicrobial treatment. Both should be supported, as health promotion measures, as part of the “HSE Making Every Contact Count” initiative. Vaccination can also reduce antimicrobial resistance through preventing infectious diseases.

16.1 Principles of Antimicrobial Stewardship in Dentistry

1. Consider local measures which may avoid the need for an antimicrobial therapeutic agent and prescribe an antibiotic only when there is likely to be a clear clinical benefit.
2. Most dental infections can be treated without antibiotic treatment by removal of the cause and drainage of the infection using a dental procedure.
3. Antimicrobial therapy is not a substitute for dental treatment. The use of antimicrobials for dental procedures is likely to be as an adjunct to operative intervention or other treatment modalities.
4. For people with a severe spreading dental infection, effective antibiotics and operative management are imperative and should be managed promptly.
5. Some scenarios where antimicrobials are **not indicated** in dentistry include:
    - Before a dental procedure to decrease inflammation or to cure toothache.
    - Antibiotics are not needed before most dental procedures to prevent surgical site infections.
    - Acute pulpitis where operative dental treatment or treatment with analgesia is more appropriate.
    - Endodontic treatment unless there is evidence of significant local spread of infection or systemic infection. Antimicrobials should not be routinely prescribed post-operatively for endodontic therapy as research indicates that it does not reduce pain, swelling or the need for analgesics in symptomatic root filled teeth.

6. These guidelines detail empiric treatment recommendations. Where antimicrobials are indicated, drug choice, dose and duration of treatment is suggested. Antimicrobial treatment should be reviewed and adjusted as necessary, if/when microbiological culture and sensitivity data is available.
7. The importance of the correct antibiotic dose should be recognised.
    - Under-dosing has been shown to be associated with increasing resistance.
    - Overdosing may lead to toxicity and adverse drug reactions.
8. For children with a severe infection or at extremes of body weight for their age, the antibiotic dose should be calculated using a weight-based dose (mg/kg). The child's weight should be recorded on the prescription. Further **information on prescribing in children is available**, including advice on prescribing analgesia (paracetamol and ibuprofen).
9. Before prescribing antimicrobials, clinicians should also consider the following:
    - Previous antimicrobial treatment which has been prescribed for the current and previous infections.
    - The allergy status of the patient.
    - Patient's medical history.
    - Other medicines the patient is taking (**See Drug Interactions Tables**).
    - Renal or hepatic impairment (**See Renal Dosing Tables**).
10. The use of clindamycin, cephalosporins or co-amoxiclav are not recommended for the routine management of oral infections. The inappropriate use of these antibiotics can increase the risk of *Clostridioides difficile* infection and of antibiotic resistance, Co-amoxiclav has also been associated with increased incidence of liver toxicity.
11. Particular caution in prescribing practices is advised for patients who are pregnant or breastfeeding, have kidney or liver disease and in children and the elderly. (refer to the Summary of Product Characteristics via **www.hpra.ie** or in a recognised formulary, such as the BNF for further details).
12. There is a risk of significant interactions between certain antibiotics, antifungals, and other medicines.
    - Caution is advised when prescribing macrolides such as clarithromycin or miconazole oral gel with statins as they have shown adverse reactions, such as a risk of myopathy.
    - As all antimicrobials may effect warfarin levels, monitoring INR during and after antimicrobial treatment is recommended. Co-administration of miconazole oral gel with warfarin is contraindicated.

      The above is not a full list of potential drug interactions. Further information is available from the **drug interactions tables** for commonly prescribed medications in primary care or refer to the Summary of Product Characteristics via **www.hpra.ie**.
13. Ideally follow up should be arranged for each patient to ensure that infections have resolved. Follow up should ensure that necessary treatment is completed to resolve the source of infection as this may reduce the potential for reinfection and the need for further antibiotics.
14. Clinicians should also make patients aware of what they will be taking, why they are being given a prescription, how to identify adverse reactions and who to contact in case of difficulty.
15. In the event of a serious side effect, or any adverse reaction to a newly authorised product, report it to the **Health Products Regulatory Authority**

National HSE Antimicrobial Stewardship Guidance for all healthcare settings is available online at:
https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/

16.2 Multidrug resistant organisms (MDROs)

- Successful IPC involves implementing work practices that reduce the risk of transmission of microorganisms through a two-tiered approach, including:
- Routinely applying basic IPC strategies to minimise risk to both people who use healthcare services and healthcare workers, such as hand hygiene, respiratory hygiene, appropriate use of personal protective equipment, cleaning and safe handling and disposal of sharps (standard precautions).
- Effectively managing microorganisms where standard precautions may not be sufficient on their own – these specific interventions control infection by interrupting the mode of transmission (transmission-based precautions).
- Further guidance on outpatient day care for persons colonised with Antimicrobial Resistant Organisms (AMROs) is available with following link: **https://www.gov.ie/pdf/?file=https://assets.gov.ie/266134/58042bc4-45b9-45c9-aa7f-3eca01e5bf17.pdf#page=null**

For details on the type and duration of precautions for specific infections and conditions, please refer to NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30 (2023), Volume 2 (7.4), page 252. Table 42 contains use of personal protective equipment for standard and transmission-based precautions and examples provided.

16.3 Viral Respiratory Infection

- Circulation of influenza virus and/or SARS-Cov-2 is likely to continue to be a feature of management of viral respiratory infections at certain times of the year. The clinical features caused by infection with respiratory viruses are often difficult to differentiate and the public health and infection prevention and control management is very similar.
- All patients with symptoms consistent with a viral respiratory infection (including COVID-19) are advised to stay at home and should have their dental treatment deferred until they are no longer infectious.
- All healthcare workers should be appropriately vaccinated in accordance with current national recommendation.
- All healthcare workers must exclude themselves from work and visitors must stay away from healthcare facilities when they have symptoms of a communicable infectious disease. They must adhere to exclusion periods related to all infectious diseases, including COVID-19.

Further information and patient leaflets available here;
https://www.hse.ie/eng/about/who/healthwellbeing/our-priority-programmes/hcai/

Key Compliance Points for SOP 16 Dental Antimicrobial Stewardship and Infectious Disease and Multidrug Resistance Organisms (MDRO)

- Staff should consult the HSE Dental Antimicrobial Guidelines when prescribing antimicrobials.
- All patients with symptoms consistent with a viral respiratory infection (including COVID-19) are advised to stay at home and should have their dental treatment deferred until they are no longer infectious.
- All healthcare workers should be appropriately vaccinated in accordance with current national recommendations.

5. Guideline Development

PPPG Development Group – Version 1

See Appendix 1 for Membership of the PPPG Development Group

- Amanda Doyle, Head of Service Primary Care HSE CHO 1 (Chair)
- Dr Niamh Galvin, Assistant National Oral Health Lead, Quality and Risk, HSE National Oral Health Office
- Dr Myra Herlihy, Assistant National Oral Health Lead, Special Care and Training, HSE National Oral Health Office
- Aileen O'Brien, Head of Infection Prevention and Control/Antimicrobial Stewardship in the HSE National Community Operations QPS Office
- Dr Padraig Creedon, Principal Dental Surgeon, HSE Dental Service
- Dr Philip Mulholland, Principal Dental Surgeon, HSE Dental Service
- Dr Sheila Hagan, Specialist Orthodontist, HSE Orthodontic Service
- Dr Leo Burke, HSE Regional Dental Inspector
- Dr Bernie Tiernan, HSE Regional Dental Inspector
- Dr Kathryn McLister, Senior Dental Surgeon, Administrative, HSE Dental Service
- Margaret Moloney, HSE Dental Nurse with infection control training
- Dr Mary O Donnell, Assistant Professor Infection Prevention and Control · Dublin Dental University Hospital
- Dr Catherine Gallagher, Lecturer/Specialist in Oral Surgery, Clinical Director, Cork University Dental School and Hospital
- Dr Gerard Colleran, TUD Programme Lead, Tallaght Technology University Dublin
- Deirdre Ryan, Project Coordinator, National Oral Health Office

See Appendix 3 for PPPG Conflict of Interest Declaration Form which are signed and held in the Master Copy.

PPPG Governance Group

See Appendix 2 for Membership of the Approval Governance Group.

Policies, Publications and Legislation

Further important and detailed information is available in a range of documents including the following national and international guidance documents and standards:

Australian Government; Guidelines for prevention and Control of infections in healthcare settings (2019)
Australian Dental Association; Guidelines for Infection Control Fourth Edition (2021)
Centres for Disease Control; Guidelines for infection control in healthcare settings (2003)
Dental Council Code of Practice Relating to Infection Prevention and Control, Dental Council of Ireland (2015).
DOHC NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30. (2023)
DOHC Segregation Packaging and Storage Guidelines for Health Care Risk Waste, Department of Health and Children (2004)
HIQA; National Standards for Safer Better Healthcare (2012)
HIQA; National Standards for the prevention and control of healthcare-associated infections in acute healthcare services (2017)

HIQA; National Standards for Infection Prevention and Control in Community Services (2018)
HPSC; National Guidelines for the Control of Legionellosis in Ireland (2009)
HPSC; National Guidelines for the Prevention and Control of Infection from Water systems in Healthcare Facilities (2015)
HPSC; Prevention of Transmission of Blood Borne Disease in the Health Care Setting (2006)
HPSC EMI Toolkit **https://www.hpsc.ie/a-z/emi/**
HSA (Health and Safety Authority); Safety Health and Welfare at Work Act, (2005)
HSE Quality and Patient Safety Division; Guidance for the Application of Standards and Recommended Practices for Local Decontamination Units (LDUs) in Primary Care, Dental, Podiatry and GP Practice (2016)
Royal College of Physicians of Ireland Clinical Advisory Group on Healthcare Associated Infections in association with HSE Quality Improvement Division; Guidelines for Hand Hygiene in Irish Healthcare Settings update (2015) **https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/handhygiene/publications/File,15060,en.pdf**
HSE Code of Practice for Decontamination of Reusable Invasive Medical Devices – Part 5b: Dental Decontamination- Recommended Practices for Dental Services in a Local Decontamination Area, HSE Quality and Patient Safety Division (2007)
HSE Policy on the Management of Sharps and Prevention of Sharp Injuries (2022)
HSE Incident Management Framework (2018)
HSE Quality and Patient Safety Division CPE Expert Group, Hospital Out-Patient and Day Care for people colonised with Antimicrobial Resistant Organisms including Carbapenemase Producing Enterobacterales, (2018)
HSE Guidelines for the Segregation, Packaging and Removal of Waste Medicines from HSE Pharmacy Departments and Aseptic Units 2022 **https://www2.healthservice.hse.ie/organisation/national-pppgs/hse-guidelines-for-the-segregation-packaging-and-removal-of-waste-medicines-from-hse-pharmacy-departments-and-aseptic-units-2022/**
Medical Device Equipment Management Policy (Incorporating Medical Equipment Management Best Practice) 2016.
Scottish Dental Clinical Effectiveness Programme Sterilisation of Dental Instruments, SDCEP (2011)
Statutory Instrument (S.I.) No. 135 of 2014, EU Prevention of Sharp injuries (2014)
S.I. No. 126/2011 European Communities (waste directive) Regulations 2011 **http://www.irishstatutebook.ie/eli/2011/si/126/made/en/pdf**
S.I. No. 277/2019 European Communities (Carriage Of Dangerous Goods By Road And Use Of Transportable Pressure Equipment) (Amendment) Regulations 2019. **http://www.irishstatutebook.ie/eli/2019/si/277/made/en/print**

This HSE National Infection Prevention and Control Guideline for HSE Dental and Orthodontic Services is new and supersedes all local PPPGs on infection prevention and control.

Glossary of Terms

Asepsis	'*Freedom from infection or infectious (pathogenic) material*' (Weller 1997) There is a distinction between Surgical Asepsis (sterile) which means free from pathogenic microorganisms and General Or Standard Asepsis (Clean) which involves procedures to reduce the number and transmission of pathogens. General or Standard Asepsis is used in the Dental setting.
Biocide	A chemical substance used to significantly reduce the microbial burden on surfaces. Examples include chlorhexidine.
Biofilm	A complex polymicrobial community consisting of single cells, microcolonies and inorganic substances encased in a matrix of bacterial polysaccharides. Examples of biofilms include those that form on the interior surfaces of dental unit waterlines, which can cause the quality of output water to deteriorate rapidly.
Bowie-Dick test	The Bowie-Dick test is a standard operational test which can demonstrate proper steam penetration from a pre-vacuum autoclave chamber. It is primarily useful for ***testing*** pre-vacuum cycles that are sterilising wrapped goods or packs. In general dentistry the Helix test is used for hollow instruments such as dental handpieces.
Community Healthcare Organisation (CHO)	CHOs cover services provided outside of the acute hospital system including primary care, social care, mental health, and health and wellbeing services.
Cleaning	This is the physical removal of foreign material, for example dust, soil, organic material such as blood, secretions, excretions and micro-organisms. Cleaning removes micro-organisms and the organic material on which they thrive. It is a necessary pre-requisite of effective disinfection or sterilisation
Dental clinician	Dental and Orthodontic healthcare professional
Decontamination	The removal of microorganisms or foreign matter (or both) from contaminated materials. Three processes for decontamination are commonly used: cleaning, disinfection and sterilisation
Disinfection	The inactivation of non-spore forming microorganisms using chemical means
Disinfectant	Disinfection does not necessarily result in the destruction of all microorganisms, especially microbial spores, but results in a significant reduction in the density of contaminating microorganisms.
Flushing of taps	The process of expelling water from the sink taps for a period of time to flush out stagnant water in the line.
Flushing of DUWL	The process of expelling water from DUWL at start of day and between patients to flush out stagnant water, retracted material and oral fluids from lines and removal of disinfectant agents following shock disinfection (see Shock disinfection of waterlines).
Function test ultrasonic cleaner	To check cavitation usually done with a foil test or wand metre or sono check.
Function test of ultrasonic cleaner/washer disinfector	To verify removal of contamination use either soil test or load check indicator
Healthcare associated infection	Healthcare associated infections (HCAIs) are infections that can develop either as a direct result of healthcare interventions such as medical or surgical treatment, or from being in contact with a healthcare setting.

Healthcare worker	Refers to all healthcare professionals
Helix test	This test verifies steam penetration in hollow/lumened instruments. It is performed using a helix Process Challenging device on the Bowie-Dick/Helix test cycle in a vacuum autoclave.
Immuno-compromised patients	An immunocompromised host is a patient who does not have the ability to respond normally to an infection due to an impaired or weakened immune system. This inability to fight infection can be caused by a number of conditions including illness and disease (e.g., diabetes, HIV), malnutrition, and drugs
Invasive procedure	Any procedure that pierces skin or mucous membrane or enters a body cavity or organ.
Local Decontamination Unit (LDU)	A LDU is the dedicated area in a dental clinic that is used for decontamination of dental Removable Invasive Medical Devices (RIMD).
Medical Device	Any instrument, apparatus, appliance, material or other article intended by the manufacturer to be used for human beings in the provision of healthcare.
MRSA	MRSA stands for meticillin-resistant Staphylococcus aureus. Staphylococcus aureus (S. aureus or SA) is a bacteria or germ which many people carry in their nose or on their skin. MRSA is a type of S. aureus that is resistant to a range of antibiotics including meticillin. 'Meticillin-resistant' means the bacteria cannot be killed by meticillin, a type of antibiotic that used to be able to kill them.
Point of Care Risk Assessment (PCRA)	A point of care risk assessment (PCRA) is an integral part of standard practice which should be performed by every healthcare worker (HCW) BEFORE every patient/ resident/client interaction to allow them to accurately assess the risk of exposing themselves and/or others to infectious agents/transmissible microorganisms.
Protein test	This test is used to ensure that the instruments which have been cleaned are free from protein that is not visible to the naked eye.
Reprocessing	See Decontamination.
Reusable item	An item designed or intended by the manufacturer to be suitable for reprocessing and reuse.
RIMD	Dental reusable invasive medical devices
RSV	Respiratory syncytial virus
Sharp	Objects or instruments necessary for the exercise of specific healthcare activities, which are able to cut, prick, cause injury and/or infection. This is including, but not limited to, scalpels, needles, cannulae, extracted teeth, orthodontic wires, etc.
Shock disinfection of waterlines	The addition of chemical disinfectant agents (e.g. hydrogen peroxide) to waterlines for defined time periods to significantly reduce microbial contamination. Shock dosing is warranted when the microbiological quality of output water deteriorates despite routine control measures.
Sterilisation	A process used to render an object free from viable microorganisms including viruses and bacterial spores.
Validation	Documented procedure for obtaining, recording, and interpreting the results required to establish that a process will consistently yield an outcome complying with predetermined specifications. Validation broadly encompasses three activities – commissioning, verification of a process specification and performance qualification.

6. Methodology

Clinical question

Due to awareness of a variation in the practice across Dental settings, it was apparent that a standardised guideline was required at national level. For the purposes of drafting a national guideline, copies of all existing local procedures were requested and reviewed. Available clinical guidelines were reviewed.

The clinical question asked in the development of this guideline was:

1. What is current best practice in Infection Prevention and Control (to include all areas as outlined below), applicable to Dental and Orthodontic Services?

1	Hand Hygiene
2	Respiratory Hygiene and Cough Etiquette
3	Personal Responsibilities of Staff
4	Immunisation/Vaccinations
5	Personal Protective Equipment
6a	Management of Sharps/Prevention of Sharps Injuries
6b	Management of Occupational Blood and Body Fluid Exposures
7	Aseptic Technique
8	Routine Management of the Physical Environment
9	Appropriate Use of Single-Use Items
10a	Decontamination of Reusable Invasive Medical Devices
10b	Cleaning and Disinfection of Patient Care Equipment
10c	Decontamination of Inhalation Sedation (IS) Equipment
11	Domiciliary Care and School Screening
12	Care of Dental Suction Systems
13	Care of Dental Unit Waterlines and Water Quality
14	Waste Management
15	Service Animals
16	Dental Antimicrobial stewardship, Infectious diseases and Multidrug Resistant Organisms (MDROs)

Literature search strategy

The standard operating procedures incorporated in this national guideline are based on the best available evidence and expert knowledge on clinical procedures. They draw from other work in the area including NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30, Dental Council Code of Practice, CDC, HSE, HPSC, HIQA and and on Infection Prevention and Control in the community. Previous regional dental standard operating procedures and national and international IPC guidance were considered. In addition expert opinion was sought on emerging IPC issues. Clinakey and Medline were also searched. A steering group guided the development process.

Method of appraising evidence

The sub group critically appraised the quality, validity and relevance of the most recent national and international guidelines. During the appraisal period HIQA released the National Standards for infection prevention and control in community services 2018, which the group took into account in completing the document. The HSE Guidance for the Application of Standards and Recommended Practices for Local Decontamination Units (LDUs) in Primary Care, Dental, Podiatry and GP Practice also informed these standard operating procedures

Process the PPPG Development Group used to formulate recommendations

The sub group examined a range of scientific research papers, relevant guidelines and recommendations. Following discussion by the group and expert guidance as necessary the standard operating procedures were developed by consensus.

Infection prevention and control

Preventing and controlling healthcare associated dental infection will continue to be an ongoing challenge for all dental staff. Many immune-compromised persons seek primary dental care in community dental clinics. These persons are at greater risk of developing infections from microbes considered generally of low pathogenicity. Therefore all patients need to be cared for in a dental environment that is safe and clean where the risk of them contracting an infection is kept a low as possible. Failure to implement effective policies and procedures and to risk assess treatment delivered could result in significant transmission of infection. Implementation of standard precautions is vital in treating all patients safely.

In dental practice microbes may be inhaled, injected, ingested and implanted. They may also be splashed on skin or mucosa. Microbes may spread by direct contact from one person to another, or indirectly with equipment or environment. They may also be spread by air or contaminated waterlines. Effective dental infection prevention helps prevent the transmission of pathogenic microbes from; patient to patient, staff to patients, patients to staff.

By understanding how diseases are transmitted and applying IPC standards, the transmission of infection can be interrupted.

Standard precautions

Standard precautions are designed to break the chain of infection. They are a set of minimum infection prevention practices where the same IPC procedures must be followed for all patients. Furthermore all patients must be regarded as potentially infectious in any setting where healthcare is delivered.

Standard precautions now integrate and expand the elements of previous universal precautions into a standard of care designed to protect healthcare staff and patients from pathogens that can be spread. Sources of (potential) infection include blood and other body fluids/secretions or excretions (excluding sweat), non-intact skin or mucous membranes and any equipment or items in the care environment that could have become contaminated.

From a dental point of view there is no practical difference between standard precautions and universal precautions. A thorough point of care risk assessment and medical history process must be completed for each patient and regularly updated. Direct questioning and discussion between the dental surgeon and the patient must support the medical history process.

Resources necessary to implement the PPPG recommendations

The implementation plan for this Guideline will require a training plan to run concurrent with the publication of the document. Plan outlined in 5.2

Guideline Recommendations

Refer to Section 4 Standard Operating Procedures.

7. Governance and Approval

Formal Governance Arrangements

Refer to Appendix 2 for Membership of the Approval Governance Group.

The final document is submitted to the National Director Community Operations. Once approved the final version is converted to a PDF document to ensure the integrity of the PPPG.

A signed and dated master copy is retained within National Oral Health Office Department.

A signed copy of the checklist is attached to the master copy.

Method for assessing the Guideline in meeting the Standards outlined in the HSE National Framework for developing PPPGs

The approved HSE PPPGs Checklist was used for assessing the Guidelinein meeting the standards. This signed checklist is held in the master copy.

8. Communication and Dissemination

Describe communication and dissemination plans

Consultation and feedback on the draft Guideline were sought from relevant stakeholders prior to publication.

The National Director Community Operations will ensure widespread awareness of the Guideline to relevant audiences of HSE services and other stakeholders using existing communications channels:

- Service users via the HSE website
- HSE Dental and Orthodontic staff via Chief Officers in CHO/Orthodontic areas

Responsible Persons are required to make this Guideline available to all relevant employees in the HSE Dental and Orthodontic Service. Electronic and other communication means can be used to maximise distribution. Managers must create an awareness of the Guideline throughout their services and ensure that employees under their supervision have read and understand the Guideline. A signature sheet is provided for this purpose.

9. Implementation

Implementation plan

An implementation plan was developed to incorporate the consultation, communication and training plans. Timelines and responsible persons were identified in the implementation plan.

Procedures should be adopted by each CHO/Orthodontic Area from the date of approval and publication.

Education/training plans required to implement the PPPG

Online Training

It is considered essential that all staff should undertake infection prevention eLearning training on induction. Below are the essential HSELanD courses that need to be completed. On completion of courses certificates should be given to line manager.

The 'AMRIC Hub' online training modules can be accessed at: **www.hseland.ie**, Click on the hubs and resources Select AMRIC Hub, view hub, select modules tab which links to all the AMRIC modules.

Face to face training

A series of face to face briefings will take place nationwide across all dental and orthodontic areas. Content will be developed directly from the Guideline in the format of Powerpoint Presentation, Discussion and a 'Train the trainer/ Infection Control Champion' approach to implement the Guideline to all relevant staff.

Staff Meetings

Infection prevention and control should be an item on all staff meeting agendas as a rolling item for discussion

Lead person(s) responsible for the implementation of the PPPG.

Chief Officers of CHO areas

Saolta Hospital Group

Heads of Service – Primary Care

Principal Dental Surgeons

Consultant Orthodontists

Acting Heads of Departments

Oral Surgeons

Senior Administrative Dental Surgeons

Senior Clinical Dental Staff

Senior Dental Nurses

Other staff nominated/delegated in this role

Specific roles and responsibilities

Implementing safe and effective IPC is the responsibility of the whole dental team. Management and clinicians have ultimate responsibility to ensure that each member of his/her team understands and practices procedures correctly and routinely.

Members of the public are entitled to and increasingly aware of the need for dental teams to practice good IPC. HIQA has legislative authority to publish guidelines and its inspection reports are available to the public. All members of the team must be familiar with IPC guidance and be competent and confident to answer patients' queries or refer them to the clinician.

Teamwork

The aim of the HSE dental service is to provide dental treatment for children and designated groups of adults in a clean and safe environment. The provision of dental care is very much a team exercise. All members of the dental team must be clear in their role. Everyone has a vital role to play as the quality of each patient's care depends as much upon the care and expertise of the team around the clinician as the treatment provided by that clinician. Delivering a quality service is not just about the clinician's technical ability. It also incorporates the importance of creating a culture of reporting and of learning. Quality is also determined by the standards of hygiene and IPC and the administrative procedures in place for dealing with all patients, schools and special needs groups. It is also about the courtesy with which patients, parents, carers and colleagues are treated. There are many tasks that must

be carried out in the dental surgery to ensure that treatment can be carried out in a safe environment. It is essential to establish an appropriate patient work flow system.

Excellence in IPC practice is best delivered by a team whose members are clear in their roles. Whilst the clinician is directly responsible for the provision of treatment and disposal of used sharps, none of the other IPC tasks is exclusively the task of either clinician or dental nurse – either person can do the task – the important thing is that the tasks are completed safely and that, within each team, each person is clear about her/his role.

Management of records and confidentiality

All staff must comply with the HSE Data Protection Policy to ensure compliance with the GDPR and relevant Irish legislation. **https://www.hse.ie/eng/gdpr/hse-data-protection-policy/hse-data-protection-policy.pdf**.

Good patient records are an essential part of quality care and governance. The medical history-taking process is an important part of infection control in order determine a patient risk status.

- The patient's dental record is completed contemporaneously to ensure accuracy of records.
- Record keeping is also an important part of the decontamination process.
- Infection control tracing and test sheets (Appendix 7-9) must be completed and stored.

Confidentiality

- All information disclosed by a patient during dental visits is confidential.
- Conversations with patients must be conducted in environments where the patients' confidentiality is protected. Patient details cannot be discussed outside the HSE service environment.
- Telephone calls involving patient or staff details should be handled discreetly, with cognisance taken of people in adjacent waiting rooms or surgeries who may overhear conversations.
- Desktop computers should be locked when left unattended, e.g. during breaks and lunchtimes.

Ensuring Governance and Compliance	Complying
Those responsible for ensuring compliance with the standard operating procedures for infection prevention and control in the dental surgery are as follows; • Principal Dental Surgeons • Consultant Orthodontists • Acting Heads of Departments • Oral Surgeons • Senior Administrative Dental Surgeons • Senior Clinical Dental Staff • Senior Dental Nurses • Other staff nominated/delegated in this role	The roles and responsibilities of staff are clearly defined and those responsible for complying with and implementing the standard operating procedures for infection prevention and control in the HSE Dental and Orthodontic service follows**;** • All Dental Staff: Dentists, Orthodontists, Specialist Orthodontists, Orthodontic Therapists, Oral Surgeons, Hygienists, and Dental Nurses (including agency, locum, session and temporary staff).

"Failure to provide and use adequate sterilisation facilities may lead to proceedings for professional misconduct before the Fitness to Practice Committee of the Dental Council" (Irish Dental Council 1993)

Overall responsibility and accountability for IPC and implementation of this Guideline and Standard Operating Procedures rests with the senior management of the specific dental and orthodontic services. This accountability includes a responsibility for communication of SOPS, for ensuring staff have access to recommended vaccines, equipment and training to implement effective and safe IPC. This accountability must be replicated locally in individual dental/orthodontic clinics. Clinics must have strong and effective local management arrangements to ensure a sustainable delivery of safe and effective IPC. (Theme 5 HIQA Community Standards 2018) The Clinician/Senior person is responsible for patient safety.

10. Monitoring, Audit and Evaluation

Lead person(s) responsible for the following processes:

Monitoring

Those responsible for monitoring the Guideline on a day-to-day operational level include:

- Principal Dental Surgeons
- Consultant Orthodontists
- Specialist Orthodontists
- Acting Heads of Departments
- Oral Surgeons
- Senior Administrative Dental Surgeons
- Senior Clinical Dental Staff
- Senior Dental Nurses
- Other staff nominated/delegated in this role

Audit

It is recommended that a regular audit be carried out in the Dental/Orthodontic Surgery to monitor compliance of Standard Operating Procedures for Infection Prevention and Control within this Guideline. Auditing to measure compliance with IPC policies and procedures can occur through:

1. direct observation
2. examining logs and registers of specific activities (e.g. autoclaves)
3. monitoring use of PPE or hand hygiene products.

The Dental Council (2015); recommends that the following practice protocols be audited annually.

- Decontamination of dental instruments
- Healthcare risk waste
- Hand hygiene
- Staff training in infection prevention control

Refer to associated downloadable Audit Tool

Evaluation

The effectiveness of the Guideline will be evaluated using a number of processes:

- Monitoring feedback from responsible persons
- Audit results
- Surveys
- Evaluation of incidents and complaints

11. Revision/Update

Procedure for the update of the Guideline

This Guideline will be reviewed in 3 years from the date of publication unless otherwise indicated.

Method for amending PPPG if new evidence emerges

If and when research, legislation, standards and current practices significantly alter, this Guideline will be reviewed accordingly. For example, the environmental impact of healthcare waste management and the segregation of healthcare risk waste in the dental setting is a dynamic area where emerging evidence and/or a change in professional guidelines will guide future procedures.

Disclaimer

This is a stand-alone document as it requires specific detail on infection control guiding principles for the HSE Dental and Orthodontic Service. It is important to recognise that core elements of infection prevention and control (IPC) are contained within the Department of Health (2023) NCEC National Clinical Guideline No. 30 Infection Prevention and Control, available at: **https://www.gov.ie/en/publication/a057e-infection-prevention-and-control-ipc/?referrer=http://www.gov.ie/IPCclinicalguideline/** and therefore this guidance should be read and interpreted in conjunction with the national guidance document.

The standard operating procedures outlined in this guideline are designed to reduce the number of infectious agents in the dental practice environment; prevent or reduce the likelihood of transmission of these infectious agents from one person or item/location to another; and make items and areas as free as possible from infectious agents.

They are based on the best available evidence and will be subject to review if and when new evidence emerges.

Professional judgement is essential in determining the necessary application of these guidelines to the particular circumstances of each individual dental practice.

12. References

1. Australian Dental Association, Guidelines for Infection Prevention and Control 2021 (First Published 2009, Second Edition 2012, Third Edition 2015)
2. Australian Government – NHMRC, Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019) **https://www.nhmrc.gov.au/about-us/publications/australian-guidelines-prevention-and-control-infection-healthcare-2019**
3. Bearn DR, Alharbi F., British Orthodontic Society national audit of temporary anchorage devices (TADs): report of the first thousand TADs placed. J Orthod. 2015 Sep;42(3):214-9
4. Boyle MA, O'Donnell MJ, Miller A, Russell RJ, Coleman DC. Control of bacterial contamination of washbasin taps and output water using Ecasol: a one-year study. J Hosp Infect. 2012;80(4):288-92
5. Boyle MA, O'Donnell MJ, Russell RJ, Galvin N, Swan J, Coleman DC. Overcoming the problem of residual microbial contamination in dental suction units left by conventional disinfection using novel single component suction handpieces in combination with automated flood disinfection. J Dent. 2015 Oct;43(10):1268-79. doi: 10.1016/j.jdent.2015.07.018. Epub 2015 Aug 3. PMID:26248229
6. CDC Suction - Mann GLB, Campbell TL, Crawford JJ. Backflow in low-volume suction lines: The impact of pressure changes. J Am Dent Assn 1996;127:611–615.
7. CDC, Animals in Healthcare facilities, Guidelines for environmental Infection Control in Healthcare facilities (2003)
8. Cleaning Manual for Acute Hospitals. National Hospital Office, Health Services Executive. 2006 Dublin. Ireland. **http://www.hse.ie/eng/services/publications/Hospitals/HSE_National_Cleaning_Standards_Manual.pdf**
9. Code of Practice Relating to Infection Prevention and Control. (Dental Council 2015). **https://www.dentalcouncil.ie/wp-content/uploads/2022/08/Code-of-Practice-Infection-Prevention-and-Control-April-2020.pdf**
10. Conway Morris A, Sharrocks K, Bousfield R, Kermack L, Maes M, Higginson E, Forrest S, Pereira-Dias J, Cormie C, Old T, Brooks S, Hamed I, Koenig A, Turner A, White P, Floto RA, Dougan G, Gkrania-Klotsas E, Gouliouris T, Baker S, Navapurkar V. The removal of airborne SARS-CoV-2 and other microbial bioaerosols by air filtration on COVID-19 surge units Clin Infect Dis. 2022 Aug 24;75(1):e97-e101. doi: 10.1093/cid/ciab933. PMID: 34718446; PMCID: PMC8689842.
11. Decontamination Health Technical Memorandum 01-05: Decontamination in primary care dental practices. (UK Dept. of Health 2013) **www.england.nhs.uk/wp-content/uploads/2021/05/HTM_01-05_2013.pdf**
12. Department of Health NCEC National Clinical Guideline No. 30 Infection Prevention and Control. 2023.
13. DOHC Segregation Packaging and Storage Guidelines for Health Care Risk Waste 2004
14. DOHC Health Care Risk Waste Management Segregation Packaging and Storage Guidelines for Health Care Risk Waste 2010
15. DOHC document 'Prevention of Transmission of Blood-Borne Diseases in the health-care setting' Prevention of Transmission of Blood Borne Disease in the Health Care Setting 2006 **http://www.dohc.ie/publications/transmission_of_blood_borne_diseases_2006.html**
16. Ebola Information for General Practitioners HPSC 2014 **https://www.hpsc.ie/news/newsarchived/2014newsarchive/title-14571-en.html**
17. European directive on Medical Devices 93/42/EEC **https://www.legislation.gov.uk/eudr/1993/42/contents**
18. European Standards for small steam sterilisers EN 13060:2004
19. European Standards for Washer-disinfectors and Ultrasonic Cleaners EN 15883:Part 1:2014 and Part 2:2013.
20. European Centre for Disease Prevention and Control, Antimicrobial resistance surveillance in Europe 2022 - 2020 data (2022) **https://www.ecdc.europa.eu/en/publications-data/antimicrobial-resistance-surveillance-europe-2022-2020-data**
21. European Council Directive 98/83/EC (3 November 98) on the quality of water intended for human consumption, L330/32–L330/41. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1998:330:0032:0054:EN:PDF

22. European Council Directive 2010/32/EU (10 May 2010) on implementing the Framework Agreement on prevention from sharp injuries in the hospital and healthcare sector concluded by HOSPEEM and EPSU. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:134:0066:0072:EN:PDF

23. Fukuzaki S, Mechanisms of actions of sodium hypochlorite in cleaning and disinfection processes. Biocontrol Sci. 2006 Dec;11(4):147-57. Industrial Technology Center of Okayama Prefecture, 5301 Haga, Okayama 701-1296, Japan.

24. Guide to European Union (Prevention of Sharp Injuries in The Health Care Sector)

25. Guidelines for Environmental Infection Control in Health-Care Facilities CDC 2003 **http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_HCF_03.pdf**

26. Guidelines for Infection control in healthcare Personnel (CDC 1998)

27. **https://www.cdc.gov/hicpac/pdf/infectcontrol98.pdf**

28. Guidelines for the Prevention and Control of Multi-drug resistant organisms (MDRO) excluding MRSA in the healthcare setting. RCPI 2014 **https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/Guidelines%20for%20the%20Prevention%20and%20Control%20of%20MDRO_Final%20Revised_July%202014.pdf**

29. Guidelines for the prevention and control of infection from Water systems in Healthcare facilities HPSC 2014

30. Guidelines for Hand Hygiene in Irish Health Care Settings **https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/File,15060,en.pdf**

31. Hand Hygiene Australia **https://www.hha.org.au/component/jdownloads/send/34-posters/68-poster3**

32. HIQA's National Standards for the Prevention and Control of Healthcare Associated Infections

33. HIQA's National Standards for Better Safer Healthcare

34. HIQA National Standards for Infection Prevention and Control in Community Services 2018

35. HIQA National Standards for the Prevention and Control of Healthcare Associated Infections 2009. **http://www.hiqa.ie/system/files/National_Standards_Prevention_Control_Infections.pdf**

36. HPSC Guidelines for the Emergency Management of Injuries (EMI) and Post-Exposure Prophylaxis (PEP) 2024 **https://www.hpsc.ie/a-z/emi/**

37. HPSC National Guidelines for the Control of Legionellosis in Ireland, 2009

38. HPSC Guidelines for Hand Hygiene in Irish Healthcare Settings, SARI, 2005. **www.hpsc.ie/AZ/MicrobiologyAntimicrobialResistance/InfectionControlandHAI?Guidelines/File,1047,en.pdf**

39. HPSC Guidelines for Hand Hygiene in Irish Healthcare Settings update 2015 **https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/File,15060,en.pdf**

40. HPSC National Guidelines for the Prevention and Control of Infection from Water systems in Healthcare Facilities (2015)

41. HPSC The Prevention of Transmission of Blood-Borne Diseases in the Health-Care Setting, DHC, 2005. **https://www.hpsc.ie/a-z/hepatitis/hepatitisc/guidance/File,4352,en.pdf**

42. HPSC Prevention and Control Methicillin-Resistant Staphylococcus aureus (MRSA) National Clinical Guideline No. 2 DoH, National clinical Effectiveness Committee (2013). **http://www.hpsc.ie/AZ/MicrobiologyAntimicrobialResistance/InfectionControlandHAI/Guidelines/File,14478,en.pdf**

43. HSE Guidance for the Application of Standards and Recommended Practices for Local Decontamination Units (LDUs) in Primary Care, Dental, Podiatry and GP Practice (2019) **https://www.hse.ie/eng/about/who/nqpsd/qps-improvement/hse-guidance-of-standards-and-recommended-practices-for-decontamination.pdf**

44. HSE Policy on the Management of Sharps and Prevention of Sharp Injuries (2022)

45. HSE CPE Expert Group Hospital Out-Patient and Day Care for people colonised with Antimicrobial Resistant Organisms including Carbapenemase Producing Enterobacterales 2018

46. HSE 'Guidelines for Hand Hygiene in Irish Healthcare settings' (Update of 2005 Guidelines January)

47. HSE Infection Control Guiding Principles for Buildings Acute Hospitals and Community Healthcare Settings (2023) https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/buildingsandfacilitiesguidance/Infection%20Control%20Guiding%20Principles%20for%20Building.pdf

48. HSE Healthcare Risk Waste Management, Segregation, Packaging and Storage Guidelines for Healthcare Risk Waste', 4th edn, HSE/DHC, 2010.

49. HSE Standards and Recommended Practices for Dental Services in a Local Decontamination Unit (LDU)', HSE, 2012 (rev. edn 2014).

50. HTM 01-05 2013 Decontamination in primary care dental practices', Department of Health, UK. (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/170689/HTM_01-05_2013.pdf

51. The Joint Commission. Preventing Central Line–Associated Bloodstream Infections: Useful Tools, An International Perspective. Nov 20, 2013. Accessed [14/01/2019]. http://www.jointcommission.org/CLABSIToolkit

52. Lemass H, N. McDonnell, N. O'Connor and S. Rochford, Infection Prevention and Control for Primary Care in Ireland – a Guide for General Practice, SARI 2013.

53. M.A. Cochran, C.H. Miller and M.A. Sheldrake, 'The efficacy of the rubber dam as a barrier to the spread of microorganisms during dental treatment', JADA, 1989 Jul, 119(1), 141–144.

54. M.J. O'Donnell, M.A. Boyle, R.J. Russell and D.C. Coleman, 'Management of dental unit waterline biofilms in the 21st century', Future Microbiology, 6(10), 1209–1226.

55. National Guidelines for the Control of Legionellosis in Ireland, 2009 https://www.hpsc.ie/az/microbiologyantimicrobialresistance/infectioncontrolandhai/guidelines/National%20Guidelines%20for%20the%20control%20of%20legionellosis%20in%20Ireland%202009.pdf

56. NHS England (HBN 00-10) Design for flooring, walls, ceilings, sanitary ware and windows https://www.england.nhs.uk/publication/design-for-flooring-walls-ceilings-sanitary-ware-and-windows-hbn-00-10/

57. Robert J. Wilson DDS, The ethics of service animals in the dental office, The Journal of the American Dental Association (JADA), 2019-08-01, Volume 150, Issue 8, Pages 717-718, Copyright © 2019 American Dental Association https://doi.org/10.1016/j.adaj.2019.04.013

58. S.I. No. 135 of 2014, European Union (Prevention of Sharps Injuries in the Healthcare Sector) Regulations, 2014. www.hsa.ie/eng/Legislation/New_Legislation/S_I_135_of_2014.pdf

59. Safety Health and Welfare at Work Act 2005 and any subsequent legislation or any other relevant legislation

60. Scottish Dental Clinical Effectiveness Programme (2011) Sterilisation of Dental Instruments,- Dental Clinical Guidance

61. Scottish Dental Clinical Effectiveness Programme (2014) ,Cleaning of Dental Instruments,2nd edition,- Dental Clinical Guidance

62. S.I. No. 135 of 2014, European Union (Prevention of Sharps Injuries in the Healthcare Sector) Regulations. 2014, Part 2.

63. S.I. No. 146 of 1994 and S.I. No. 248 of 1998, Safety, Health and Welfare at Work (Biological Agents) Regulations.
http://www.irishstatutebook.ie/1994/en/si/0146.html#zzsi146y1994a6)
http://www.irishstatutebook.ie/1998/en/si/0248.html)

64. Watson CM, Whitehouse RLS. Possibility of cross-contamination between dental patients by means of the saliva ejector. J Am Dent Assn 1993;124:77–80.

65. WHO Guidelines on hand Hygiene in Health Care (WHO, May 2009)
https://www.who.int/publications/i/item/9789241597906

13. Appendices

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14. Acknowledgements

This guideline is based on the Department of Health (2023) NCEC Infection Prevention and Control (IPC) National Clinical Guideline No. 30.

The responsibility for issue of this document in its entirety as the National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services rests with the Clinical Standards for Oral Health Subgroup.

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Professor Martin Cormican, HCAI National Clinical Lead (HSE)

Dr Anne Sheehan, Public Health Lead (HSE)

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Dr Peter Kinnevey, Assistant Professor, Dental Science, Dublin Dental University Hospital

Caroline Conneely, Quality Improvement Team – National Decontamination Safety Programme Lead (HSE)

Appendix 1: Membership of Development Group

Membership of Clinical Standards for Oral Health Subgroup

- Amanda Doyle, Head of Service Primary Care HSE CHO 1 (Chair)
- Dr Niamh Galvin, Assistant National Oral Health Lead, Quality and Risk, HSE National Oral Health Office
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- Dr Philip Mulholland, Principal Dental Surgeon, HSE Dental Service
- Dr Sheila Hagan, Specialist Orthodontist, HSE Orthodontic Service
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- Dr Kathryn McLister, Senior Dental Surgeon, Administrative, HSE Dental Service
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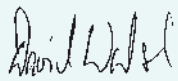
- Dr Catherine Gallagher, Lecturer/Specialist in Oral Surgery, Clinical Director, Cork University Dental School and Hospital
- Dr Gerard Colleran, TUD Programme Lead, Tallaght Technology University Dublin
- Deirdre Ryan, Project Coordinator, National Oral Health Office

Appendix 2: Membership of Approval Governance Group

Membership of National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services Approval Governance Group	
Name	**Role and position**
Dr Anne O'Neill	Assistant National Director Oral Health
David Walsh	National Director, Community Operations

Sign-off by Chair of Approval Governance Group

National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services was formally approved on 09/02/2024.

Name: (print)	David Walsh
Title:	National Director, Community Operations
Signature: (e-signatures accepted)	
Registration number: (if applicable)	

Appendix 3:
Conflict of Interest Declaration Form

CONFLICT OF INTEREST DECLARATION FORM

This form must be completed by each member of the Development Group.

Title of National 3PG being considered:

Please indicate the statement that relates to you

☐ I declare that **I DO NOT** have any conflicts of interest

☐ I declare that **I DO** have a conflict of interest

Details of conflict (please refer to specific National 3PG)
(Append additional pages to this statement if required)

Signature:

Print name:

Registration number (if applicable):

Date:

The information provided will be processed in accordance with data protection principles as set out in the Data Protection Act. Data will be processed only to ensure that Development Group act in the best interests of the members. The information provided will not be used for any other purpose.

A person who is covered by this National 3PG* is required to furnish a statement, in writing, of:

(i) The interests of the person, and

(ii) The interests, of which the person has actual knowledge, of his or her spouse or civil partner or a child of the person or of his or her spouse which could materially influence the person in, or in relation to, the performance of the person's official functions by reason of the fact that such performance could so affect those interests as to confer on, or withhold from, the person, or the spouse or civil partner or child, a substantial benefit.

*policy, procedure, protocol or guideline.

Appendix 4:
Sample Cleaning Checklist for Contract Cleaner

Element	Daily	Weekly	Monthly	Other
High Risk: Clinical areas including dental surgery, local decontamination unit (LDU)				
Dental patient chair – excluding upholstery	√			
Manual handling equipment, e.g. hoists, ramps		Spot Check		Full clean six monthly
High surface of patient overhead dental light		Spot Check		Clean on request and as per instruction from dental staff
Non clinical worktops/countertops	√			
Alcohol Hand Gel/Soap Containers/Dispensers/ Brackets and Paper Towel Holders	√			
Replenishment of consumables	√			Local policy will dictate who does this and how
Sinks and basins	√			
Switches, sockets and data points	√			
Waste receptacles (non-clinical) (inside and out)	√			
Walls	Spot Check			Full clean six monthly
Ceiling	Spot Check			Full clean annually
All doors (except handles)		√		Spot clean as required
Door handles, push plates and keypads	√			
All internal glass and glazing, including partitions and insides of window glass		√		Spot clean as required
Mirrors and pictures	√			
Radiators (including the backs of radiator)		√		

Element	Daily	Weekly	Monthly	Other
Ventilation grilles extract and inlets			Spot clean as required	Full clean six monthly
Floors (hard and soft)	√			
Electrical items, e.g. overhead lights, radios, clocks, televisions			√	Spot clean as required
Medical Fridge (external surface only)		√		
High surfaces		√		
Low surfaces	√			
Seating/Chairs/Stools		√		
Lockers			√	
Tables/Desks		√		Spot clean as required
Notice Boards			√	
Cupboards/cabinet/drawer including handles and knobs (external surfaces)			√	Spot clean as required
All dispensers/holders/display units			√	Spot clean as required
Computers/Telephones/Office Equipment		√		
Curtains (windows and cubicle) and blinds			√	Spot clean as required Full clean six monthly
Step ladder, foot stools etc.			√	Spot clean as required Full clean six monthly
Fans		Spot check		Full clean six monthly
Pest control devices			√	Spot clean as required

Element	Daily	Weekly	Monthly	Other
Significant risk: X-ray room, recovery room				
Manual handling equipment, e.g. hoists, ramps		Spot Check		Full clean six monthly
Non clinical worktops/countertops	√			
Alcohol Hand Gel/Soap Containers/Dispensers/ Brackets and Paper Towel Holders	√			
Replenishment of consumables	√			Local policy will dictate who does this and how
Sinks and basins	√			
Switches, sockets and data points	√			
Waste receptacles (non-clinical) (inside and out)	√			
Walls	Spot Check			Full clean annually
Ceiling	Spot Check			Full clean annually
All doors (except handles)		√		Spot clean as required
Door handles, push plates and keypads	√			
All internal glass and glazing, including partitions and insides of window glass		√		Spot clean as required
Mirrors and pictures		√		
Radiators (including the backs of radiator)			√	
Ventilation grilles extract and inlets			Spot clean as required	Full clean six monthly
Floors (hard and soft)	√			
Electrical items, e.g. overhead lights, radios, clocks, televisions			√	Spot clean as required
Medical Fridge (external surface only)		√		
High surfaces		√		

Element	Daily	Weekly	Monthly	Other
Low surfaces	√			
Seating/Chairs/Stools		√		
Lockers			√	
Tables/Desks		√		Spot clean as required
Notice Boards			√	
Cupboards/cabinet/drawer including handles and knobs (external surfaces)			√	Spot clean as required
All dispensers/holders/display units			√	Spot clean as required
Computers/Telephones/Office Equipment		√		
Curtains (windows and cubicle) and blinds			√	Spot clean as required Full clean six monthly
Step ladder, foot stools etc.			√	Spot clean as required Full clean six monthly
Fans		Spot check		Full clean six monthly
Pest control devices			√	Spot clean as required

Element	Daily	Weekly	Monthly	Other
Moderate risk: Waiting room, store room, dental personnel offices, changing/locker room, dental plant room				
Non-clinical worktops/countertops	√			
Alcohol Hand Gel/Soap Containers/Dispensers/ Brackets and Paper Towel Holders	√			
Replenishment of consumables	√			Local policy will dictate who does this and how
Sinks and basins	√			
Switches, sockets and data points	√			
Waste receptacles (non-clinical) (inside and out)	√			
Walls	Spot clean			Full clean annually
Ceiling	Spot clean			Full clean annually
All doors (except handles)	Spot clean		√	
Door handles, push plates and keypads	√			
All internal glass and glazing, including partitions and insides of window glass		√		Spot clean as required
Mirrors and pictures	Spot Check	√		
Radiators (including the backs of radiator)			√	
Ventilation grilles extract and inlets			Spot clean as required	Full clean six monthly
Floors (hard and soft)	√			
Electrical items, e.g. overhead lights, radios, clocks, televisions			√	Spot clean as required
Medical Fridge (external surface only)		√		
High surfaces		√		
Low surfaces	√			

Element	Daily	Weekly	Monthly	Other
Seating/Chairs/Stools		√		
Lockers			√	
Tables/Desks	Spot clean	√		
Notice Boards			√	
Cupboards/cabinet/drawer including handles and knobs (external surfaces)			√	Spot clean as required
All dispensers/holders/display units			√	Spot clean as required
Computers/Telephones/Office Equipment		√		
Curtains (windows and cubicle) and blinds			√	Spot clean as required Full clean six monthly
Step ladder, foot stools etc.			√	Spot clean as required Full clean six monthly
Fans		Spot check		Full clean six monthly
Pest control devices			√	Spot clean as required

Sample cleaning checklist for dental and orthodontic staff		
Element	**Frequency**	**Comments**
Clinical work surfaces contaminated zone	Between patients	
Dental surfaces environmental zone	Start and end off day	
All clinical and decontamination sinks	End of day	
Dental chair upholstery/controls	Between patients	
Patient overhead light	Between patients	
Delivery unit	Between patients	
Dental unit tubing	Between patients	
X-ray machine, CR Reader, Radiographic processor and panels	Only if used (external – Spot clean as required)	
Aspirating unit, tubing and spittoon	Between patients	
Curing light surface	Between patients	
Amalgamator surfaces and apex locator	Between patients	
Cavitron surfaces	Between patients	
Operatory/Nurse stool upholstery	Daily	
Base unit shelves/cup board	Monthly	
Dental suction unit tubing/tubing	Between patients	
Ultrasonic Cleaner	End of the day Refer to 10.2. (external – Spot clean as required)	
Washer disinfector	End of the day Refer to 10.3. (external – Spot clean as required)	
Autoclave	End of the day Refer to 10.5. (external – Spot clean as required)	

The above is not intended to be an exhaustive list of all items or equipment used. The manufacturer instructions must always be followed for decontamination.

Appendix 5: Decontamination of RIMD in Single Surgeries

Single surgeries with an Ultrasonic Cleaner

Zoning

- The dental surgery must have clearly designated zones to facilitate the decontamination and sterilisation of instruments. Decontamination begins in the "dirty/contaminated" zone and follows a flow to the bagging and sterilisation of clean instruments in the "clean" zone.
- Dirty instruments after use should be placed in a sealed container located in the "contaminated" zone.
- In a single surgery the location of the sealed container of contaminated instruments should indicate the start of the flow from contaminated to a clean zone.
- The flow from contaminated to clean must not be interrupted.

Use of sink

- A single surgery must have a designated Hand Hygiene sink and an instrument rinsing sink.
- The sink which is used for rinsing instruments should not be used as a designated Hand Hygiene sink.

Decontamination process

- Dirty instruments are removed from the sealed container and placed directly into the basket of the Ultrasonic Cleaner
- They can be rinsed if visibly soiled prior to the ultrasonic cleaning cycle.
- After ultrasonic cleaner cycle, if instruments are still dirty they are returned to the ultrasonic cleaner for further cleaning.
- Once satisfactorily cleaned, the instruments are then rinsed in the sink and must be visibly checked under task lighting.
- If unavoidable, retained debris can be manually removed.
- Where no washer disinfector is in use, instruments once cleaned should be dried with lint free paper towel before bagging.
- Cleaned instruments once bagged and labelled are placed in the autoclave for sterilisation.

Single surgeries with a Washer Disinfector (Refer to 10.3)

- If a Washer Disinfector is available in the surgery, the instruments should be processed through the Washer Disinfector, bagged, and sterilised.

Appendix 6: Testing of RIMD Equipment – Glossary

Cleaning Efficacy Visual Test	This happens after the washer disinfector or ultrasonic cleaner and before the autoclave. Each instrument that has been cleaned must be inspected under an illuminated magnifier to ensure that all dirt and debris has been successfully removed. Any instruments that are found to still have debris must go through the cleaning stage again.
Automatic Control Test	This test is used to determine that all the stages of the autoclave are consistent with previous days. If the autoclave has a printer or data logger this is carried out automatically, providing that cycle monitoring is present (please consult the manufacturer if you are unsure). If not, this test will involve the user timing each stage and recording the times in a log book. The test will then be signed off daily but only if the results are consistent with the previous day.
Cleaning Efficacy Test	This test is designed to challenge the cleaning efficacy of the washer disinfector and ultrasonic cleaner and tests if the equipment's ability to perform adequately. A test soil strip is placed into the equipment and a cycle is commenced. Once finished the test strip is checked for any remaining soil residue and the results are recorded, e.g. Browns load checker, washcheck.
Protein residue test	This test is used to ensure that the instruments which have been cleaned are free from protein that is not visible to the naked eye. Washers may fail to clean for many reasons. Tests should provide a means of monitoring the variables that influence the effectiveness of a washer. Some of these variables are water quality, time, detergent, enzyme, temperature, pH level, agitation, speed, initial temperature, drying time, obstructions, and insufficient amount of chemicals. After the cleaning process a random instrument is taken from the load and a protein detection method is used to determine the cleanliness using products such as Resistest (Steris) Clean-Trace (3 M), Pyromol (Pereg) valisafe and Medi Check.
Ultrasonic Activity Test Foil Wand Sono check	This is designed to ensure that the cavitation effect of the ultrasonic is working effectively and evenly throughout the ultrasonic cleaner. **Foil test** Using strips of adhesive tape across the top of the cleaner, suspend nine strips of prepared foil in the cleaner in a 3x3 grid. Ensure that the rolled bottom end of each foil strip is no more than 10mm above, but not touching the bottom of the cleaner. Run the cleaner for a pre-determined time, remove the foil strips and blot dry and record the results. The strips should all reflect similar erosion patterns. **Wand test** Ultrasonic Activity Meter (wand) should be used to measure the level of ultrasonic activity throughout the tank. 1. It is recommended that the tank be divided into nine sections and measurements taken at just below the surface and at least 3 cm from the base of the cleaner, where the depth of the tank allows. 2. Insert the probe into the cleaning fluid inside the tank. To take a reading press and hold the button on the meter. Record the results displayed on both the Frequency and Power displays. 3. Repeat this in the 9 specified places at the two different depths throughout the cleaner, including each corner. 4. Record the results so that future tests can be compared. If there is a reduction in the readings over time, your ultrasonic cleaning system may not be working at full efficiency and may need validation and servicing.

	Sono Check 1. Select the appropriate number of SonoCheck TM vials that matches the size of the equipment to be tested. 2. Place the SonoChecks in an empty ultrasonic basket and place the basket in the ultrasonic cleaner that has been de-gassed. 3. Run the equipment as directed by the ultrasonic manufacturer and record the test results on the "Log Sheet". 4. All SonoChecks should change from blue/green to yellow within specified time. The time needed for the colour change will indicate the level of energy and degree of cavitation provided by the ultrasonic cleaner. 5. A change slower than average will indicate a weak spot. 6. A negative result will indicate a blind spot of ultrasonic energy. In case of an unsatisfactory result, refer to the SonoCheck guide. **Interpretation of results:** • Colour change from blue/green to yellow indicates presence of cavitation energy. • Time for colour change indicates the strength of cavitation energy. • Failure for colour change to yellow indicates a failure to achieve sufficient cavitation energy to clean. • Ultrasonic energy is localised and failure to achieve colour change may indicate one or more sonic transducers are failing.
Steam Penetration Test	This test is designed to ensure that a successful vacuum has been achieved so the steam is able to penetrate the internal lumen (Helix) or wrapped devices (Bowie-Dick). Helix test is preferable in Dental settings unless Bowie-Dick recommended by autoclave manufacturer. Please consult with the autoclave manufacturer as to which test is needed.
Air Leakage Test	The test is designed to show that, should a leak be detected, the machine should fail the cycle. Dependent on the age of the autoclave this may be carried out automatically. If you are unsure please consult the manufacturer.

Appendix 6(i): Process Challenge Device and Chemical and Biological Indicators

- **Process Challenge Device (PCD):** A process challenge device (PCD) is a test device intended to provide a challenge to the sterilisation process (Bowie and Dick and Helix)
- **Steam Chemical indicators (CI):** (internal and external)**:** use sensitive chemicals to assess physical conditions such as time, temperature and presence of **steam**. **Chemical indicators** are used outside and inside of packages to show that it has undergone a sterilisation cycle.
- **Biological indicators (BI):** are designed to demonstrate whether the conditions during a **steam** (autoclave) cycle were adequate to achieve a defined level of microbial inactivation

The chemical indicators described in ISO 11140 are classified into six groups. The classification has no hierarchical significance.

Class 1 Process Indicators	• Process Indicators that differentiates processed from non-processed items • Used with individual units (e.g., packs, containers) to indicate that the item has been directly exposed to the sterilisation process • Usually applied to the outside of packages • Respond to one or more critical process variables • Indicator tapes and Indicator labels
Class 2 Indicators For use in Specific Tests	• Indicator for use in specific test procedures as defined in steriliser/sterilisation standards (e.g., air-detection, steam penetration) • Used for equipment control to evaluate the steriliser performance • Bowie-Dick test/Helix
Class 3 Single Variable Indicators	• Single Variable Indicator that reacts to a single critical variable in the sterilisation process to indicate when a specified value has been reached (e.g., temperature at a specific location in the chamber) • May be used for monitoring process control but not as useful as class IV or class V indicators • May be used for exposure control monitoring (e.g., temperature at a specific location in the chamber) • Temperature tubes
Class 4 Multi-variable Indicators	• Multi-variable Indicator that reacts to two or more critical variables in the sterilisation cycle under the conditions specified by the manufacturer
Class 5 Integrating Indicators	• Integrating Indicator that reacts to all critical variables in the sterilisation process (time, temperature, presence of steam) and has stated values that correlate to a BI at three time/temperature relationships • Responds to critical variables in the same way that a BI responds • Equivalent to, or exceeds, the performance requirements of BIs • Used for process control

Class 6 Emulating Indicators	• Emulating Indicator that reacts to all critical variables (time, temperature, presence of steam) for a specified sterilisation cycle (e.g. 3.5, 10 min., 18 min., 40 min.) • Used as internal CI for process control • A different Class VI emulating indicator is required for each sterilisation cycle time and temperature used

Appendix 7:
Sample Ultrasonic Cleaner tracing and Test Sheet

Ultrasonic Cleaner ID No.:

Date	Daily Safety Checks - Pass/Fail	Weekly Cleaning Efficiency Test- e.g. soil test Pass/Fail	Weekly Protein Residue Test Pass/Fail	Quarterly Cavitation e.g. wand or foil or sono test tube. Pass/Fail	Comments, Observations, Actions Needed	Signature
		Pass/Fail: Date: Due:	Pass/Fail: Date: Due:	Pass/Fail: Date: Due:		

Annual Service Done: **Next Due:**

Annual Validation Test Done: **Next Due:**

Appendix 8:
Sample Washer Disinfector Tracing and Test Sheet

Washer Disinfector ID No.:

Date	Daily Safety Checks- Pass/ Fail	Load Cycle No.	Result of Cleaning Process- Pass/Fail	Result of Weekly Soil Test- Pass/Fail	Result of Weekly Protein Residue Test	Comments, Observations, Actions Needed	Signature confirming whether or not process or soil test was within recommended parameters

Annual Service Done: **Next Due:**

Annual Validation Test Done: **Next Due:**

Appendix 9:
Sample Autoclave Tracing and Test Sheet

Autoclave ID No.:

Date	Start of day Cycle Counter Number	Daily Safety Checks- Pass/ Fail	Load Cycle No.	Daily Steam Penetration Test (Helix) Pass/Fail	Weekly Vacuum Test Pass/Fail	Comments, Observations, Actions Needed	Signature confirming whether or not process was within recommended parameters

Annual Service Done: **Next Due:**

Annual Validation Test Done: **Next Due:**

Appendix 10: Procedure for the Manual Cleaning of Dental Instruments.

The Dental Council Code of Practice Relating to: Infection Prevention and Control (2015) states 'Manual cleaning is the least acceptable of the three methods of cleaning instruments, but it may be used as a backup when other methods are not available or are not appropriate. However, it must be kept in mind that it is difficult to validate and it exposes staff to an increased risk of sharps injury. If manual cleaning of instruments is practiced, staff must be aware of the risks and a detailed written protocol must be followed. This protocol must prescribe:

- The use of heavy rubber gloves and other appropriate PPE.
- The detergent used should be specifically formulated for washing instruments and the manufacturer's instructions, including water temperature and dilution, should be followed.
- That a designated sink should be used and that a sink provided for clinical staff to wash their hands should not be used for washing instruments.

- Always maintain a contaminated to clean workflow as this will help the cleaning process.
- Perform Hand Hygiene and wear PPE, heavy duty gloves and protective glasses.
- Prepare sink(s) and setting down area.
- Dismantle and open instruments as applicable for immersion.
- Fill the sink with the correct amount of water and HSE approved detergent as advised by the manufacturer. Use the correct temperature for the cleaning solution. A thermometer can be used to monitor the temperature during the cleaning procedure as advised by manufacturer. The water temperature should be below 45 C to avoid coagulating proteins.
- Fully immerse the instruments in the solution and keep under the surface during the cleaning process to prevent the creation of aerosols.
- Scrub the instruments with the long handles nylon bristle brush (soft to medium bristles).
- Following cleaning, drain the water and avoid splashing. If the water is heavily soiled it may be necessary to repeat the cleaning process. Drain off any excess cleaning solution before rinsing.
- After each use brushes should be washed in hot water using the manufacturer's recommended detergent to remove soil and then stored dry head up. (If disposable brushes are used they should be disposed of after use). Reusable brushes should be replaced as advised by manufacturer or when worn.
- The final rinse can be carried out in the clean sink (if two sinks) or if there is only one sink a bowl placed in the sink can be used for the final rinse. Soft water, RO water or distilled water can be used for the final rinse. After rinsing the instruments should be dried.
- Inspect instruments under task lighting. Instruments that are not clean must be cleaned again.
- Lubricate instruments as required and wrap for sterilisation.
- Dispose of cleaning materials as appropriate.
- Replace cleaning solution and the rinse water after use.
- Complete any relevant documentation.

Appendix 11: Sample Disinfection and Decontamination Records

Sample Disinfection Record	
From: [Dental Practice Details]	
All dental impressions and appliances from the above dental practice have been disinfected by immersion in [specify agent, duration]	
Signed:	**Date:**

Sample Decontamination Record	
From: [Dental Practice Details]	
All handpieces and other instruments from the above dental practice have been decontaminated by [specify method used to clean and sterilize]	
Signed:	**Date:**

Appendix 12: Procedure for Testing Dental Unit Waterlines

a) Aerobic Heterotrophic Bacterial Count (six monthly)

The following outlines the procedure for testing Dental Unit Waterlines for Aerobic Heterotrophic Bacterial Count if sampling done by clinic staff. This may be carried out by the testing company on your behalf.

Label sample water bottle (usually 50-100 ml tubes/bottles containing neutraliser supplied by laboratory doing the testing). The labelling information should contain details of each waterline to be sampled, sender's reference, person sampling, date and time of sampling. Waterline disinfection chemicals leave a residue in waterline output water that requires neutralisation prior to determination of bacterial counts (e.g. sodium thiosulphate is used to neutralise chlorine etc.) Therefore the laboratory should be advised of the waterline treatment system in use prior to testing so that they can supply the correct neutraliser as this can influence the result.

- Flush the 3:1 air/water syringe waterline, instrument hose waterline, patient cup filler waterline (where present) and cuspidor rinse waterline (where present) outlets of the dental unit for 2 minutes before collecting water samples.
- Samples taken from clinic source water and either the 3:1 air/water syringe or high speed waterline.
- Wearing gloves open the tube/bottle and collect 20 ml of water from chosen outlet, and holding the bottle at an angle while collecting sample. Close and label sample.
- These water samples should be tested for aerobic heterotrophic bacterial count on R2A agar at 22°C and 37°C following 7 to 10 days incubation. There is no standard in Ireland for aerobic heterotrophic bacterial counts for dental water supply. For dental units, cfu counts below 100 colony forming units (CFUs) per ml of water are considered good. Counts should not exceed 500 CFU/ml.

Pseudomonas aeruginosa

The *Pseudomonas aeruginosa* test should be carried out at the same time as the aerobic heterotrophic counts test (six monthly). The *Pseudomonas aeruginosa* test should be carried out in the first year of accredited laboratory testing. If both annual results are negative it does not need to be repeated the following year and testing from then on will be *Legionella* tests and aerobic heterotrophic culture tests.

b) Legionella

The following outlines the procedure for testing Dental Unit Waterlines for Legionella bacteria if sampling done by clinic staff; Annual Testing. This may be carried out by the testing company on your behalf.

- Take 1 litre water sample from the test waterlines (from clinic source water and either the 3:1 air/water syringe or high speed waterline) without flushing.
- Temperature of sample should be recorded.
- Samples for *Legionella* testing should not be refrigerated.
- These water samples should be taken into a sterile sample container containing a neutralisation agent (sodium thiosulphate to neutralise chlorine and/or hydrogen peroxide; other neutralisers may need to be used depending on the waterline disinfectant used).
- If dental water supply contains no *Legionella* bacteria or if counts are low (<100 cfu/litre) the system is under control. *Legionella* tests should be undertaken annually in the spring when water temperatures are more favourable for growth.

Guidance on testing Dental Chair Units (DCU)

Ideally every dental chair unit should be tested. However in a dental multi-clinic a sampling of chairs will be acceptable provided results indicate good quality water and the source water is always tested.

Single Surgery	Test DCU
Double Surgery	Test both DCUs
Triple Surgery	Test 2 DCU's (Rotate next testing cycle)
Four Surgeries	Test 2 DCUs (Alternative 2 DCUs next testing cycle)
Five Surgeries	Test 3 DCUs (Rotate next testing cycle)
Six Surgeries	Test 3 DCUs (Rotate next testing cycle)
Seven Surgeries	Test 3 DCUs (Rotate next testing cycle)
Eight Surgeries	Test 4 DCUs (Rotate next testing cycle)
Nine Surgeries	Test 5 DCUs (Rotate next testing cycle)
10 Surgeries	Test 5 DCUs (Rotate next testing cycle)

Appendix 13: Segregation and Packaging of Healthcare Risk and Non Risk Waste poster