

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 "set" and subsequently 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 should 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, bins, window sills, cupboard doors, handles etc. are maintained according to hygiene standards. (Refer to Appendix VIII 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.*

Due to IPC considerations, it is recommended that each patient has his/her treatment completed in one single sitting in the dental surgery.

Clinical equipment should be procured to include manufacturer instructions for cleaning. 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.

8.1 Management of the treatment areas

8.1.1 Surgery Design

- Microorganisms are ubiquitously present on skin and are constantly shed onto inanimate objects including surfaces.
- Contaminated surfaces act as a reservoir for microorganisms and may contaminate any item or part of the body which comes in contact with the surface e.g. hands, instruments etc.
- The surgery design should facilitate cleaning and reduce the risk of cross-contamination. It should allow adequate access for zoning and cleaning and be free from clutter. Work surfaces should be smooth and impervious.
- Consideration of Infection control requirements must be undertaken when purchasing surgery equipment as per HSE National procurement contracts.
- Flooring should be seamless and smooth and easily cleaned.
- Clinical pattern wash hand basins with an offset drain outlet that is not impacted by tap water flow are recommended. Room should be well ventilated or air conditioned.

8.1.2 Ventilation

- Ventilation and air quality are important considerations in the management of aerosols within the working environment.
- Ideally rooms in the department should be mechanically ventilated and controlled to provide a comfortable working environment.
- 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.
- The use of freestanding or ceiling-mounted fan units, however, is not recommended.
- 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>

8.2 Zoning and worktop organisation

8.2.1 Zoning and patient positioning

- It is advisable to clearly designate zones that become contaminated from droplets, aerosol and splatter generated during dental treatment.
- Each clinical space must be divided into areas that are clearly defined as clean or contaminated areas. This process is called 'zoning'. Zoning facilitates an efficient way to decontaminate the surgery between patients.
- The contamination zone is an area of approximately one square metre around the patient being treated. The clean zone is outside of this area.
- Working surfaces must be cleaned and disinfected routinely 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 rolls, cotton pellets 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 during a patient treatment it must be by a method that does not contaminate other instruments or materials.

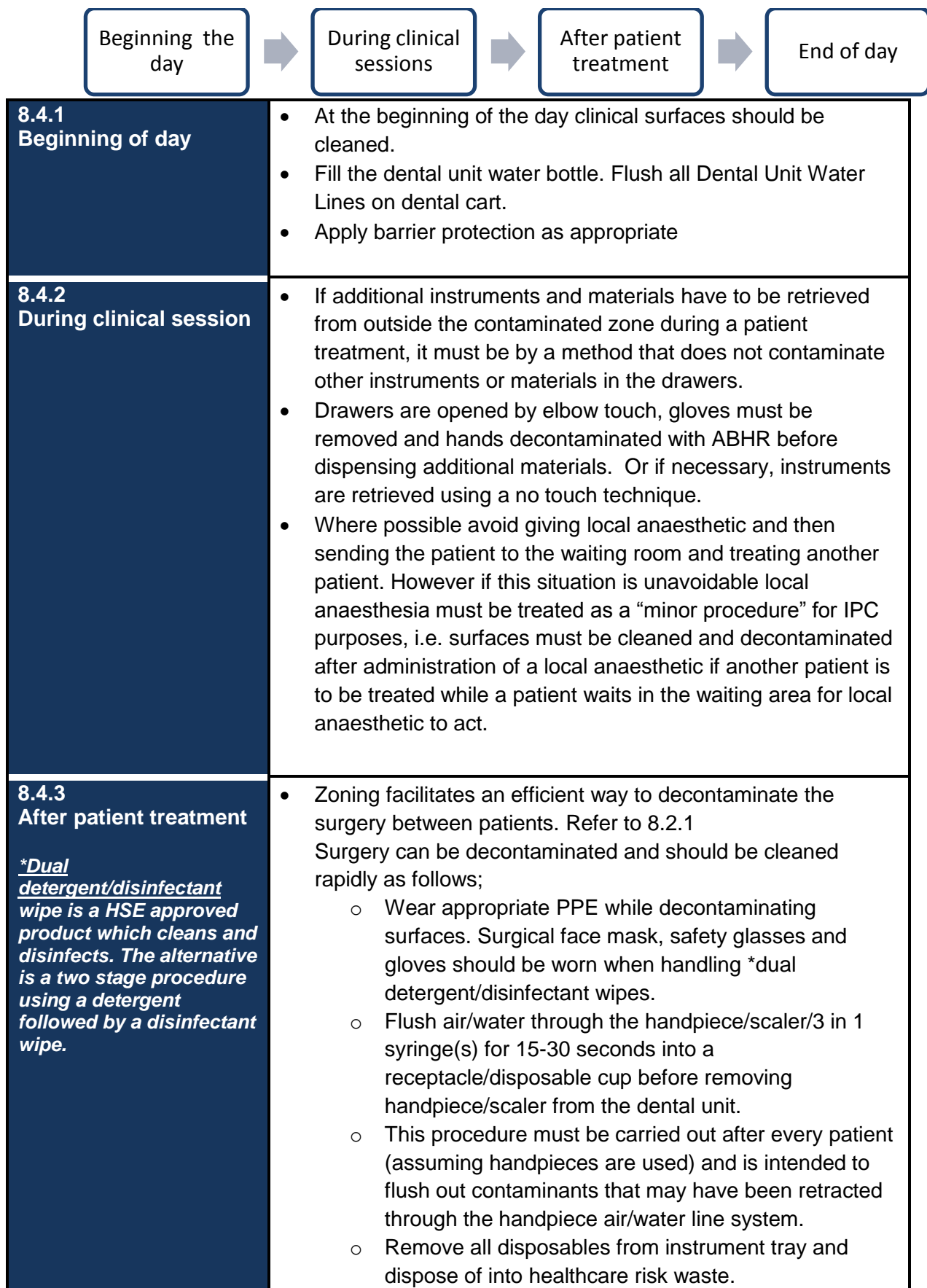
8.3 Use of surface barriers

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.

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, headrest, bracket table, dental hand piece motors, and overhead light handle.
 - Headrests may be covered or cleaned between patients.
 - Air/water syringe control buttons and handpiece 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.
 - 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 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



	<ul style="list-style-type: none"> ○ Remove and dispose of all disposable barriers, 3-in-one tips and aspirator tips into healthcare risk waste. ○ Place instruments into the designated 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. The container needs to be a secure box labelled "contaminated". ○ Place patient safety glasses, amber shield etc. on clean paper towel. Remove gloves, carry out hand hygiene and replace gloves. Clean and disinfect safety glasses and amber shield with a dual detergent/disinfectant wipe for each item. ○ Note on how to use dual detergent/disinfectant wipes: work from clean to contaminated areas, taking care not to go over the same area twice. Let the surface air dry. ○ When cleaning, work from higher to lower areas. ○ Remember to surface disinfect air motor and/or coupling after each use with a combined wipe. Follow manufacturer guidelines. ○ If the area is heavily contaminated (e.g. after surgical procedure), you may need to use more dual detergent/disinfectant wipes. ○ Follow manufacturer's instructions for contact time of cleaning disinfectant wipes used. ○ It is not necessary to disinfect the entire chair between patients unless obviously contaminated. ○ Guidance on approach to be followed when dealing with patients with head lice is available from https://www.cdc.gov/parasites/lice/head/prevent.html ● The dual detergent/disinfectant 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.
<p>8.4.4 End of day</p>	<ul style="list-style-type: none"> ● 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 using a dual detergent/disinfect wipe(s). ● 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 autoclave reservoir, clean and leave dry at the end of the day
 - Clean steriliser chamber with damp, non linting material
 - Leave empty with doors open
 - Clean the outside of the autoclave
 - Clean all work surfaces of decontamination room
- Once cleaning is completed dispose of wipes, paper towels gloves and face mask into general 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

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, ideally 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.
- 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.
- If a disposable instrument tray is not used, then the instrument tray must be decontaminated
- Instrument trays or any other item must not be placed on the patient's chest.

8.7 Dental surgery computers

It has been found that up to 80% of computers were contaminated with potentially pathogenic bacteria.

- 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 wipe-able keyboards. These should be cleaned using combined 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 between patients.
- 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, 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 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.

8.9 Domestic/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.

Refer to Appendix VIII 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 staff dealing with spillages should be trained to do so. The staff member who discovers the spill is responsible for making it safe.

Process of 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:
 - Position a warning sign “cleaning in progress” beside the contaminated area.
 - Keep other persons away from the contamination until it is effectively and appropriately dealt with.
Cuts/abrasions or breaks in the skin must be covered with 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.

If spillage has occurred on soft furnishings, a detergent solution can be used to clean the area thoroughly. Do not clean soft furnishings with a disinfectant such as sodium hypochlorite.

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.

Appropriate processes for managing spills:

Volume of spill	Process
Spot cleaning	Select appropriate personal protective equipment (PPE) Wipe up spot immediately with a damp cloth, tissue or paper towel Discard contaminated materials Perform hand hygiene
Small spills (up to 10cm diameter)	Select appropriate PPE Wipe up spill immediately with absorbent material Place contaminated absorbent material into impervious container or plastic bag for disposal Clean the area with warm detergent solution, using disposable cloth or sponge Wipe the area with sodium hypochlorite and allow to dry Perform hand hygiene

Large spills (greater than 10cm diameter)	Select appropriate PPE Cover area of the spill with an absorbent agent (e.g. paper towels/pads) and allow to absorb Use disposable scraper and pan to scoop up absorbent material and any unabsorbed blood or body substances Place all contaminated items into impervious container or plastic bag for disposal Discard contaminated materials Mop the area with detergent solution Wipe the area with sodium hypochlorite and allow to dry Perform hand hygiene
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Table 6: Processes for managing spills
 (Australian Guidelines for the Prevention and Control of Infection in Healthcare, 2019)

Choosing a disinfectant (when required)

The consideration to use sodium hypochlorite should be based on risk assessment of the environment, the spill, risk of transmission of disease, and the surface area and potential hazards with using the product.

If a disinfectant is required, a HSE approved detergent/disinfectant or sodium hypochlorite must be used. Choosing a disinfectant that is compatible with the surface material where the spill has occurred is integral in order to avoid damage to the surface.

Spill kit

A spill kit should be readily available in each clinical area and should include a scoop and scraper, single-use gloves, protective apron, surgical 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

- 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.
- 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.
- 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.

Safety Data Sheets and Chemical Agent Risk Assessments -

https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/Chemical

[Agents/Risk Assessment/](#)

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

8.11 Aseptic Technique

Aseptic technique is the practice of carrying out a procedure in such a way that minimises the risk of introducing contamination by microorganisms in sufficient quantity to cause infection to susceptible sites by hands, surfaces and or equipment.

Use of aseptic technique with open wounds is vital to ensure successful healing of wounds and the subsequent health of the patient. Aseptic techniques are possible and can be achieved in typical hospital and community settings.

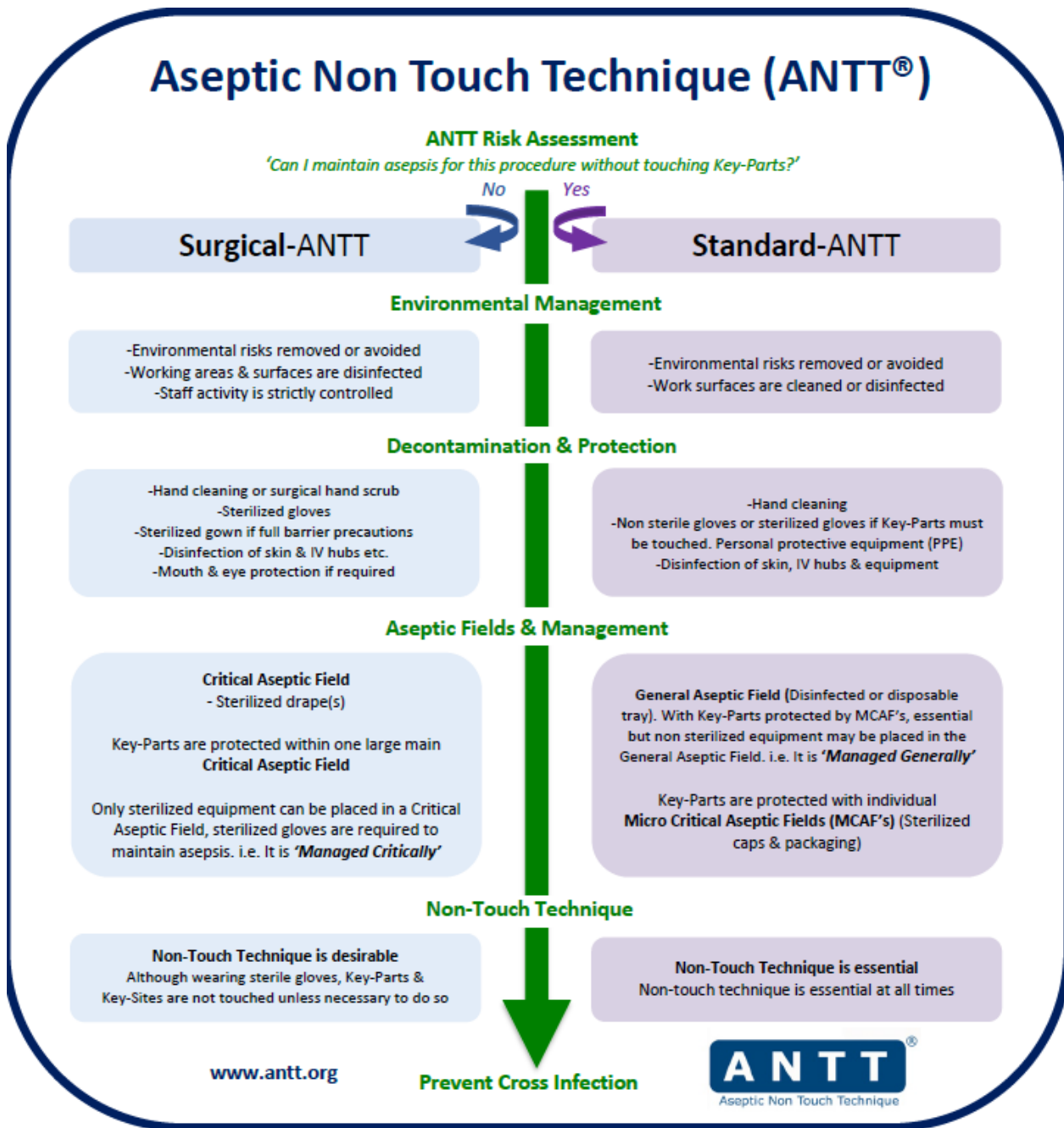
ANTT (Aseptic Non Touch Technique) ANTT is a clinical practice framework for all invasive procedures. It aims to prevent contamination of Key-Parts and Key-Sites by pathogenic organisms, in sufficient quantity to cause infection. In ANTT, asepsis is ensured by identifying and protecting Key-Parts and Key-Sites by hand hygiene, non-touch technique, sterile equipment and the use of aseptic fields. Inactive Key-Parts require disinfecting to render them aseptic prior to use (Rowley et al 2010). Refer to 8.11.1 for the ANTT Approach.

There are three 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 IV Sedation is practised)

Table 7: Types of Aseptic Technique

8.11.1 Figure 1: The ANTT Approach



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Appendix VIII 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 6 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)		√		
Ventilation grilles extract and inlets			Spot	Full clean 6 monthly

			clean as required	
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 6 monthly
Step ladder, foot stools etc.			√	Spot clean as required Full clean 6 monthly
Fans		Spot check		Full clean 6 monthly
Pest control devices			√	Spot clean as required
Significant risk: X-ray room, recovery room				
Manual handling equipment e.g. hoists, ramps		Spot Check		Full clean 6 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 6 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 6 monthly
Step ladder, foot stools etc.			√	Spot clean as required Full clean 6 monthly
Fans		Spot check		Full clean 6 monthly
Pest control devices			√	Spot clean as required
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 6 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	√		
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 6 monthly

Step ladder, foot stools etc.			√	Spot clean as required Full clean 6 monthly
Fans		Spot check		Full clean 6 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 disinfecter (external - Spot clean as required)	End of the day Refer to 10.3. (external - Spot clean as required)	
Steriliser (external - Spot clean as required)	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

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

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