Decontamination in dentistry

Introduction

Dental patients expect to be treated in a safe and clean environment. It is essential that the risk of person-to-person transmission of infections is minimised as much as possible and in a practical manner.

The Safety, Health and Welfare at Work Act (2005) is relevant to the decontamination process as it places an emphasis on the safety of workers and the duties of employers and workers in that regard. Staff must not be requested to carry out any potentially dangerous tasks without reasonable precautions being taken and safeguards being in place.

This document aims to provide the dental practitioner and the dental team with guidance on implementing an acceptable standard of decontamination consistent with the Dental Council Code of Practice Relating to Infection Control in Dentistry (2005). Adherence to the guidelines set out in this document should ensure that all practices achieve an acceptable standard in decontamination procedures, and should be in a position to pass any inspection carried out by outside agencies.

This document will assist the dental practitioner in achieving this essential standard, and will also demonstrate how to improve in an incremental step-by-step way in order to achieve the highest standards of decontamination in dental practice. Clinical audit provides a toolkit through which performance can be assessed and improved.

Author: IDA Quality and Patient Safety Committee
Issue 1
Step 1 sets out what you must do NOW to comply with the Dental Council Code of Practice. These essential standards must be implemented in all dental surgeries immediately, as failure to do so may result in Dental Council fitness to practise procedures.

SEPARATION OF CLEAN AND DIRTY AREAS

The Dental Council Code of Practice states that there should be “no contact between contaminated and sterile instruments”. This can be achieved by zoning dirty and clean areas and by separating the cleaning from the sterilising (and packing) areas. If there is no possibility of carrying out part or all of the decontamination process outside the surgery, it is possible to dedicate an area of the surgery for decontamination. A worktop that is three metres long can offer enough space for separation of clean and dirty areas.

Work surfaces

It is important that work surfaces have a hard, non-porous surface and are in good condition. Damaged surfaces are difficult to clean and should be replaced.

INSTRUMENT CLEANING

Reusable invasive medical devices (RIMDs) are all non-single use instruments used in the patient’s mouth. Separate sinks should be used for hand hygiene and instrument cleaning. At a minimum, ultrasonic cleaners should be used in all surgeries. All instruments must be cleaned thoroughly to remove visible deposits. Under health and safety legislation, instructing staff to hand wash instruments before using an automated cleaning device could leave the dentist liable to prosecution should any injury to the staff occur.

Handpieces

Sterilisation of handpieces is mandatory. Effective handpiece sterilisation demands the use of a vacuum (type B) autoclave. All handpieces should be flushed through with the bur present for at least 20 seconds immediately after use. This flushing is essential (even if a washer/disinfector with lumen cleaners is used) as this will at least partially clean the lumen and remove dirt from around the bearings. Handpieces should be oiled after cleaning (either manually or in an automated oiler) and before autoclaving according to manufacturer’s instructions. An automated oiler facilitates the optimum oiling of handpieces and may, therefore, prolong handpiece life, especially if a washer/disinfector with lumen cleaners is used. This ensures that oil reaches all areas of the lumen and the bearings.

AUTOCLAVES

All autoclaves should:
- be commissioned before first use – this can be done by a test person or suitably qualified field service technician or engineer;
- be regularly serviced according to the manufacturer’s instructions;
- be regularly monitored by periodic testing (daily, weekly user tests);
- have documentation of in-use operational readings; and,
- be annually validated.

B cycle autoclaves – the Dental Council Code of Practice states that vacuum autoclaves must be used for bagged instruments.

S cycle autoclaves are a type of vacuum autoclave but are not as effective as B cycle autoclaves and must be phased out where present.

N cycle (displacement) autoclaves can only be used for un-bagged instruments for immediate use and are impractical for normal use in the dental surgery.

WATER QUALITY

High quality water should be used in the autoclaves. This can be sterile water, RO (reverse osmosis) water, or de-ionised or distilled water. Distilled, sterilised or de-ionised water, once opened, should be used immediately or stored in a fridge.

INSTRUMENT TRACING

This should be carried out to ensure that at least the date of sterilisation is recorded on each sterile pack.

TRAINING

Staff should have access to training in decontamination and records of that training must be kept. Ideally, one member of staff should be designated to manage the decontamination process. Ultimately, the responsibility for decontamination lies with the clinician. It is also recommended that each practice has written protocols describing decontamination procedures, which can be referred to by practice personnel, and which should be revisited and updated as necessary from time to time.
Step 2 sets out the recommended standards. Having achieved essential minimum standards outlined in Step 1, it is important to progress to Step 2, best practice standards, as soon as possible thereafter.

SEPARATION OF CLEAN AND DIRTY AREAS
The Dental Council Code of Practice states that there should be “no contact between contaminated and sterile instruments”. This can be achieved by zoning dirty and clean areas and by separating the cleaning from the sterilising (and packing) areas. Ideally, it is best to use a separate room for the decontamination process if possible. In order to achieve this there may be a need to make additional practice accommodation available or provide new accommodation. Another way of achieving good separation is to carry out the cleaning in the surgery, and the packing and sterilisation in another room.

WASHER/DISINFECTORS
These are the most efficient means of cleaning instruments before sterilisation. All instruments must be cleaned thoroughly to remove visible deposits, preferably by using washer/disinfectors (w/d) as they are more effective at pre-sterilisation cleaning than ultrasonic cleaners. It is difficult to clean handpieces effectively without using a w/d that can clean the lumens. The w/d should have a printer (or other method of permanently recording cycle parameters, e.g., a direct link to a PC). Daily and weekly performance tests should be carried out. Servicing should be carried out as per manufacturer’s instructions.

CHECKLIST FOR STEP 2: To achieve the recommended standard for the decontamination of instruments in dentistry, the following need to be in place:
- Clear separation of dirty and clean areas
- Washer/disinfector
- B cycle vacuum autoclave
- Use of high quality water in autoclaves and dental units
- Sterilisation of all RIMDs including handpieces
- Instrument tracing
- Regular validation of equipment (autoclaves, w/d)
- Data collection and retention of instrument tracing, performance testing and validation

Step 3 sets out the requirements for an advanced decontamination system. (Compliance with Steps 1 and 2 is required prior to moving to Step 3.)

SEPARATION OF CLEAN AND DIRTY AREAS
Step 3 requires the complete separation of clean and dirty areas. It is therefore generally expected that only new surgeries or clinics will be in a position to achieve compliance with Step 3.

Requirements for new surgeries/clinics
All new builds should incorporate a separate decontamination room/rooms. If space permits, there should be a dirty room and clean room that do not have contact with a public area.

IT IS STRONGLY RECOMMENDED THAT INDEPENDENT EXPERT ADVICE ON DECONTAMINATION IS SOUGHT WHEN PRACTICE PREMISES ARE BEING COMMISSIONED OR DESIGNED, WHERE POSSIBLE.