Three steps to decontamination heaven

Dr NICK ARMSTRONG of the Association’s Quality and Safety Committee outlines the IDA’s new policy on decontamination of instruments in dentistry and gives a step-by-step guide on how to get your surgery operating to the highest standard.

Dental patients have a right to be treated in a safe and clean environment. It is essential that the risk of person-to-person transmission of infections be 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. Staff must not be requested to carry out any potentially dangerous tasks without reasonable precautions being taken and safeguards being in place.

The Association’s 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, as set out in the 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.

The Association’s document will assist the dental practitioner in achieving this essential standard and also demonstrate how to improve in a step-by-step way in order to achieve the highest standards of decontamination in dental practice.

The following is a step-by-step strategy to help you prepare your surgery for a clinical audit.

STEP 1 WHAT YOU MUST DO NOW

If you are not already doing so, here is what you must do now to comply with the Dental Council Code of Practice. These essential standards must be implemented in all dental surgeries as failure to do so may result in Dental Council fitness to practice procedures.

**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.

**What’s acceptable?**

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

S cycle autoclaves 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.

**Instrument cleaning**

Reusable invasive medical devices (RIMD) are all non-single use instruments used in the patient’s mouth. When cleaning:
- separate sinks to 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; and,
- 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 a staff member take place.

**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 the manufacturer’s instructions.

**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 length of worktop three metres long can offer enough space for separation of clean and dirty areas or a shorter worktop divided into clean and dirty areas by a physical separation such as a steel barrier.

**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.
Water quality
High quality water should be used in the autoclaves. This can be sterile water, reverse osmosis (RO) water, 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. A labelling gun can be used for this and preferably the cycle number can also be recorded and stamped on each pouch before placing in the autoclave. A record should be kept of all autoclave cycles, and the cycle number and date of each pouch can be kept in the relevant patient’s records.

Training
There must be access to training in decontamination for all staff and records must be kept of that training. 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   RECOMMENDED STANDARDS
It is important, having achieved the essential minimum standards outlined in Step 1, to progress to Step 2, best practice standards, as soon as possible thereafter.

Washer/disinfectors
These are the most efficient means of cleaning instruments before sterilisation. It is difficult to clean handpieces effectively without using a washer/disinfector, which can clean the lumens. The washer/disinfector should have a printer (or other method of permanently recording cycle parameters, e.g., direct link to computer). Daily and weekly performance tests should be carried out. Servicing should be carried out as per the manufacturer’s instructions.
Separation of clean and dirty areas
Ideally, 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.

Essentials for recommended standard
To achieve the recommended standard for the decontamination of instruments in dentistry the following need to be in place:
1. clear separation of dirty and clean areas;
2. washer/disinfector;
3. B cycle vacuum autoclave;
4. use of high quality water in autoclaves and dental units;
5. sterilisation of all RIMD including handpieces;
6. instrument tracing;
7. regular validation of equipment (autoclaves, washer/disinfectors); and,
8. data collection and retention of instrument tracing, performance testing and validation.

STEP 3  ADVANCED DECONTAMINATION SYSTEM
All new surgeries/clinics should incorporate a separate decontamination room, preferably not opening into a public area. They should contain all of the elements of Steps 1 and 2.

Design of single decontamination room
This is a simple decontamination room. The arrow shows the flow of instruments which can be put in the ultrasonic cleaner (and/or washer/disinfector) and, if necessary, washed in the wash sink and then rinsed in the rinse sink after automated cleaning. After that, the instruments can be moved to the other side for packing, and handpieces are oiled on this side. (An automatic oiler is more efficient than hand oiling, but is not essential.) Instruments are then placed in the autoclave for sterilising and stored afterwards. The air removal system (or air conditioning) should be on the dirty side. A wash hand basin with any necessary PPE (gloves, glasses, masks, etc.) is present near the entrance.