Beating infection
Dr David Bloom and Dr Jay Padayachay offer their advice on the best equipment to use for cross-infection control

1. Central sterilisation area (Fig.1, 2) – it will eventually come into force that all practices must have a central sterilisation area away from the surgery itself. Such areas need to be thought through so that there is a flow from the ‘dirty’ or non-sterile area to the ‘clean’ or sterile area. So, from the sink into which the instruments are initially placed, to the autoclave where the bagged instruments are sterilised, protocols need to be created so that the chain is not interfered with and non-sterile comes into contact with sterile. To aid this, differential lighting can be used so that the non-sterile areas are lighted with a red bulb, and the sterile areas have a green bulb.

2. Ultrasonic bath – the instruments should be placed into an ultrasonic bath for 15 minutes to loosen any debris, for example, instruments are not scrubbed manually at this stage which thus reduces the risk of injury to the nurse.

3. Washer-disinfector (WD) (Fig.3). These are great for removing any remaining debris from the instruments prior to them being bagged for the autoclave. While discretionary at the moment, the Care Quality Commission will be aiming to register all healthcare facilities including dental practices (NHS and Private) within the next two years. Implementation of washer disinfectors will come into force over the next three years and will replace ultrasonic baths. Once out of the WD, the instruments should be visually checked and then either scrubbed or brushed to remove any remaining debris (usually cement) prior to bagging.

4. Handpiece cleaner (Fig.4). Where a handpiece manufacturer does not recommend a washer-disinfector for cleaning the handpiece, use of a dedicated handpiece-cleaning machine may be considered. Not only does this clean out the handpiece prior to sterilisation, it also lubricates it to the ideal. This will also prolong the life of the equipment as well. Fixtures are available for high-speed as well as straight and contra-angle electro-motor hand pieces. This uses a pressurised system to clean and lubricate handpieces and each cycle is less than two minutes. However, unlike a washer-disinfector, it does not disinfect.

5. Autoclave (Fig.5). The two types of sterilisers found in General Dental Practice are the vacuum (wrapped instrument) sterilisers (classified as Type B) and unwrapped instrument and utensil sterilisers (classified as type N). Vacuum Benchtop Sterilisers Type B are suitable for wrapped and unwrapped solid items, hollow items and porous loads, and as such are particularly suitable for sterilising dental handpieces and this technology is increasingly becoming the standard for use in dental practice. Wrapped items processed in a vacuum benchtop sterilizer can be readily transported, remain sterile up to 12 weeks and this technology can be used to sterilise contaminated implants.
to point of use, and can be stored for use at a later date, minimising the risk of cross contamination. The provision of suitable stocks of wrapped steriliser instruments can enable continued patient care while WD, steriliser and water treatment plant are unavailable through repair, maintenance, and testing.

Benchtop Sterilizers Type N are suitable for solid devices that are not wrapped. Provided that the proper irrigation and cleaning of lumens and internals of handpieces has been achieved in combination with a WD, handpieces may also be processed in a Type N steriliser. Where remaining hollow items used in the practice are not single-use, a Type N steriliser may be the appropriate solution, although as mentioned previously, this type of technology is being increasingly overtaken with the vacuum type steriliser. Dental practitioners should also be aware that instruments processed in a Type N steriliser should ideally be used directly from the steriliser as transportation and storage of sterilised items may pose a risk of re-contamination, and should be risk assessed and controlled to minimise the risk.

6. Disposable items. These are useful when it is not practical to sterilise. Examples include three-in-one tips (we have found the Kerr tips to have no water contamination compared to some others), and can include burs, cups, aspirator tips and saliva ejectors. The list is potentially endless as there are now even disposable hand pieces and a risk/cost analysis should be undertaken.

7. CollarDam (Fig.6). With the move to disposables, CollarDam provides the missing link when it comes to bibs. Traditional plastic bibs that are wiped down between patients are no longer acceptable. Thus disposable bibs with daisy chains have now come into use, but remember that if doing this the chain also needs to be autoclaved. This is fine if the chain is made from metal but not so if it is plastic. CollarDam uses an adhesive strip avoiding the need for such chains, and the premier version of it has a built on head cover avoiding the need for a separate one. The everyday bib doesn’t have this useful function but all types prevent water seepage at the neck preventing patients getting wet in this area.

8. Handwashes. The use of alcohol-based handwashes can dry and irritate the skin with prolonged use. Continu alcohol

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free hand wash and/or sanitiser will not lead to skin irritations that alcohol based products may create and all the clinical team appreciate the conditioning effect of the product on their hands. Continua also has a range of surface sprays and wipes that is ideal for all cleaning procedures and offers the added advantage that it does not cause micro cracking or discolouration which affects the appearance and life-span of equipment.

9. Chlorhexidine mouth rinse. Prior to starting any form of treatment you can choose to get the patient to rinse with two per cent chlorhexidine solution. This will reduce the bacteraemia created by many forms of dental treatment.

10. Spittoonless chairs (Fig.7). How many times has the patient missed the spittoon when rinsing out whilst numb getting contaminants everywhere, and then how can you be sure that everything has been adequately cleaned. The way around this is not to have a spittoon at all. To achieve this, you and your nurse need to work four-handed to ensure that there is no debris left in the mouth, be it traces of local anaesthetic when giving this or remnants of old restorations. If you are unsure of this, a halfway house is to have a cup into which they rinse which runs off the suction. This cup can then be autoclaved.

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