Testing and Validation

This month we will be looking at the testing and validation protocols for Washer Disinfectors and Autoclaves. The testing protocols for washer disinfectors fall into three main categories; weekly, quarterly and annual tests. A weekly protein residue test should be carried out on one of the instruments that has been through the WD cycle. UK Guidance recommends the use of a rinse aid in order to help reduce water spotting on stainless steel instruments, which can cause rusting and inhibits the lubrication of joints - this is a particular concern in the case of forceps.

If an instrument fails the protein residue test, firstly, double-check that the washer disinfector is not displaying any visible error codes and that it contains detergent. Then run another cycle. If the test is failed again an engineer should be consulted, as this could be indicative of a problem with the washer disinfector itself. Weekly safety checks are also required for washer disinfectors to confirm there is no visible damage that could invalidate its processes. This includes checking that rotor arms function without stiffness, the door opens and closes smoothly and the rubber, or silicone, gasket around the door is not damaged. Although there is no test as such for these checks, they should be recorded and filed as part of the practice's decontamination processes.

On a quarterly basis, washer disinfectors must complete a cleaning efficacy test (soil test), using a PCD (process challenge device) and CEI (chemical efficacy indicator). It's important to note that this is a manufacturer-led test; therefore their guidelines should be adhered to. However, in the absence of any manufacturer guidance, UK Guidance advice should be followed.

Finally, all washer disinfectors require annual validation by an accredited engineer. The use of washer disinfectors is considered best practice, and currently not mandatory in England & Wales. As mentioned in February's article, these help eliminate the need for manual cleaning and reducing the risk of sharps injuries.

Manual cleaning

Following a wash cycle, instruments must be visually inspected and if debris is present, the instrument cannot be sterilised. UK Guidance states that materials such as cement should be cleaned straightaway, as research suggests that doing so makes the cleaning process easier. There are several specialist pre-wash foams and sprays available that help to break down these materials and start the decontamination process before cleaning takes place. Approximately 70 per cent of dental practices still conduct some sort of manual cleaning and although it is still acceptable and sometimes necessary, manual cleaning is very difficult to validate due to inconsistencies in individuals cleaning methods. Therefore, it is important to have protocols in place, such as a set emersion technique, which the team must follow and document.

Tests for autoclaves

Vacuum and non-vacuum autoclaves require several tests, firstly if you autoclave is not fitted with a data logger or printer then an ACT (automatic control test) that tests the parameters

of the autoclave needs to be completed every morning. This test necessitates the use of a class 6 indicator (also known as a TST), which measures time, steam and temperature within the autoclave. This indicator will only change colour when three specific criteria have been met;

- The time has been achieved (a minimum of 3 minutes, or whatever time the manufacturer advises),
- The steam has penetrated the strip and
- The temperature has been achieved (134˚c – 137˚c)

If any of these parameters are not met, the indicator will not change colour. A stopwatch should also be used to monitor the min/max temperature time and sterilisation time. These times should be noted in a logbook. When temperature readings are compared to previous day they should be the same.

In the case of vacuum autoclaves, they require a steam penetration test once a day, using either a Helix device or Bowie and Dick. A printable data logger automatically records and prints out this test, providing written confirmation of sterilisation times, temperature, and whether the test was passed successfully, creating a unique batch number.

If you have a printer rather than a data logger the test printouts should be kept in airtight bags to prevent the ink fading, thereby providing documentary evidence of the effectiveness of the autoclave.

At the end of each day, the inner water chamber – where clean and dirty water resides – should be physically drained, wiped with a lintfree cloth and left to dry. This helps prevent the formation of biofilm. To keep the autoclave in good running order, door seals and gaskets should be dried after each cycle with a lintfree cloth. Door gaskets should also be changed every 2-3 months or at a frequency stated by the manufacturer. Residual air tests and an air leakage test must be carried out weekly, however, some autoclaves cannot perform these tests. In this case, consult the manufacturer for advice. All autoclaves should then be annually validated by a decontamination engineer and you should receive a test certificate. In addition to the validation Autoclaves should also have an annual PVI (Pressure vessel Inspection) carried out in accordance with the PSSR 2000 and by a competent engineer.

Whether you chose to use an N, S or B class autoclave its important that you always follow manufacturers guidance relating to testing and load types that each autoclave can accommodate.

Please contact me if you wish to discuss things further or need assistance in choosing the correct autoclave for your practice. Email me at info@deconpete.co.uk or visit www.deconpete.co.uk for more details.