

Tired of breakdowns?

Medicert offers some helpful advice on how to keep your autoclave running smoothly

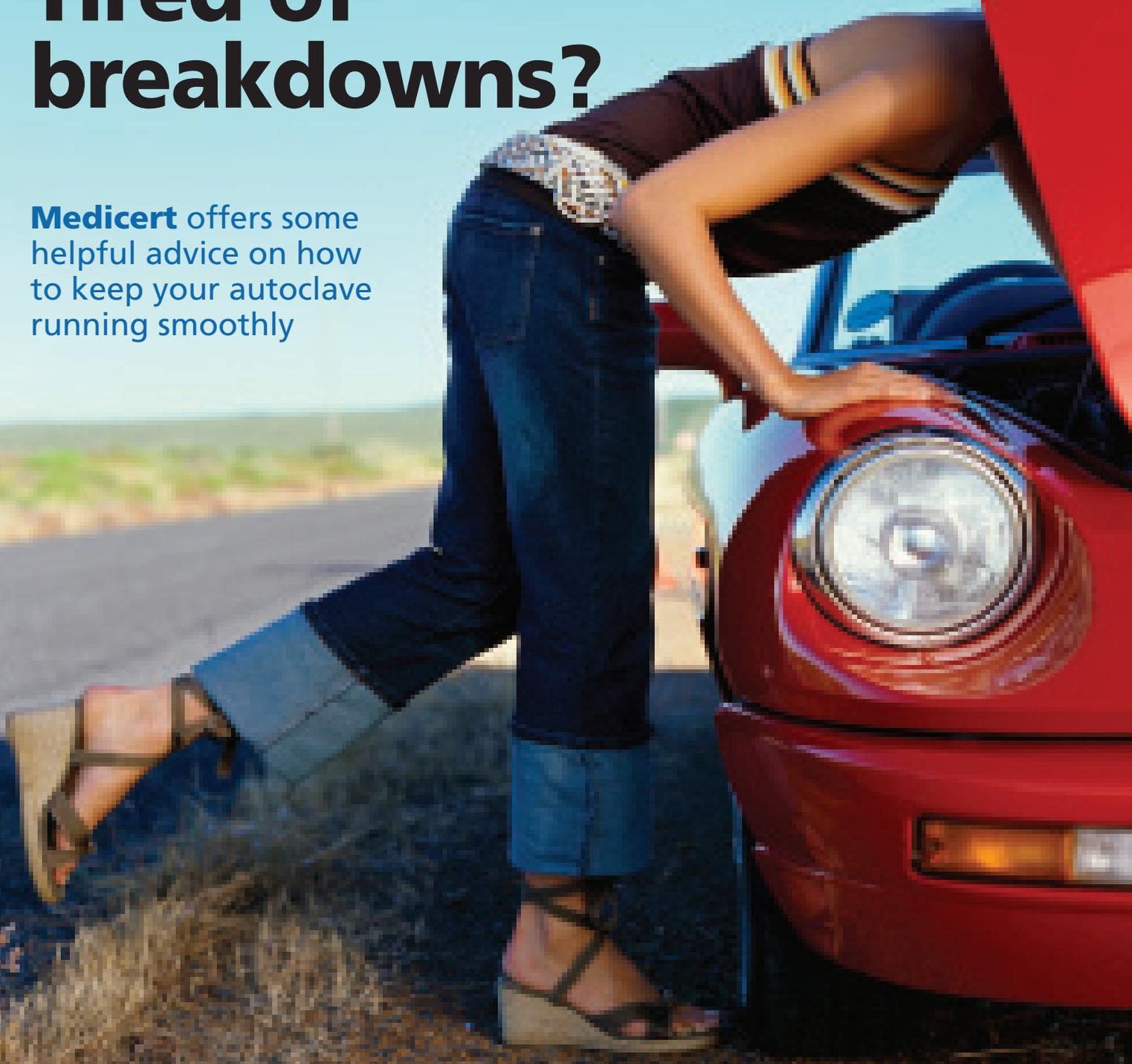


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As a medical equipment services supplier we see a range of autoclaves, so we were recently asked for our opinion on how reliable autoclaves used in dentistry are and if this could be improved. We find the level of reliability fairly consistent but there are some common factors to breakdowns and thought it might be useful to share some of these. Autoclaves, like any other machine, will break down at some time or another. The following represent a few of the contributory factors.

Poor build quality?

Not usually. This is rare (see 'not fit for purpose'). Generally, autoclaves are well made because they have to pass all kinds of

standards, however, parts do get worn over time and the more cycles the autoclave does the sooner parts will wear. Autoclaves in dental practices get used a lot. To put this into perspective, let's say for example that a manufacturer recommends an autoclave be serviced every 750 cycles and the maximum number of service visits each year they expect would be needed is four. This would suggest that the autoclave is not expected to do more than perhaps 10 cycles per day. In reality, many autoclaves will exceed this but will often not be serviced any more frequently.

There is no doubt that appropriate professional maintenance at regular intervals is essential, as is calibration which should be checked at every service. If an autoclave

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develops a fault, discontinuing use and informing your service provider right away prevents further damage from occurring. Most practices have more than one autoclave but for those that do not it may be worth having a contingency plan so that down time can be avoided when an autoclave fails.

Electrical/electronic failures?

Software might hit a glitch. It can do that – look at all the service packs you need to install to keep the operating system on your computer running correctly. Whoever invents a glitch-proof autoclave can design my next computer too!

Printed circuit boards (PCBs) can develop component failures. Power surges and drops are common in the UK, we have a more unstable and higher voltage supply than in mainland Europe and damage can, and does, occur to PCBs. Prevention is better than cure, so use a residual current device (RCD). Switch off autoclaves at the mains when not in use to prevent components on some models burning out over time.

Incorrect use?

This can play a part but it's always accidental. We have fished many burrs from the bottom of an autoclave, such a little thing but when a lost burr touches sensors or heating elements error codes are generated and the autoclave will not work.

Keep the manual handy for the team to refer to. It is a reference guide to the correct use, user tests, user maintenance and may give descriptions of common faults and what to do.

Forgetting to ensure there is enough water can lead to overheating and damage to instruments and the autoclave.

Use of the wrong cycle for the load type or overloading the autoclave can lead to breakdowns. This can happen when there hasn't been a chance for the user to have had decontamination training yet. Happily, help in gaining this is free. NHS Education Scotland (NES) currently provides two personalised three-hour training events for your team, on site at your practice. CPD points are awarded too. Your team members may change over time so it might be worth repeating the training periodically.

The manufacturer's recommendations daily and weekly tests are designed to help identify the start of problems at an early stage. Not carrying out these mostly happens when the user isn't aware that they need to be done or is not sure how to do them. Once again, NES can help with this but so can your manufacturer or service provider. In fact, the manual may even show you how to do these simple tests.

Following the manufacturer's recommendations for user maintenance is straightforward and designed to prevent a build up of contamination, which can otherwise lead to autoclave failure. Your team may have had training on this through the manufacturer or your service provider but the manual may well provide you with that information too. Regardless of the models you use, always aim to:

- Use water of suitable quality. Distilled water should be freshly distilled
- Drain and flush reservoirs every day (preferably every four hours) and leave them empty until the next clinical session
- Clean the chamber and seal in accordance with the manufacturer's recommendations.

What contamination?

In all cases it can cause problems with the autoclaves and affect the cost of their repair and servicing.

The most common contamination is biological sludge that has grown in the reservoir, or handpiece oil coating the chamber. You already know that excess handpiece oil can cause premature wear of seals, but sludge and oil can travel through narrow pipework and valves, causing all kinds of problems. Your autoclave should be a lovely and clean inside after professional servicing, which helps keep it clean between service visits.

Less common is contamination caused by the autoclave being filled with ultrasonic detergent or isopropyl alcohol instead of water. This is (thankfully) rare but can potentially be catastrophic. An autoclave filled with a flammable solvent is the equivalent of a bomb. Pure ultrasonic detergent can cause very expensive damage to an autoclave. Failure to rinse ultrasonic detergent thoroughly from instruments prior to sterilisation can cause damage to internal components in the autoclave.

Not fit for purpose?

Over the last few years there has been some decontamination equipment available that appears ideal and exceptionally inexpensive but beware of those that do not comply with any standards, let alone medical device standards. Where there is no medical device CE mark, it is not a medical device, and all decontamination equipment used in a dental practice should be a medical device. This is a case of 'buyer beware', as there is no sale of goods act for business to business sales. An autoclave that is not fit for purpose for whatever reason may also be unreliable, short-lived or even a safety risk.

And while we are on the subject of medical devices, did you know that to use one for a purpose it is not intended for is unlawful? For example, an N type (non-vacuum) autoclave is designed, built and validated for one specific load type: unwrapped, solid instruments. Such autoclaves are not validated for hollow or wrapped loads. There are genuine reasons for this, which include ensuring correct sterilisation has taken place and helping to keep the autoclaves reliable.

Have your say

If you have any issues relating to decontamination equipment, please complete an issue log provided by Health Facilities Scotland (HFS) nss.hfsdeconteam@nhs.net.

Do take the time to fill it in if you possibly can. HFS is aware of the level of unhappiness with some equipment and wants to help. To do so, the information in the survey is needed to provide a complete, overall picture of everyone's experiences, so put pen to paper and have your say.

Medicert

Was founded in Falkirk in 2001 to provide equipment services specifically to practices in Scotland. The company has helped hundreds of practices since then and continues to respond to the needs of its expanding client base every day. For more information, visit www.medicert.co.uk or phone 01324 636 675.