



Prestige Medical

single use water systems - the advantages

Research*¹ undertaken has shown that Endotoxins found in the reservoirs of benchtop autoclaves as a result of recycling used water, are known to complicate the healing process in oral procedures and have been traced in periodontal disease. In serious cases it can become life threatening if systematically introduced into the body. Most of the autoclave reservoirs tested as part of the same research contained at least 5 species of bacteria including *Pseudomonas Aeruginosa*.

Basically, instruments run the risk of becoming contaminated with endotoxin, which can cause delayed wound healing, and in some cases severe shock.

It had been assumed that the heat of the steam when condensed in the water reservoir was enough to keep the reservoir sterile. This has since been found not to be the case as the heat generated by condensing steam is insufficient to sterilize the volume of water, resulting in the build-up of biofilms that form on the walls of the reservoir. Bacteria also require a source of nutrients to grow and it is possible the steam could also carry carbohydrates and proteins into the chamber. Oils used to lubricate handpieces before sterilization, are vegetable in origin and can provide nutrients for Gram Negative bacteria.

All healthcare professionals are advised to take a serious look at their autoclave and the way they use it. A simple procedure for the daily draining of water and cleaning of the autoclave reservoirs is effective in reducing contamination in the reservoir water but is often overlooked by surgery staff and not seen as essential. It is recommended that sterile water for irrigation BP*² should be used wherever possible.

In addition to the very real health risks of reusing water, the contaminated water often creates additional and expensive maintenance work. The

contaminants in the water can emulsify and block valves and filters, and the detergents used in washing instruments can cause foaming that can severely impair the sterilization process.

In many instances the practice of reservoir cleaning, often performed on a daily basis and in accordance with the regulating guidelines, can be messy and time consuming. The 'once only' method of 'single use water' is a more hygienic, hassle free and viable alternative to traditional recyclable systems, offering the autoclave user more reliable sterilization, a dramatic saving in time and, ultimately a monetary saving.



The New Century and Zenith autoclaves from Prestige Medical are designed for single use of clean water for each cycle, virtually eliminating the risk of contaminants building up in the reservoir.

Each time a cycle is run, the autoclave uses clean, fresh water with no risk of contamination as a result of re-using water from previous cycles. In these autoclaves, used water is disposed of in separate, easily emptied containers.

If your autoclave uses recycled water ask your autoclave supplier if your unit can be upgraded to a 'single use' system.

*¹ Research documented in the *British Dental Journal*, volume 191, No. 11 December 8th 2001

*² Medical Devices Agency Bulletin MDA DB2002(06) part 6.4

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