

# Cleaning without chemicals

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**Southern Health has trialled microfibre and steam cleaning to replace conventional detergents and disinfectants. By Elizabeth Gillespie**

Microfibre cloth technology has been used for a number of years in Europe but there are few reports of its adoption by health services in other parts of the world, especially in clinical areas.

Microfibres are a lightweight combination of polyester and polyamide. The polyester scrubs the surface, while the polyamide provides absorbent qualities. Particles of dust and dirt are attracted to and trapped by the individual microfibrils by capillary action. The cloths are more effective when used with only small amounts of water.

Southern Health initially tested microfibre and steam cleaning in bathrooms and rooms just vacated by patients. In some rooms, patients known to be colonised with vancomycin-resistant enterococcus (VRE) had been accommodated for at least four days.

We microbiologically sampled rooms before and after cleaning, using a fluorescent marker for visible confirmation that the rooms had been cleaned.

Based on our findings we commenced a bigger trial, in 2011, using microfibre and steam cleaning in a 60-bed residential aged-care unit at Chestnut Gardens and in a 32-bed acute ward at Casey Hospital, both in south-east Melbourne. The protocol for each site varied to allow for the difference in patient demographics and to promote a workflow from clean to dirty areas.

Steam-cleaning uses very high temperatures (140 degrees) and 97-per-cent-dry steam to clean and disinfect surfaces - most bacteria and viruses are killed at 60 degrees. This technology, when used in conjunction with microfibre, is a substitute for two-step cleaning with detergent and water followed by disinfection with hypochlorite solution. The steam is used to reduce the amount of scrubbing done by cleaning staff so that the process is very effective and much quicker than traditional methods.

Our trial demonstrated a water saving of 90 per cent for cleaning, while the use of detergent and hypochlorite solution was eliminated entirely. The risk of falls was reduced, together with the risk of back injury since cleaners no longer had to fill, empty and handle buckets of water.

Our microbiological testing showed that where VRE was present before cleaning, it was completely gone after microfibre and steam cleaning.

Where previously a patient room and bathroom required a discharge two-stage clean taking 160 minutes, the time was reduced to 100 minutes.

Our cleaning staff were very enthusiastic about the new technology, and insisted that we keep the new method in place after the trial - which we did.

Microfibre cloths proved very effective at removing soil - better than detergent and water cleaning. The advantage is a superior infection control system that uses no chemicals and only small amounts of water, and takes less time. Every patient room can now be cleaned routinely, at discharge, at this superior level.

This means we reduce our environmental footprint, limit waste and save our environment from unnecessary chemical exposure but also have cleaner surfaces.

Nurses and other healthcare professionals currently continue to clean medical equipment using the traditional method - detergent and water alone or followed by disinfection with hypochlorite. Southern Health is now looking at developing an additional system for cleaning medical equipment using microfibre cloth technology. The aim is that this superior cleaning will be available at all levels in healthcare.

**Southern Health is running a seminar at Monash Medical Centre on March 18, Cleaning Innovation: Cleaning Without Chemicals in Clinical Settings. See [www.southernhealth.org.au](http://www.southernhealth.org.au) or [www.trybooking.com/41858](http://www.trybooking.com/41858).**

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