

Fighting Hospital Infection – A Constant Challenge

a report by

Antec International

A recent survey carried out throughout the UK showed that 27% of in-patients in the research sample felt that the standard of cleanliness of the hospital in which they last stayed was lower than in their own homes and 10% of those surveyed had developed an infection within a week of leaving hospital.

Hospital hygiene and the prevalence of hospital-acquired infection is a major issue for hospital managers and the public alike. Patients, not unreasonably, are seeking reassurance that they will not acquire further infection while in hospital and hospital managers share that aim, whilst having to manage budgets and many other demands on their resources.

However skillful the specialist, it counts for little if the instruments being used for internal examination carry infection from one patient to the next. It is not acceptable to go into hospital for a bronchoscopy and come out with tuberculosis that has been passed on from the previous patient via the bronchoscope.

Cross-infection and cleanliness have become significant issues facing the health services. Good practice dictates that hospitals work towards a reduction in the number of patients who become ill from germs they have picked up during a hospital stay, as well as safeguarding hospital staff. Cross-infection also hinders the recovery process and adds to treatment time and costs.

Infections such as methicillin-resistant *Staphylococcus aureus* (MRSA) and winter vomiting virus can prolong the stay of patients in hospital, put the most vulnerable, such as the elderly and frail, at risk and can cause a huge hidden cost. If beds are taken up by sick patients who would otherwise have been discharged, it affects waiting lists, surgery schedules and has a knock-on effect throughout the hospital and beyond. Money spent on efficient prevention is money well spent.

Traditionally, to control disease in human health, efforts have concentrated on vaccinating to prevent the spread of disease and developing new treatments for the disease whilst neglecting the key first step in infection control, namely, that of disinfection. Without this complementary step, vaccination and

medication cannot be fully effective.

Vaccines can take years to develop if it is possible to do so and, to be effective, large numbers must be vaccinated. Pathogens mutate, rendering vaccines less effective, so vaccination is limited to a few key diseases. Cures or effective treatment do not yet exist for any viral disease and development of resistance by pathogens reduces antibiotic effectiveness. The cost of new antibiotics is considerable, so the answer would appear to be to take the prevention of disease very seriously both inside and outside of hospitals.

The early 1980s focused attention on these problems with the enormous increase and importance of viral infections including HIV/AIDS, hepatitis B and herpes, among others. Biosecurity – the elimination of organisms from the environment and the prevention of their spreading to and between people – suddenly became very important and Antec™ International devoted research and development efforts to developing the ultimate virucidal disinfectant, Virkon® (see *Figure 1*).

New approaches to prevention of hospital-acquired infection are being sought to bring extra safeguards in the 21st century and Antec International, leaders in biosecurity, have developed products to drive this agenda. Infection control is poised for a change of direction, with Antec International at the leading edge of the disinfectant and sterilant revolution.

Established, tried and trusted chemicals have their value in biosecurity but it is now appreciated that state-of-the-art modern chemicals can provide added security and safety in use. They can make all the difference to the career of the endoscopy nurse, who no longer has to work with toxic chemicals, which can cause allergies and asthma and irritate the skin and eyes. In the past, the process of sterilising endoscopes has left many nurses with a legacy of ill health and a necessary career change when they have become sensitised. Clearly this was distressing for the nurse as well as a loss of expertise and trained staff to the National Health Service (NHS) so the introduction of new products represented a step forward for all concerned.



Figure 1: Virkon® Destroys Virus Protein

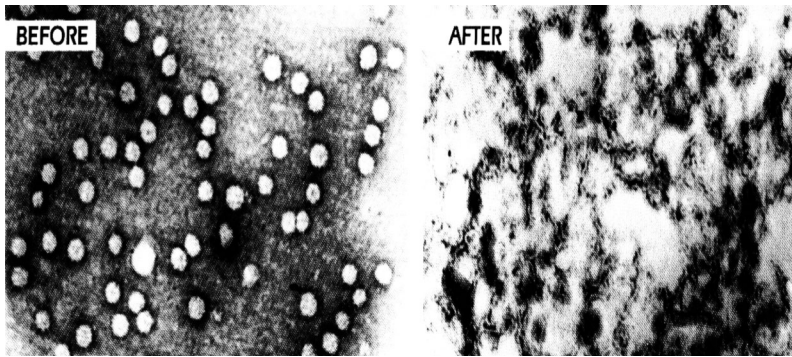


Figure 2: New Virkon Tablets



Figure 3: PeraSafe Sterilant Solution Supplied as Water-soluble Powder



Contaminated surfaces, including areas where there have been spillages, are recognised as potential sources of cross-infection and it is obvious that these areas should be cleaned promptly. However, detergents used for hospital cleaning are proving ineffective against superbug infections, with some of the worst-hit hospitals winning the highest praise for their apparent cleanliness. The old assumption that if a surface looks clean, it is clean, is invalid.

Superbugs such as MRSA are surviving on surfaces to spread illnesses that can be life-threatening. The Department of Health's latest results for hospital cleanliness show superbug infections to have caused some of the worst problems in hospitals praised for their cleanliness.

Antec International, manufacturers of Virkon disinfectant, stresses the importance of cleaning and disinfecting at the same time. The 21st century approach, using the high-tech disinfectant Virkon, which also cleans, is called for, to help stop the persistent rise of hospital-acquired infections.

Virkon was established by Antec International as a multi-purpose, safe and effective high-level disinfectant, suitable for one-step cleaning, disinfection of medical surfaces or laboratory equipment requiring decontamination. Virkon has proven efficacy through independent tests carried out on a worldwide basis against all viral families, 42 genera of bacteria and 102 fungal strains. These include all the major human pathogens such as hepatitis, HIV, *Salmonella*, *Campylobacter*, *Escherichia coli* 0157, *Legionella*, MRSA and *Listeria*.

Until recently, Virkon was supplied in powder form for safe and easy storage (see Figure 2). "We recognised how challenging hospital hygiene is now", says David Izatt, Sales and Marketing Manager at Antec International "and we have recently launched Virkon tablets to offer a choice of formats. We have to accept that although we all recognise the importance of healthcare to the public, nonetheless hospital budgets still have to be controlled. Virkon offers economy by replacing the majority of disinfectant products, saving money on stock control and staff time and labour costs."

The sterilisation of instruments, such as endoscopes, which cannot be sterilised by autoclave because they would be damaged in the process, has posed long-term problems in hospitals (see Figure 3). Glutaraldehyde, which was the 'gold standard' for the past quarter of a century, was a difficult chemical to work with, causing asthma and other health problems in those who worked with it.

"It was the need for a safe and highly effective alternative to glutaraldehyde that gave rise to PeraSafe, a cold sterilant

that Antec International introduced in 1998”, says David Izatt. The adoption of PeraSafe, for use with heat labile flexible endoscopes and rigid endoscopes for urology, etc. is now widespread. PeraSafe eliminates cross-infection between patients, where both rapid turnaround of instruments is required or autoclaving is neither practical or desirable, by effectively producing a sterilised instrument with only 10 minutes immersion. Thorough pre-cleaning and post-disinfection rinsing and drying are required to complete the sterilisation process. Overall, PeraSafe is the safest, rapid and most efficacious product of its kind with benefits to patients in terms of shorter waiting times for procedures and minimal risk of cross-infection. For staff, the need to protect against the insidious effects of glutaraldehyde, are obviated. Health authorities do not need to invest in extra equipment to provide the levels of service that are now expected.

In the NOP survey on recent hospital in-patients, 27% felt that the standard of cleanliness in the

hospital was lower than in their own homes and nearly one in four said that they had gained the impression that hospital cleanliness was not important to the staff. *“Although these figures seem alarming,”* says David Izatt *“we have always found that staff are concerned with hospital hygiene and the subject now has a much higher profile and level of importance. There is an on-going campaign to encourage hand-washing, which is very important and the need for infection control measures frequently come to prominence in the media, whether it is an outbreak of Norovirus virus related vomiting and diarrhoea on a cruise ship or SARS in the Far East. It is well recognised that we cannot depend on new antibiotics and that it is essential for our confidence in our health service that our hospitals are clean and are seen to be clean.”* ■

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