

A safer environment for endoscope disinfection

Tristel reports on the experiences of Kettering General Hospital NHS Trust during its transition from glutaraldehyde to the introduction of chlorine dioxide products for endoscope decontamination.

Kettering General Hospital NHS Trust was one of the first in the UK to move away from the use of glutaraldehyde-based disinfectants for endoscope decontamination and to turn instead to chlorine dioxide sterilants. Five years on from its initial trials with the products, a wide range of formulations are available and the sterilants are used throughout the Trust.

In late 1999, occupational health issues associated with the use of glutaraldehyde disinfectants prompted Kettering General Hospital NHS Trust to examine alternative solutions for endoscope decontamination. At the instigation of consultant microbiologist Dr Ros Cox, who was keen to move to a less hazardous technology, the cold chemicals disinfectant group was established. This multidisciplinary team examined the issues surrounding the use of glutaraldehyde disinfection and the changes that would be required for its continued use at the Trust. The general feeling was that rather than improve the management of glutaraldehyde use in the hospital, it would be more appropriate to change to a product that was altogether less toxic and easier to work with. Any change, though, had to provide improved conditions for the users with absolutely no compromise to patient safety.

Tristel products (which use a patented chlorine dioxide technology) were identified as offering a suitable alternative and a six-month trial was undertaken. Terry Woodward, health and safety manager for the Trust commented that, "The company co-operated closely with the team and provided the necessary support to allow the modification of endoscope washers where this was required. It was all done in a non-intrusive way." The sterilants were trialed in routine use, primarily in the day case unit.

At the same time, microbiological testing was undertaken to ensure the effectiveness of the products. All users and potential users across the Trust were happy with the trial data and early in 2001 the change was made to the sterilants. Today, no glutaraldehyde products are used anywhere in the Trust.

DAY CASE UNIT

The biggest user of endoscope sterilants is the day case unit managed by Sister Sheron Watts, where three Medivator washer/disinfectors are in daily use. This department operates five days a week,

plus an out of hours on-call service, and is the central endoscope decontamination point, processing scopes used within the unit itself, in ENT and other clinics, and in ITU. Transoesophageal Echo cardiogram (TOE) probes also come here for recycling.

Other consumers of sterilants include the main operating theatre which has its own disinfectant/washer. While not necessarily used every day, the washer/disinfectant undergoes a daily decontamination so that it is always ready for emergency use. It is employed primarily for reprocessing gastroscopes used in emergency procedures as part of the main operating theatre lists.



ENDOSCOPES NEED TO BE EFFECTIVELY DECONTAMINATED IN A WAY THAT DOES NOT COMPROMISE PATIENT OR STAFF SAFETY.

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Alan Manser, general theatre manager, said, "The sterilants work well. They are safe to use and we're pleased that we've made the switch away from glutaraldehyde to produce a safer environment."

In the day case unit workloads are high. The main area of work is in gastrointestinal investigations (GI). A typical morning list for gastroscopy will comprise 15 patients, with two rooms in use at any one time – followed by the same again in the afternoon. Flexible sigmoidoscopy is also a routine examination. GI work is set to increase with the implementation of Government initiatives on colon cancer, and expansion of the day case unit is already underway to accommodate this and a general increase in population in the area.

The unit also operates a "one stop" bronchoscopy service, where patients referred by their GPs undergo not only

the bronchoscopy itself, but other clinical investigations, such as CT scans. These investigations and discussions on further management of the patient's condition take place as part of a single hospital visit. A bronchoscopy list might therefore be made up of three "one-stop" patients and two or three other bronchoscopy cases. In addition, three cystoscopy lists are scheduled each week.

SCOPE STERILISING ROUTINES

The daily routine begins at 7 am, to prepare the appropriate scopes for that day's list. To start the day, the washer/disinfectors are decontaminated with Hydro-Shot, designed to ensure complete sterilisation of the pipework, before moving on to sterilise the scopes themselves. After use, dirty endoscopes are cleaned manually before undergoing a machine cycle. Turnaround time is 25 minutes and this is an important factor in ensuring maximum use of the instruments.

Sheron Watts is happy with the new regime: "We use the Multi-Shot solution, which allows us to fill the washers with the chemicals on a Monday and discard on Friday. A test kit also allows us to monitor the effectiveness of the solutions. Not only are chlorine dioxide sterilants quicker and safer than glutaraldehyde, they

also sterilise and are not simply a disinfectant. Importantly disposal is easy as the product can go straight into the drains."

OCCUPATIONAL HEALTH

In view of the glutaraldehyde-related health and safety issues experienced at Kettering and other hospitals, Terry Woodward has been keen to monitor the health of the staff using the sterilant solutions. "All exposed staff undergo regular lung function tests and are required to complete health surveillance questionnaires. Reports of discomfort when using sterilants have fallen since the introduction of the new products and there have been no issues at all related to lung function," he said. "In fact the level of concern has dropped so much compared with the time when we were using glutaraldehyde that the Occupational Health Department is due to review the health surveillance process."

Expansion of the day case unit over the next two to three years will bring with it a doubling of patient numbers and a second endoscope cleaning room will be established. Effective, safe sterilisation and a quick turnaround time will be vital, and the continued use of the sterilants is seen as important in achieving this goal. 