

# “It’s a no-brainer”

## Vacuum packing system eliminates damaged tray wrap at Europe’s ‘largest’ decontamination unit

Cowlairs, in Glasgow, possibly Europe’s largest decontamination unit, has cut damaged tray wrap to zero by using BES Decon’s vacuum packing system, VacioPak, manufactured by Entrhal Medical of Germany, and is enjoying the huge benefits this has delivered.

After recently presenting on Lean Management at the World Health Federation Sterile Services (WHFSS) congress in Lille, France, Ian McIvor, decontamination site manager for NHS Greater Glasgow and Clyde, told Inside Hospitals: “It’s none stop here. We’re reprocessing 6,500 to 7,000 trays a week (yes that’s a jaw-dropping 6,500 to 7,000 trays a week). Each quarter we’re reprocessing nearly three million instruments.

“We’re working 24/7, covering the whole of Greater Glasgow - all its seven acute hospitals and their 103 operating theatres. There’s a 24-hour turnaround of each tray, with an eight-hour fast track if required.”

However, as Ian explained, damaged tray wrap was a major problem. “There were cancellations to operations and reprocessing. To increase efficiency and eliminate waste,



Ian McIvor, decontamination site manager, Cowlairs

and there’s damage to the tray wrap there would be a cancelled operation. So, to help prevent cancelled operations, it was more advantageous to vacuum pack the problematic trays. But there have been many other important benefits too.”

Ian said: “BES Decon’s Matt McCormack came in to see us and explained the VacioPak system. We took a unit on trial in February 2015.

“We used the process for just one of the hospitals to start with - Glasgow Royal Infirmary. We started with problematic trays, one-offs and loan kits. Through our quality system we know which trays are being reported as problematic. We kept the trial going for as long as we could.

“It was an instant success. It’s now rolled out to every hospital and we’ve not had one damaged vacuum packed tray since we began using the system. So there have been no cancelled operations due to damaged tray wrap and no need to reprocess

now looking at extending the vacuum packing to some of the smaller trays for which we’ll use a smaller bag.

“Glasgow Royal Infirmary in particular is asking for more trays to be vacuum packed, which shows they’re more than happy with it. In fact, they’ve been very supportive of the vacuum packing.”

Ian explained: “The training of the staff here at Cowlairs was done by BES Decon’s area sales manager, Tracy Walley. Currently, we have just one VacioPak machine and all the despatch staff and some of the assistant technical officers have been trained to use it. It’s a very simple and quick process.

“Christine Ladjadj, our customer service manager, went to the theatres to explain to staff there how to handle the vacuum pack trays and how to open the bags.”

When a set is required in theatre it’s just a simple tear of the seal and the pouch is open and the safely packed, sterile set is ready to use.

“We find the staff only need to do it once and they’ve got it,” said Ian. “The staff like it too. They’re receptive to change if they see it’s going to be a benefit. They don’t like to have to re-process sets and they don’t like to hear of operations having to be cancelled. They know it’s all about patient care and increasing efficiency.

“From our perspective there are less cancelled operations - and certainly none due to damaged wrap of vacuum packed

any of the vacuum packed trays. “Following the success, we’ve also installed a VacioPak at our other offsite unit in Greenock - the decontamination centre for three hospitals in Inverclyde.

“We only use one size of plastic bag at present, the bigger bag, which is ideal for the one-offs and heavier sets. But we’re



Loading the wrapped set into the pouch



The turntable and set is swung round

trays. This prevents surgeons having to alter their lists, causes less stress at theatre level and means less ‘re-works’ for us. It’s very time-saving and cost-saving.

“The vacuum packing adds next to no time. The process itself takes just 30 seconds.

“If we were to reprocess a tray you’re looking at ten minutes in the wash, twenty minutes in the clean room, plus the handling, detergent and services.”

Ian explained: “Over a similar period to that when we’ve been using VacioPak, there were 844 incidents of damaged tray wrap. We’re down to just three a week now - that might be due to us or theatres - but none of the vacuum packed trays have been damaged.

“With the average cost to reprocess a tray standing at £41, on those previous 844 instances we’ve already saved £34,604. Each cancelled operation costs on average £13,000, and there were three due to damaged tray wrap during the similar period, so that’s a further £39,000 saving. So the total saving in less than a year is already £67,604.

“That’s fantastic from a relatively inexpensive, easy to use piece of kit, which also protects instruments during transit.”

Ian explained: “The power of the vacuum draws the tray wrap tightly onto the instruments to prevent them moving during transit and helps to prevent any damage that might occur.

“The VacioPak was purchased through capital funds,” said Ian. “We put it through a validation process at a laboratory to check on the vacuum and the air being drawn out of the pack. We wanted to know; would it pull in dirty air? There was no proof of this.

“I tested it with talcum powder too. It was all fine. The Halyard One-Step sterilisation wrap we use is a 99.6% barrier and it prevented any of the talc entering the vacuum system.

“We’ve had vacuum packed trays sitting for a year and there’s no problem with the vacuum. We’re now looking at testing a vacuum packed tray at a laboratory for two years, which would help with the infrequently used, one-off situations.

“We’re also using vacuum packing to protect the delicate duodenoscopes which come over from endoscopy for hydrogen peroxide decontamination in our new STERIS V-PROmax.

“Everything at Cowlairs is duplex and, with more theatres asking for vacuum packing, I can see that we might need to add another machine.”

Ian explained: “Using the VacioPak’s improved the

inter-departmental relations we previously had, simply because we’re being seen to work together rather than as individual departments.

“Matt Thomson, the instrument liaison officer at Glasgow Royal Infirmary, is very supportive of vacuum packing. It works very well for everybody. The introduction of the system shows



The open end is placed in the heat sealer



Operating the foot pedal seals the pouch and draws the vacuum



Sliding over the vacuum lock completes the process

how we work with theatre staff on issues and have reduced costs while increasing efficiency.

“It’s a ‘no-brainer’ in my mind.”

Another advocate who daily sees the success of vacuum packing first hand is Allison Marshall, sister in charge - orthopaedics, at Glasgow’s impressive new Queen Elizabeth University Hospital.

Allison explained: “Orthopaedic trays are heavy, they’re awkward to carry. Torn tray wrap was an ongoing problem. So they were one of the ones the nursing staff working group targeted for vacuum packing.

“The difference it’s made is dramatic. It’s like ‘night and

day’. It’s instilled a great deal of faith that trays which had previously given us problems are now safely wrapped and free from tears.

Loan kits are often a one-off and the kits are rare, and if there’s a problem it can cause a real issue. So the integrity of the trays needs to be intact.

“Vacuum packing has provided reliability. We know we’ll get the trays OK. I think anyone else will feel the same.”

Allison said: “Orthopaedic trays are heavy and cumbersome. And the journey they make can lead to tearing of the wrap. Not anymore, thanks to vacuum packing.

“The tight vacuum packing is holding the tray static on a surface. It all helps with the journey of the tray, from decontamination to us, from the store to theatre and sometimes from us to another hospital.

“The vacuum packing is fantastic. It’s all very positive.”

Vacuum packing at Cowlairs currently takes place on a height adjustable table that was available in the department. A further, larger workstation will soon be delivered

to give staff more room for the process.

Demonstrating the VacioPak in the despatch department, Sean Anderson, shown in the photographs, said: “The packs’ barcoded labels have a ‘V’ if they’re to be vacuum packed. The system’s very easy to use. It only takes around 30 seconds. It’s stopped damaged tray wrap and keeps the instruments tightly packed. It’s a great success.”

The VacioPak system includes a heat sealer, which seals the end of the plastic pouch, and a vacuum pump to draw the vacuum.

A turntable unit enables easy loading of the wrapped set into the plastic pouch. Using the turntable, the open end of the



pouch is slid over two metal rods which open the pouch up as it is pulled forward so that it easily covers the wrapped set. The turntable and set is then swung around, enabling the open end of the pouch to be placed in the heat sealer. The nozzle from the vacuum is then attached to the pouch’s vacuum valve.

Once activated by the foot pedal, VacioPak quickly seals the end and draws the vacuum. Although not used at Cowlairs, the system can also include an indicator card that is placed inside the pouch and turns from Red to Green to confirm that the vacuum is successful.

When the process is finished the operator simply slides over the lock on the vacuum valve and the process is complete - all in a matter of seconds.

The sturdy pouch can also be used by theatres as a return bag.

Tracy Walley, regional sales manager BES Decon, said: “Following the success at Cowlairs and elsewhere, VacioPak is now on trial at a growing number of leading UK hospitals, in Scotland, the North West, Yorkshire, the Midlands and Wales.

“VacioPak is available through capital purchase, as chosen by Cowlairs, or through a rental option. With rental there’s no charge for the equipment, just a slightly higher charge for the pouches, with a minimum number of bags used per month.

“When you consider the cost of a cancelled operation and the time and cost of reprocessing sets, VacioPak quickly pays for itself.”

You can see the system in operation on YouTube: search VacioPak

For further information, call on BES Decon on 01179 666 761, e-mail info@besdecon.net or visit www.besdecon.net



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