

**A**lready the largest teaching hospital in Europe, in terms of beds, and the UK's second largest PFI hospital, the new Queen Elizabeth Hospital Birmingham is the city's first new acute hospital for 70 years.

Designed to deliver better, faster and more pleasant care, the flagship hospital serves over 700,000 patients a year and is already a centre for battlefield surgery and the rehabilitation of military personnel injured in Afghanistan and Iraq. It is adapting techniques learned in war zones to treat injuries resulting from civilian disasters such as traffic accidents and terrorist attacks.

Every statistic and aspect of University Hospitals Birmingham NHS Foundation Trust's new hospital is equally impressive - including the purpose-designed endoscopy department with its integral decontamination facility.

Karen Johnson, operational director for corporate nursing, part of whose remit includes decontamination and infection control, told *Inside Hospitals*:



"Now the endoscopy project's come to its conclusion it's easily met our expectations for both a quality and responsive service, which is good for patients."

Karen explained: "For us the project was about standardising the process for decontaminating all endoscopes through a centrally located unit with dedicated staff. It's also enabled us to start with a blank sheet, incorporate the latest technology, and create a spacious working environment where staff take a real pride in their work."

"In the old estate there were 14 decontamination machines in nine different locations across



Scopes are loaded into the ISIS machines



Dirty scopes have a manual wash in the sinks (left), before being connected to the unique ISIS hub system (centre), and loaded into the washer-disinfectors

## Birmingham blueprint

The opportunity to start with a blank canvas has enabled new Queen Elizabeth Hospital Birmingham to create a unique, purpose-designed endoscopy decontamination facility

the trust where endoscopes were processed in theatres, endoscopy units and outpatient areas. We had a variety of machines, but no pass-through."

A multi-disciplinary team was established in 2009 to consider all aspects of the endoscopy facility and the decontamination unit. "Starting from scratch we were able to

Limborgh mirrored what we wanted to do.

"The team looked at the pass-through technology on the market at the time and we chose Puricore's ISIS washer-disinfectors and drying cabinets, which were purchased as part of the Joint Venture project. The choice was based around the whole solution and covered a multiplicity of things."

The cycle time of the Isis is just 20 minutes and each machine can take two scopes. The machines feature a detachable hub onto which the scopes are loaded. It's a quick and easy process to master that experienced technicians can achieve in around 25 seconds - as

for the whole cycle, including fully compliant rinse water. This unique feature removes the risk of biofilm seen in many centralised RO feed water systems.

The machine's aesthetics certainly enhance the appeal of the state-of-the-art facility.

As a single solution the department also includes Puricore's JetaAER which decontaminates TOE probes used in cardiology.

The endoscopes are cleaned with Schülke's gigazyme enzyme cleaner and gigasept high level disinfectant.

"It's a busy department, with a dedicated team of seven people, that processes up 120 scopes a day," said Karen. The



**Teamwork:** Karen Johnson (left), operational director for corporate nursing, whose remit includes decontamination and infection control, and Sara Weston, decontamination advisor

consider how we bring in every single endoscope used in the trust to the same system and to standardise the process," said Karen. "Our focus was on using pass-through technology. We visited other trusts that had introduced pass-through, including Chelsea and Westminster, where the work by Olga Sleigh and Melanie van

hospital technicians demonstrated when they took the 'Puricore challenge' at last year's BSG conference and exhibition.

The machines operate independently, connected to a centralised plant room feeding pre-treated water. The ISIS integral RO provides individual point-of-use high purity water



Scopes are connected to the hub

unit is open from 7am to 7pm, Monday to Friday, and from 8am to 12 noon on Saturday. This ensures all clinical areas have sufficient stock of clean endoscopes to provide services at all times.

“There are six ISIS machines and eight drying cabinets in which we can store the scopes in clean conditions for up to 72-hours, so we’re not re-processing scopes unnecessarily. Four of the cabinets are in the clean area of the decontamination suite, three are in theatres, and one in the inpatient endoscopy suite,” explained Karen.

“The plan was signed off in April 2010 and commissioned between last September and October, with the department going ‘live’ in November 2010. As with any new system it took a few weeks for both users and providers to become familiar with the new system and for the new technology to settle. Puricore have been very good in ensuring adequate support is available at all times and the staff training has been very thorough. I’m very happy with



the decision made.

“We’ve currently migrated the paper-based tracking and traceability system that we were using previously but will shortly be moving to Health-Edge software.

“The whole concept is one unit, one team, with an auditable process, so that we know exactly what happened to every single scope.”

Karen added: “From a trust perspective, we are much more assured of the system. This has been a big project to bring together that’s involved a lot of people. The multi-disciplinary team included consultants and nursing staff from the endoscopy service, Andrew McKirgan the trust’s decontamination lead, Sara Weston the trust’s decontamination advisor, Adam Fraise one of the trust’s



The clean side of the decontamination suite

microbiologists, and myself, together with the new hospital team and our PFI partner Consort Healthcare.”

Designed as a single cohesive facility, the outpatient endoscopy areas are adjacent to the dirty area of the decontamination suite. After a scope is used on a patient it is flushed and placed in a tray with a red cover. The tray is put into a hatch that opens through into the dirty decontamination area. This simple arrangement means that staff do not have to transport dirty scopes. And, once the decontamination process is complete, clean scopes are placed in trays with a green cover and loaded onto trolleys that are placed in the clean scope hold area, which likewise

opens into the procedure room, ready for the next lists.

In January 2000, Sara Weston, who had been a theatre manager, joined the trust’s infection prevention and control team as the first decontamination advisor in the



72-hour storage cabinets in the clean area

country.

Describing the design process, Sara said: “We decided to follow the sterile services layout of segregating the clean and dirty areas and looked at all the machines on the market. We liked the layout at Chelsea and Westminster and the fact that you can look through the machines into the other side.

“We can process the scopes very quickly. It’s a lot better having endoscope reprocessing in one place. It’s standardising the service and the right direction for infection prevention and control, giving us quality assurance and



The JetAER decontaminates TOE probes

governance.

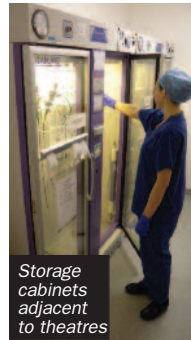
“The team here take a real pride in what they’re doing. They’re proud to know the unit works efficiently.

“The track and trace print out will show that the scope has passed all the parameters, so it’s reassurance for the patients and the endoscopy staff.

Sara added: “Puricore have been really supportive. Liz Gardner, their clinical nurse advisor trained all the staff on the machines and the drying cabinets, and was here in the first week we went ‘live’, together with engineering support.

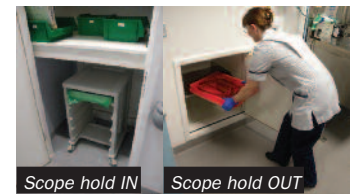
“The decontamination team put the clean scope trolley into

the incoming trolley hold, and after use we bring them into the department through the outgoing hold door. For other areas we collect used scopes at lunchtime and put clean scopes into the remote 72-hour cabinets. Within each department, staff have been trained how to take the scopes out as and when they need them.”



Storage cabinets adjacent to theatres

How does the new facility measure up? Decontamination technician Duane Lynch, who previously worked at the old Queen Elizabeth Hospital, said: “The department is excellent. The layout and working environment is a paradise. You can’t beat these machines,



Scope hold IN Scope hold OUT

they’re much better.”

Puricore’s clinical nurse advisor, Liz Gardner, who was an endoscopy manager and has a nursing background, said:

“This is a very busy department - the scopes just fly through. The staff are dedicated and it’s a fantastic layout.”

Justly proud of the outcome of the team’s hard work that’s benefitting patients and staff, Karen Johnson added: “We designed the whole thing from

scratch and have an outstanding department that’s met all our expectations. If other hospitals are interested in discussing the project and touring the facility we’d be happy to welcome them.”

For more, call Puricore endoscopy on 01785 782 420, e-mail sales @puricore.com or visit www.puricore.com

