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LUBRON UK HELPS BRING CLINICAL EFFICIENCY TO DECONTAMINATION

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Bringing clinical efficiency to decontamination

University Hospitals of Leicester NHS Trust and Synergy Health (UK), a leading specialist in outsourced services to healthcare providers, have officially opened a multi-million pound “super-centre” for decontaminating surgical instruments. The facility, formally opened by NHS Medical Director Professor Sir Bruce Keogh at Meridian Business Park, Leicester, will enable the Trust to streamline this critical sterile service, further enhance the quality of sterile instrument output and benefit from new revenue streams.

As part of the UK Department of Health's National Decontamination Project, Trusts around the country have been working to find solutions to improving the ageing, non-compliant decontamination facilities, which are a critical link in the surgical pathway. Synergy Health was selected by Leicester's University Hospitals as its partner to create a state-of-the-art sterile service and decontamination service and invested £3.5m (€4m) to create the “super-centre”.

The fully accredited centre is now serving the Trust's three hospitals: Glenfield, Leicester General and Leicester Royal Infirmary. It will eventually accommodate the additional instrument decontamination requirements of neighbouring PCTs, GPs and dentists.

The new facility is based on a joint venture approach, which enables the Trust to retain control of its service – reassured by full operational compliance – while allowing it to free up ageing estate. It is also able to make quality and productivity improvements to the supply chain feeding the surgical pathway, while transferring any risk together with the



Professor Sir Bruce Keogh watches the routine inspection of instruments by technician, Rupa Modhi, at the new Leicester “super-centre”

Synergy Health (UK) has opened a joint venture facility for decontamination that raises standards for hospitals while allowing NHS trusts to keep some control. **Susan Birks** visited the Leicester facility

facilities management burden to its partner.

Some 60 highly-skilled former NHS employees have been transferred to the new facility and are continuing the usual decontamination processes but in a much enhanced environment, while at the same time contributing to a new income stream for the Trust.

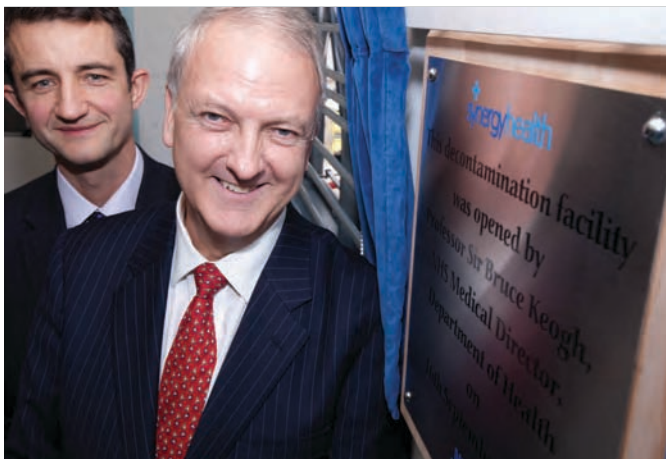
The 16,000ft² facility complies with the Medical

Device Directive and stringent international standards and is already serving the Trust's multiple-site theatre demands after a staged transfer process. It employs track and trace technology to ensure millions of items of surgical equipment are collected, decontaminated, sterilised, packed and returned to the correct client on time.

Synergy Health is the largest provider of outsourced decontamination services in Europe with 19 facilities across the UK and further facilities in Belgium, The Netherlands and China. This expertise enabled the company to include a number of hi-tech features at the premises including:

- Steam boilers that recover waste heat and transfer it back to the boiler water feed
- A central system that regulates air flow into the cleanroom according to occupancy levels
- Energy efficient lighting throughout
- Compressors that are 35% more efficient than standard models.

The new facility is in an optimum location



Professor Sir Bruce Keogh and Synergy Health's ceo UK and Ireland, Adrian Coward (left) unveil the plaque at the new decontamination centre, Meridian Business Park, Leicester

with good road links. The building was also designed for optimum product flow; as a result the centre is capable of processing 100,000 instruments a week – equivalent to 5.5 million a year – and has room to expand.

The instruments arrive in trays on trolleys to the unloading area. Once unloaded they are given a surface scrub and a prewash to remove large particles of debris. The instruments are then loaded into the central washing chambers in the metal trays for thorough decontamination and drying and are then retrieved from the other side of the chamber in the cleanroom.

The the instruments are inspected for cleanliness, wear and damage by a team of gowned and gloved trained operatives, before being packaged in double layers of special colour-coded plastic packaging. This is secured using temperature-sensitive tape that changes colour, indicating visually that it has been processed at the required temperature once through the autoclave.

The sterilised packaged trays are removed from the back of the autoclaves into another room for loading and delivery.

To meet the track and trace requirements, each tray of instruments carries a unique barcode and Synergy Health has installed a proprietary IT system that is used to track the codes throughout the process. Should a problem arise, the technology enables items to be tracked back to the users. Paper records are also kept for several years.

The equipment installed in the main processing area includes triple chamber Index Washers, supplied by Getinge UK Ltd, which have a capacity for each chamber of around 300 instruments and have a 15-minute cycle time (approx.) per chamber. Getinge also supplied the sterilisers with a 28ft³ pass-through chamber with an approximate capacity for 500 instruments per cycle and a process cycle time of around 45 minutes.

The trolley washer, which has a pass-through wash chamber with a capacity of two standard trolleys and a wash/dry cycle time of approximately 40 minutes, also came from the Nottingham-based engineering company.

The facility's dual fuel (gas and oil) steam boilers were supplied by Fulton. Each has a 3000kg output capability and maximum working pressure to 10 Barg and they are constructed to BS 2790 1992 Class 1.

The reverse osmosis (RO) plant was supplied by Lubron UK of Colchester. This supplies up to 8.5m³ of RO water per hour. The chiller unit, supplied by McQuay, is designed to operate with zero ozone depletion potential (ODP) and very low global warming potential (GWP), and is operational to -29°C.

The HVAC system was also supplied by McQuay, and meets ISO Class 8 cleanroom performance requirements. Controlled working temperatures are between 18°C and



Packaged instruments entering the steriliser

22°C, and it provides 20 air changes an hour and HEPA filtration.

Atlas Copco provided the oil lubricated compressor, which is air-cooled with a rotary screw. This has a variable speed and an integrated refrigerant dryer. It produces up to 48 litres/second at a maximum of 8.6 Barg.

The cleanroom facility has a separate gowning area with door locks that prevent both access doors being open at the same time. The building also houses office space for administration.

One of the main improvements noted by the staff is the light and airy feel of the facility, which has windows that let in natural light (unusual in cleanrooms) as well as fluorescent cleanroom lighting. All floors, walls and ceilings are built to the highest hygiene standards.

Working in partnership

When the concept of centralising decontamination services was first introduced to the UK, loud concerns were voiced, and some still feel that the NHS should retain control over such services. But Professor Keogh outlined overriding drivers that are forcing changes for the NHS “whether we like it or not”. These drivers are: economics, technological advancements, public demands for higher standards and changing location geographies.

A cardiac surgeon by background, Professor Keogh, has firsthand knowledge of the importance of clean instruments supplied in a timely manner.

Decontamination centres have to work efficiently, meeting deadlines to ensure surgery schedules are not disrupted by a lack of instruments. The typical turnaround

time for this centre is 12 hours.

Keogh sees benefits can be gained through joint ventures that combine experts in the private sector with expertise in the NHS. The private sector, he said, has expertise in improving efficiency and quality (i.e. in process flows and dynamics) while the NHS staff have the knowhow in decontamination and what is required to improve patient outcomes.

Synergy Health's ceo UK and Ireland, Adrian Coward says: “We are seeing Trusts around the country looking to streamline costs, increase quality and productivity and – most importantly – achieve compliance. Leicester's Hospitals are to be congratulated for working towards an innovative and beneficial solution across a number of critical indicators.

“Harnessing the latest technologies and procedures, this flagship centre will play a key role in providing cost-effective solutions to the NHS at a time when it is under huge pressure to make savings.”

SynergyHealth UK is currently building other service centres in Sheffield, Grimsby and London. **CT**

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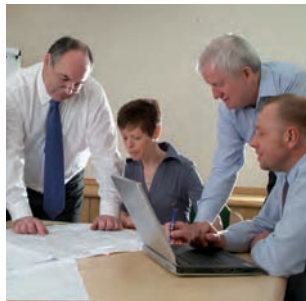
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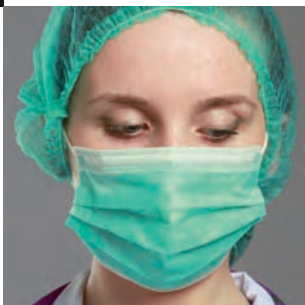
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