

## CASE STUDY

# A Trial of the Bioquell ProteQ in a World Leading UK Hospital

St Thomas' Hospital, London



## EXECUTIVE SUMMARY

In 2019, Bioquell, an Ecolab solution, was offered the opportunity to trial its latest development in automated room decontamination technology, the Bioquell ProteQ, at the world renowned St Thomas' Hospital in London.

During the nine month trial, the Bioquell ProteQ performed over 460 room decontaminations faultlessly, and at one point the system was used non-stop over a 72 hour period to help combat an outbreak on the ICU. By providing 6-log decontamination cycles in patient rooms and larger critical areas like operating rooms, the Bioquell ProteQ played a key role in minimizing the spread of healthcare acquired infections within the hospital.

## BIOQUELL PROTEQ ON-SITE TRIAL

Over **460 room decontaminations** performed over a nine month trial period

**No reported** faults or breakdowns throughout the whole period

Predominant use following discharge of patients with **communicable diseases**

**6-log decontamination** rates achieved in rooms up to **350m<sup>3</sup>** with a single machine

**Successfully reduced** the spread of healthcare acquired infections



**DECONTAMINATION WITH BIOQUELL PROTEQ ENABLED THE HOSPITAL TO RETURN BEDS TO FULL USE RAPIDLY**

## CASE STUDY

# Requirements and Set-up

St Thomas' Hospital, London

## CHALLENGE

As one of Britain's busiest hospitals, St Thomas' hospital takes in patients from all over the world. As for any hospital, maintaining a low rate of hospital acquired infections is a top priority. That is why this facility requires a room decontamination solution which can meet the following criteria:

- ▲ Ability to perform a 6-log sporicidal kill of hospital rooms.
- ▲ For the process to be performed as rapidly as possible in the short window that a hospital bed space is unoccupied.
- ▲ Ability to decontaminate larger, open patient areas to help minimize the spread of infection between patients.

## SOLUTION

Offering major cost benefits and new features such as wireless connectivity and electronic data capture, the Bioquell ProteQ is the latest development in automated room bio-decontamination technology, replacing its predecessor the Bioquell Z-2. The advanced system incorporates more powerful directional fans than its predecessor meaning a 6-log sporicidal kill can be achieved in much larger areas (c.400m<sup>3</sup>)\* with only one machine. The Bioquell ProteQ also has an integrated catalyst unit with over twice the capacity of the Bioquell Z-2 offering significantly reduced cycle times.

## DEPLOYMENT

Taking place over a nine month period in 2019, the Bioquell ProteQ was predominantly used to decontaminate hospital rooms following the discharge of patients with a confirmed case of a communicable disease, particularly those which show antibiotic resistance such as Carbapenemase Producing *Enterobacteriaceae* (CPE). As the Bioquell ProteQ can treat much larger areas than the Bioquell BQ-50 (the most common system from Bioquell in hospitals), it was often used to decontaminate large open areas, and operating rooms including associated prep and anaesthetic rooms.

During the trial the Bioquell ProteQ was used to combat an outbreak of a rare disease in the Intensive care unit. As it was not possible to empty the ward of patients, the outbreak management strategy involved a room by room approach, whereby every patient room on the ward was precautionarily decontaminated regardless of whether or not it housed an infected patient. With its high capacity the Bioquell ProteQ was also used to decontaminate larger open areas within the ICU.

During the outbreak, the Bioquell ProteQ ran non-stop over a 72-hour period without any alarms or issues which is a testament to its reliability in a healthcare setting.



Bioquell ProteQ



FRONT

BACK

**“During an outbreak on the ICU we had the Bioquell ProteQ running nonstop for 72 hours.”**

\*Subject to configuration, loading and environmental conditions

## CASE STUDY

# Outcomes

St Thomas' Hospital, London

## RESULTS

The feedback from the trust was overwhelmingly positive. Operators commented that the machine was surprisingly light and easy to maneuver around the hospital, and liked that the control lectern was wide enough to block the door to the room being decontaminated, as it acted as a barrier to prevent entry during the cycle.

Having password protection on the control lectern also meant that cycles could only be started by trained operators, further promoting the safety of the system.

With the hospital being well versed in Bioquell technology, staff also liked the ability to monitor the environmental conditions in real time during the decontamination process, and that each cycle generates a PDF report and paper print out.

Over the nine month trial, the Bioquell ProteQ successfully performed over 460 cycles in a busy hospital environment without fault or break down. Furthermore, the Bioquell ProteQ played a key role in successfully bringing the outbreak on the ICU under control.

With an easy to use interface and faster cycles than ever, the Bioquell ProteQ is the ideal solution for contamination control, ensuring a 6-log sporicidal reduction every time.

*“The Bioquell ProteQ was a great addition to our existing BQ-50s to help manage infection control in the hospital.*

*As it can treat much larger areas than our Bioquell BQ-50 machines, it also gave the added benefit of allowing us to decontaminate larger open areas on the ICU as well as side rooms.”*

GLAWDYS CHUKUKERE HPV AND RAPID RESPONSE MANAGER ST THOMAS' HOUSEKEEPING SERVICE



**460** ROOMS TREATED  
OVER THE 9 MONTH TRIAL



THE LARGEST AREA TREATED  
BY THE BIOQUELL PROTEQ  
WAS **350m<sup>3</sup>** IN VOLUME



THE BIOQUELL PROTEQ RAN  
FOR **72 HOURS**  
NON-STOP DURING AN  
OUTBREAK

Visit [bioquell.com](https://bioquell.com) for additional details.

USE BIOQUELL PRODUCTS SAFELY. ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE.

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