

BIOCOTE DELIVERS 96% REDUCTION IN BACTERIA IN A HOSPITAL ENVIRONMENT



The control of healthcare-associated infections (HCAIs) remains a challenge for healthcare providers. This involves employing a combination of infection prevention and control strategies, including hand hygiene, cleaning, training and the adoption of new technologies, to tackle the problem.

By selecting Gainsborough Specialist Bathrooms to provide assisted baths, providers have the advantage of integrated BioCote antimicrobial technology to enhance infection control. This results in CQC compliance and strengthened duty of care.

BioCote works with Gainsborough Specialist Bathrooms, to engineer silver-ion technology into its bath range, helping them to resist the growth of bacteria and mould on their surface. Silver is an ideal antimicrobial agent because it has a high efficacy against a wide range of medically-important microorganisms and is regarded as non-toxic.

For the NHS and other healthcare providers to employ new technologies and products they need to show a demonstrable ability to contribute positively to infection control. The use of any product that claims it has antimicrobial efficacy, such as Gainsborough baths, should be supported by a robust evidence-base.

AIM

A pilot study, conducted at the Heart of England NHS Foundation Trust, investigated

to what extent BioCote antimicrobial products can reduce microbial contamination in a healthcare environment.

In independent laboratory tests, BioCote antimicrobial protected materials regularly demonstrate reductions in counts of E.coli and S.aureus greater than 99%, compared with untreated samples.

The aim of this study was to determine to what degree this high level of antimicrobial efficacy could be achieved in a real-life hospital environment.

STUDY

Two outpatient units provided the environments for this 18 month pilot study. Unit A was refurbished with BioCote treated products including blinds, tiles, door handles, sack holders and light switches and also a



Alera bath with integrated
BioCote technology as standard

number of untreated products. A similar, refurbished outpatient ward containing untreated items (Unit B), served as a control.

Both outpatient units were similar in terms of volume of people, layout and floor-surface area and were subjected to standard cleaning practice. Both were allowed to function for 12 months before swabbing commenced.

Swabs were collected over a five month period from BioCote treated and untreated products in both outpatient units. Swabs were processed for total counts of viable bacteria and results expressed as average counts of colony-forming units (CFUs).

Specialist advisors from Gainsborough are standing by to assist you:

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 **Gainsborough**
SPECIALIST BATHROOMS

Empowering. Healthcare. Solutions

SCIENTIFIC RESULTS

ANALYSIS

The products used in the trial were manufactured from a variety of materials e.g plastics such as Gainsborough specialist baths. CFU counts from these different materials were also compared.

CFU counts from BioCote treated products in Unit A were compared with CFU counts from untreated products in both Unit A and Unit B.

CFU counts on untreated products in Unit A were also compared to untreated products in Unit B.

CFU counts from BioCote treated products in unit A were between 62% and 98% lower than from comparable, untreated products in Unit B.

Inter-site comparison of average (mean) CFU counts from BioCote treated and untreated products in Units A and B.



UNIT A TREATED		UNIT A UNTREATED
Mean 33	VS	Mean 447
CFU/swab		CFU/swab

92.6% BACTERIA REDUCTION

92.6% bacteria reduction between BioCote treated products vs Untreated products within the same Unit (Unit A)

UNIT A TREATED		UNIT B UNTREATED
Mean 33	VS	Mean 791
CFU/swab		CFU/swab

95.8% BACTERIA REDUCTION

95.8% bacteria reduction between BioCote treated products in Unit A vs Untreated products in Unit B

UNIT A UNTREATED		UNIT A UNTREATED
Mean 447	VS	Mean 791
CFU/swab		CFU/swab

43.5% BACTERIA REDUCTION

43.5% bacteria reduction between Untreated products in Unit A vs Untreated products in Unit B

DISCUSSION AND CONCLUSIONS

Results suggest that BioCote antimicrobial products, such as Gainsborough baths, will demonstrate the same high level of antimicrobial efficacy in a real-life environment as seen in laboratory tests, e.g. an average bacterial reduction of 95.8%.

In addition to the effect of standard cleaning, BioCote antimicrobial products showed sustained reductions in bacterial counts, compared to untreated products. As BioCote technology does not wear out or wipe off surfaces, it can provide a continuous decontamination effect.

Treated products including Gainsborough baths can complement cleaning practices,

helping to continually reduce levels of bacteria on surfaces and in the wider healthcare environment.

Bacterial contamination on untreated products in Unit A was on average 43.5% lower compared with untreated products in Unit B. This suggests that a reduction in bacteria on BioCote antimicrobial surfaces results in lower numbers of bacteria on other surfaces because there are fewer bacteria being transferred. Using a number of antimicrobial objects in a healthcare environment may therefore help the decontamination of the wider environment.

This study, first published in the Journal of Infection Prevention I, highlights the ability of BioCote treated antimicrobial products to reduce levels of bacteria contaminating healthcare settings. This is why

Gainsborough baths are regarded as an essential complementary solution for CQC compliant infection control.



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