



Submission

Hospital superbugs have nowhere to hide thanks to a new light-based decontaminant developed at the University of Strathclyde.

A multidisciplinary team of experts from the university discovered that a narrow spectrum of visible light wavelengths, called HINS-light, is lethal to bacterial pathogens including MRSA, *E. coli*, *C. difficile* and the tuberculosis bacterium.

Trials at Glasgow Royal Infirmary showed that long-term use of the ceiling-mounted HINS-light Environmental Decontamination System, developed by the team, led to a greater reduction in bacterial pathogens than could be achieved by using disinfectant alone. Long-term use in an occupied isolation room led to an 86 % reduction in bacterial contamination.

Unlike alternative decontamination techniques that use gas or ultraviolet light, the HINS-light technology is harmless to staff and patients. This means it is possible for the first time, to continuously disinfect wards without the need to move patients.

The technology, developed at Strathclyde's Robertson Trust Laboratory for Electronic Sterilisation Technologies, also used LED technology to mask the light's violet hue, producing a warm, white light. This means it can be used in tandem with normal hospital lighting. It has generated global media coverage and has attracted extensive interest from hospital clinicians, government and commercial organisations.

Judge Shearer West, head of the University of Oxford's humanities division, said: "This revolutionary research project has demonstrated how light can be used to battle the critical problem of hospital superbugs.

"It shows that they can be destroyed by the effective deployment of HINS-light, which avoids more hazardous or intrusive approaches to decontamination."