

Blue light could kill at least 99% of bacteria linked to dog ear infections, new research shows

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New research from the University of Nottingham and University of Birmingham has highlighted that blue light has the ability to kill

antibiotic-resistant strains of bacteria isolated from ear infections in dogs.

Ear infections are one of the most common infections in dogs, affecting up to 20% of pets worldwide.

Pseudomonas aeruginosa, a bacterium associated with persistent and recurring dog [ear infections](#), is often resistant to antibiotics. This can lead to [treatment failure](#) and surgical removal of the ear canal, resulting in hearing loss and a poorer quality of life for the dogs.

The difficulties of treatment demand new and more effective remedies for this condition.

Research from a collaboration between the University of Nottingham and University of Birmingham, [published](#) in *Frontiers in Microbiology*, used different frequencies of [blue light](#) to kill antibiotic resistant *Pseudomonas aeruginosa* strains isolated from dog ear infections.

Some frequencies of blue light killed at least 99% of the bacteria. Combining blue light with antibiotic treatment increased its effectiveness even further.

There were differences in the sensitivity of strains to blue light, but unlike [antibiotic therapy](#), there is no evidence of increasing resistance to this treatment.

"Antibiotic resistance is a growing problem in both people and animals, including their pets. *Pseudomonas* ear infections in dogs are often very difficult to treat long-term because of this resistance," says Dr. Robert Atterbury, associate professor of microbiology.

"The possibility of a new, non-invasive treatment for this condition,

based on exposure to antimicrobial frequencies of blue light, has the potential to transform outcomes for pets and avoid the costly and difficult surgery, which may ultimately be required otherwise."

The next step in the research is to test blue light treatment against a larger panel of clinical *Pseudomonas* strains isolated from dogs suffering from ear infections.

The ultimate aim of this research is to develop a simple method of applying the treatment to dogs in clinics.

More information: Adriano M. Gigante et al, Exposure to blue light reduces antimicrobial resistant *Pseudomonas aeruginosa* isolated from dog ear infections, *Frontiers in Microbiology* (2024). [DOI: 10.3389/fmicb.2024.1414412](https://doi.org/10.3389/fmicb.2024.1414412)

Provided by University of Nottingham

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