

Using viruses to fight infection

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Scientists at the University of Brighton have shown viruses that can kill bacteria may be used to combat common infections related to the use of medical devices such as catheters.

This new insight could lead to new methods of preventing infections and could contribute to overcoming problems with antibiotic resistance.

The news comes after the recent government review on the antibiotic resistance challenge suggested that deaths from antibiotic resistant [infection](#) could exceed deaths from cancer by 2050, and cost the global economy \$100 trillion.

A team led by Dr Brian Jones, Reader in Molecular and Medical Microbiology at the university's College of Life, Health and Physical Sciences, has been studying infections associated with the use of urinary catheters which are used in their millions across the world every year.

The team has focused on a particular species of bacteria called *Proteus mirabilis*, which is a common cause of these infections and leads to extensive encrustation and blockage of catheters. This, in turn, leads to the onset of serious complications such as kidney infection and septicaemia, one of the UK's biggest killers.

Dr Jones and his team have evaluated the potential for viruses that specifically infect and kill bacteria – called bacteriophage – to prevent these infections.

Dr Jones, currently serving as Head of Research Development at Queen Victoria Hospital in East Grinstead, West Sussex, said: "Our work provides good initial evidence that bacteriophage can treat infections caused by *Proteus mirabilis* and prevent catheter blockage.

"This could lead to new ways of managing patients fitted with [urinary catheters](#), providing much benefit to a large number of patients, and also contribute to reducing antibiotic use and tackling resistance."

Dr Jones said more research was needed: "We are still at a very early stage in this work, and have a long way to go before we can be sure this will lead to an effective way to control these infections, but bacteriophage have been used extensively in other countries for decades, and the challenge of [antibiotic resistance](#) makes it important to look at using these promising alternatives to [antibiotics](#). We think an important issue will be in developing ways to deliver [bacteriophage](#) as needed, which is a key aim of our ongoing work."

Provided by University of Brighton

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