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A Health Enterprise East Joint Venture

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Award Amount: **£84,420**

Award Duration: **9 months**

Norfolk and Norwich University Hospitals NHS
NHS Foundation Trust

BACTERIOPHAGE-BASED SOLUTION FOR THE TREATMENT OF IMPLANT RELATED INFECTIONS

Background

In the UK, infection accounts for 25% of revision hip and knee replacement operations. Antimicrobial resistance and a lack of new antibiotics being introduced into clinical practice has contributed to declining efficacy of existing therapy; and resulted in limited options for effective prophylaxis and treatment of surgical site infections.

Bacteriophage technology has been shown to kill pathogenic bacteria. Therefore, this project aims to explore the technical feasibility and commercial opportunity to develop a product to combat bacterial infections in orthopaedic surgery, with an initial focus on revision surgery

Technology

The local application of bacteriophages as a coating for implanted prosthetic material to reduce or eradicate bacterial infections of implants (particularly biofilms), including from multidrug resistant bacterial strains. The use of bacteriophage therapeutically has growing precedent in the scientific literature but the application in orthopaedics has merit but is less explored. The idea is at an early stage of development but brings together the combined expertise of Norfolk and Norwich University Hospital, University of East Anglia (UEA), Quadrum Institute and Anglian Agri-Tech Ventures (A2V) that aims to demonstrate the proof of concept for the approach.

MTA support

With support from the MTA award, translational research is being carried out on a non-proprietary bacteriophage strain to demonstrate proof-of-concept in an established in-vitro model for surgical site infections. Funding is also allowing the team to secure their IP position early and carry out further market research as they build up the business case for significant follow on investment.

Future work

Following the end of the MTA award (expected early 2019), the team are aiming to raise further investment to spin out the technology into a new company harness the further development of the technology and validate its application in reducing and eliminating surgical site infections. The team already have established links with a local biotech company with expertise in bacteriophages with the view to a future partnership and are looking to leverage grant funding to continue the development work.

A Joint Venture Partnership

Health Enterprise East – Realising Innovation | NEWANGLIA Local Enterprise Partnership for Norfolk and Suffolk | NEWANGLIA CAPITAL | CAMBRIDGESHIRE & PETERBOROUGH COMBINED AUTHORITY | eahsn Eastern Academic Health Science Network | Essex County Council