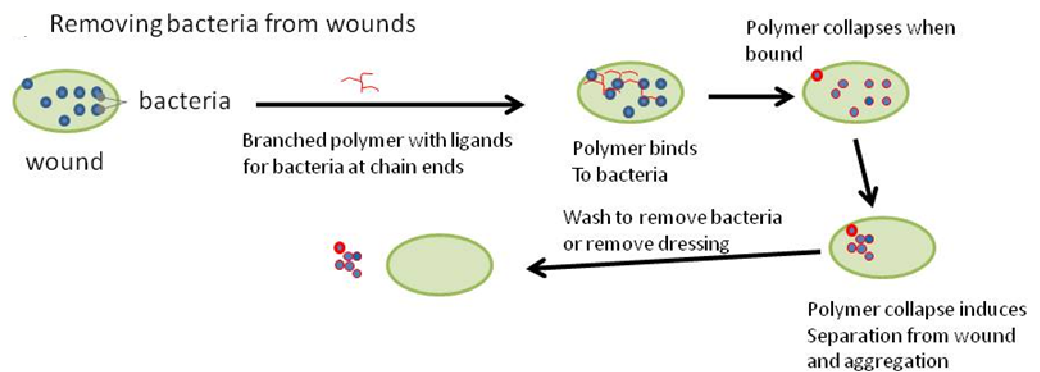


## 28076 Bacteria Binding Polymers

### The Technology

A research group at the University of Sheffield have developed stimulus responsive polymers - these pass from an open coil, which is fully solvated by water, to more compact globule in aqueous media as the environment changes. The team observed that when bacteria are bound in this way, not only does the polymer collapse into the globular form but also the bacteria adhere strongly to the polymer and they form aggregates. This technology could be used to remove bacteria from wounds, as illustrated in the figure. The diagram shows the application of a soluble branched polymer. In this case bacteria are removed by washing the wound. However, in another



highly practical variation of the technology, it is also possible to attach the polymer to a hydrogel membrane so that the bacteria accumulate on the membrane are more easily removed by repeated applications.

### Intellectual Property

A patent application has been filed that covers various aspects of this technology and its possible applications.

### The Opportunity

The immediate commercial potential of this technology is for reducing the bacterial content of chronic infected wounds. It can also be used for many other applications for removing bacteria from liquids that are passed over the polymer, in microfluidic devices or in production systems. The technology may also have applications in the lining of biological perfusion devices, e.g. dialysis membranes to reduce bacteria and the lining of catheters that go into the body to reduce bacteria

**For commercial enquiries on this technology, please contact Andrew Tingey, quoting reference 28076.**

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