Researchers at the University of Liverpool are currently testing a new procedure to treat infected pulp. Revascularisation can be performed in just two visits and could spare patients from undergoing the long and much disliked root canal treatment.

As reported by MailOnline, the first step of the new procedure entails drilling into the tooth and applying an antibiotic paste to disinfect the root canal. A second visit to the dentist follows approximately two weeks later. Using a tool, the dentist makes tiny cuts into the root canal system until the tissue starts to bleed, which triggers a blood clot.

The clot encourages the growth of new blood vessels. This boosts oxygen and nutrient supply and helps the pulp repair itself. The mechanism is not clearly understood, reported the website; however, one suggestion is that a blood clot contains a high concentration of growth factors, compounds that help repair damaged tissue.

Studies have already found the technique to be successful. The scientists at the University of Liverpool are testing revascularisation on 15 patients. The outcomes will be compared with a control group of 15 patients undergoing conventional root canal treatment.

Commenting on the new treatment in MailOnline, Dr Hugh Devlin, Professor of Restorative Dentistry at the University of Manchester’s School of Dentistry, said: “It’s an excellent technique and is getting a lot of interest in the academic journals. Traditional treatment eliminates bacteria, but prevents growth of a new blood supply to the root.”

Researchers at the University of Washington’s School of Dentistry have received a patent for a new way of using titanium-based materials to control bacterial infections. They believe that the substances could be used in a patient’s mouth after dental procedures to reduce the risk of infection or in mouthwashes and toothpastes to limit bacterial growth prophylactically.

Over several years, the researchers have studied titanates and peroxy-titanates, inorganic compounds that can inhibit bacterial growth when bound to metal ions. They found these substances to be effective against endodontic, periodontic and cariogenic bacteria, indicating that these substances could be incorporated into gels or solutions that can be applied by dentists after treatments such as root canals or dental fillings.

Dr. Whasun Oh Chung, research associate professor at the school, explained that metals have been known to have antibacterial properties, but when used in concentrations high enough to be effective, they also carry the risk of toxic side effects. Using the new agent, however, therapeutic benefits can be achieved with less risk of toxicity.

Currently, the researchers are conducting human trials. They expect to finish them in spring. If proven effective, the new agent could even be used in narrowly targeted treatments for internal organs, as well as in dental or medical materials and devices, Chung said.

Patients were treated with improperly sterilised instruments between 30 October and 2 November 2012.