

What is the best way to treat infected hip replacements?

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New research has found treating an infected hip replacement in a single stage procedure may be as effective or better than the widely used two-stage procedure. To date no well-designed study has compared these procedures head-to-head to decide if one is better or if they achieve the same results. Hip replacement is a very common operation that is effective at providing pain relief and improving mobility, however, infection can sometimes occur following joint replacement. The findings have wide implications for orthopaedic surgery, the NHS, and health systems worldwide.

The research team, led by the University of Bristol, conducted a study that reviewed patient data from 44 studies to compare the effectiveness of the two types of surgery currently used to treat infections - one-stage and two-stage revisions.

In the two-stage procedure, the existing artificial joint is removed in one operation and the patient is treated for several months with antibiotics. A new joint is then inserted in a second operation. In the one-stage procedure, the artificial joint is removed along with all infected tissue and a new one inserted in the same operation.

The study found that the one-stage revision strategy is as good, if not better, as the two-stage strategy. The one-stage strategy may also be better suited for patients with certain types of infection or problems that were previously thought not to be appropriate for this type of surgery.

Dr Setor Kunutsor, Research Fellow from the Musculoskeletal Research Unit at the Bristol Medical School: (THS) and lead researcher, said: "For several decades, the two-stage procedure has been presumed to be more effective than the one-stage. However, it has disadvantages for patients such as having two major surgical procedures, significant pain and limited function between stages, long hospital stays, as well as high healthcare costs. The one-stage strategy has potential advantages for patients which include having only one major surgery, shorter time in hospital, reduced functional impairment, and is less expensive.

"When the research team analysed the collected data, the findings confirmed what we had suspected all along - the one-stage strategy may be as effective as, or better than the two-stage strategy.

Speaking about the study, Co-investigator and Senior Author Mr. Andrew Beswick, also a Research Fellow of the Musculoskeletal Research Unit at the Bristol Medical School: (THS), said: "Our research and the subsequent adoption of the one-stage [strategy](#) by surgeons and hospitals, could improve lives, prevent unnecessary deaths, and save money."

The researchers suggest a clinical trial should be carried out to compare which of the two strategies is better in treating infection, but it will require several thousands of patients with hip infections.

The research team at Bristol led by Professor Ashley Blom, Head of Translational Health Sciences, Bristol Medical School, University of Bristol, is currently undertaking a trial which is comparing the two surgical strategies using patient reported outcomes such as pain and function. It is hoped that this trial will determine which is the better way to treat infected hip replacements when pain and function are thought to be the most important outcomes.

While the research team await results of this trial and in the absence of any further evidence, surgeons and policy makers are encouraged to consider the current evidence in their practice and guidelines. The Bristol researchers will work with [patients](#), surgeons, nurses and other health professionals, and the NHS to ensure that the results of the study have an appropriate impact on future practice.

More information: "One- and two-stage surgical revision of peri-prosthetic joint infection of the hip: A pooled individual participant data analysis of 44 cohort studies" by The Global Infection Orthopaedic Management Collaboration, *European Journal of Epidemiology*.

Provided by University of Bristol

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