

# Partial knee replacement safer than total knee replacement

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Partial knee replacement surgery is safer than total knee replacement, according to a new study published in *The Lancet* today.

A team of researchers from the University of Oxford, funded by Arthritis Research UK and the Royal College of Surgeons, found that:

- Although the risk of life-threatening complications from [knee replacement surgery](#) is very small, people who undergo total knee replacement are four times more likely to die in the first month after surgery compared to those who have partial knee replacement, and 15 per cent more likely to die in the first eight years.
- Patients undergoing total replacement are twice as likely to have a thrombosis, heart attack or deep infection, three times as likely to have a stroke and four times as likely to need blood transfusions, compared to those having partial replacement. In addition, after total knee replacement patients are in hospital longer and the chance of being readmitted or requiring a re-operation during the first year is higher.
- Patients who had a partial knee replacement are 40 per cent more likely to have a re-operation, known as revision surgery, during the first eight years after the replacement, than those that had a total knee replacement.

Up to half of knees that require replacement, usually because of severe osteoarthritis, can be treated with either partial or total replacements.

With partial replacements, also known as unicompartmental replacements, only the damaged parts of the knee are replaced and the remaining surfaces and all the ligaments are preserved.

Because of the higher revision rate of partial knee replacement surgery, which is traditionally regarded as the most important factor to determine the choice of implant, its use in the treatment of end-stage osteoarthritis is controversial, with only about 7,000 being performed annually in the UK. Partial knee replacements are often offered to younger people who, because of their higher activity levels, have increased failure rates.

Total knee replacement is one of the most common surgical procedures, with over 76,000 performed annually in the UK. Only five per cent of patients require revision surgery over a 10-year period.

Revision, re-operation and death were uncommon outcomes of either procedure, stressed the research team.

Professor David Murray, from the Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences at the University of Oxford, who led the research, said: 'For an individual patient, the decision whether to have a partial or total is based on an assessment of the relative risks and benefits. The main benefit of the partial knee is that it provides better function.

'The risks have been assessed in this study, which found that partial knees have fewer complications and deaths; however they do lead to more re-operations. Patients will however be more concerned to avoid death and major complications, such as heart attack or stroke, than re-operations.

'To put the risks in perspective, if 100 patients had a partial knee rather than a total knee replacement there would be one fewer death and three

more re-operations in the first four years after surgery.'

If the number of partial replacements were to increase from 8 to 20 per cent, the NHS could potentially prevent 170 deaths, at the cost of 400 additional revisions.

Professor Murray added: 'Patients will be concerned about death following [joint replacement](#). However patients who have severe arthritis are very immobile and therefore tend to be unfit. Joint replacement overall, by making patients more mobile and fit tends to save lives.'

His colleague Alex Liddle, an Arthritis Research UK clinical research fellow who ran the study, added: 'Partial and [total knee replacements](#) are both successful treatments and a large proportion of patients with end-stage knee osteoarthritis are suitable for either.

'Both have advantages and disadvantages, and the choice of which procedure to offer will depend on the requirements and expectations of individual patient.'

The team's study used data from the National Joint Registry for England and Wales on the adverse outcomes of more than 100,000 matched patients who had undergone both types of [knee surgery](#).

Medical director of Arthritis Research UK Professor Alan Silman said: 'This is a comprehensive study that provides both patients and surgeons with valuable information about the risk and benefits of two effective types of knee replacement operations. This new knowledge will enable them to make an informed decision about which type of surgery is best for particular individuals.

'Even in the elderly, with other health problems, [knee replacement](#) is a very safe and effective procedure. These data remind us that there are

still patients, who fortunately very rarely, can develop life threatening complications following surgery and we still need to find surgical approaches that takes away these risks whilst retaining a successful outcome for [patients](#).'

Provided by Oxford University

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