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Brokering Innovation Through Evidence

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How shoulder surgery demonstrates the need to improve evaluation of surgical procedures

The UK has strict regulations to ensure new medicines work and are cost-effective before they are recommended for use in the NHS. However, surgical procedures are less strictly regulated.

It can be difficult to categorise procedures as 'new' rather than modifications, and outcomes may depend on the skill of the person performing the procedure. It can also take many years to change established practice and generate clinical evidence.

This study used a type of surgery for shoulder pain called subacromial decompression as a case study to explore the relationship between evolving evidence and clinical practice, to illustrate the need for better evaluation of surgical procedures.

What was the aim of the project?

This project aimed to explore the use of subacromial decompression for shoulder pain in England over the last 10 years, and how much money was spent on it before evidence from two randomised control trials questioned the procedure's effectiveness. Randomised controlled trials are the best test of a medical intervention.

We also compared the use of subacromial decompression in England with other countries.

The research is supported by the National Institute for Health Research (NIHR) Applied Research Collaboration (ARC West) at University Hospitals Bristol NHS Foundation Trust.

What did we do?

We examined 10 years of hospital records to explore the use and cost of subacromial decompression across England, from 2007/8 to 2016/17.

What we found and what this means

In England, subacromial decompression nearly doubled from 15,112 procedures in 2007/8 to 28,802 procedures in 2016/17. These procedures now cost more than £125 million per year. Even higher rates of these procedures are carried out in countries with less regulated health systems.

The two randomised controlled trials published in 2018 showed subacromial decompression to be no more effective than having no surgery at all or placebo surgery. However, healthcare systems have been unable to avoid the rapid uptake of this procedure, even though there is no evidence that it is effective. Having unnecessary surgery exposes patients to avoidable risk of harm and wastes large amounts of money.

We conclude that high quality randomised trials are needed before new surgical procedures are widely adopted, to avoid over-treatment and wasted resources. We also need better regulations and tools to stop the use of ineffective procedures.

What next?

We recommend exploring how clinical trial evidence affects the development of local policies, national guidelines, and decision-making between surgeons and patients. The evidence from the recent trials should lead to a reduction in the use of subacromial decompression, but new studies could enhance and speed up the transfer of knowledge from trials into clinical practice.

Read the paper

Longitudinal study of use and cost of subacromial decompression surgery: the need for effective evaluation of surgical procedures to prevent overtreatment and wasted resources
Tim Jones, Andrew Carr, David Beard, Myles-Jay Linton, Leila Rooshenas, Jenny Donovan, William Hollingworth

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Find out more

arc-w.nihr.ac.uk/shouldersurgery

What is NIHR ARC West?

At the NIHR Applied Research Collaboration (ARC) West, we conduct applied health research with our partners and others in the health and care sector, alongside patients and members of the public. Applied health research aims to address the immediate issues facing the health and social care system. We also help bring research evidence into practice and provide training for the local workforce.

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