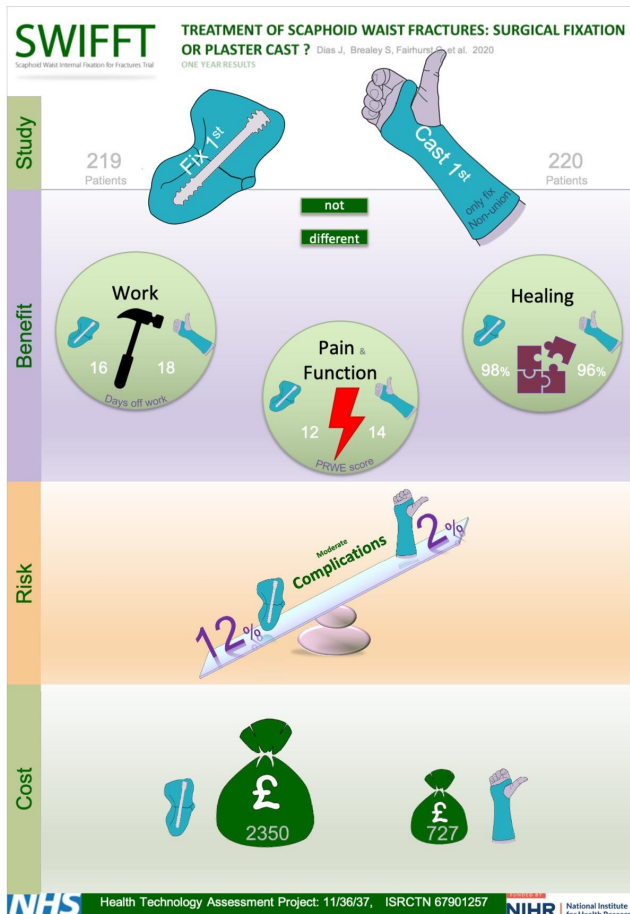


'Avoid surgery' for most cases of common wrist fracture in young people, urge researchers

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Scaphoid waist fractures of the wrist: plaster cast or surgical fixation? Credit: University Hospitals of Leicester NHS Trust

A study led by University Hospitals of Leicester NHS Trust has found that plaster casts are just as effective at healing scaphoid waist fractures in the wrist as surgery. The SWIFFT trial, funded by the National Institute for Health Research, concludes that for a scaphoid waist fracture in the wrist a plaster cast should be used in the first instance,

with surgery only being considered if the bone doesn't heal. The findings are published in *The Lancet* today.

Fracture of the scaphoid bone (one of eight small bones in the [wrist](#)) is common in young, active people, caused by a fall on the hand or the hand being suddenly forced backward. The research suggests that by opting for a plaster cast, patients can avoid the risk of [surgery](#), while hospitals can keep service delivery simple and cost effective, without compromising [patient outcomes](#).

439 [adult patients](#) with a scaphoid waist fracture of the wrist were enrolled between 2013 and 2016 from orthopaedic departments in 31 NHS hospitals across the United Kingdom. Patients who agreed to take part were randomly assigned into two arms of the trial: either to have surgery to hold the broken scaphoid with a special screw, or to have the wrist held still in a plaster cast (with surgery offered after six weeks to those that were still not healed).

After one year from the initial injury, patients were measured on a number of factors, including wrist pain and function, bone healing, complications from treatment, and average days of work lost.

To assess their wrist pain and function, patients were asked to complete a questionnaire which had a [total score](#) of between 0 and 100, where a higher score indicated worse pain and function. At one year, patients in the surgery group had a score of 12, compared to a score of 14 in the plaster group, showing no significant difference in patient-reported outcomes. The study days of work lost were comparable between the two groups (17 days for surgical patients, and 18 days for plaster cast patients). There was also no significant difference in the number of [fractures](#) that did not heal properly between the two patient groups (2% for the surgical

group; 4% for the plaster cast group). However, patients who had surgery were assessed by the hospitals to have more complications following treatment (12%) than the plaster cast group (2%).

healing and the time taken to return to work is the same as when a cast is used. Despite a recent rise in surgical procedures to fix scaphoid fractures, there is no evidence that surgery produces better outcomes for patients.

The SWIFFT study finds that for a scaphoid waist fracture

a plaster cast should be used first and if the fracture doesn't heal it should be fixed with a screw	
RCT (study design)	<p>Fracture of the scaphoid bone (one of eight small bones in the wrist) is common in young, active people, caused by a fall on the hand or the hand being suddenly forced backward.</p> <p>In this study, 439 adult patients agreed to either have surgery to hold the broken scaphoid with a special screw or to have the wrist held still in a plaster cast (with surgery offered after six weeks to those that are still not healed). The decision about which treatment was given was made using randomisation, which is similar to tossing a coin. This ensures that the two groups are as similar as possible.</p> <p>Patients reported their own wrist pain and function at six weeks, three months, six months and one year. Information was also collected on bone healing, complications from treatment and costs.</p>
Benefit (what works)	<ul style="list-style-type: none"> • Pain and function: Patients filled in a questionnaire (called the PRWE: Patient Rated Wrist Evaluation) that assessed their wrist pain and function and the total score is a value between 0 and 100, where a higher score indicates worse pain and function. At one year, patients in the surgery group had a PRWE score of 12 and in the plaster group it was 14. • Healing: Over the year after injury the fracture did not heal properly in four patients (2%) in the surgery group compared with nine patients (4%) in the plaster cast group. • Days off work: In the year after injury, surgical patients reported having lost 16 days of work and patients in the plaster cast group having lost 18 days of work on average.
Risk (harm to patients)	<p>Over the year, the hospital recorded any complications caused by the treatments given.</p> <ul style="list-style-type: none"> • Of those patients who had surgery to fix the broken scaphoid 12% had complications that caused some lasting change. • Of those treated in a plaster cast 2% had such problems.
Cost (value for money to the NHS)	<p>Patients completed a questionnaire about their Quality of Life (QoL) that asked about their mobility, self-care, usual activities, pain/discomfort and anxiety/depression. The QoL score has a value between 0 to 1, and a higher score indicates better health. Over the year, patients in the surgery group had a QoL score of 0.832 and in the plaster group had a QoL score of 0.814.</p> <p>Over the year, the cost of surgery to the NHS was £2,350 and cost of plaster cast treatment was £727.</p> <p>The considerable extra cost of surgery for the little benefit in QoL was not good value.</p>

"With our research, patients and medical practitioners can be confident that we can treat patients with this fracture safely and effectively in a cast, resorting to surgery only when the bone doesn't heal".

The researchers also considered the health economics of surgery versus plaster cast. Over the year, the cost of surgery to the NHS was significantly higher at £2,350, compared with the cost of [plaster](#) cast treatment, which was £727 for each patient.

The study team collaborated with the University of York Trials Unit on the design and delivery of the trial. Dr. Stephen Brealey, trial manager in York, said: "We are incredibly grateful to the patients who took part in this important study, which shows with their support what can be achieved through research to ensure [patients](#) get the best care by informing doctors' decision-making, which also benefits the NHS."

The study 'Surgery versus cast immobilisation for adults with a bicortical fracture of the scaphoid waist (SWIFFT): a pragmatic, multicentre, open-label, randomised superiority trial', is published in *The Lancet*.

A summary of the SWIFFT study which finds that for a scaphoid waist fracture of the wrist, a plaster cast should be used first and if the fracture doesn't heal it should be fixed with a screw. Credit: University Hospitals of Leicester NHS Trust

More information: *The Lancet* (2020). [www.thelancet.com/journals/lan... \(20\)30931-4/fulltext](http://www.thelancet.com/journals/lan... (20)30931-4/fulltext)

Professor Joseph Dias, orthopaedic surgeon at the University Hospitals of Leicester NHS Trust and Chief Investigator for the SWIFFT trial, said:

Provided by National Institute for Health Research

"This study confirms that putting a wrist with a broken scaphoid in a plaster cast provides as good healing as surgery, so long as the few that do not re-join are identified and fixed by the medical team. Fixing the scaphoid by surgery does not speed up

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