

Fit for surgery?

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(Medical Xpress)—Age should not be a barrier to having an operation, fitness should be the key measure, is the finding of new research from Newcastle University.

Historically, age has been viewed as a risk factor for surgical survival and complications, with older people perceived to have a lower survival rate and higher complications.

But now researchers from Newcastle University, UK and the Newcastle Hospitals NHS Foundation Trust have found that being physically fit is a more important factor than age when it comes to the outcomes of surgery and the length of hospital stays. Fit older people had a lower risk of dying, recovered better after surgery and had a shorter stay in hospital than unfit younger people.

The research also revealed that on average an unfit person cost the NHS an extra £6,000 every time they have an operation, due to longer recovery times in hospital.

Professor Mike Trenell, an NIHR Senior Fellow at Newcastle University who led the study, said: "To ensure the best possible outcome after surgery, we have found that it doesn't matter how old you are – it matters how fit you are."

Currently age is a key determinant in deciding if someone is suitable for surgery, but the researchers say that based on their data, there should be a rethink.

The study, published in the *Annals of Surgery*, involved a group of 389 adults who underwent elective liver surgery at the Freeman Hospital in Newcastle upon Tyne over a 3 year period. Their physical fitness levels were tested before their operation and then their outcomes were monitored. Physical fitness was determined by a clinically supervised maximal [exercise test](#) where patients cycle up a virtual hill that gets progressively harder whilst their breathing and heart are measured.

For patients under 75 and fit, the mortality rate after surgery was less than 1% but for those over 75 and fit it was 4%. For patients who were under 75 and unfit, mortality significantly increased to 11% and for those over 75 and unfit it increased again to 21%, more than five times that of their fit counterparts.

Regardless of age, people who were physically unfit also spent on average 11 days longer in hospital than the fitter ones [Older people](#) who were described as fit, spent the same number of days in hospital as fit younger people.

This is the first time that researchers have looked at just one type of surgery in a wide span of ages and it builds on previous studies by the same team have looked at other surgical procedures, with similar findings.

Professor Trenell said: "This data reinforces how important it is to be physically fit before surgery, no matter how old you are. We're not talking about being an athlete but fit enough to ride a bike.

"In fact, being older does not necessarily mean that you shouldn't have surgery. But, if a patient is older and has a low level of physical fitness the care team can now have an informed conversation with them about whether surgery is the best option for them. Being physically fit also results in a much more cost efficient surgical service and we now need to

take seriously how we can help people stay physically fit before [surgery](#).

"For the first time, testing [physical fitness](#) provides clinical care teams the tools they need to make informed decisions about surgical risk, both in terms of patient wellbeing and resource allocation and these findings should be taken seriously."

Dr Chris Snowden, Consultant Anaesthetist of the Newcastle Hospitals [NHS](#) Foundation Trust and Senior lecturer at Newcastle University said:

"This data strongly supports the long held clinical impression that 'physiological' age is more important than 'chronological' age in terms of surgical outcome. It also emphasises the importance of making an objective measurement of fitness to classify preoperative risk.

Optimistically, it means that there is an exciting opportunity to improve surgical outcome, across all age groups, but especially in the older person, by improving preoperative fitness."

More information: [journals.lww.com/annalsofsurgery ...
s_Predicts_Mortality](https://journals.lww.com/annalsofsurgery/FullText/2013/06000/Physical_Fitness_Predicts_Mortality.aspx)

Provided by Newcastle University

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