

# Keyhole may trump robotic surgery for mitral valve repair

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Keyhole surgery for heart valve repair may trump robotic surgery, because it is associated with lower rates of subsequent heart flutter and blood transfusions, and a shorter hospital stay, reveals research looking at the pros and cons of different surgical approaches, published online in the journal *Heart*.

But as keyhole, robotic, and conventional [surgery](#) are all very safe and effective, the choice of which to perform should be governed by patient preference and the experience of the operating surgeon, suggest the researchers.

Despite the steep learning curves and additional cost involved, mitral valve repair is the most common heart operation performed using robot assisted surgery. But to date few studies have compared it with keyhole and conventional surgical techniques.

The researchers therefore drew on a comparison of 2300 patients who needed planned mitral valve repair surgery between 2011 and 2016, and who were allocated to either [robotic surgery](#) (372), [keyhole surgery](#) (576), or conventional (1352) sternotomy—where the sternum is cut open and divided.

Rates of successful repair were high in those undergoing robotic and keyhole surgery: 91 per cent. But they were significantly lower in those who had conventional surgery: 76 percent. This was despite similar rates of degenerative disease across all the cases.

The robotic procedure took the most time to perform—224 minutes compared with 180 minutes for keyhole and 168 minutes for [conventional surgery](#).

The robotic approach had similar outcomes to the conventional approach except that there were half the number of onward discharges to further care—7% vs 15%—and one day less spent in hospital.

But compared with keyhole surgery, robotic surgery required more blood transfusions (15% vs 5%), was associated with higher rates of heart flutter (atrial fibrillation) of 26% vs 18%, and one day longer in hospital, on average.

Because the cases were all reviewed after surgery had taken place, the findings can't establish cause, caution the authors, and the [patients](#) may not be representative of all those who require [mitral valve repair](#).

There are pros and cons to each of the techniques, prompting the authors to conclude: "From a patient perspective, all three approaches provide excellent outcomes, thus patient preference and surgeon experience should dictate the approach for mitral valve surgery."

**More information:** A propensity matched analysis of robotic, minimally invasive, and conventional mitral valve surgery, *Heart* (2018). [DOI: 10.1136/heartjnl-2018-313129](https://doi.org/10.1136/heartjnl-2018-313129)

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