

Early surgery better than watchful waiting for patients with severe mitral valve regurgitation

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Patients with severe mitral valve regurgitation who are otherwise healthy should have mitral valve repair surgery sooner rather than later, even if they feel no symptoms, a Mayo Clinic-led study by U.S. and European researchers found. The results challenge the long-held belief that it is safer to "watch and wait" until a patient has symptoms, such as shortness of breath. This is the largest study to show that patients who undergo surgery early after diagnosis have improved long-term survival and lower risk of heart failure.

The findings will be published Tuesday in the *Journal of the American Medical Association*.

Mitral valve regurgitation is common and increasing in frequency; it is estimated that by 2030, close to 5 million Americans will have moderate to severe mitral valve regurgitation. It occurs when the mitral valve does not close properly, causing blood to be pumped backward instead of forward. Oxygen-rich blood is thus unable to move through the heart to the rest of the body as efficiently. A heart murmur is often the first sign of mitral valve prolapse. As [mitral valve disease](#) progresses, symptoms may be absent due to the body's ability to compensate. This initial lack of symptoms preserves quality of life, but prevents patients from being alerted to the seriousness of their condition. One of the most severe complications is heart failure, in which the heart is unable to pump enough blood to the rest of the body, causing [shortness of breath](#), fluid

buildup, fatigue and death.

"The results of the current study showed that early surgery provided significant benefits over watchful waiting—and interestingly, were of a magnitude greater than we anticipated," says lead author Rakesh Suri, M.D., D.Phil., a cardiovascular surgeon at Mayo Clinic in Rochester.

"This is perhaps counterintuitive. Patients assume they are more severely affected if they need surgery. Actually the opposite is true. Once a patient develops severe mitral valve leakage—even without symptoms—we now know that it is preferable to promptly repair the leakage rather than letting the heart deteriorate.

"Our study shows that the quicker we can stop the leak the better the outcome. In essence early surgery, ideally mitral repair, performed at low risk, is the best way for patients with severe mitral regurgitation to live the longest and to enjoy those years without developing disabling heart failure symptoms."

In the study of 1,021 patients with severe mitral valve regurgitation without symptoms or other classical triggers of surgery, 446 underwent mitral valve repair surgery within three months of diagnosis, while 575 had an initial period of medical monitoring and surgery remained a possible option for the future. The study used the Mitral Regurgitation International Database consisting of participants from six centers in France, Italy, Belgium and the United States. Mayo Clinic was the only U.S. clinical center.

Participants were followed for an average of 10 years, the longest of any study examining when to operate. Long-term survival rates were significantly higher for patients who had surgery within three months of diagnosis than for those who avoided surgery for the initial three months following diagnosis (86 percent versus 69 percent at 10-year follow-up). In addition, long-term [heart failure](#) risk was lower for patients who had

surgery early (7 percent versus 23 percent at 10-year follow-up). There was no difference between the two groups in late-onset atrial fibrillation, another concern for patients with severe mitral valve regurgitation.

Years ago, the risk of surgery and complications was greater, and watchful waiting made more sense, says senior author Maurice Enriquez-Sarano, M.D., a cardiologist at Mayo Clinic in Rochester. But today, specialized high volume valve repair centers have a greater than 95 percent success rate for [mitral valve repair](#). In addition, the operative risk of death today is less than 1 percent, while it was more than 10 times higher in the 1980s, he says.

"The potential benefit of performing surgery to correct the mitral regurgitation before symptoms occur has been hotly debated, and the comparative effectiveness of the surgical and medical approach was previously unknown," Dr. Enriquez-Sarano says. "If [surgery](#) is appropriate, depending on age, other conditions and goals in life, we have the opportunity today to eliminate the disease before it gets worse. We can restore life expectancy."

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