

Male Fertility Treatment: A Closer Look

Couples who have problems conceiving can also experience psychological and economic hardships that lead to trauma and stress. However, fertility problems are not unique to women; studies show that “male factor” infertility is the cause in nearly 40 percent of all cases.

For those patients, there are male fertility treatments available. They include:

- [Vasectomy reversal](#)[Sperm retrieval](#) for azoospermia
- Microsurgical varicocelectomy

Performing surgery on the testicles and other organs of the reproductive system, however, has always posed some challenges.

“The structures of the spermatic cord and within the testicles are very small,” says Dr. Ranjith Ramasamy, reproductive urology surgeon with the University of Miami Health System. “In the past, that required a fixed microscope to provide the level of magnification required for the procedure.”

The traditional approach

While a traditional microscope made it easy to see while performing fertility microsurgery, it’s not a tool designed to move around. Both the large, unwieldy microscope and the patient had to remain in a fixed position throughout the procedure. “Some have advocated for a robot to address this challenge, but they traditionally have only provided 10x magnification,” says Dr. Ramasamy. “A microscope provides 25x magnification.”

Better tech means better results (plus, you go home faster)



The ORBEYE is an imaging tool that provides the agility and mobility of a robot with the magnification of a microscope — and more.

The camera provides the highest resolution, 3D imagery at the end of a fully mobile robotic arm. It also can zoom to up to 26x magnification, as needed, for specific procedures.

As a microsurgical team works, all of this is displayed on a large 4K monitor for easy observation. No more looking through an old-fashioned microscope to observe the area on which they are operating.

Dr. Ramasamy and his team performed the first-ever male infertility microsurgery in Florida using the 4K-3D Video Microscope. So far, they have used the tool for more than 15 fertility microsurgeries ranging from vasectomy reversals to microsurgical varicocelectomy. The medical device is a game-changer, he says, not only for fertility procedures but virtually any type of microsurgery.

“Overall, the operative times using the ORBEYE are shorter, which means the patient’s recovery time is faster, and he gets to go home sooner,” he says.

Keeping an Orb-eye on the future

The ORBEYE is a fairly new medical tool, but even the early published research on using the device appears to be quite positive. A recent article in the journal [*Clinical Neurology and Neurosurgery*](#) evaluated its use in 14 different microneurosurgeries, which are surgeries using extreme magnification to see extremely small structures in the body.

Overall, the device scored quite high and was well-liked by the neurosurgeons who used it. In particular, the compact size, mobility, and the freedom from having to squint through a microscope lens were all highly rated characteristics of the tool. What’s more, neurosurgeons tended to like the device even more when they performed additional procedures with it.

“I can see the ORBEYE having value not only for fertility microsurgeries but surgeries of the hand, plastic surgeries or transplants,” says Dr. Ramasamy. “Almost any microsurgery could benefit from this device.”

Wyatt Myers is a contributing writer for UMiami Health News.

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