

# University of Miami Researcher Develops Stem Cell Harvesting Technology

By NIRMAL MULAİKAL · NOV 20, 2019



Dr. Robert Marx stands with University of Miami Miller School of Medicine residents and faculty in 2009. From left to right: Alberto Olavarria, Lawrence Armentano, Robert Marx, Francisco Esser, Juan Samaniego, Jesús Gomez, and Joseph Grider.

A University of Miami doctor says he can rebuild a whole jaw using new stem cell collection technology.

Known as the “MarrowMarxman”, the FDA-registered device was developed and tested by Dr. Robert Marx, who is a professor and chief of the Division of Oral and Maxillofacial Surgery at the University of Miami [Miller School of Medicine](#).

“The medical device is an improvement over current technology,” he said.

Marx has been studying and developing the tool since 2008. During an operation, the surgeon inserts the “unbreakable and flexible” tool into a bone that can be penetrated and contains stem cells. Then, it enters the bone marrow, where most of the stem cells can be harvested.

“It’s approximately eight inches long. It’s a flexible rod and is about the diameter of a pencil,” Marx said. “So far, we’ve seen that it harvests more cells than other prototypes.”

Current approaches to stem cell collection can be painful and uncomfortable for patients, according to Marx.

But, this device offers many benefits for surgeons and patients: a safe, minimally invasive procedure, avoidance of blood loss, and shorter, less expensive hospital stays. Removed stem cells can also be replaced within 48 hours in order to prevent permanent loss.

“Ultimately, we can send a patient home in better condition through safer methods,” Marx said.

Marx will be presenting his research at the upcoming [World Stem Cell Summit](#) held in Miami this January. The device will be manufactured by [Lenkbar](#), a company based in Naples that specializes in medical devices.

“It will be available to the medical community sometime in January,” Marx said.

University of Miami researchers have been interested in stem cell research and its applications for years. In 2008, the University of Miami Miller School of Medicine founded the [Interdisciplinary Stem Cell Institute](#), which includes more than 50 University of Miami scientists from 14 different academic departments.

“We are now ready to regenerate new tissue and do it with minimally invasive techniques,” said Dr. Theodore Malinin, a professor of orthopedics at the University of Miami, in a press release earlier this month. “Today, with this type of a device, and even with some of the other ones out there, we now have the ability to harvest greater numbers of stem cells, with greater safety.”

While scientists continue to explore the potential of stem cell treatments, stories of illegal, non FDA-approved therapies given to people by for-profit clinics has caused concern. A couple years ago, three elderly women were [blinded by unproven stem cell treatments](#) in Florida.

The U.S. Food and Drug Administration [issued a warning in September about illegal stem cell therapies](#).

“Stem cells have been called everything from cure-alls to miracle treatments. But don’t believe the hype. Some unscrupulous providers offer stem cell products that are both unapproved and unproven. So beware of potentially dangerous procedures—and confirm what’s really being offered before you consider *any* treatment,” the warning said.

<https://www.wlrn.org/post/university-miami-researcher-develops-stem-cell-harvesting-technology>