

ROBOTIC SURGERY REVOLUTIONISES THE TREATMENT OF HAIR LOSS

The ARTAS® Robotic System, the first and only FDA-cleared robotic hair transplant technology, is breaking new ground. Wendy Lewis spoke to three leading surgeons for insights into how this technology is transforming their approach to hair restoration

RESTORATION ROBOTICS, Inc., the company that developed the ARTAS Robotic System, is at the forefront in hair restoration. Follicular unit extraction (FUE) procedures have progressed from using labour-intensive handheld instruments to the computer-assisted, image-guided robot.

This innovative technology offers benefits in three key areas; precision, control, and reproducibility. It dissects follicular units accurately and consistently—hundreds to thousands of times in a single session. Visualising the surface in three dimensions, the ARTAS Robotic System uses programmed algorithms to select and extract the most robust follicles. Only what is necessary is harvested, physicians can adjust settings without interrupting the procedure, and the robot is able to compensate for patient movement.

A clinically-validated procedure

The ARTAS Robotic Hair Transplant is turning out to be a highly profitable clinically-validated procedure that can be incorporated into an existing aesthetic practice to attract a whole new segment of patients.

James A. Harris, MD, FACS, Medical Director, The Hair Sciences Center of Colorado in Greenwood Village, CO, has been using the system for over 7 years. 'The robot addresses patients' goals of what FUE offers,

which is less pain, more predictable clinical results, no linear scar, and the latest new technology.'

By shortening the learning curve of FUE, the ARTAS Robotic System allows physicians to achieve a level of proficiency that would typically require years of practice with manual techniques. 'From the perspective of the physician, even if you perform FUE already, using the robot gives you superior quality grafts. It may take 6-12 months to become proficient at FUE by hand. The ARTAS System offers close to immediate ability to provide grafts at a reasonable speed, without the need for clinical skills and eye-hand coordination,' he continued.

Another advantage to the physician is that fewer personnel are needed as compared to a strip harvest technique. The robot is able to determine how hair grows in the donor area, and can then map out the locations of the hairs, including the angle of growth. According to Harris, 'The difference is really how the hair is extracted from the donor area. Traditionally, hair transplants involve the removal of a strip of skin and a team of technicians to remove grafts one by one. The ARTAS System removes the grafts one at a time directly from the donor area, which is less invasive.' As a result, patients also have a relatively quick recovery time.

According to Dr Marc R. Avram, clinical professor of dermatology at Weill Cornell Medical College in New



York City, 'The ARTAS System allows us to accurately and efficiently harvest individual follicular units. It has been particularly helpful for patients who like to wear their hair short where a visible donor scar would be of cosmetic concern, and also for patients who prefer not to have sutures following surgery.'

Paul T. Rose, MD, JD, a hair restoration surgeon in Miami, believes that for physicians who have difficulty mastering manual FUE, the robot is the best alternative. 'It has the ability to perform repetitive manoeuvres that would otherwise be very physically taxing on a person trying to do it day in and day out. Overall I think that the robotic device can out pace the manual technique,' he said.

This allows physicians to introduce a new procedure into their practices quickly. But Harris cautions that just having the machine and someone to operate it will not necessarily produce satisfactory results:

'Physicians still need to learn about hair disease, medical intervention, surgical technique, and aesthetic considerations.'

ARTAS Hair Studio™

The ARTAS Hair Studio™ 3-D modelling software is a new interactive consultation patient tool. With a viewable touchscreen, ARTAS Hair Studio allows patients to collaborate with their physician through the aesthetic hair pattern design process. The personalised design is transferred to the ARTAS Robotic System for precise recipient site creation on the patient's scalp.

Harris is part of the team that evaluated the development of ARTAS Hair Studio. 'One of the difficulties we have in hair restoration is how to describe the kind of result the patient may get with a certain number of grafts. Until now, they have had to imagine it on their head. With this new tool, we can look at the patient's head and determine how many grafts they may need, and be able to show them exactly what they are going to look like in 6 months if we do, for example, 1500 grafts in a specific area,' he said.

According to Harris, 'If someone is considering a procedure, as the surgeon I have to be honest about the realities of hair restoration. So, if they need 2000 grafts but they only want to pay for 1000, I may choose not to do the surgery because the patient isn't going to get results that he wants. If they can only afford 1000 but they need 2000, I may suggest placing 1000 grafts in a smaller area so it looks decent. With the ARTAS Hair Studio, the patient can decide if they can accept the results of the 1000 grafts as they can get an accurate look at what the transplant may look like. It is an

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amazing tool for planning outcomes.' This innovative tool gives patients confidence because they can visualise simulated results.

There are numerous patient benefits for the ARTAS Procedure. The minimally-invasive procedure offers low downtime, is virtually pain-free, and there is no linear scar, tissue excision, or stitches needed. The ability to wear hair in any style, short or long, is a major plus. Results are natural-looking with faster recovery times. According to Harris, the procedure is comfortable and easily tolerated. 'Some patients watch movies on their iPhones. I normally sedate my patients so they can sleep for the whole procedure.'

Raising awareness of FUE

Restoration Robotics is raising consumer awareness of FUE, and they have expanded it so that more people are seeking treatment. 'Now that there is an option where patients don't have to take skin out of their scalp, they want FUE. I now do 12 to 16 cases with the robot per month,' said Harris, and he is seeing patients from all over the world. He describes the flow chart, as he calls it, of how patients find out about ARTAS. 'They start thinking about hair restoration and looking at treatments online. Then they look into surgical options, and find out about FUE. When they read up on FUE, they learn about the robot. The technology is grabbing a lot of people; 90% are interested in FUE and 80% or more are interested in the ARTAS Procedure.'

According to Avram, the majority of his hair transplant consultation patients are aware of the robot as an option. 'We discuss both the robot and elliptical donor harvesting with


each of our patients. Many patients opt to pursue the ARTAS, while others continue to do the ellipse.'

'For patients averse to having a linear scar, the robotic approach is very comforting to them. The thought of having a linear scar on the posterior scalp discourages some patients from pursuing transplantation,' said Avram. 'If a patient chooses to shave their hair, after the procedure there will be no linear scar on the back of the scalp or any evidence of where hair was transplanted on the frontal scalp.'

Practice differentiator

The ARTAS Robotic System lets physicians take hair restoration technology to a new level, and is a real point of difference. It represents a new way to attract prospective patients who would not normally consider hair restoration surgery, owing to recovery time and visible scarring, among other factors.

'In large part the robotic procedure is meeting patient expectations,' according to Rose. 'Patients are pleased with the healing of the wounds and the ability to wear their hair shorter than they might be able to with a strip harvest. Patients are intrigued by the robotic approach and this alone brings potential patients into the office.'

'By having the robotic system I believe that patients have the sense that we are in the vanguard; offering the latest advances for hair replacement. It shows that we are willing to make the capital expenditure to offer patients all of the techniques that have been proven to work. It is a marketing advantage,' said Rose. 

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