

New Robotic Hair Transplantation Technology Provides Path to the Future

In recent years, surgical hair transplantation has been going through a significant, but quiet revolution. Follicular Unit Hair Transplantation, the standard strip excision method that is still widely used, and the more minimally invasive Follicular Unit Extraction (FUE) approaches are being challenged by a new technology that automates the harvesting process with more precision. This innovative robotic approach is accelerating expansion of the hair restoration market, indicating a paradigm shift in this industry.

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ARTAS Hair Studio and ARTAS Robotic System Signal a Paradigm Shift in Hair Restoration



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ARTAS Robotic System

By Jeffrey Frentzen, Executive Editor

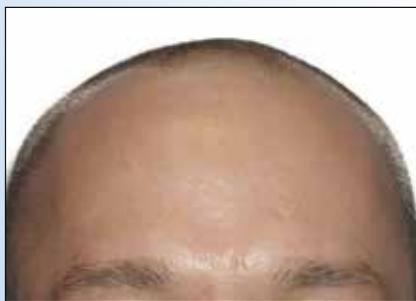
The ARTAS® Robotic System from Restoration Robotics, Inc. (San Jose, Calif.), harvests hair for transplant using a minimally invasive dissection process mounted on an image-guided robotic arm. Harvesting individual follicular units from the back of the head, this system provides an unparalleled level of precision, control, reproducibility and efficiency. Since only the most robust and viable hairs are selected to harvest, the system consistently and repeatedly provides very high quality grafts for transplant.

This minimally invasive procedure is proving to be the new standard for hair transplant patients. Unlike the traditional strip procedure, ARTAS does not require a large incision on the back of the head, sutures or staples to close the wound, so there is no risk of a linear scar. In addition, patients recover quickly, report minimal discomfort post-procedure and are able to return to daily exercise and other physical activities without limitations. Physicians are finding that these benefits bring new patients into their practices, asking for the ARTAS Robotic Procedure by name.

“There is no doubt that the ARTAS System is causing a paradigm shift,” expressed Mark A. Bishara, M.D., a cosmetic surgeon in Mansfield, Texas. “For physicians, and in particular hair transplant surgeons who are only doing the strip-based procedure and not really doing FUE, from the start they will be much more efficient at using a robot than if they try to develop the hand-eye coordination necessary for manual procedures. The ARTAS Robotic System is definitely going to fill different voids in various practices.”

“Increasingly, plastic surgeons and dermatologists are investigating the ARTAS Robotic System,” noted Jim McCollum, CEO of Restoration Robotics. “They see the technology not only from the aspect of how patients will benefit, but also how this is a unique opportunity to substantially grow their practice revenues.”

As with the introduction of any transformative technology, the physician community needs time to assess its value and potential for bringing in new patients. In the case of the ARTAS Robotic System, that time has come, according to Dr. Bishara. “I had a mixed practice of both cosmetic surgery and reconstructive surgery, along with hair restoration where we did around 50% strip procedures and 50% FUE,” he said. “There is no doubt that the results we are achieving now from robotic transplantation – with the density and overall hair maps – are certainly acceptable to forego having a strip taken out of the back of your head. That is coming from somebody who performed the manual transplantation procedure for several years before purchasing the robotic system.”



Before Tx



After ARTAS Robotic hair transplantation
Photos courtesy of Restoration Robotics, Inc.

According to Gregory A. Turowski, M.D., Ph.D., F.A.C.S., a plastic surgeon in Skokie, Ill., the ARTAS Robotic System eases the tediousness of manual approaches and also dramatically speeds up the overall procedure. "I had used some FUE systems before, but they were manual systems that require a lot of experience and concentration for long periods of time, and they were relatively slow," he reported. "The main advantage of using the ARTAS Robotic System is that it is faster than transplanting manually, even for an experienced person, and it does not require a steep learning curve. One can become quite proficient compared with other approaches to FUE. More than that, I think it improves the quality of the grafts. They are more consistently not denuded and not stripped from the surrounding tissue. This combination of features has us using the robotic system more than the manual technologies."

Herbert S. Feinberg, M.D., a dermatologist in Englewood, N.J., implemented the ARTAS Robotic System in his practice to speed up the FUE process. "I found manual FUE too tedious," he said. "The ARTAS Robotic System allowed me to perform FUE with more competence than I could ever achieve manually. Certainly, it is also less physically demanding. I have now treated a number of patients who had traditional FUE or strip procedures in the past. All of them said they preferred the robotic transplant and they would never go back to a strip procedure if they needed more work in the future."

Driving Patient Acquisition

In a 2013 Practice Census by the *International Society of Hair Restoration Surgeons* (ISHRS), hair transplantation is reported to be a \$1.9 billion business worldwide, having grown 48% since 2008. In order to leverage this significant growth, Restoration Robotics has invested in a robust search engine marketing strategy, a social media campaign and patient outreach programs to drive market expansion and patient acquisition. "We are committed to growing the hair transplantation market," said Mr. McCollum.

When people start noticing their hair loss, they typically go online to search for information, Mr. McCollum continued. "In 2013, we generated over 27 million print and online ad impressions. We will accelerate this momentum by continuing to build upon our extensive search and print advertising campaigns. Anyone searching online in this category will find our information at the top of the search results page, driving them to visit our site and find a local ARTAS physician."

A recent poll by Restoration Robotics found that 9 out of 10 physicians using the ARTAS Robotic System report an increase in patient interest, Mr. McCollum shared. "Due to the dramatic increase in interest surrounding the

ARTAS Robotic Procedure, our website traffic has increased exponentially to 5,000 visits per week."

According to Dr. Bishara, "Since my adoption of the ARTAS Robotic System, my practice has grown from performing three to four hair transplantation cases per month to between 12 and 15 cases per month. To keep up with the patient demand, I decided to purchase my second ARTAS System a year later."

"In our experience, we have seen that ARTAS customers who perform as few as four procedures per month can pay off the robot in a year or less," Mr. McCollum advised. "Our case volume from 2012 to 2013 has quadrupled and we are seeing fantastic results so far in 2014."

For Dr. Turowski, Restoration Robotics's public relations efforts have impacted his practice. "They have always wanted to help us out in these ways, and I am happy to see they are now promoting the ARTAS Robotic System more thoroughly to the public and among physicians, too. The time seems right to do more to get the word out. At the outset, the company's marketing was geared around promoting physicians that use the robotic system, but now the outreach revolves around educating patients about the robotic technology itself."

Any time a company introduces a technology that is relatively new to the consumer the manufacturer bears a large majority of the burden to educate via public awareness and other campaigns. "Restoration Robotics has done exactly that," noted Dr. Bishara. "They have used cooperative advertisement agreements for more of the grassroots efforts, and have also taken on a large scale Google AdWords campaign for advertising the system and the procedure. Too many times, industry will focus just on the providers and leave it up to them to educate patients and the public on new techniques and technologies. However, Restoration Robotics is taking the lead in this case, and their efforts have led to a significant rise in patients asking for the robotic procedure."

The company's patient marketing program is a vital component for practice success, noted Dr. Feinberg. "The materials provided by Restoration Robotics are well thought out and professionally presented. Most important to me was the company's focus on Internet presence. While most of my patients were referred from traditional sources, such as other patients, physicians and barbers, the Internet has been the go-to medium for most people seeking information about robotic transplants. For example, a majority of my consults have come to me via the Internet."

"You will need all the help you can get when you're starting up something that is so new, unique and somewhat mysterious to most people," Dr. Feinberg



Before Tx



After ARTAS Robotic hair transplantation
Photos courtesy of Restoration Robotics, Inc.



Before Tx



After ARTAS Robotic hair transplantation
Photos courtesy of Gregory A. Turowski, M.D., Ph.D., F.A.C.S.



ARTAS Hair Studio

indicated. "Today, to make yourself visible in what has become a quite competitive environment you need professional assistance."

One goal of the company's outreach is to reel in physician skeptics, as more consumers learn about the ARTAS Robotic System and approach physicians with questions about it. "These physicians will be compelled to start buying into the concept of non-manual grafting," Dr. Bishara noted. "When you look at the skeptics you can scratch the surface and find out that there is usually some other type of fear motivating their behavior. This new technology needs to be truly embraced. Whenever you see such drastic game changing taking place in medicine and other fields as well, it induces a lot of fear. For instance, surgeons that are in different parts of their career and are not willing to convert, may feel that their craft is being lost or that all of their life's efforts have gone by the wayside. They feel like they are being replaced by something newer and better. But history has taught us that those courageous enough to be early adopters and embrace new things and new technology, are those that usually end up being laureates in the field."

Dr. Turowski agreed that the ARTAS Robotic System confronts the hair restoration surgeon with a radically new procedure and technology. "It makes sense that at first people would be somewhat skeptical. Though public awareness is a key to the success of this system, public perception and physician acceptance has also changed during the past several months for one other important reason," he said. "After two-and-a-half years of doing the procedure, I have demonstrated excellent results. We have the data and the before-and-after photographs to showcase to prospective patients that the procedure not only works, but works well."

ARTAS Hair Studio — New Product Launch

In addition to extensive global marketing support for practices, Restoration Robotics will also launch the ARTAS Hair Studio, which transforms the patient consultation experience and allows the physician to develop an individualized, personalized simulated aesthetic hair transplant design for their patient.

ARTAS Hair Studio enables physicians to create an onscreen photo-realistic three-dimensional (3D) model of the patient's head, Mr. McCollum explained. "You can turn the head around in any direction and see it from any angle. ARTAS Hair Studio also allows the physician to design the transplant, create a natural-looking hairline and demonstrate different levels of hair density," he stated. "It is an interactive tool that allows the physician to sit down with a patient and try out different simulations of what the patient's hair transplant could look like with varying numbers of grafts."

Setting appropriate patient expectations during the consultation will yield greater patient satisfaction.”

This new product will provide the patient with insight into what a hair restoration procedure can offer, Dr. Bishara advised. “In addition, the ARTAS Hair Studio turns out to be a great pre-operative planning device. Physicians will be able to easily predict the amount of grafts needed for a certain procedure. It is a superior integrated approach as well as an effective sales tool during the patient consultation. It should not extend the time of the consultation, rather it improves the quality of the consult, as well as the patient experience during the interaction with the physician.”

For Dr. Feinberg, the new ARTAS Hair Studio impressed him enough to put in his order. Anything that can enhance a procedure that is already working so well, can only have a positive effect,” he expressed. “The robotic system is very high-tech and that has been a strong selling point for many of my patients. Any improvement will create more interest from patients and acceptance as well. Also, for the ‘techie’ practitioner — and I speak as one of that species — these enhancements can be very stimulating and certainly a lot of fun.”

The result of the company’s effort, in part, will be that the public’s perception of hair transplantation will move from older approaches to the ARTAS Robotic procedure. “There are some patients that definitely benefit from the strip procedure,” noted Dr. Turowski, “but in my opinion if you have a choice of leaving a large scar on a patient’s scalp versus no scar — or nearly invisible little scars — it is a pretty simple choice.”

“Every surgeon who has one will tell you why they have it, and those that do not have one are going to tell you why they don’t,” said Dr. Bishara. “They will give you an excuse on why they have not purchased one. The fact remains is that it is worth making the switch to the next-generation. I think technology that a few years ago may have sounded very futuristic and unreal will become the new standard. Then, we will wonder how we lived without it.”

Nevertheless, the thought process of arriving at that point varies depending upon the physician’s orientation, Dr. Bishara added. “For surgeons that have been only doing hair, increasing productivity and clinical outcomes using this system can be beneficial and even allow them to expand their aesthetic offerings. As well, those who embrace the new and explore the ARTAS Robotic System, may ultimately be free to offer a wider scope of cosmetic surgery and other procedures, which can expand their business.” ■



Before Tx



After ARTAS Robotic hair transplantation
Photos courtesy of Restoration Robotics, Inc.



Before Tx



After ARTAS Robotic hair transplantation
Photos courtesy of Gregory A. Turowski, M.D., Ph.D., F.A.C.S.