Clínica Dermatológica
y Cirugía Estética
DE PUEBLA S.A. DE C.V.
Desde 1971

Robotic Hair Transplant

Author and co-authors

Aristides Arellano Huacuja MD, FICS
Anja Arellano Montalvo MD.
Dafne Arellano Montalvo MD.

Abstract

For 26 years we have employed FUT and FUE techniques to restore male and female´s hair. Even though, our surgeon and surgery team have a lot of experience, the pros and cons remain mostly the same with any manual technique.

As a health leader company, our principal goal was to obtain better results. More specific, to reduce non-viable grafts and human error. We also were looking for a more convenient easier way to perform the surgery, not only for the patient but for the surgeon. And to reduce the procedure time without risking the outcome.

Introduction

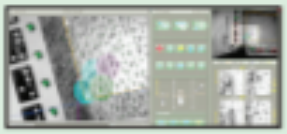


Everyday more and more people accept and embrace aesthetic plastic surgery. We live in a decade where not only women are looking forward to perform any procedure to look good, but also men. However, female and male aging features are different and they present at different life times. One of the main features of aging in men is the beginning of hair loss, gaining a diffuser and upper hairline and loosing hair in the crown area. All the above, independently from our age will give us an older appearance.

Androgenic alopecia now has a solution. We are not talking about a marvelous cream or shampoo, but a minimally invasive surgical procedure that uses the accuracy of robotic technology to increase the results, diminish the surgery time,

ARTAS
ROBOTIC HAIR TRANSPLANT

The ARTAS® Advantage

	Physician-assisted ARTAS Robotic System	Manually Operated Devices with Handheld Tool
Harvesting Method	  • **Image-guided robotic alignment** for precise graft dissection unmatched by manual techniques • Graft quality remains consistent throughout the procedure	  **Handheld harvesting tool.*** All harvesting is performed by punching out hairs by hand.
Upgradeable Platform	**Fully upgradeable** hardware and software.	**Limited to handpieces only**
User Interface	**High resolution digital imaging** provides unparalleled visual detail of Donor Area • Exceptional control of parameters such as spacing between harvests, dissection depths, and harvest angles to yield robust and healthy grafts	**NONE.** Depends entirely on human eye-hand coordination. Chance of human error and high degree of human fatigue.
The ARTAS Hair Studio™ Application	 **Advanced 3D modeling that transforms your patient consultation** • An interactive individualized photograph-based tool • Illustrate your aesthetic vision to your patient	**NONE**
Recipient Site Making	 **Robotic Recipient Site Making** • Natural looking site distribution • Control hair angles and direction parameters • Avoids damaging pre-existing hairs	**NONE**
Punch Type	**Patented blunt dissection technique** designed to produce minimal scarring and healthy grafts.	**Uses sharp punch.** May result in a greater risk of damage and transection (cutting a healthy graft rendering it unusable).
Suction/Vacuum	**Utilizes suction/vacuum during dissection process.** The graft elevates above the scalp for ease of forcep extraction.	**Utilizes continuous suction/vacuum to extract and transport the graft into a storage vial.** This may cause the graft to dry out and cause desiccation.**
Digital Mapping	**Real-time 3D analysis** that provides accurate mapping and calculations of critical hair follicle characteristics necessary for successful graft dissection.	**NONE.** Information is limited to what can be interpreted by using magnification.
Donor Area	**Intelligent algorithms** identify and select only the best hairs for harvesting • Consistent results • Uniformly harvested donor area	**NONE.** Manually operated systems have no mapping, calculations or automated safeguards to track previous dissection sites. Spacing of harvest sites must be guessed visually by the operator.
Patents	**Restoration Robotics has over 200 issued patents and pending applications worldwide.**	**Limited;** Less than Restoration Robotics.
Peer-Review Journal Articles	**Multiple**	**Limited**

* MEDICAMAT and NEOGRAFT are trademarks of Medicamat SA, and are not affiliated with or related to Restoration Robotics.

** Data on file



Donor area -
Before procedure



Donor area -
1 week later



Donor area -
9 months later

decrease de discomfort for both the patient and the surgeon; and has a minimal recovery time, which allows the patient to continue his normal life within a day.

Method

We use the ARTAS hair restoration robot to extract follicles from the patient´s donor area. Using this technology, the follicles extracted have a grater survival rate. ARTAS Artificial Intelligence helps to identify and select specific follicles and the correct position of the needle to extract them. The robot reads and modifies the parameters in a way that only 20% of the donor area will be transplanted to the needed area. Resulting in a natural non-scaring look and giving the opportunity to perform a second or third procedure.

During the procedure, the robot not only extracts the follicles, but also, makes the sites where the folicular grafts will be transplanted. This technology protects and skips the patient´s hairs, reducing the telogen effluvium and provides a well distributed natural result.

Results

- Rapid, micron-level targeting extraction accuracy
- Minimally invasive dissection
- Speed and precision beyond manual techniques
- Resection of healthy intact grafts with less visible harvest sites
- Almost zero recovery time
- Less procedure time
- No scar



- Local anestesia, which means that the patient is awake the hole time
- Typically the donor sites are undetectable in 7 to 10 days

Hair growth begins around the 3rd and 4th month after the procedure. The majority of hair growth usually occurs between the following 5 and 8 months.