

# A Breakthrough in Transplantation Technology

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## Description

In this way, these follicular units are moved into the areas that are becoming bald. The foot pedal limits the operation of the pneumatic punching device, which is connected to a vacuum tube. The unions are collected by this vacuum tube, which then stores them until they are incorporated into the recipient area. This technique removes grafts at a rate of about 680 per hour, based on Harris' test. Another commonly used manual hair transplantation tool is Harris's meticulously developed follicle extraction framework both controlled and manual extraction. Baldness can lead to severe psychological problems and negatively impact a person's public persona. In light of this, hair transplantation technique has become a well-known baldness treatment. The methods that are most widely accepted these days are follicular unit transplantation and extraction. A section of the non-balding area is designated as the donor area, a strip of scalp is cut off of this area, and the scalp is dissected into follicular units under a microscope. This procedure is known as FUT hair transplantation. The former reduces follicle peeling and fixes the twist problem, but it does it slowly.

## Manual hair transplantation

They have sold the FUE-using robot and produced a version that is useful for hair implantation. In this sense, traditional hair transplantation is an incredibly repetitious task, and administrators find it quite tedious to manually carry out a comparable cycle over an extended period of time. However, FUE hair transplantation involves extracting individual healthy hair follicle units directly from the patient's non-thinning upper region of the scalp which is significantly smaller than the amount of scalp obtained through FUT method and then implanting them into the balding areas. In contrast to FUT, FUE considers a shorter recovery period after surgery and doesn't leave any visible scars. Consequently, the FUE process has become the most widely used hair loss treatment. A hair blade, a portable pneumatic tension device, sharp punch cutting edges, and a portable pneumatic unit implanter are all included. The final method provides the advantage of speed, even if it can increase the number of covered joins and have a slower extraction rate. Thousands of follicular units are normally implanted using hand equipment during a typical hair transplant procedure. Because of

the relative maturity and reliability of modern manual hair transplantation surgery, most transplanted hair follicles survive. However, due to the crucial time and skill requirements of manual hair transplantation, there is growing interest in reducing the specialized costs and obstacles, achieving mechanization, and achieving even higher productivity in hair transplantation techniques. The topic of automated hair transplantation is currently focusing its research on rebuilding improved mechanics.

## Scalp issues

The goal of a handheld automatic hair implantation system is to minimize the frequency of device or cartridge replacements, resulting in a more continuous hair transplantation process and shorter operation timeframes. 2014 saw the autonomous movement of the ARTAS robot, which functioned without human assistance in identifying and separating hair follicle units from surrounding scalp tissues. A device for the efficient stacking, storing, and replacement of hair joins has been developed in order to computerize the follicle implantation process. This device can be used to increase the cluster capacity of hair follicles. It also provides a more effective tool and method for launching hair units from the assistance chamber's compartment, recognizing the robotization of the hair transplant procedure. Furthermore, ostman has put up a design for a hair implantation needle that is not intended for use in follicle extraction. In comparison to standard subcutaneous needles, this method takes into account a more modest opening and deals with the positioning and upkeep of hair fuses upon the removal of the needle from the body surface. However, the framework results in a confusing plan that incurs substantial costs because it employs two distinct mechanical needles for both follicle extraction and implantation. Furthermore, the transplantation of extracted units still needs human mediation, preventing the recognition of a fully automated method. A mechanized framework for removing hair follicles from the surface has been presented in order to automate the extraction process. This framework is capable of identifying the hair's development period and selecting which follicles are suitable for extraction. This framework achieves complete mechanization for hair follicle extraction devices.