



The ARTAS[®]
Robotic Hair Transplant
COMPREHENSIVE GUIDE TO HAIR RESTORATION

CAUSES OF HAIR LOSS



Hair loss is linked to genetics and aging, but there are a number of other causes such as medication, physical or emotional stress, thyroid problems, skin infections and hormones.

Balding can begin as early as puberty, but usually takes place later in life. Contrary to popular belief, your maternal grandfather's follicular history isn't a clear indicator of what will happen to you. Hereditary genes are passed down from your mother and father, but even if there's no evidence of hair loss on either side of the family, you can still lose your hair. In fact, about half of all men begin to bald by age 30, and most are bald or balding by age 60¹.

More than 95% of hair thinning in men is attributed to Androgenic Alopecia, also known as male pattern baldness². This common hereditary condition results when hair follicles at the top and front of the head become sensitive to the hormone dihydrotestosterone (DHT). In such cases, hair becomes thinner over time, deteriorates or eventually becomes dormant. Healthy hair follicles that are resistant to DHT usually remain around the sides of the head, but may persistently become weaker and finer.

¹ <http://www.nlm.nih.gov/medlineplus/ency/article/007205.htm>

² <http://www.webmd.com/skin-problems-and-treatments/hair-loss/hair-loss-introduction-mens>.



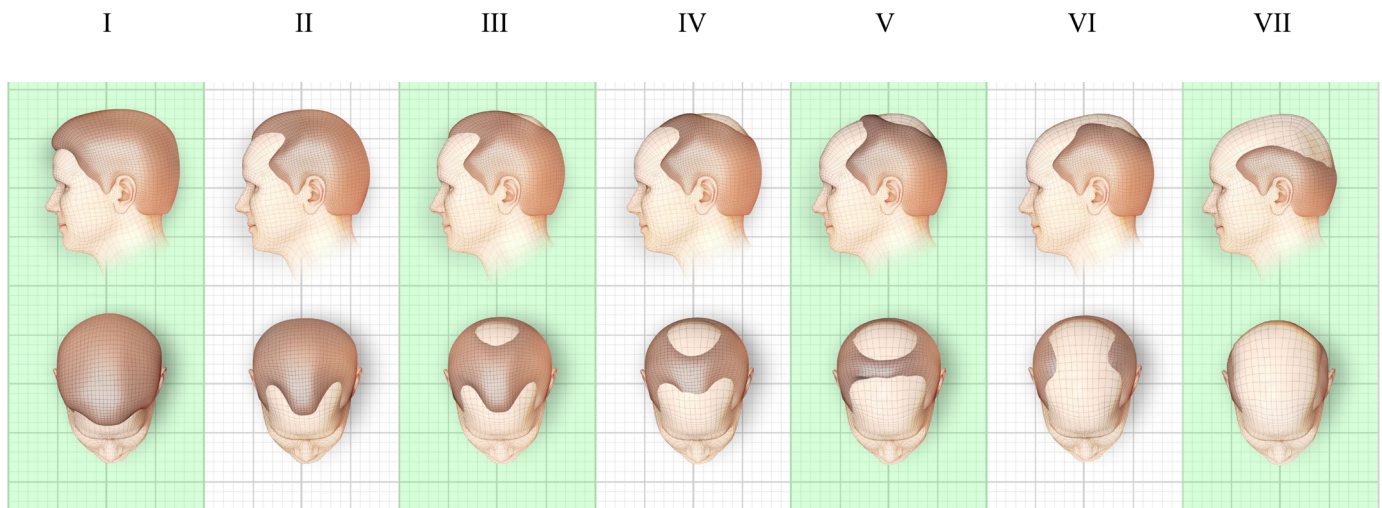
PROGRESSION OF HAIR LOSS



Hair usually begins to recede at the forehead or the crown. Most people seek a doctor's evaluation only after they have started to notice significant hair loss in these areas. The question then becomes how much hair loss should you be concerned with? And which treatments can reverse it?

The average person sheds anywhere from 50 to 100 hairs a day, an undetectable amount compared to the roughly 100,000 hairs on your head. If you suddenly notice a significant amount of hair being left behind in your comb or on your pillow, it may be the first sign of balding.

The most common pattern of hair loss progression is represented by The Norwood Scale.



- ⦿ Class I No visible hair loss.
- ⦿ Class II Initial stages of recession. A "widow's peak" begins to appear on the forehead.
- ⦿ Class III Slight loss of hair above the temples, at the forehead and crown.
- ⦿ Class IV More noticeable loss on the crown, above the temples and/or frontal areas.
- ⦿ Class V Significant levels of hair loss now occurring on the top of the vertex and crown.
- ⦿ Class VI Even more significant hair loss, although transplanting donor hair can still make a noticeable improvement.
- ⦿ Class VII The most extreme form of hair loss. There may still be sufficient donor hair for transplantation.

HAIR LOSS TREATMENT OPTIONS



Some people spend a lifetime trying to camouflage their hair loss. Others spend thousands of dollars on pharmaceuticals, laser light therapy or other treatments without ever seeing real, measurable, confidence-boosting results. To date, hair transplant surgery is the only proven permanent solution to hair loss. According to the International Society of Hair Restoration Surgery, over 100,000 men and women in the United States sought surgical or non-surgical treatment in 2010.

Treatment methods fall into four major categories: Pills, topicals, hair transplants and other types of therapies, such as cover-ups. Each category has tradeoffs that a prospective patient must consider.

PILLS

Finasteride, more commonly known as Propecia, is used as an ongoing preventative treatment for balding. It does not re-grow a hairline, but rather helps to slow hair loss. In some cases, it re-grows hair, but only on the back of the head. If you stop taking Finasteride, you'll permanently lose the hair that the Finasteride was maintaining.

Finasteride prevents the conversion of testosterone to dihydrotestosterone (DHT) in the body. It is an FDA-cleared synthetic drug available by prescription only. It must be taken orally on a regular basis—once a day at the same time—in order to see results within 6 months. Drugs containing Finasteride can cause a number of side effects.

TOPICALS

Minoxidil (a common brand name is Rogaine) is used to treat Androgenic Alopecia by temporarily slowing hair and promoting regrowth in certain areas of the scalp. It also appears to thicken existing hair. It does not improve a receding hairline or help hair loss at the sides of the head. It works most efficiently if follicles aren't missing or damaged. Minoxidil treatment requires steadfast commitment. It is an over-the-counter liquid or foam treatment that has to be applied twice daily (morning and night). Forgetting to apply it regularly can worsen the condition of the hair. Because topical treatments contain alcohol, they can be irritating and drying to the skin on the scalp.



OTHER TREATMENTS



LASER LIGHT THERAPY

Often called Low-Level Laser Therapy (LLLT), laser or LED light is applied to the scalp to treat Androgenetic Alopecia. Though LLLT has been cleared by the FDA, many physicians are skeptical of its efficacy. No well-designed double-blind studies have been done to date. LLLT is often called a “cold laser”, as light is absorbed by the tissue, but the area is not heated. The laser light stimulates the cells of the hair follicle to enhance cell activity, and hopefully hair regrowth. It seems to work best on patients with minimal to moderate hair loss. LLLT treatments must be applied at regular intervals to maintain hair growth results.

CAMOUFLAGE

There are many methods to cover-up hair loss. Comb-overs carry their own kind of stigma. Wigs and toupees can be an improvement, but even the styles that are made from human hair can appear unnatural. People who wear them commonly experience discomfort such as sweating, itching or the fear of it coming off in public.

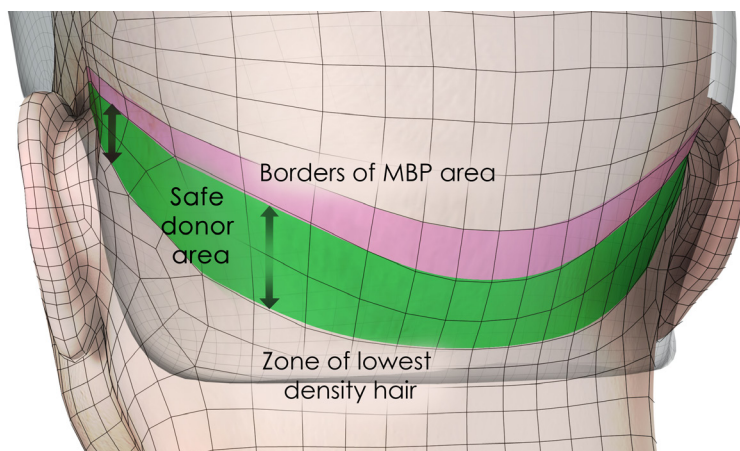
DIET & SUPPLEMENTS

There are misconceptions about stimulating hair growth using natural remedies. Saw palmetto extract is a DHT blocker, but unless consumed in high quantities (the recommended dose is 160 mg), it does not work to restore the hair. Drinking lots of water, eating dark green leafy vegetables and taking Biotin or protein-based Carotene will not restore hair, but will give you the nutrients you need to grow healthy hair, particularly if you've endured mental or physical stress. Some physicians recommend including omega-3 fatty acids and flaxseeds in your diet, or eating wild Alaskan salmon, herring or mackerel twice a week. However, such changes to your diet are not enough to slow or prevent hair loss.



HAIR TRANSPLANTS

Transplants are the only proven, permanent way to reverse hair loss. Most patients choose transplantation as a way to achieve a younger, more youthful look. And many report an increase in confidence and energy after undergoing the procedure. Modern methods of hair transplantation have erased the stigma of “hair plugs” that were used in the past. Advanced technology is available today to help precisely transplant permanent, growing hair into thinning areas without visible scarring or significant downtime.



Hair Transplant Donor Area

During a hair transplant, healthy hair that is not subject to pattern baldness is transplanted into thinning areas. Once transplanted, this hair will grow permanently as it did in its old location. How much hair can be transplanted is dependent upon the amount of permanent hair (or “donor” hair) the patient has available. Since each patient has a limited amount of donor hair available, it's important that this hair be used efficiently and correctly. A good physician will make the best use of the donor hair, knowing that they can't afford to damage it in the process.

Hair transplant methods differ in the way that hair is removed from the head. When thinking about how hair grows on your head, you'll notice that the hair is typically thinner and more delicate on the hairline, and as you look past the hairline into the interior, you'll find coarser or thicker hair. What you might not notice is that the hair on your scalp grows in naturally-occurring groupings, called follicular units.

On the scalp, the individual follicular unit typically produces one to four hairs. Single-haired follicular units grow along the hairline. Looking behind the hairline, you'll find mostly two and three haired follicular units, and occasionally those with four or five hairs.

In hair transplantation, the physician uses these varying follicular units to mimic the natural pattern of follicular units that once existed on the scalp. So the finer, single-haired follicular units are used along the hairline to create a natural appearance. Just behind them, two and three haired follicular units are used, with the occasional four haired follicular unit. These larger follicular units provide fullness and density. The transplanted hair will grow in over time as permanent hair.

TYPES OF HAIR TRANSPLANTS

Follicular Unit Transplantation (FUT), often called “Strip” Surgery

FUT or strip surgery is the traditional method of hair transplantation. This method of dissection is invasive: A surgeon uses a scalpel to remove a large swath of skin and hair from the back of the head. A group of technicians will then divide this skin and hair, and manually cut out the individual follicular units to be transplanted. The follicular units are then transplanted into the scalp by the surgical team.

While this technique does effectively provide follicular units for transplant, there are some issues to consider. This method of acquiring the follicular units results in a large, open wound that requires stitches or staples and significant recovery time. Special care to the wound must be taken following surgery. The patient may experience significant pain as the area heals. Scalp tightness and/or numbness are common complaints. An additional visit to the doctor is required to remove the stitches and to make sure the area is healing properly.

Overall, the recovery can take many weeks before the patient looks and feels back to normal. Many patients are hesitant about returning to work or being in public for some time until the scalp has completely healed. There can be longer-term effects of this surgical method as well. The most obvious is the long, linear scar where the skin and hair was removed. To conceal it, patients must keep their hair at a certain length and forgo the freedom of having a shorter hairstyle. In addition, some patients report persistent tightness or numbness of the scalp well after the recovery period.

ARTAS® Robotic Hair Transplant vs. Strip Surgery (FUT)



ARTAS® Robotic Hair Transplant

No linear scar.



Strip Surgery (FUT)

Permanent linear scar in donor area. May require longer hair length to cover scar.

THE ARTAS® ROBOTIC HAIR TRANSPLANT



The ARTAS® Robotic Hair Transplant is the latest advancement in hair transplantation. It is less invasive, so there's a faster recovery period. With the ARTAS Robotic Hair Transplant, healthy follicular units are removed individually, without the need for large incisions and stitches. The patient's donor area retains its natural appearance, without the risk of a visible linear scar.

Guided by a physician, the ARTAS® Robotic System uses advanced digital imaging to identify and track the most viable follicular units for transplant. It continually tracks multiple parameters on each follicular unit, including angle, length and orientation—and it updates these parameters 50 times each second. Then, using image-guided robotics, the system selects and harvests the best individual follicular units for transplant. Follicular units are harvested in a selective fashion, as guided by the physician, to maintain the natural appearance of the donor area.

DONOR AREA



Pre-procedure



7 days after treatment

TREATMENT AREA



Pre-procedure



9 months later

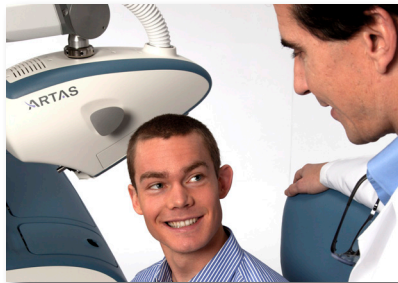
This minimally-invasive procedure allows patients to return to their usual activities and lifestyle often in just a day or two without stitches, scalp tightness or numbness. Unlike traditional methods, patients can wear their hair in any length or style.

Neograft and other handheld FUE devices

There are several handheld devices that also harvest follicular units from the scalp. They too aim to dissect individual follicular units from the scalp. However, these devices are dependent on the physical dexterity and vision of the physician to successfully remove the follicular units. The physician using them can tire over the course of a single treatment where well over 1,000 grafts are removed in a multi-hour session. This may cause many follicular units to be damaged in the process, making them unsuitable for transplant. In addition, the pattern of removal is based on the individual operating the tool. Uneven removal of hair can result in a noticeable loss of hair in the donor area. For example, one such handheld system is Neograft, which uses a vacuum system to remove the follicular units. This can dry out the follicular units and potentially reduce their ability to grow permanently in the transplant area.

WHAT TO EXPECT FROM THE ARTAS® ROBOTIC HAIR TRANSPLANT

Your physician is dedicated to giving you the best possible results using the ARTAS® Robotic Hair Transplant. Prior to the procedure, the physician will examine your hair and scalp and consider a number of individual factors including your age, budget, face shape and hair type. You and your physician will also explore your treatment goals, and discuss any concerns you may have.



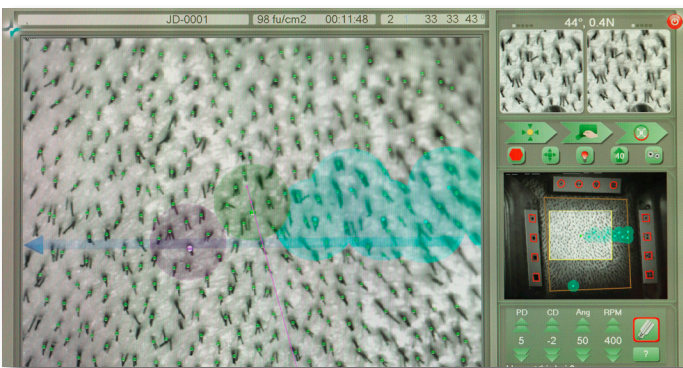
HERE'S WHAT TO EXPECT DURING THE ARTAS ROBOTIC HAIR TRANSPLANT PROCEDURE:

The patient is seated and prepared for the procedure. Some patients choose to listen to music or watch a movie during the procedure.

The ARTAS® Robotic System then digitally maps an area of the scalp, analyzing and tracking the position of each follicular unit.

Under the doctor's guidance, the system harvests donor hair in a selective fashion, so the area retains its natural appearance. The above process is repeated until the desired amount of hair is acquired.

The grafts are then transplanted into the desired areas of the scalp, according to your physician's design. These implanted grafts grow as permanent hair.



Physician's view of the ARTAS® Robotic Hair Transplant

AFTER THE PROCEDURE

Most patients quickly return to their normal activities, often within a day or two.

After about a week, both the donor and recipient areas should have a similar appearance as before the procedure.

At approximately six months, most patients enjoy a noticeable improvement.

By nine months, they can experience natural-looking hair that will last a lifetime.


Before



After



TREATMENT OPTION COMPARISON

		Traditional Hair Transplant	Minoxidil (Rogaine, Mintop)	Finasteride (Propecia)
Permanent	YES	YES	NO	NO
Efficacy	Permanent, without a linear scar.	Permanent, but can result in a linear scar. May cause scalp tightness or numbness.	Increases individual hair thickness, may regrow some hair	Slows the loss of hair temporarily, may regrow some hair
Maintenance Required	None	None	Twice per daily topical treatment	Daily pill
Recovery Time	1-2 days	Weeks	N/A	N/A
Considerations	1-2 days recovery time Permanent growth begins in about six months	Requires stitches and weeks of healing time May cause scalp tightness or numbness Hair styles may be limited in order to cover any scarring	Up to 4 months of use to take effect Must be used indefinitely to keep any results Does not provide growth in front hairline May have side effect Not effective for everyone Does not greatly increase amount of hair	Up to 6 months of use to take effect Must be used indefinitely to keep any results Does not provide growth in front hairline May have side effect Not effective for everyone Does not greatly increase amount of hair

IF YOU ARE READY TO TAKE ACTION, FIND A DOCTOR NEAR YOU TODAY



We understand the decision to look and feel better about your hair is significant and that considerations are different for everyone. You've just learned a great deal about the causes of hair loss, the various treatment options and the proven permanent results of the ARTAS® Robotic Hair Transplant. By now, you probably have a lot of questions.

A trained hair restoration physician is your best source of information for analyzing your specific needs and determining your customized hair loss solution. You can take the first step today by calling for a personalized hair loss consultation.

Use the link below to find a trained Robotic Hair Restoration Physician near you. Our doctors will quickly, efficiently and privately answer all of your questions, with no obligation to you.

To find a doctor near you visit artashair.com/doctors





RESTORATION[™] ROBOTICS

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This product and/or its use is covered by one or more of the following U.S. patents: 6,585,746; 7,477,782; 7,627,157; RE 42,381; RE 42,437; 7,962,192; 8,048,090; 8,133,237; D641941; D641942; D644675; 8,199,983; 8,211,117; 8,290,229; 8,361,085 and 8,388,631. Additional US and foreign patents pending.

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