

# 10

## Surgical Hair Restoration Principles

**S**urgical forms of hair restoration have had a long history of popularity, mainly because the results are permanent. Once the surgery has been completed and everything has healed, there is no worrying about having a hairpiece discovered, or applying lotions, or taking pills.

But there is a lot of confusion and misinformation about hair restoration surgery. This chapter presents three foundation principles for all hair restoration surgery. Chapter 11 will briefly review the history of hair restoration surgery, with an emphasis on how the techniques used have evolved and improved over time. In Chapter 12, “Follicular Unit Micrografting,” I will describe the current state-of-the-art surgical hair restoration technique.

All surgical hair restoration techniques, from old-style “plugs” to state-of-the-art follicular unit micrografting, involve the same medical and artistic principles. The different techniques employ these principles with the goal of achieving the same result: a natural-appearing fuller head of hair.

Any person considering hair restoration surgery will benefit from an understanding of these medical and artistic principles. As a result, they will better understand the benefits and limitations of whatever surgical hair restoration technique they select.

The first principle of hair restoration surgery is called autografting, and it identifies the source of the hair follicles used to correct

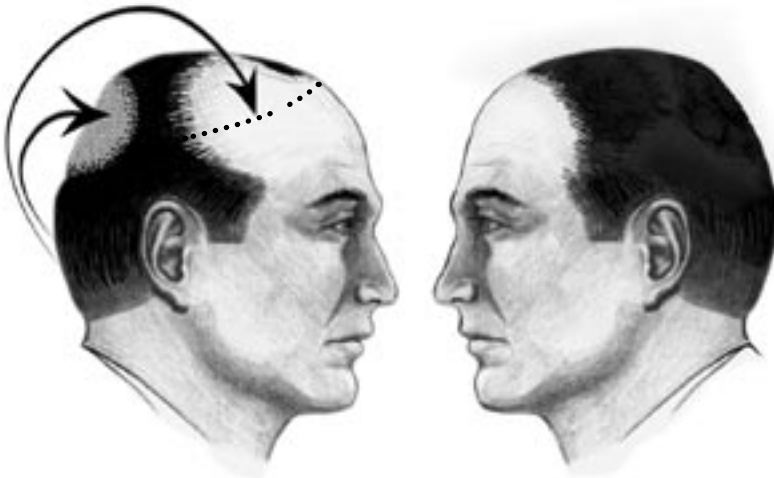
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hair loss—the source is always the patient getting the surgery. The person receiving the surgery is always his or her own “donor,” meaning that instead of receiving hair follicles from someone else, they are always taken from a “donor” area on the same person having the surgical procedure.

Nobody has to die in an automobile accident in order to supply the new hair for hair restoration surgery. Self-donation of tissue for surgery eliminates the vast majority of complications that transplantation procedures using tissue donated from others may have, such as costly tissue-matching tests, organ and tissue banks, rejection of the donor tissue, and the need for immune system suppression drugs. These complications simply don’t occur with hair transplants or other forms of hair restoration surgery.

The second principal is called donor dominance. This means that the genetic programming for hair growth in the hair follicles that are donated is “dominant” over the conditions where the follicles are moved to. The new donor hair follicles will keep growing new hairs even if relocated to an area where all the existing hair follicles have already shut down.



*Autografting: the patient  
is his own donor.*

*One year after 1600 grafts*

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The hair follicles that are selected for donation are the ones that are genetically programmed to continue growing hairs over a lifetime, because they are genetically programmed to be resistant to the DHT message to stop growing hairs. While there currently is no test for hair follicles to determine the degree of susceptibility to DHT, there is a pattern that indicates where the susceptible hair follicles and the resistant hair follicles are usually located (hence the phrase “pattern baldness.”). The donor area is the place where baldness does not occur!

Typically, the donor area is at the lower part of the back of the scalp, and extends around to the low part along the sides of the scalp. A key aspect of donor dominance is that only the hair follicles located in the donor area are useful as donor follicles, because they are the ones that are DHT-resistant, and because there is a limited supply of them.

The third principal for all surgical hair restoration surgery is an artistic one, and it follows from the first two principles: self-donation of hair follicles, and choosing only those follicles for donation that are genetically programmed for DHT-resistance. No new hair is added



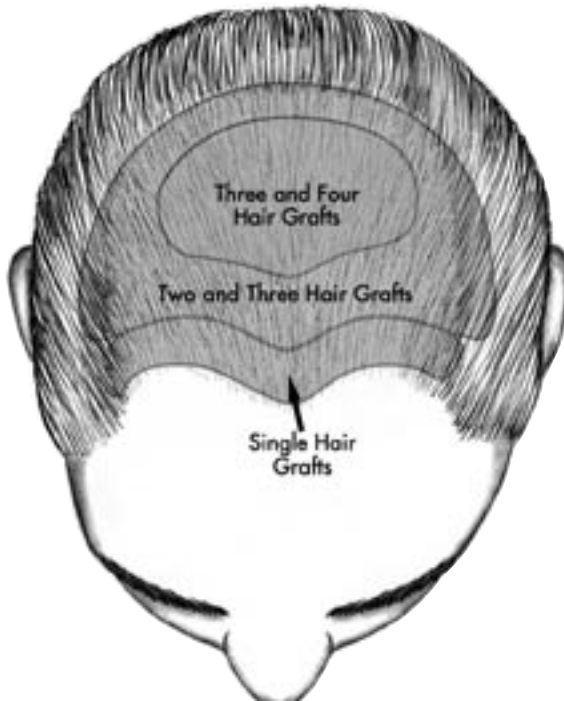
*Donor dominance: the white area shows where the DHT-resistant follicles are. The dashed line shows the typical donor area for harvesting follicles for hair transplantation.*

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with any type of hair restoration surgery, and, of the hair that is available on a patient, only a fraction of that is genetically programmed for DHT-resistance. There is always a very limited supply of donor hair follicles. So the third principal of hair restoration surgery is artistic, and it requires the hair restoration surgeon to redistribute the patient's limited supply of hair follicles on the scalp to give the illusion that there is a fuller head of hair. The hair follicles are relocated, but no new hair is added. The art of hair restoration surgery is creating the illusion of a full head of hair with a limited supply of donor hair follicles.

This artistic principle is even more complicated than it may initially appear, because the surgeon must look decades ahead into the future to plan for future hair loss. On a younger person with only a slightly receding hairline or a small bald spot, it may seem like there



*Artistry: placement of hair follicles to achieve the greatest visual impact.  
Single hair grafts in front and two to three hair grafts behind.*

is a lot of hair to work with to fix the problem. But an experienced hair restoration surgeon knows there is always a very limited supply of donor hair to work with.

Pattern baldness is a progressive condition, meaning that hair loss will continue as the person ages. It may continue at a slow rate, or baldness may progress rapidly. Either way, without the use of medication to slow hair loss, hair loss will increase with age. And people are now living longer than ever. If the patient lives long enough, it is possible that only a fringe of “permanent” hair will continue to grow on the lower sides and back of the head. So it is critical that the precious donor follicles taken from these areas of “permanent hairs” are used effectively. In addition to basic surgical competence, this takes artistry.

The artistic aspect of hair restoration surgery is not often discussed, but it is one of the most important considerations for achieving natural-looking results, especially decades after the procedures are performed. A skilled hair restoration surgeon will certainly avoid medical complications such as infections, excessive scars, and loss of donor hair follicles. But a skilled artistic surgeon will do all that and make the newly relocated hair follicles look as if they are part of a full head of naturally growing hairs. Furthermore, the transplanted hair will continue to look natural decades later, based on an assessment of the patient’s future pattern of likely hair loss.

“It is not the paint, nor the brush that makes a great painting...it is the artist.”

These three principles: self-donation of hair follicles, donor-dominance of the limited supply of follicles on the sides and back of the head, and the artistic placement of the donor follicles to create a look of having more hair, form the foundation for all hair restoration surgical methods, both past and present.

The following pages show before and after shots of patients undergoing hair transplant surgery.



Immediately after grafting—a seventy-one year old man



Eighteen months later



Immediately after 1400 grafts



One year later



Before 1400 grafts



One year after 2000 grafts





Immediately after 1200 grafts



One year later



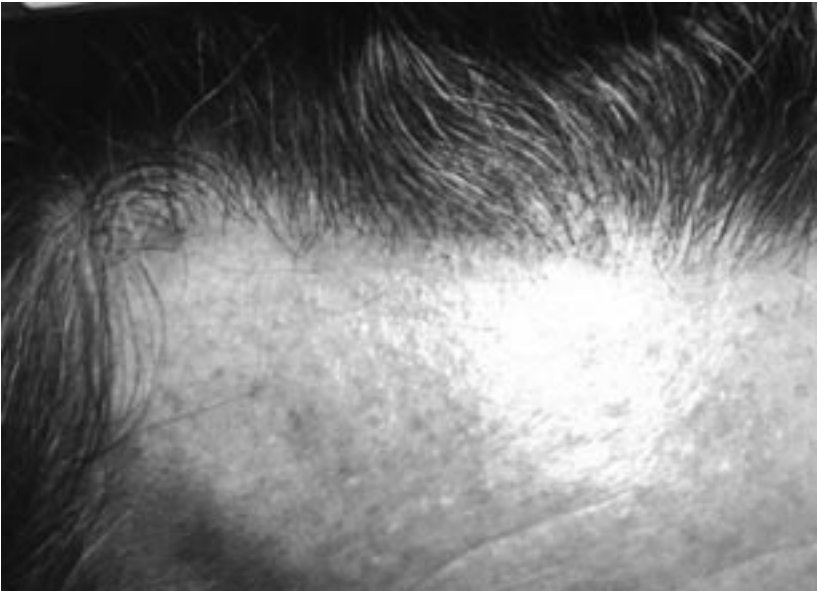
*Line marking future of hairline*



*One year after 2000 grafts*



*Before 1400 grafts*



*One year later*



*Immediately after 1500 grafts*



*Two years later*