Alopecia reduction, or scalp reduction, surgically reduces the size of balding areas resulting from pattern baldness. Male pattern baldness typically progresses from a full head of hair, to a receding hairline, to a horseshoe shaped ring of hair remaining around the back of the head. Whereas hair follicles at the front and top of the head may be genetically predisposed to hair loss, follicles toward the back and sides are resistant. Scalp reduction uses these donor regions to eliminate a bald spot at mid-scalp or the crown, or vertex, of the head by stretching flaps of bald-resistant, hair-bearing skin upwards and closing them with sutures. Alopecia reduction has become less popular as hair transplantation has improved, however it is an option for patients who wish to decrease the surface area needing hair transplants. In general, the best candidates for scalp reduction are those with lax scalp skin, a clear bald spot on the crown, and sufficient donor area hair to complete a hair transplant after the procedure.
Scalp Reduction Introduction

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Doctor’s Personal Note: A Message From Your Doctor

Thank you for visiting our website and viewing our 3D Animation Library. These animations should assist you in better understanding your condition or procedure. We look forward to answering any additional questions you may have at our next appointment.
Scalp Anatomy

The scalp’s unique anatomy makes scalp reduction possible. Skin consists of a surface layer called the epidermis, and the underlying dermis. Hair arises from hair follicles, which are downward growths of epidermis within the dermis. Nerves and blood vessels within the dermis provide sensation and nourishment. A network of collagen and elastin fibers also exists in the dermis and provides structure, support, and elasticity to the skin. Unlike other skin, a fatty layer beneath the dermis in the scalp attaches to a fibrous tissue called the galea aponeurotica. A layer of loose cellular tissue separates the galea from a membrane of tissue that lines the outer surface of the skull, called the pericranium. The loose tissue between the galea and pericranium allows the skin on the scalp to glide in all directions. Many people can feel the gliding motion by pushing and pulling on the scalp with the fingers. Scalp reduction involves sliding the galea and overlying skin layers upward to replace the balding region that has been surgically removed.
Procedure - Excision

Scalp reduction consists of three principle steps: excising the bald region, moving the hair-bearing scalp, and closing the incision. Techniques and patterns for removing the bald region vary and are selected according to the degree of hair loss, size of the bald spot to be removed, the scalp skin laxity, the quantity of donor hair, hair growth pattern, and the patient’s current and future plans for hair restoration. Specific patterns such as an ellipse, U shape, inverted-Y shape, crescent, or what is known as the lazy-S are among the most frequently chosen. After a local anesthetic is administered, the incisions will be made to remove the desired width of tissue. Excision is done in such a way as to minimize damage to nerves and vessels, minimize tension on the scalp during closure, follow natural hair orientation patterns where possible, and avoid destroying bald-resistant hair follicles.

Procedure – Mobilization and Closure

The amount of scalp movement determines how much of the baldness can be removed, and following excision, adjacent regions are undermined beneath the galea to create flaps that can be advanced. Next, surgical instruments may be used to stretch the flaps, permitting greater alopecia reduction. Stretching physically orients collagen fibers within the skin parallel to the direction of the stretch. Discomfort and sensations of tightness and pulling are common, but extreme pain is rare. Just as the procedure for excising the bald region varies, procedures for suturing the flaps to scalp tissues vary. In general, efforts are made to minimize tension at the closure site to prevent a stretch-back effect and to minimize scarring at the sutured margins. Sutures are typically removed within seven to ten days.
Scalp Reduction with Other Procedures

Scalp tissue is rarely lax enough to completely remove a balding crown in a single procedure, and up to four procedures may be required. You should also discuss your rate of hair loss with a hair restoration professional to avoid the need for multiple future procedures to cover an expanding zone of baldness. Scalp reductions are often combined with hair transplants to restore the hair in the front part of the scalp or to camouflage scars that may result. Reductions can be done before, during, or after hair transplants. In younger patients, hair transplants are sometimes done first in the frontal regions with a plan to perform scalp reduction in later years if desired. Scalp reductions may also be done with tissue expansion, in which a device is placed underneath hair-bearing scalp to expand the flaps and allow much greater mobility. Consult a hair restoration professional to understand the options available to you and to achieve your optimum results.