

Glossary of Terms

Hair biology and anatomy, ingredients, KeraFactor products and technology, hair loss conditions, treatments and procedures.

JULY 2026

FIVE SECTIONS

ALPHABETICAL WITHIN SECTION

HOW TO USE THIS GLOSSARY

This glossary covers all key terms used across the Hair Science 101 course, from hair biology and clinical terminology to KeraFactor-specific language and ingredient descriptions. Terms are organized alphabetically within each section. Use it as a reference during teaching, before a consultation, or when answering questions from patients or providers.

01 Hair Biology and Anatomy**02 Ingredients****03 KeraFactor Products and Technology****04 Hair Loss Conditions****05 Treatments and Procedures**

SECTION 01

Hair Biology and Anatomy

A

Anagen

The active growth phase of the hair cycle. During anagen, the hair matrix cells at the base of the follicle are rapidly dividing and producing the hair shaft. Anagen can last between 2 and 7 years on the scalp depending on genetics and follicle health. The length of anagen determines the maximum possible length of the hair.

↳ In androgenetic alopecia, DHT progressively shortens the anagen phase, leading to finer, shorter hair with each successive cycle.

Arrector Pili Muscle

A small muscle attached to each hair follicle that causes the hair to stand upright when contracted. Its attachment point on the follicle marks the location of the bulge region, where the stem cell reservoir is housed.

B

Biomimetic

Describes compounds that are synthesised in a laboratory to mirror the chemical structure and biological function of molecules naturally produced by the human body. In the context of KeraFactor, biomimetic growth factors replicate the signaling molecules the follicle depends on, without being derived from human, animal, or plant sources.

↳ KeraFactor's biomimetic compounds are synthetic, not extracted from human cord blood, stem cell media, or bone marrow.

Bulge Region

A distinct zone in the middle portion of the hair follicle where the stem cell reservoir is located. The bulge sits at the attachment point of the arrector pili muscle. At the start of each new growth phase, stem cells in the bulge are activated and migrate downward to regenerate the lower follicle.

↳ The bulge is relatively protected from hormonal and immune activity that affects the lower follicle, which is why follicles can sometimes recover even after significant disruption.

C

Catagen

The transition phase of the hair cycle, lasting approximately 2 weeks. During catagen, the follicle shrinks, growth slows, and the lower portion of the follicle detaches from the dermal papilla. The hair shaft is no longer being actively produced but has not yet shed.

Cortex

The middle layer of the hair shaft, making up the bulk of the hair's structure. The cortex is composed of keratin proteins and determines the hair's strength, elasticity, and color. Melanin granules in the cortex give hair its pigmentation.

Cuticle (Hair)

The outermost protective layer of the hair shaft, made of overlapping scales of keratin. A smooth, intact cuticle reflects light and gives hair its shine. Damage from heat, chemicals, or environmental exposure causes the cuticle to lift, leading to frizz, dullness, and breakage.

Cytokine

A broad category of small signaling proteins secreted by cells that regulate immune responses, inflammation, and cell communication. In the context of hair loss, cytokine imbalance, particularly elevated TGF-beta, has been associated with premature follicle regression and inflammation-driven miniaturization.

D

Dermal Papilla

A specialised cluster of cells at the very base of the hair follicle that acts as the follicle's command center. The dermal papilla receives hormonal signals, growth factors, and environmental cues and translates them into instructions for the follicle, directing growth, transition, or rest. It regulates anagen duration, follicle size, and hair shaft diameter.

↳ In androgenetic alopecia, DHT binds to receptors in the dermal papilla, progressively shortening anagen and reducing the size of the hair bulb with each phase.

DHT (Dihydrotestosterone)

A potent androgen derived from testosterone through the action of the enzyme 5-alpha reductase. DHT binds to androgen receptors in the dermal papilla and is the primary hormonal driver of androgenetic alopecia in genetically susceptible individuals. It progressively shortens anagen, miniaturizes follicles, and converts terminal hair to vellus-like hair over time.

↳ KeraFactor products are hormone-free and do not directly block DHT, they address the signaling and environmental factors alongside hormonal treatment.

DLQI (Dermatology Life Quality Index)

A validated 10-question tool used across dermatology to measure the impact of a skin or hair condition on daily life. Scored from 0 to 30: 0–1 = no effect; 2–5 = small effect; 6–10 = moderate effect; 11–20 = very large effect; 21–30 = extremely large effect. In androgenetic alopecia, the mean DLQI score is 8.16, placing it in the moderate effect range, comparable to eczema and mild psoriasis.

↳ Developed by Professor Andrew Finlay at Cardiff University. Widely used in clinical research and patient outcome measurement.

E

EGF (Epidermal Growth Factor)

A growth factor that drives cell proliferation, tissue repair, and scalp and skin renewal. In KeraFactor it is delivered by the biomimetic peptide sh-Oligopeptide-1. See sh-Oligopeptide-1.

Epidermis

The outermost layer of the skin. Crucially, the epidermis is not limited to the skin surface, it folds inward and lines the inside of every hair follicle from the scalp surface all the way down to the base, forming the outer root sheath. Scalp barrier health and follicle health are directly connected through this continuous epidermal lining.

Exogen

The shedding phase of the hair cycle, during which the old hair is actively released from the follicle and falls out. Losing between 50 and 100 hairs per day during exogen is considered within the normal range. Exogen follows telogen and typically precedes the next anagen phase.

F

FGF (Fibroblast Growth Factor)

A family of signaling proteins involved in follicle development, structure, and the hair growth and rest phases. FGF-7 and FGF-10 are associated with anagen induction; FGF-5 signals the transition from anagen to catagen, the end of the growth phase. Two forms appear in KeraFactor: basic FGF (FGF2), delivered by sh-Polypeptide-1, and acidic FGF (FGF1), delivered by sh-Polypeptide-11.

Follicle Miniaturization

A progressive process in which a hair follicle produces increasingly finer, shorter, and less pigmented hair with each successive growth phase. The hallmark of androgenetic alopecia. Driven by DHT acting on the dermal papilla, miniaturization converts terminal hairs to vellus-like hairs over time. A miniaturizing follicle is not the same as a lost follicle, early intervention can slow or interrupt the process.

↳ Trichoscopy can detect the ratio of terminal to vellus hairs and assess the degree of miniaturization in a given area.

G

Growth Hormone

Growth Hormone (Somatotropin) is a naturally occurring hormone produced by the pituitary gland that regulates growth, tissue repair, protein synthesis, and cellular regeneration. Many of its regenerative effects are mediated through insulin-like growth factor-1 (IGF-1), which supports cell proliferation and tissue remodeling. In KeraFactor®, these biological signaling pathways are represented by the biomimetic peptide sh-Polypeptide-7, which is intended to mimic aspects of regenerative cell signaling associated with healthy tissue function.

Growth Factor

A signaling molecule, typically a protein, that carries instructions to cells in and around the hair follicle. Growth factors regulate cell growth, division, survival, and the phases of hair production and rest. Key growth factors relevant to hair health include VEGF, FGF, IGF-1, EGF, KGF, and PDGF. Follicle function declines when growth factor signaling becomes deficient or disrupted.

↳ KeraFactor's proprietary KFP™ complex delivers 7 biomimetic growth factors and skin proteins designed to supplement declining endogenous signaling.

H

Hair Duct (Infundibulum)

The channel through which the growing hair shaft travels from the base of the follicle up to the scalp surface. The upper portion is called the infundibulum. The hair duct is also where the sebaceous gland empties its secretion. Maintaining a clear, healthy duct supports both hair emergence and topical product absorption.

Hair Matrix Cells

Rapidly dividing cells surrounding the dermal papilla at the base of the follicle that produce the hair shaft and inner root sheath during anagen. Among the most metabolically active cells in the body, hair matrix cells are highly sensitive to systemic disruption, including illness, rapid weight loss, nutritional deficiency, and chemotherapy. In most cases of disruption, the follicle structure remains intact and matrix cell activity resumes once the trigger is removed.

Hair Shaft

The visible portion of the hair above the scalp surface. Composed of three layers: the cuticle (outer protective layer), the cortex (main structural layer containing keratin and melanin), and in some hairs the medulla (innermost layer). The hair shaft is not alive, it is a keratinized structure. Hair health at the shaft level reflects follicle function rather than representing the site of biological activity.

I

IGF-1 (Insulin-like Growth Factor 1)

A growth factor produced locally in the dermal papilla that acts as a survival and growth signal for follicle cells. IGF-1 promotes anagen, inhibits cell death in follicle cells, and supports the activity of the hair matrix. Works alongside VEGF, the blood supply VEGF supports delivers the IGF-1 the follicle needs. Reduced IGF-1 signaling has been associated with follicle regression and age-related decline in hair growth efficiency.

Infundibulum

The upper portion of the hair follicle channel, from the scalp surface down to where the sebaceous gland opens into the duct. The infundibulum is part of the permanent portion of the follicle that does not regress during catagen and telogen.

M

Medulla

The innermost layer of the hair shaft, present in some but not all hair types. Its exact function is not fully established. More commonly found in thick, coarse hair. Fine and vellus hairs often lack a medulla entirely.

Microbiome (Scalp)

The community of microorganisms, bacteria, fungi, and other microbes, that live on the scalp surface and contribute to scalp health when in balance. Dominated by *Malassezia* species, lipid-dependent fungi that are a normal part of the environment in balanced amounts but can contribute to dandruff and seborrheic dermatitis when overgrown. A disrupted microbiome can lead to irritation, inflammation, and a less supportive follicle environment.

Miniaturization

See Follicle Miniaturization.

N

Nanoliposome

A tiny lipid-based delivery carrier used in KeraFactor's at-home products. Each growth factor in the KFP™ complex is individually encapsulated in its own nanoliposome shell, particles under 200 nanometers in size, to protect the active ingredient and improve absorption through the hair duct into the epidermis, sebaceous gland, and bulge area. The nanoliposome system is what differentiates KeraFactor's delivery from conventional topical formulations.

↳ Source: [KeraFactor FAQ](#), [mykerafactor.com](#)

O

Outer Root Sheath

The epidermal lining of the hair follicle from the surface of the scalp all the way down to the base. Forms the structural wrap around the follicle and connects it to the surface epidermis. Plays a role in follicle cycling, stem cell signaling, and structural integrity. When the scalp barrier is damaged, the outer root sheath is affected, reinforcing the link between scalp health and follicle health.

P

Perifollicular Inflammation

Inflammatory cell infiltrates found around the hair follicle in the dermis. Documented in histological studies of androgenetic alopecia even in early-stage loss where the scalp appears normal on the surface. Associated with premature follicle regression, fibrosis, and accelerated miniaturization. Supports the rationale for anti-inflammatory scalp care as part of a hair health protocol.

Pilosebaceous Unit

The structural unit consisting of the hair follicle and its associated sebaceous gland. The sebaceous gland empties into the hair duct just above the bulge region. The pilosebaceous unit functions together, follicle health and sebum production are interconnected.

S

Sebaceous Gland

A gland attached to the hair follicle that produces sebum, the skin's natural oil. Located just above the bulge region, it empties directly into the hair duct. Sebum lubricates the hair shaft and scalp surface, maintains the skin barrier, and has natural antimicrobial properties. Sebum balance is important: excess leads to buildup and potential inflammation; deficiency leads to dryness and barrier disruption.

Sebum

The natural oil produced by the sebaceous gland. Composed of triglycerides, wax esters, squalene, and free fatty acids. Lubricates the hair shaft, maintains the scalp barrier, and has antimicrobial properties. Sebum balance, neither excessive nor deficient, is a key factor in a healthy scalp environment.

Shh (Sonic Hedgehog)

Short for Sonic Hedgehog, a signaling protein that drives hair follicle development and helps push follicles into the active growth phase. One of the central pathways studied in hair regeneration.

Stem Cell Niche (Follicle)

The biological environment surrounding the follicle stem cells in the bulge region. The niche includes supporting cells, extracellular matrix, signaling molecules, and blood supply, all of which influence whether stem cells can effectively activate and regenerate the follicle at the start of each growth phase. The niche becomes less responsive with age, chronic inflammation, and prolonged follicle disruption.

↳ Aging of the stem cell niche is one of the five key factors in hair thinning, separate from but interacting with hormonal and vascular factors.

T

Telogen

The resting phase of the hair cycle, lasting approximately 3 months. During telogen, the follicle is relatively quiet, the old hair sits in place while a new hair begins to form underneath it. In a healthy scalp, approximately 10 to 15 percent of hairs are in telogen at any given time.

Terminal Hair

Thick, fully pigmented, mature hair that grows to a significant length. Terminal hair is found on the scalp, eyebrows, lashes, beard, and body. In pattern hair loss, terminal hairs progressively convert to vellus-like hairs through the process of miniaturization.

V

Vascularization (Follicle)

The network of tiny capillaries surrounding the base of the hair follicle that delivers oxygen, nutrients, hormones, and growth factors to the dermal papilla and matrix cells. The follicle is one of the most metabolically active structures in the skin and depends on adequate blood supply to sustain the growth phase. Reduced vascularization, through inflammation, aging, or scalp compromise, is directly associated with follicle miniaturization and hair thinning.

VEGF (Vascular Endothelial Growth Factor)

A signaling protein that promotes the formation and maintenance of blood vessels. In the context of hair follicle health, VEGF supports the capillary network around the follicle base during the growth phase. Higher VEGF expression is associated with active, productive follicles. Lower expression is associated with miniaturizing follicles. VEGF is one of the key growth factors targeted in follicle-support formulations.

↳ The sh-Polypeptide-9 in KeraFactor's KFP™ complex is the biomimetic mimic of VEGF.

Vellus Hair

Fine, short, lightly pigmented hair, often called peach fuzz. Present on areas of the body not typically associated with terminal hair growth, and also on the scalp in areas affected by androgenetic alopecia. In pattern hair loss, miniaturization progressively converts terminal scalp hairs to vellus-like hairs. The presence of vellus hairs in areas of previous terminal hair growth is a clinical marker of follicle miniaturization.

SECTION 02

Ingredients

C

Copper Tripeptide-1 (Cu-GHK)

A copper-binding peptide found in KeraFactor formulations. Associated with wound healing support, collagen and elastin stimulation, anti-inflammatory activity, and follicle support. Research suggests it may support scalp circulation, reduce follicle cell death, and contribute to hair thickness. Also plays a role in melanin production relevant to hair color health.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

Curcumin

A polyphenolic compound derived from turmeric with well-documented anti-inflammatory properties. Included in KeraFactor's Scalp Stimulating Solution for its role in supporting a calmer follicle environment and reducing inflammatory activity in the scalp.

↳ Confirmed in the KeraFactor Scalp Stimulating Solution and the KeraFactorMD In-Office Serum.

F

FOLLISTATIN

A signaling protein, Follistatin is one of the most interesting proteins being explored in regenerative medicine because it plays a unique role in regulating tissue growth, repair, and hair follicle biology. Unlike many growth factors that stimulate cells directly, follistatin works by blocking proteins that suppress growth.

↳ Confirmed as an ingredient in the KeraFactorMD serum. Source: Icon Dermatology KeraFactor overview.

G

Glycerin

A humectant, a substance that attracts and retains moisture. One of the most well-studied ingredients in skin and scalp care. Glycerin draws water to the scalp surface and helps maintain barrier integrity, supporting a hydrated and resilient scalp environment.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution and Shampoo/Conditioner.

H

Hyaluronic Acid

A naturally occurring molecule in the skin known for its capacity to retain moisture. Found in KeraFactor's Scalp Stimulating Solution. Supports scalp hydration and helps maintain a resilient, well-functioning barrier.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

L

Lauramidopropyl Betaine

A mild surfactant and conditioning agent derived from coconut oil. Found in KeraFactor's Shampoo/Conditioner. Known for its gentle cleansing properties and low irritation potential. Contributes to lather without disrupting the scalp barrier.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Shampoo and Conditioner.

N

Niacinamide (Vitamin B3)

A water-soluble vitamin with multiple roles in skin and scalp health. Supports barrier function, improves hydration, has anti-inflammatory properties, and may support scalp microcirculation. Found in KeraFactor's Scalp Stimulating Solution.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

P

Panthenol (Pro-Vitamin B5)

A humectant and conditioning agent that improves moisture retention, scalp barrier function, and hair shaft smoothness. Found in KeraFactor's Scalp Stimulating Solution.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

PDRN (Polydeoxyribonucleotide)

A compound included in the updated KeraFactorMD In-Office Serum formulation. Associated with tissue repair, anti-inflammatory activity, and improved microcirculation. Works alongside Follistatin and NanoFluorosome™ technology to amplify the effectiveness of the in-office treatment.

↳ Source: Icon Dermatology KeraFactor overview. Provider-use serum only.

S

sh-Oligopeptide-1

A biomimetic peptide that mimics Epidermal Growth Factor (EGF). Supports cell proliferation, tissue repair, and scalp health. A core component of the KFP™ complex in both the KeraFactor Scalp Stimulating Solution and Shampoo/Conditioner.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution and Shampoo/Conditioner.

sh-Oligopeptide-4

A biomimetic peptide in the KFP™ complex. Thymosin-β4 stimulates follicle stem cell growth, migration, differentiation, and protease production. A critical step in the hair growth cycle is the movement of some of the bulge-residing stem cells downward, where their differentiated progeny contribute to complete re-growth or regeneration of the lower, cycling portion of the follicle.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution and Shampoo/Conditioner.

sh-Polypeptide-1

A biomimetic peptide that mimics basic Fibroblast Growth Factor (bFGF, also called FGF-2). Promotes the anagen growth phase and supports follicle development. Part of the KFP™ complex in KeraFactor's Scalp Stimulating Solution.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

sh-Polypeptide-7

A biomimetic peptide that mimics human growth hormone (HGH), is a synthetic peptide used in hair care products to promote hair growth and act as an anti-aging agent, potentially preventing hair loss and improving hair thickness

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

sh-Polypeptide-9

A biomimetic peptide that mimics Vascular Endothelial Growth Factor (VEGF). Supports vascularization around the follicle base and blood flow to the dermal papilla. Part of the KFP™ complex.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

sh-Polypeptide-11

A biomimetic peptide that mimics acidic Fibroblast Growth Factor (aFGF, also called FGF-1), per INCI ingredient databases. Supports follicle cell proliferation and circulation to the follicle. Part of the KFP™ complex.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

sh-Polypeptide-71

A biomimetic peptide mimics human vasoactive intestinal peptide (VIP) to support scalp health, improve skin structure, and enhance the delivery of active ingredients in hair and skincare products.

↳ Confirmed ingredient in KeraFactor Scalp Stimulating Solution.

sh-Polypeptide-86

A biomimetic peptide, serves as a potent inhibitor of other molecules, most notably myostatin and activin, both of which belong to the transforming growth factor-beta (TGF-β) superfamily. In KeraFactor it appears in the KeraFactorMD in-office serum and in the Brows and Lashes formulas.

↳ Confirmed in the KeraFactorMD in-office serum and the Brows and Lashes formulas.

SECTION 03

KeraFactor Products and Technology

K

KeraFactor Peptide Complex

See KFP™.

KeraFactorMD In-Office Serum

The professional-use KeraFactor serum formulated for in-office treatments. Contains the KFP™ complex, PDRN, and NanoFluorosome™ technology. Used in the KeraLase procedure and KeraNeedling treatments. Has DHT-blocking capability in addition to growth factor delivery.

↳ The KeraFactorMD serum is for provider use only, not available over the counter.

KeraFlex Duo

An at-home laser device featuring dual wavelengths, 272 diodes at 650nm and 40 diodes at 808nm. Used for 6 minutes every other day. The dual wavelength system is designed to address both superficial and deeper follicle layers.

↳ [Confirm current specifications with KeraFactor before clinical use.](#)

KeraFlex Laser Cap

An at-home low-level laser therapy device in the KeraFactor product line. The KeraFlex Laser Cap features 302 diodes at 650nm wavelength. Used for 6 minutes every other day as part of the at-home protocol.

↳ [Confirm current specifications with KeraFactor before clinical use.](#)

KFP™ (KeraFactor Peptide Complex)

KeraFactor's patented proprietary complex containing 7 biomimetic growth factors and skin proteins. Delivered via nanoliposome technology. KFP™ is the active core of the KeraFactor Scalp Stimulating Solution and shampoo/conditioner. Designed to target thinning, weak, or dormant hair follicles by supplementing the growth factor signaling environment.

↳ Protected by US Patent 10,894,074. The seven peptides in KFP™, comprising both growth factors and skin proteins, are sh-Oligopeptide-1, sh-Oligopeptide-4, sh-Polypeptide-1, sh-Polypeptide-7, sh-Polypeptide-9, sh-Polypeptide-11, and sh-Polypeptide-71.

N

NanoFluorosome™

An advanced nanocarrier technology used in the KeraFactorMD In-Office Serum. A fluorescent compound that can be activated by red light laser, significantly increasing the effectiveness and targeted delivery of active compounds. Distinct from the standard nanoliposome technology used in the at-home Scalp Stimulating Solution.

↳ [Source: Icon Dermatology KeraFactor overview and KeraFactor product materials.](#)

S

SkinQRI

The parent company of KeraFactor. Founded by Dr. Amy Forman Taub (board-certified dermatologist) and James Bartholomeusz (biotech expert). SkinQRI developed the KeraFactor formula over six years of extensive research.

SECTION 04

Hair Loss Conditions

A

Alopecia Areata (AA)

An autoimmune condition in which the immune system mistakenly attacks the hair follicle, producing sudden, well-defined patchy hair loss. Can affect the scalp, eyebrows, eyelashes, and body hair. The course is unpredictable, some patients experience full regrowth, others ongoing or progressive loss. Not for management by technicians or reps, always a medical referral.

↳ Subtypes include alopecia totalis (complete scalp hair loss) and alopecia universalis (complete body hair loss). Associated with other autoimmune conditions including thyroid disease and vitiligo. KeraFactor products are not indicated for alopecia areata.

Androgenetic Alopecia (AGA)

The most common form of hair loss in both men and women. Driven by genetic susceptibility to DHT, which progressively miniaturizes hair follicles through its action on the dermal papilla. In men, typically presents as receding hairline and vertex thinning following the Norwood-Hamilton scale. In women, typically presents as diffuse thinning with a preserved frontal hairline following the Ludwig scale. Chronic and progressive without intervention.

↳ AGA is non-scarring, follicles are present and miniaturizing, not absent. Early intervention produces better outcomes because the stem cell niche and follicle activity can still be supported.

C

CCCA (Central Centrifugal Cicatricial Alopecia)

A scarring alopecia that begins at the crown or vertex of the scalp and spreads outward in a centrifugal pattern. Most commonly affects women of African descent. May present with tenderness, burning, itching, scaling around follicles, or may be subtle with minimal surface symptoms. As a scarring alopecia, affected follicles are permanently destroyed. Early referral to a dermatologist is critical, every period of unaddressed inflammation represents potential follicle loss.

↳ Estimated to affect up to 17% of women of African descent in some studies, though likely underdiagnosed. KeraFactor products are not indicated for use in patients with CCCA or other scarring alopecias.

F

Frontal Fibrosing Alopecia (FFA)

A scarring alopecia presenting as a progressive recession of the frontal and temporal hairline, often accompanied by loss of eyebrows and eyelashes. Thought to be a variant of lichen planopilaris. Primarily affects postmenopausal women. Requires dermatology referral. KeraFactor products are not indicated for use in FFA.

G

GLP-1 Related Telogen Effluvium

Hair shedding associated with the rapid weight loss common on GLP-1 medications such as semaglutide. A form of telogen effluvium, where physiological stress pushes follicles prematurely into the resting and shedding phase. An emerging patient population. See Telogen Effluvium.

↳ In semaglutide trials, hair loss was reported in 2.5% of patients versus 1.0% on placebo. Source: Wegovy trial data, cited in a Cureus 2025 scoping review.

L

Lichen Planopilaris (LPP)

A scarring alopecia characterised by follicular inflammation leading to follicle destruction and permanent hair loss. Presents with follicular hyperkeratosis, perifollicular erythema, and scalp tenderness. Requires dermatology referral and management. KeraFactor products are not indicated for use in LPP.

P

Perimenopausal Hair Loss

Hair thinning associated with the hormonal changes of perimenopause: as estrogen declines, the relative influence of androgens rises. Often presents as diffuse thinning or a pattern resembling androgenetic alopecia. Featured as a patient case in KeraFactor's clinical evidence.

S

Scarring Alopecia (Cicatricial Alopecia)

A category of hair loss conditions in which hair follicles are permanently destroyed and replaced with scar tissue, resulting in irreversible hair loss in affected areas. Includes CCCA, lichen planopilaris, frontal fibrosing alopecia, and others. All scarring alopecias require medical referral, they cannot be managed at the technician or rep level. KeraFactor products are not indicated for any form of scarring alopecia.

↳ Key recognition signs: shiny smooth scalp with absent follicular openings, tenderness or burning, redness or pustules around follicles, expanding unexplained loss.

T

Telogen Effluvium (TE)

A form of diffuse, non-scarring hair loss caused when a significant stressor pushes a disproportionate number of follicles into the telogen phase simultaneously. Common triggers include illness, surgery, rapid weight loss, postpartum hormonal change, nutritional deficiency, and certain medications including GLP-1 agonists. Shedding typically occurs 2 to 4 months after the original trigger. In most cases, once the trigger is resolved, follicles can recover.

↳ TE is non-scarring, follicles remain present. It is important to distinguish from AGA, which involves miniaturization rather than primarily increased shedding.

SECTION 05

Treatments and Procedures

1

1927nm Thulium Laser

A non-ablative fractional laser wavelength used in the KeraLase procedure. Creates microchannels in the scalp that have been shown to increase nanoliposome absorption by 5 to 7 times compared to topical application alone, significantly enhancing the delivery of the KeraFactor formula to the follicle environment.

↳ Source: KeraFactor KeraLase procedure page. The 1927nm wavelength is the specific laser paired with KeraFactorMD in the in-office protocol.

F

Finasteride

A 5-alpha reductase type II inhibitor that reduces DHT levels by approximately 70%. FDA-approved for male androgenetic alopecia. Requires physician supervision. Not approved for use in women of childbearing potential due to teratogenic risk. Used off-label in postmenopausal women in some cases.

↳ KeraFactor is drug-free and does not contain or interact with finasteride. The two can be used as part of a complementary protocol.

K

KeraLase Procedure

KeraFactor's branded in-office treatment combining a 1927nm thulium laser with the KeraFactorMD In-Office Serum. The 1927nm wavelength creates microchannels in the scalp that have been shown to increase nanoliposome absorption by 5 to 7 times compared to topical application alone. The procedure enhances delivery of the KeraFactor formula to the follicle environment.

↳ Source: KeraFactor KeraLase procedure page, mykerafactor.com/pages/new-keralase-procedure

KeraNeedling

KeraFactor's branded microneedling treatment in which micro-channels are created on the scalp and the KeraFactor serum is simultaneously delivered using a micro-infusion vial. Combines the scalp stimulation and absorption-enhancing benefits of microneedling with the growth factor delivery of the KeraFactor formula.

↳ Source: Icon Dermatology KeraFactor overview.

L

Low-Level Laser Therapy (LLLT)

A non-invasive treatment using specific wavelengths of light, most commonly 630–690nm, to support follicle activity, improve scalp circulation, and help extend the anagen phase. Mechanism is thought to involve photobiomodulation effects on mitochondrial activity and anti-inflammatory effects in scalp tissue. FDA-cleared for both men and women with androgenetic alopecia. True laser diodes produce more targeted light than LED-based devices.

↳ KeraFactor's KeraFlex Laser Cap and KeraFlex Duo are LLLT devices designed for at-home use as part of the KeraFactor protocol.

M

Microneedling (Scalp)

A procedure that creates controlled micro-injuries to the scalp using fine needles. Stimulates the body's natural wound healing response and triggers growth factor release. Also creates temporary microchannels that significantly improve the penetration and absorption of topical treatments applied at the same time. Research has shown that combining microneedling with minoxidil produces better outcomes than minoxidil alone.

Minoxidil

One of the longest-established topical treatments for androgenetic alopecia in both men and women. FDA-approved in 2% and 5% topical formulations and more recently as a low-dose oral option. Thought to work through multiple mechanisms including vasodilation, prolongation of anagen, and possible effects on potassium channels in follicle cells. Results depend on consistent use, stopping minoxidil typically leads to return of hair loss.

↳ KeraFactor is compatible with minoxidil and can be used as part of a complementary protocol. Apply KeraFactor first for maximum absorption.

P

Prostaglandin Analog (PGA)

A class of compounds used in some lash and hair growth products. Associated with potential side effects including iris color change, skin darkening around the eye (periorbital hyperpigmentation), and fat atrophy. KeraFactor products are explicitly free of prostaglandin analogs, a meaningful clinical distinction, particularly for lash and brow products.

↳ KeraFactor Lashes and Brows serum is PGA-free and drug-free.

PRP (Platelet-Rich Plasma)

A treatment that uses the patient's own blood, processed through centrifugation to concentrate platelets and growth factors, then injected into the scalp. The growth factors in PRP, including PDGF, TGF-beta, VEGF, and EGF, are thought to support follicle activity and signaling. Results are variable and depend on technique, patient selection, and combination with other treatments. Used as part of combination protocols for androgenetic alopecia and other non-scarring hair loss.

S

Spironolactone

An anti-androgen medication used off-label for androgenetic alopecia in women. Works by blocking androgen receptors. Requires physician supervision. Not suitable for women who are or may become pregnant. Often used alongside topical treatments in female pattern hair loss.

T

Trichoscopy

A non-invasive dermoscopy technique used to examine the scalp and hair follicles at magnification. Used to assess hair density, hair shaft diameter, follicular unit structure, the ratio of terminal to vellus hairs, and signs of scarring or inflammation. A useful clinical tool for staging hair loss and monitoring treatment response.

PENDING ADDITION

The KeraLase and microneedling treatment protocols will be added to this section once KeraFactor approves them.