VERVE Holistic Health

ELEVATE YOUR VITALITY

AN EDUCATIONAL GUIDE

Hair *Restoration* with Dermal Papilla Exosomes

Awaken dormant follicles —
the cell-free signaling approach to hair regrowth.

REGENERATIVE AESTHETICS AT VERVE

VERVE HOLISTIC HEALTH · TUSTIN, CALIFORNIA

Elevate Your Vitality

INTRODUCTION

A new approach to *hair* regrowth.

Dermal papilla exosomes deliver the precise signaling molecules your hair follicles use to wake up, lengthen, and produce thicker hair — without surgery, daily medication, or downtime.

Hair growth is governed by tiny clusters of specialized cells called **dermal papilla cells (DPCs)**, which sit at the base of every follicle. They function as the follicle's command center — instructing the surrounding cells when to grow, when to rest, and how vigorously to produce a hair shaft. When DPCs lose their signaling capacity, follicles miniaturize, hairs thin, and shedding outpaces regrowth.[1,5]

Dermal papilla exosomes are nanoscale messenger vesicles secreted by these cells. They carry the exact growth factors, microRNAs, and proteins that DPCs use to communicate with surrounding follicle cells.[2,6] Delivered to the scalp, they re-introduce that signaling — guiding dormant follicles back into the active growth phase and supporting the cells that build healthy hair.

~30–160*nm*
Size of an exosome — small enough to penetrate the scalp and reach follicles directly.

3 *phases*
Anagen, catagen, telogen — the hair cycle exosomes help orchestrate.

Cell-*free*
Therapeutic signaling without introducing cells, donor tissue, or DNA.

Why dermal papilla exosomes — specifically?

Many sources of regenerative exosomes exist (mesenchymal, adipose, umbilical cord). Dermal papilla exosomes are unique because they carry the *follicle-specific* signaling cargo — including miR-218-5p and miR-181a-5p, miRNAs shown in peer-reviewed research to activate the Wnt/β-catenin pathway that drives the transition from a resting follicle to an actively growing one.[2,4,7]

HOW THEY WORK

The *biology* of follicle reactivation.

Hair grows in cycles. The key to regrowth is shifting more of your follicles into the active growth phase — and keeping them there longer. Here is how dermal papilla exosomes do that.

The hair cycle, simplified

Anagen
ACTIVE GROWTH · 2–7 YRS
The follicle produces a hair shaft. Healthy scalps have 80–90% of follicles in this phase.

→

Catagen
TRANSITION · ~2 WEEKS
The follicle stops producing hair and detaches from its blood supply. A brief shrinking phase.

→

Telogen
REST / SHED · ~3 MOS
The hair rests, then sheds. In hair loss, follicles get stuck here — and reactivation is the goal of therapy.

Wnt/β-catenin activation — *i.*

Dermal papilla exosomes deliver miR-218-5p, which up-regulates β-catenin signaling — the master regulator that pushes follicles from telogen (rest) into anagen (active growth).[2,4]

Stem cell stimulation — *ii.*

Exosomes increase proliferation of hair follicle stem cells (HFSCs) — the cells responsible for renewing follicles — while reducing apoptosis (programmed cell death) of those same cells.[1,6]

Anti-miniaturization — *iii.*

In androgenetic hair loss, DHT shrinks follicles over time. Exosome-delivered signals counteract DHT-induced damage to dermal papilla cells, supporting follicle thickness and shaft caliber.[3,5]

Targeted delivery — *iv.*

At nanoscale, exosomes can be applied topically (with microneedling) or injected directly. Both approaches deliver cargo to the depth where dermal papilla cells reside.[5,7]

DELIVERY METHODS

Two paths to *delivery*.

Verve offers both topical and injection-based exosome therapy. Your physician will recommend the right protocol — or combination — based on your hair loss pattern, scalp condition, and goals.

M+E
MICRONEEDLE + EXO

METHOD I · TOPICAL APPLICATION

Microneedling with exosomes

Medical-grade microneedling creates microscopic channels in the scalp, immediately followed by topical application of dermal papilla exosomes. The channels allow the exosomes to bypass the skin barrier and reach the follicle depth where dermal papilla cells live — a comfortable, in-office procedure with minimal downtime.

> ***Best for:*** *patients seeking a non-injection option, broad scalp coverage, early-to-moderate thinning, and patients combining exosomes with concurrent topical therapy regimens.*

Inj.
MESOTHERAPY

METHOD II · DIRECT INJECTION

Scalp injection (mesotherapy)

Exosomes are injected directly into targeted regions of the scalp using a fine-gauge needle. This delivers a higher concentration of signaling cargo precisely to areas of greatest need — most often the crown, hairline, or temple regions. Topical anesthetic keeps the procedure comfortable.

> ***Best for:*** *focal thinning, receding hairlines, more advanced miniaturization, and patients prioritizing maximum precision in delivery to specific areas.*

A course, not a single session

Hair grows on a biological timeline that medicine cannot rush. Verve's standard protocol is a *series of three to four treatments spaced four to six weeks apart*, followed by maintenance every three to six months. This rhythm is designed to repeatedly cue the hair cycle into anagen — once is rarely enough; consistency is what compounds. Your physician will tailor the exact cadence to your response and goals.

WHAT TO EXPECT

Your *results* timeline.

Hair regrowth unfolds slowly — often invisibly at first, then noticeably, then meaningfully. Here is how a typical treatment course progresses.

I

WEEKS 1–4 · ACTIVATION

Below the surface

Follicles begin shifting from telogen toward anagen. Visible changes are minimal at this point, though some patients notice reduced shedding or improved scalp comfort. The biology is happening — the visible reward comes later.

II

MONTHS 2–3 · EARLY REGROWTH

The first new hairs

Fine, soft regrowth (vellus hairs) starts appearing in treated zones. Texture improves and breakage often decreases. Your second or third treatment session typically falls in this window, reinforcing the response.

III

MONTHS 4–6 · DENSITY

Visible improvement

Vellus hairs mature into terminal hairs — thicker, longer, and pigmented. Density and coverage become noticeably greater. This is where most patients see their before/after difference clearly.

IV

MONTH 6+ · MAINTENANCE

Sustaining results

Maintenance sessions every three to six months keep follicles cycling productively. Many patients pair maintenance with complementary therapies — topical actives, nutritional support, or peptide protocols — for compounded long-term results.

Strong candidates

- Early to moderate androgenetic alopecia (men or women)
- Postpartum or hormonal-related shedding
- Stress-related telogen effluvium
- Diffuse age-related thinning
- Patients seeking PRP-alternative or PRP-adjunct therapy

Discuss with your physician first

- Active scalp infection or inflammatory skin disease
- Pregnancy or breastfeeding
- Active malignancy or recent chemotherapy
- End-stage scarring alopecia (cicatricial)
- Bleeding disorders or anticoagulant use

QUESTIONS ANSWERED

Common *questions*.

Q. *How is this different from PRP?*

A. PRP delivers your own platelet growth factors. Dermal papilla exosomes deliver follicle-specific signaling cargo — including miRNAs that directly activate the Wnt/β-catenin pathway central to follicle reactivation. Many patients combine the two for complementary effects; your physician will advise on whether one, the other, or both is appropriate for you.[2,7]

Q. *Will it work for me?*

A. Response is highly individual and depends on your hair loss type, severity, scalp health, and how long follicles have been dormant. Active follicles in early-to-moderate thinning respond best; severely scarred or fully dormant follicles may not respond at all. Realistic expectations are set during your consultation based on a scalp evaluation.

Q. *Is it painful? Any downtime or side effects?*

A. Topical microneedling causes mild scalp tingling; injection sessions use topical anesthetic and feel similar to other in-office aesthetic treatments. Most patients return to normal activity the same day with brief scalp pinkness; we avoid washing the scalp for the first 12–24 hours. Reported effects are typically minor (temporary redness, mild tenderness, or transient itching). Because exosomes are cell-free signaling vesicles — not live cells, not donor tissue, no DNA — there is no risk of cellular rejection.

Q. *Is this FDA-approved?*

A. Exosome-based regenerative therapies occupy an evolving regulatory landscape in the United States. Treatment at Verve is administered under physician supervision. This material describes published scientific findings and is not a claim that exosome therapy is FDA-approved for the treatment of any specific condition.

SELECTED REFERENCES

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6. **Yan H, Gao Y, Ding Q, et al.** *Exosomal microRNAs derived from dermal papilla cells mediate hair follicle stem cell proliferation and differentiation.* International Journal of Biological Sciences. 2019;15(7):1368–1382.
7. **Zhou L, Wang H, Jing J, et al.** *Regulation of hair follicle development by exosomes derived from dermal papilla cells.* Biochemical and Biophysical Research Communications. 2018;500(2):325–332.

YOUR NEXT STEP

Book a hair consultation.

Every hair restoration plan at Verve begins with a scalp evaluation and physician-led conversation. We'll review your history, your goals, and design the right protocol for you.

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