

The World Best Microneedling Treatment System



Bio-Meso PDRN Treatment Training Manual

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**This manual should be used only for training of GENOSYS users.

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Chapter 1. What are spicules?

- Definition of spicules

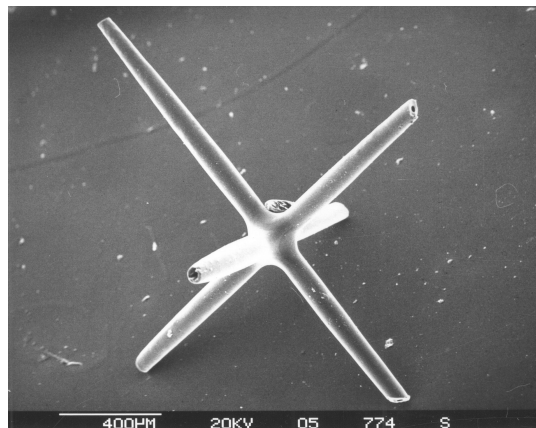
Spicules are microscopic needle-like structures, often derived from marine or freshwater sponges. Spicules provide structural support for the sponge's body and is usually 100–300 micrometers in length. Spicule skeletons are composed of either silica or calcium carbonate.

In skincare, they are used as a physical delivery system to enhance the penetration of active ingredients into the skin.

When applied topically, spicules create microchannels in the stratum corneum (the outermost layer of the skin) without causing visible injury. This mechanical stimulation can promote gentle exfoliation, increase blood circulation, and support skin regeneration.

Spicules also trigger a mild inflammatory response, which can stimulate collagen production and improve skin texture. When combined with active ingredients like peptides or PDRN (polydeoxyribonucleotide), they help deliver those substances deeper into the skin, potentially enhancing their anti-aging and regenerative effects.

Spicule treatment is also called as liquid microneedling or bio microneedling because the treatment has a very similar effect as microneedling treatment.



<Six pointed spicule>

- History of spicules

The history of spicules in skincare originates from traditional Eastern medicine and marine biology. Spicules were first observed as microscopic skeletal elements found in marine organisms such as sponges. In traditional oriental herbal treatments, crushed sponges were sometimes used to treat skin conditions due to their exfoliating and regenerative properties.

Modern cosmetic science began adapting this natural concept in the early 2000s, especially in South Korea, where researchers developed ways to purify and stabilize spicules for topical use. The main goal was to create a delivery system that was less invasive than microneedling but still effective at promoting skin renewal and improving penetration of active ingredients.

Advancements have since led to the use of coated spicules—such as those layered with PDRN or peptides—to combine physical stimulation with targeted skincare benefits. Spicule-based products focus on anti-aging, brightening, and skin regeneration.

- Mechanism of Spicule treatment

Spicule treatment uses microscopic needle-like structures that physically penetrate the skin’s outer layer—the stratum corneum—and reach into the epidermis. Once applied through massage or stamping, these spicules:

1. Create microchannels
They form tiny, temporary channels in the skin without causing bleeding, similar to microneedling.
2. Stimulate skin renewal
The physical presence of spicules stimulates skin cell turnover, fibroblast activity, and collagen production.
3. Enhance absorption
The microchannels facilitate deep delivery of active ingredients, especially when spicules are coated with agents like PDRN, peptides, or growth factors.
4. Trigger natural exfoliation
The spicules remain in the skin for 24–72 hours, continuously stimulating the skin and resulting in natural shedding and renewal.

Comparison of Spicule Treatment vs. Herbal or Algae Peeling

Feature	Spicule Treatment	Herbal Peeling	Algae Peeling
Mechanism	Mechanical micro-stimulation + transdermal delivery	Exfoliation and regeneration	Exfoliation and regeneration
Skin Penetration	Surface to epidermal	Surface to mid-epidermal	Mostly surface
Precision	High (dosage and depth can be controlled)	Less controlled, depending on product and skin sensitivity	Less controlled, varies by skin type
Delivery of Actives	High when spicules are coated with actives (e.g., PDRN, peptides)	Limited	Limited

Downtime	Low to moderate (depending on spicule type and dose)	Moderate to high (peeling, redness)	Moderate (peeling, irritation)
Pain/Irritation	Tingling/prickly feeling during application, tolerable	Often stinging/burning during and after treatment	Prickly or burning sensation common
Safety	High when purified and standardized; lower risk of allergic reaction. Purified spicules are formulated in a cosmetic product and it can be safely used on the skin.	Higher risk of irritation or allergic reaction. Usually a powder is applied for peeling and this powder may contain some impurities.	Moderate risk of reaction due to bioactive content. Usually a powder is applied for peeling and this powder may contain some impurities.
Customizability	Easy to combine with other treatments or adjust concentration	Less customizable	Less customizable

In summary, spicule treatment combines the advantages of mechanical stimulation and active ingredient delivery in a relatively safe and controlled way. Compared to herbal or algae peels, it offers better precision, deeper activity, and fewer unpredictable side effects, making it suitable for both professional and homecare applications.

- Skin Penetration and Elimination Process of Spicules

1. Penetration:

- When spicules are applied to the skin (typically via massage), they mechanically penetrate the stratum corneum and reach into the viable epidermis.
- Penetration depth usually ranges from 0.1 mm to 0.25 mm, depending on spicule size and application method.
- This creates temporary microchannels that stimulate fibroblast activity, accelerate skin cell turnover, and enhance transdermal delivery of active ingredients (like PDRN, peptides, etc.).

2. Elimination:

- Spicules remain embedded in the skin for approximately 24 to 72 hours.
- During this time, they gradually break down through natural epidermal shedding and immune system response.
- The skin expels them through desquamation (natural exfoliation process) as part of regular cell turnover.

- In some cases, a mild tingling or rough sensation may persist during elimination, which indicates ongoing stimulation.

This mechanism mimics microneedling but with a less invasive and more gradual approach, allowing for controlled stimulation without puncturing the dermis. Depending on the concentration of spicules, the intensity and effect vary.

<Turnover process over time>

Time Frame	Skin Reaction	Reference
Day 0 ~ 1	Redness, tingling, and a sensation of tightness similar to a sunburn are common immediately after application.	
Day 2	Redness may subside, but a prickly sensation may still be felt when touching the skin.	It is important to note that the specific experience and timeline can vary depending on individual skin type and the concentration of spicules used.
Day 3 ~ 4	Remaining spicules are gradually eliminated through the skin's natural turnover process and the prickly sensation may disappear. The skin might appear darker as dead skin cells start to surface and peeling, where the dead skin cells flake off, may begin.	
Day 5	Peeling may be persistent and more noticeable.	Some individuals may experience more pronounced peeling or dryness than others.
Day 6	Peeling slows down, and the skin may appear brighter, with smaller pores and a reduction in the appearance of fine lines and breakouts. The skin should be smoother and regenerated after this period.	

Chapter 2. What is special about GENOSYS Bio-Meso formulation?

- Description of Bio-Meso PDRN line

- A specialized treatment, enriched with the uniquely formulated BIO-MESO™ PDRN, panthenol, and an anti-aging complex to regenerate skin and strengthen the skin barrier.
- Customizable care enabled by a 2-way system for clinic-based and home-use applications
- Contains a significantly higher concentration of spicules compared to other products on the market, delivering more intensive results.
- Functions as a spicule peeling or bio-meso peeling treatment, inducing a peel-off effect on the skin.
- Effects:
 - Boosts skin turnover*
 - Enhances collagen & elastin production*
 - Promotes skin regeneration*
 - Improves skin tone*
 - Improves blemishes*

- Main features of Bio Meso PDRN

1) Progress of spicules

- 1st Generation Spicules – Refined Natural Form

These spicules are extracted and purified directly from natural sources, such as freshwater or marine sponges.

The spicule acts as a physical stimulator, inducing skin turnover by creating microchannels.

No active ingredients are coated—only the physical effect of stimulation is achieved.

While effective for exfoliation and mild collagen stimulation, this generation can be irritating and lacks ingredient delivery function.
- 2nd Generation Spicules – Basic Surface Coated Type

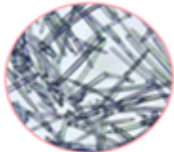
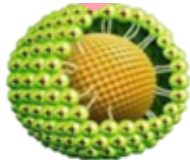


In this stage, spicules are immersed or sprayed with active extracts, which are then dried to form a surface coating.

This allows some functional ingredients to be delivered through the spicules when they penetrate the skin.

It improves over the 1st generation by combining mild stimulation and basic skincare efficacy, but the coating may be uneven or unstable.

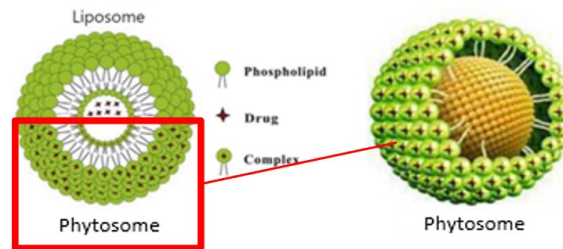
- **3rd Generation Spicules – Coated Phytosome Type -COG Spicules(Bio-Meso)**
 These are the latest spicules, where active ingredients are first encapsulated into phytosome capsules, and then uniformly coated onto the spicule surface. This technology improves both delivery efficiency and stability of the actives. The result is a more sophisticated, controlled, and safe skin treatment with dual benefits: *mechanical microstimulation and targeted delivery of potent actives*. Often used for anti-aging, skin repair, and post-procedure treatments.

2) Manufacturing process of GENOSYS Bio-Meso

	<p>Step 1 – High purity natural spicule extraction Spicules are carefully harvested from freshwater sponges. Through a meticulous purification process, impurities and irritants are removed, leaving behind only the most refined micro-needle structures optimized for skin penetration.</p>
	<p>Step 2 – PDRN phytosome encapsulation PDRN (polydeoxyribonucleotide), a regenerative ingredient known for promoting cell repair and DNA synthesis, is encapsulated using phytosome technology. This method enhances its stability, absorption, and bioavailability, making it easier for the skin to receive and utilize the active compound.</p>
	<p>Step 3 – Special coating of PDRN phytosome on 3rd generation COG spicules The encapsulated PDRN is uniformly coated onto third-generation COG spicules. This ensures that the spicules are not only a delivery mechanism but also act as a carrier for high-performance actives, increasing their therapeutic impact during skin penetration.</p>
	<p>Step 4 – A next level spicule system by GENOSYS – optimised for maximum stability and effective transdermal delivery The final product is a highly stable spicule system that offers controlled, deep transdermal delivery. It maximizes skin stimulation while minimizing irritation, allowing for a balance of physical exfoliation and deep regenerative treatment.</p>

- **What is phytosome?**

A phytosome is a type of advanced delivery system used to enhance the absorption and effectiveness.



	Liposome	Phytosome
Binding	Physically encapsulates active ingredients within the inner aqueous space of the phospholipid bilayer	Forms molecular complexes by chemically binding active ingredients to the polar head of phospholipids
Delivery	Liposomes release active ingredients upon membrane disruption or fusion, allowing them to be absorbed.	Delivers active ingredients in a phospholipid-bound form, enhancing skin compatibility and absorption.
Stabilization	Structural stabilization	Chemical stabilization

- ➔ The active ingredients form a stable complex with phospholipids, mimicking the structure of skin lipids.
- ➔ This enhances permeation through the skin barrier and ensures efficient, direct delivery without dissociation.

- **Spicule Concentration**

General	BIO-MESO PDRN AMPOULE
Mild homecare: 0.01% ~0.3%	Homecare: 0.5%
Intense home care: > 0.3% *Usually reserved for professional care	
Professional care: 0.3% ~5% * > 1% is for trained professionals.	Professional: 6%

- Spicule number of Bio-MESO PDRN line
 - Professional : Spicules per 1ml : 300,000 ~360,000ea
 - Total spicule number of the syringe for 1 application : 0.9million – 1.08 million ea
 - Homecare : Spicules per 1ml: 25,000~30,000ea
 - Total spicule number at the container of 50ml : 1.25million – 1.5million ea

Bio-Meso PDRN Expert Ampoule 60000 contains quite high concentration in the market but high concentration in spicule-based cosmetic products does not automatically indicate a safety risk. When spicules are highly purified, standardized, and free from impurities, they can be safely used even at higher concentrations. These formulations are developed following cosmetic-grade safety standards, including skin irritation and stability testing. The delivery system also plays a crucial role; spicules are suspended in serums that control their penetration and interaction with the skin, preventing excessive irritation. GENOSYS spicules(Bio-Meso) are coated with PDRN additionally, which further enhances safety and efficacy.

- **Effects of PDRN with spicules**

The combination of PDRN (Polydeoxyribonucleotide) with spicules creates a synergistic skin treatment that enhances both regeneration and delivery.

1) Enhanced transdermal delivery

Spicules create thousands of microchannels in the skin, allowing PDRN to penetrate deeper than topical application alone. This boosts bioavailability and ensures the active ingredient reaches the dermis where it is most effective.

2) Regeneration support

PDRN promotes tissue repair, cell proliferation, and improved skin elasticity by stimulating fibroblast activity and collagen synthesis. This accelerates recovery and enhances anti-aging effects, especially after physical stimulation from the spicules.

3) Reduced downtime and inflammation

Although spicules cause mild controlled irritation for skin renewal, PDRN helps soothe inflammation, reduce redness, and promote faster healing, making the treatment more tolerable and suitable even for sensitive skin.

4) Dual-action mechanism

Spicules mechanically stimulate turnover, while PDRN biochemically supports regeneration. Together, they activate both the physical and biological pathways of skin rejuvenation.

This combination is effective for skin aging, dehydration, dullness, and compromised barrier function.

Chapter 3. Treatment

- Contraindications

Contraindications of spicule treatment include conditions where the skin barrier is compromised or the body may react adversely to stimulation. Spicule treatments should be avoided or used with caution in the following situations:

1. Active skin infections
Bacterial, viral (e.g., herpes simplex), or fungal infections can worsen with physical stimulation and inflammation.
2. Severe acne or rosacea
Inflamed or cystic acne and active rosacea may be aggravated by the mechanical penetration of spicules.
3. Open wounds or broken skin
Treatment should be delayed until the skin is fully healed to prevent irritation or infection.
4. Skin allergies or hypersensitivity
Individuals with known allergies to ingredients in the formulation (e.g., spicules, growth factors, PDRN and etc) or highly sensitive skin may react negatively.
5. Autoimmune skin disorders
Conditions like lupus, psoriasis, or eczema may flare up with stimulation from spicules.
6. Recent dermatological procedures
Post-chemical peel, laser resurfacing, or microneedling: wait until the skin has fully recovered (usually 2-4 weeks depending on the procedure).
7. Use of retinoids or strong acids
If the patient is using retinol, tretinoin, AHA/BHA products, or steroids, the skin may be too sensitive. For patients currently using topical retinoids (such as tretinoin, adapalene, or retinol), the skin barrier is often thinner, more sensitive, and prone to irritation. Because spicule treatments involve mechanical micro-stimulation by microneedle-like structures, it is important to ensure the skin has fully recovered from any retinoid-induced sensitivity before proceeding.

Safer Recommendation:

- Stop using retinoids at least 7–10 days before receiving a professional-grade spicule treatment.
- For stronger prescription retinoids (e.g., 0.05–0.1% tretinoin), consider extending the break to 14 days, especially if the skin shows signs of peeling, dryness, or redness.
- Ensure the skin appears calm, non-peeling, and not erythematous before proceeding.
- After treatment, do not resume retinoids for at least 14 days, and only once the skin has completely recovered.

Additional Caution:

- If the patient has used oral isotretinoin (Accutane) in the past, professional spicule treatment should be deferred for at least 6 months post-treatment due to impaired wound healing.

Always perform a patch test or offer a gentle test area (e.g., behind the ear or on the jawline) if you are uncertain about skin tolerance of the client.

8. Pregnancy and breastfeeding
While spicules themselves may be safe, not to cause any unexpected adverse effects, it is not recommended to treat women of pregnancy and breastfeeding.
9. Skin cancers or precancerous lesions
Any suspicious lesion should be evaluated by a medical professional before undergoing any invasive or semi-invasive skin treatment.
10. Recent sunburn or tanning
Sun-damaged or freshly tanned skin may be more prone to irritation and post-inflammatory hyperpigmentation.

A proper skin assessment and medical history review should be done before performing a spicule treatment to avoid adverse reactions.

- Precautions


- ✓ Avoid use around the eyes and lips.
- ✓ After using beauty care devices, peeling products, or high-concentration formulations that may irritate the skin, it is recommended to use this product only after the skin has fully recovered, as the skin may be in a highly sensitive state. (Do not use together.)
- ✓ Depending on skin type, mild irritation may last up to 3 days.
- ✓ Exfoliation may occur approximately 2 to 3 days after the treatment.












- Treatment Protocols / Application technique

1. Treatment order

1) Professional treatment

➔ **Usage frequency: Equivalent to a 1.0mm needle - recommended once a month(3-4weeks)**

Cleansing	Skin Defender Lip & Eye Makeup Remover	
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	Snow O ₂	
	Snow Booster	
Pre Bio-Meso treatment	EZ CO ₂ Mask	
Main treatment	Bio-Meso PDRN Expert Ampoule 60000 -Protect the eyes with wet cottons. When the product enters the eyes, wash it with flowing water promptly.	
	Option (For a more intensive treatment) Hydro Soothing Cream	
Mask	Option 1. For clients who feel high irritation : Bio Ferment Age-Defying Mask(20 mins)	
	Option 2. For usual cases : Skin Reboot PDRN Mask Pack(10-15mins)	
Post care	Soothing Repair Post Cream - Wear latex gloves to apply post care products to avoid a direct contact of hands and the skin.	
	Skin Rescue Overnight Cream Mask	
Finishing treatment	Multi Sun Cream / Ultra Shield Sun Cream - Use a disposable sponge to apply finishing products.	
	Intensive Blemish Balm / Skin Caring BB Cushion	

2) Homecare treatment – recommended in the evening!

➔ Usage frequency: Equivalent to a 0.25mm needle - recommended once a week

Cleansing	Skin Defender Lip & Eye Makeup Remover	
	Snow O ₂	
	Snow Booster	
Main treatment	Bio-Meso PDRN Homecare Ampoule 5000	
Mask	Skin Reboot PDRN Mask Pack(10-15mins)	
Finishing treatment	Soothing Repair Post Cream	
	Skin Rescue Overnight Cream Mask	

2. Application technique of Bio-Meso PDRN Expert Ampoule

1st step : Applying the product and Spreading – 20 seconds

Apply the product on the face except around the eyes and lips, spread it evenly on the face. Before applying the product to the client, it is recommended to warn the client/patient that they will feel prickling

sensation during the whole treatment and 2-3days after treatment. Wear latex gloves.

2nd step : Inserting with pressure – 20-25 seconds

As if you insert the spicules contained in the product, press the face using hands.

3rd step : Massaging – 20-30 seconds(with a light pressure)

Massage the face with a rolling motion.

4th step : Massaging with Hydro Soothing Cream(for an intensive result) – 20-30 seconds with pressure

For a deeper penetration of product and a more intensive result, Hydro Soothing Cream can be applied on top of the applied product and a rolling massage can be applied. By adding this step, skin shedding or peeling can be more visible.

*** In case of sensitive skin, it is possible to skip this step and finish the application by only rolling massaging without using Hydro Soothing Cream.

- **Recommended treatment program of professional & homecare**

1. Treatment Interval

Professional treatment : 3- 4 weeks

Homecare treatment : 1 week

2. Recommended treatment calendar

<p>January BIO-MESO Professional Treatment – 1st Session</p>	<p>February BIO-MESO Professional Treatment – 2nd Session</p>	<p>March BIO-MESO Professional Treatment – 3rd Session</p>
<p>April BIO-MESO Homecare - Once a week</p>	<p>May BIO-MESO Homecare – Once a week</p>	<p>June BIO-MESO Homecare – Once a week</p>
<p>July BIO-MESO Homecare – Once a week</p>	<p>August New Professional Procedure</p>	

- **Recommended post care**

After GENOSYS Bio-Meso PDRN Expert Ampoule 60000 treatment, a proper aftercare is essential to maximize results and minimize potential irritation

Post-treatment guidelines:

1. Hydration and barrier repair
 - Use gentle, hydrating, and repairing products such as Soothing Repair Postcream, Skin Rescue Overnight Cream Mask
 - Avoid alcohol-based or exfoliating products
2. Sun protection
 - Apply Multi Sun Cream or Ultra Shield Sun Cream thoroughly for 1 week after treatment.
 - Avoid direct sun exposure for at least 1 week
3. Avoid active ingredients
 - Do not use retinoids, AHAs/BHAs, or vitamin C serums for about 3–5 days, or until skin feels normal
4. Do not scrub or exfoliate
 - Avoid physical exfoliation or peeling for at least 5–7 days
5. Mild tingling or pricking is normal
 - Some discomfort for 1–3 days is expected as spicules remain in the skin temporarily, each time when touching the skin, there can be a pricking sensation
6. No sauna, steam room, or intense exercise
 - For 2–3 days, avoid anything that can overheat the skin or cause sweating
7. Follow the recommended home care regimen
 - Use products provided or recommended by the clinic/institute to support results and healing such as Skin Reboot PDRN Mask Pack, Soothing Repair Postcream, Skin Rescue Overnight Cream Mask

if the patient/client experiences prolonged redness, swelling, or discomfort, they should consult the practitioner.

- **FAQ**

1. What is the difference of microneedling and spicule treatment?

Category	Microneedling	Spicule Treatment
Mechanism	Uses fine needles to puncture the skin, creating controlled micro-injuries to stimulate collagen production	Uses microscopic needle-like structures (spicules), often from marine/freshwater sponges or biosynthetic sources, to penetrate the skin and deliver active ingredients
Invasiveness	Minimally invasive (penetrates deeper into the dermis)	Non-invasive or minimally invasive (penetrates superficial layers)

Depth Control	Depth can be precisely adjusted	Depth is generally limited and not adjustable
Device Needed	Requires a microneedling device	No electronic or manual device needed; applied by hand through massage
Pain Level	Can be uncomfortable; usually performed with numbing cream	Mild tingling or prickly sensation; usually no need for numbing
Downtime	1–5 days depending on depth and intensity	Minimal to none; some redness or dryness may occur
Active Delivery	Can be combined with solutions/serums or growth factors	Spicules are often coated with actives for direct delivery into skin
Risk of Complications	Higher if not performed properly	Lower risk when used appropriately; overuse may cause irritation
Areas of Use	Mostly for facial skin, also used on scalp or stretch marks	Can be used on face, hands, arms, décolleté, and other body areas
Indications	Acne scars, wrinkles, stretch marks, enlarged pores, pigmentation	Dullness, rough texture, fine lines, sensitive or aging skin
Professional vs. Home Use	Professional and some home versions available	Professional and homecare products available

Microneedling is more customizable and suited for deeper skin concerns like acne scars and collagen induction.

Spicule treatment is gentler, more suitable for regular use, and delivers actives through microchannels without physical puncturing of the dermis.

Both treatments can be complementary if spaced correctly and supervised by skincare professionals.

3. Why should we continue using microneedling treatment when spicule treatment is available?

Microneedling allows controlled depth penetration and is effective for collagen induction and targeted skin concerns like acne scars or stretch marks. Spicules offer a gentler, non-device-based method with fewer side effects. Both have their place depending on the skin type and treatment goal.

4. How can we combine a professional microneedling with homecare spicule treatment?

After professional microneedling, allow a full healing period (usually 5–7 days) before using Bio-Meso PDRN Homecare Ampoule 5000 at home. This spacing reduces the risk of irritation. Homecare spicule products can maintain and enhance results between clinical sessions.

5. Can spicule treatment be applied on the body like hands, arms and on the back?

Yes, spicule treatment can be applied on body areas such as hands, arms, back, and décolleté. It can help with rough texture, pigmentation, or skin rejuvenation, though sensitivity and recovery times may vary depending on the area. Wash your hands thoroughly to avoid getting it in your eyes, and if you apply it to areas other than the face, it may cause a discomfort.

6. What is a discomfort level of the professional application, do we need to apply a numbing product prior to the treatment?

It is not necessary to apply a numbing product prior to the professional Bio-Meso treatment. Unlike procedures such as microneedling or laser resurfacing, spicules do not cause deep tissue trauma or bleeding. They work by mechanically stimulating the skin's surface and upper epidermis, triggering mild tingling or pricking rather than pain. The sensation is typically well-tolerated.

For a cosmetic treatment like spicule application, avoiding unnecessary chemicals (numbing agent) is a safer and cleaner approach. There can be unwanted interactions between the numbing agent and the active ingredients in the product. When clients are properly educated about what to expect, they are generally comfortable proceeding without numbing.

Clear communication about the temporary nature of the tingling can help set expectations and increase client satisfaction without numbing.

7. Is it possible to combine traditional microneedling and Bio-Meso PDRN Expert Ampoule in a single program?

It is not recommended to apply the Bio-Meso PDRN Expert Ampoule 60000 at the same session with a microneedling treatment because the skin may experience excessive irritation and inflammation, this can lead to redness, prolonged downtime, or unexpected reactions in sensitive skin types.

Microneedling creates artificial microchannels that allow direct penetration of active ingredients. Spicules, however, are physical micro-structures designed to penetrate and stay embedded temporarily in the skin for sustained stimulation and delivery.

When applied after microneedling, spicules may enter too deeply, bypassing the intended skin layer (epidermis), and potentially cause over-penetration or discomfort and the elimination can be delayed, this can cause a prolonged inflammation.

Also microneedling temporarily compromises the skin barrier and applying spicules immediately afterward may amplify barrier damage.

For safety, comfort, and maximum efficacy, microneedling and spicule treatments should be spaced out.

8. Between professional treatments, can clients do a homecare?

2 weeks after the professional treatment, a homecare can be applied. This can allow the skin to benefit from both professional and homecare treatments without the risk of overloading or compromising the skin barrier.

9. Comparison of GENOSYS Bio-Meso PDRN Expert Ampoule 60000 and other products in the market

Feature	Bio-Meso PDRN Expert Ampoule 60000	Other products in the Market
Spicule concentration	60,000 ppm with PDRN	10,000–30,000 ppm
Active peptides	Multiple-Acetyl Hexapeptide-8 Copper Tripeptide-1 Hexapeptide-9 Nonapeptide-1 Palmitoyl Pentapeptide-4 Palmitoyl Tripeptide-1 Palmitoyl Tetrapeptide-7 Palmitoyl Tripeptide-1 Collagen Elastin	1–3 on average
Growth factors	9 growth factors -sh-Polypeptide-22 (TGF) sh-Oligopeptide-1(EGF) sh-Polypeptide-1 (bFGF) sh-Polypeptide-9 (VEGF) sh-Oligopeptide-2 (IGF) sh-Polypeptide-11 (aFGF) sh-Polypeptide-3 (KGF) sh-Polypeptide-16 (PIGF) sh-Polypeptide-62 (HGF)	Rare or not included
Skin barrier support	Ceramides (5types), panthenol-10,000ppm, etc.	Often lacking
Functionality	Multi: Exfoliation, regeneration, firming, repair	Peeling + limited active support
Positioning	Premium, high-efficacy	Mid-range to premium

10. Compared to the conventional peeling treatment like Herbal peeling or Algae peeling, what is the benefit of Bio-Meso Treatment?

Purified spicules(Bio-Meso) are integrated into a cosmetic-grade serum formulation, which allows them to be safely classified and used as cosmetic products. These formulations

undergo stability testing and comply with cosmetic safety regulations, ensuring both efficacy and safety for repeated use on the skin.

Herbal peelings or Algae peelings typically involve mixing powders with a liquid immediately before application. These powders also pass the stability test but the focus might be on ensuring the powder remains stable and effective in its liquid form and that the final product is safe for use.

In our opinion, a spicule serum formulated with purified spicules offers a more stable, safer, and standardized alternative compared to traditional herbal or algae peelings.

Another difference(not an advantage focus but a difference focus) is that Herbal peeling or Algae uses herbal/algae particle exfoliation to stimulate renewal from the outside-in, whereas spicules and microneedling work more from the inside-out (via penetration and mechanical stimulation).

With Bio-Meso PDRN treatment, we target a long term improvement of skin structure by inducing collagen synthesis and dermal remodeling and a deeper penetration of active ingredients contained in the products.


Chapter 4. Products

■ Bio-Meso PDRN Expert Ampoule 60000

	Product Type	Ampoule
	Ref. Code	Refer to the codes below.
	Size	Professional size: 3ml*4 syringes (Ref code: GCAP02)
	Description	A specialized treatment ampoule, enriched with the uniquely formulated BIO-MESO™ PDRN, panthenol, and an anti-aging complex to regenerate skin and strengthen the skin barrier. Functions as a spicule peeling or bio-meso peeling treatment, inducing a peel-off effect on the skin.
	Ingredients	Aqua (Water), Hydrolyzed Sponge, Glycerin, Butylene Glycol, Niacinamide, 1,2-Hexanediol, Caprylic/Capric Triglyceride, Limnanthes Alba (Meadowfoam) Seed Oil, Panthenol, Sodium DNA (1120ppm), sh-Polypeptide-22, sh-Oligopeptide-1, sh-Polypeptide-1, sh-Polypeptide-9, sh-Oligopeptide-2, sh-Polypeptide-11, sh-Polypeptide-3, sh-Polypeptide-16, sh-Polypeptide-62, Acetyl Hexapeptide-8, Copper Tripeptide-1, Hexapeptide-9, Nonapeptide-1, Palmitoyl Pentapeptide-4, Palmitoyl Tripeptide-1, Palmitoyl Tetrapeptide-7, Tripeptide-1, Ceramide NP, Ceramide EOP, Ceramide AS, Ceramide AP, Ceramide NS, Phytosphingosine, Collagen, Elastin, Adenosine, Squalane, Hydrogenated Lecithin, Ethylhexylglycerin, Butyrospermum Parkii (Shea) Butter, Olea Europaea (Olive) Fruit Oil, Cholesterol, Hydroxyacetophenone, Carbomer, Polyisobutene, Calcium Silicate, Disodium EDTA, Sodium Silicate, Caprylyl/Capryl Glucoside, Sorbitan Oleate, Cetearyl Oliviate, Sorbitan Oliviate, Dipropylene Glycol, Caprylyl Glycol, Glyceryl Stearate, Sodium Acrylate/Sodium Acryloyldimethyl Taurate Copolymer, Tromethamine
	Benefits	<ul style="list-style-type: none"> ✓ Boosts skin turnover ✓ Enhances collagen & elastin production ✓ Promotes skin regeneration ✓ Improves skin tone ✓ Improves blemishes
Ingredients & Effects	<ul style="list-style-type: none"> ✓ Bio-Meso PDRN : PDRN coated spicules. Needle-shaped structure enables direct skin penetration. It provides a bio-peeling effect that promotes skin turnover and delivers excellent skin regeneration benefits. ✓ Growth Factor Complex (9GF) <ul style="list-style-type: none"> - sh-Oligopeptide-1 (EGF): Epidermal Growth Factor; promotes proliferation and differentiation of keratinocytes and epidermal cells. - sh-Polypeptide-1 (bFGF): Basic Fibroblast Growth Factor; boosts collagen synthesis and supports skin regeneration. - sh-Polypeptide-11 (aFGF): Acidic Fibroblast Growth Factor; enhances collagen production and skin repair. - sh-Polypeptide-9 (VEGF): Vascular Endothelial Growth Factor; promotes capillary formation and increases nutrient delivery. - sh-Oligopeptide-2 (IGF-1): Insulin-like Growth Factor-1; supports cellular regeneration and wound healing. - sh-Polypeptide-3 (KGF): Keratinocyte Growth Factor; stimulates epidermal cell proliferation and strengthens the skin barrier. - sh-Polypeptide-16 (PIGF): Placenta Growth Factor; aids in skin regeneration and wound healing. 	

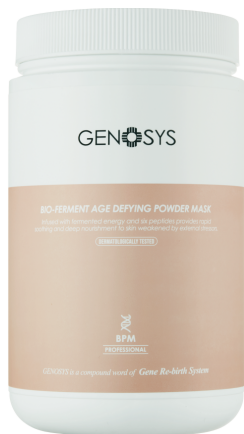
		<ul style="list-style-type: none"> - sh-Polypeptide-62 (HGF): Hepatocyte Growth Factor; helps with tissue repair and improves skin tone. - sh-Polypeptide-22 (TGF): Transforming Growth Factor; promotes collagen synthesis and refines skin texture. ✓ PDRN: Salmon-derived DNA, It Promotes the release of anti-inflammatory cytokines to help soothe damaged skin. And it supports collagen and elastin synthesis ✓ Peptides <ul style="list-style-type: none"> - Copper Tripeptide-1: Promotes collagen and elastin synthesis. - Hexapeptide-9: Enhances collagen production. - Nonapeptide-1: Inhibits melanin production → Helps prevent pigmentation and brightens skin tone. - Tripeptide-1: Stimulates the synthesis of collagen and elastin. - Acetyl Hexapeptide-8: Reduces expression lines and wrinkles. - Palmitoyl Pentapeptide-4: Stimulates collagen synthesis. - Palmitoyl Tripeptide-1: Stimulates collagen synthesis. - Palmitoyl Tetrapeptide-7: Helps reduce inflammation and soothes the skin. ✓ Collagen: It enhances the appearance of dry or damaged skin by reducing flaking and restoring suppleness. ✓ Elastin : It provides elasticity to the skin. ✓ Ceramides : 5 Types of Ceramides (Ceramide NP, Ceramide AS, Ceramide NS, Ceramide AP, Ceramide EOP) Strengthens the skin barrier → Protects skin from external aggressors / Prevents moisture loss and reduces TEWL and keeps skin hydrated / Maintains skin elasticity and preserves lipid balance for flexibility and firmness / Soothes and improves sensitive skin ✓ Phytosphingosine: By acting as a precursor of ceramide which creates a protective layer for stratum corneum of skin, it prevents skin from moisture-loss and helps skin to maintain its homeostasis. It also strengthens skin structure and improves skin firmness by inhibiting the production of collagen-breakdown enzyme, MMP-1. ✓ Panthenol: Provitamin B5, It reduces itching and inflammation of skin and provides deep penetrating moisture to skin.
	<p>Application</p>	<p>After cleansing the skin and applying/cleansing the EZ CO2 Mask. Protect the eyes with wet cotton pads and apply the Bio-Meso PDRN Expert Ampoule 60000. Use the whole quantity – 3ml on the full face. Spread the ampoule on the face evenly and then press the treatment area using palms or fingers. Massage the face with a rolling motion and for a more intensive effect, Hydro Soothing Cream be applied and an additional massage can be performed. To calm the skin, Bio Ferment Age Defying Mask(for more sensitive skin) can be applied for apprx. 20mins and in case of applying Skin Reboot PDRN Mask Pack, the application time can be 10-15mins. After removing the mask, perform the finishing treatment. *Treatment interval : 3-4 weeks</p>

■ Bio-Meso PDRN Homecare Ampoule 5000

	Product Type	Ampoule
	Ref. Code	Refer to the codes below.
	Size	Retail size: 50ml (Ref code: GCAP01)
	Description	A specialized homecare treatment ampoule, enriched with the uniquely formulated BIO-MESO™ PDRN, panthenol, and an anti-aging complex to regenerate skin and strengthen the skin barrier.
	Ingredients	Aqua (Water), Glycerin, Butylene Glycol, Niacinamide, 1,2-Hexanediol, Limnanthes Alba (Meadowfoam) Seed Oil, Panthenol, Hydrolyzed Sponge, Sodium DNA (1010ppm), sh-Oligopeptide-1, Acetyl Hexapeptide-8, Copper Tripeptide-1, Hexapeptide-9, Nonapeptide-1, Palmitoyl Pentapeptide-4, Palmitoyl Tripeptide-1, Palmitoyl Tetrapeptide-7, Tripeptide-1, Ceramide NP, Ceramide EOP, Ceramide AS, Ceramide AP, Ceramide NS, Phytosphingosine, Collagen, Elastin, Adenosine, Squalane, Hydrogenated Lecithin, Ethylhexylglycerin, Butyrospermum Parkii (Shea) Butter, Olea Europaea (Olive) Fruit Oil, Cholesterol, Hydroxyacetophenone, Carbomer, Polyisobutene, Calcium Silicate, Disodium EDTA, Sodium Silicate, Sorbitan Oleate, Cetyl Ethylhexanoate, Cetearyl Oliviate, Sorbitan Oliviate, Caprylyl/Capryl Glucoside, Dipropylene Glycol, Caprylic/Capric Triglyceride, Glyceryl Stearate, Caprylyl Glycol, Sodium Acrylate/Sodium Acryloyldimethyl Taurate Copolymer, Tromethamine
	Benefits	<ul style="list-style-type: none"> ✓ Boosts skin turnover ✓ Enhances collagen & elastin production ✓ Promotes skin regeneration ✓ Improves skin tone ✓ Improves blemishes
Ingredients & Effects	<ul style="list-style-type: none"> ✓ Bio-Meso PDRN : PDRN coated spicules. Needle-shaped structure enables direct skin penetration. It provides a bio-peeling effect that promotes skin turnover and delivers excellent skin regeneration benefits. ✓ EGF(sh-Oligopeptide-1) : Epidermal Growth Factor; promotes proliferation and differentiation of keratinocytes and epidermal cells. ✓ PDRN: Salmon-derived DNA, It Promotes the release of anti-inflammatory cytokines to help soothe damaged skin. And it supports collagen and elastin synthesis ✓ Peptides <ul style="list-style-type: none"> - Copper Tripeptide-1: Promotes collagen and elastin synthesis. - Hexapeptide-9: Enhances collagen production. - Nonapeptide-1: Inhibits melanin production → Helps prevent pigmentation and brightens skin tone. - Tripeptide-1: Stimulates the synthesis of collagen and elastin. - Acetyl Hexapeptide-8: Reduces expression lines and wrinkles. - Palmitoyl Pentapeptide-4: Stimulates collagen synthesis. - Palmitoyl Tripeptide-1: Stimulates collagen synthesis. - Palmitoyl Tetrapeptide-7: Helps reduce inflammation and soothes the skin. ✓ Collagen: It enhances the appearance of dry or damaged skin by reducing flaking and restoring suppleness. 	

		<ul style="list-style-type: none"> ✓ Elastin : It provides elasticity to the skin. ✓ Ceramides : 5 Types of Ceramides (Ceramide NP, Ceramide AS, Ceramide NS, Ceramide AP, Ceramide EOP) Strengthens the skin barrier → Protects skin from external aggressors / Prevents moisture loss and reduces TEWL and keeps skin hydrated / Maintains skin elasticity and preserves lipid balance for flexibility and firmness / Soothes and improves sensitive skin ✓ Phytosphingosine: By acting as a precursor of ceramide which creates a protective layer for stratum corneum of skin, it prevents skin from moisture-loss and helps skin to maintain its homeostasis. It also strengthens skin structure and improves skin firmness by inhibiting the production of collagen-breakdown enzyme, MMP-1. ✓ Panthenol: Provitamin B5, It reduces itching and inflammation of skin and provides deep penetrating moisture to skin.
	<p>Application</p>	<p>After cleansing the skin, apply the Bio-Meso PDRN Homecare Ampoule 5000-around 3ml on the face. Spread the ampoule on the face evenly and then press the treatment area using palms or fingers. Massage the face with a rolling motion for around 30 seconds. To calm the skin, apply the Skin Reboot PDRN Mask Pack and leave it for 10-15mins.</p>


■ BIO-FERMENT AGE DEFYING POWDER MASK



	Product Type	Mask												
	Ref. Code	Refer to the codes below.												
	Size	Professional and Retail size: 300g (Ref code: GCMA13)												
	Description	A moisture-locking top-quality diatomaceous earth base mask, infused with fermented energy and growth factors to provide rapid soothing and deep nourishment to skin weakened by external stressors												
	Ingredients	Diatomaceous Earth, Glucose, Algin, Calcium Sulfate, Aqua (Water), Sodium Benzoate, Sodium Dehydroacetate, Hydrolyzed Collagen, Allantoin, Lactobacillus/Punica Granatum Fruit Ferment Extract, Bacillus/Soybean Ferment Extract, Galactomyces Ferment Filtrate, Bifida Ferment Lysate, Chamaecyparis Obtusa Water, Aloe Barbadensis Leaf Extract, Glycyrrhiza Glabra (Licorice) Root Extract, Oryza Sativa (Rice) Bran Extract, Gardenia Floride Fruit Extract, sh-Oligopeptide-1, sh-Oligopeptide-2, sh-Polypeptide-1, sh-Polypeptide-3, sh-Polypeptide-9, sh-Polypeptide-22, Glycerin, Ethylhexylglycerin, Menthol, 1,2-Hexanediol, Butylene Glycol, Tetrasodium Pyrophosphate, Dextrin												
	Benefits	<ul style="list-style-type: none"> ✓ Anti-aging ✓ Moisturizing ✓ Cooling ✓ Soothing ✓ Nourishing 												
Ingredients & Effects	<ul style="list-style-type: none"> ✓ Growth Factor Complex (6GF) 													
	<table border="1"> <thead> <tr> <th>Growth Factor</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>EGF (Epidermal Growth Factor / sh-Oligopeptide-1)</td> <td>- It stimulates proliferation/differentiation of keratinocytes and epidermal skin cells. - It promotes natural cell renewal and wound healing.</td> </tr> <tr> <td>FGF (Fibroblast Growth Factor / sh-Polypeptide-1)</td> <td>- It stimulates fibroblast cell growth and proliferation. - It promotes the synthesis of collagen, elastin and other extracellular-matrix components.</td> </tr> <tr> <td>IGF-1 (Insulin-like Growth Factor / sh-Oligopeptide-2)</td> <td>- It stimulates cell proliferation and promotes wound healing.</td> </tr> <tr> <td>KGF (Keratinocyte Growth Factor / sh-Polypeptide-3)</td> <td>- It stimulates proliferation and migration of keratinocyte, accelerating the skin's natural healing process. - It promotes the growth of the stratum corneum, which helps maintain skin hydration and strengthen the protective barrier.</td> </tr> <tr> <td>VEGF (Vascular Endothelial Growth Factor / sh-Polypeptide-9)</td> <td>- It stimulates the formation of blood vessels, promoting more oxygen and nutrients delivery to skin.</td> </tr> </tbody> </table>		Growth Factor	Function	EGF (Epidermal Growth Factor / sh-Oligopeptide-1)	- It stimulates proliferation/differentiation of keratinocytes and epidermal skin cells. - It promotes natural cell renewal and wound healing.	FGF (Fibroblast Growth Factor / sh-Polypeptide-1)	- It stimulates fibroblast cell growth and proliferation. - It promotes the synthesis of collagen, elastin and other extracellular-matrix components.	IGF-1 (Insulin-like Growth Factor / sh-Oligopeptide-2)	- It stimulates cell proliferation and promotes wound healing.	KGF (Keratinocyte Growth Factor / sh-Polypeptide-3)	- It stimulates proliferation and migration of keratinocyte, accelerating the skin's natural healing process. - It promotes the growth of the stratum corneum, which helps maintain skin hydration and strengthen the protective barrier.	VEGF (Vascular Endothelial Growth Factor / sh-Polypeptide-9)	- It stimulates the formation of blood vessels, promoting more oxygen and nutrients delivery to skin.
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		<p>TGF (Transforming Growth Factor / sh-polypeptide-22)</p>	<p>- It stimulates cell proliferation and differentiation and heals wounds.</p>	
	<p>Application</p>	<p>Mix three scoops of powder (40g) with four and a half scoops of water using the provided measuring cup (Powder 1: Water 1.5 ratio). Apply evenly to the treatment area, avoiding the eyes and eyebrows. Peel off after 15-20 minutes and wipe off any residue with toner.</p>		

■ SKIN REBOOT PDRN MASK PACK

	Product Type	Mask
	Ref. Code	Refer to the codes below.
	Size	Professional and Retail size: 350g (30 sheets) (Ref code: GCMA14)
	Description	A bulk-format sheet mask designed to restore weakened skin, deliver intense nourishment, and gives your skin the ultimate reboot with enriched regenerating ingredients - PRDN and panthenol.
	Ingredients	Aqua (Water), Glycerin, Dipropylene Glycol, Propanediol, Butylene Glycol, Niacinamide, 1,2-Hexanediol, Glycereth-26, Panthenol, Sodium DNA, Ceramide NP, Phytosphingosine, Hydrolyzed Elastin, Hydrolyzed Collagen, Adenosine, Butyrospermum Parkii (Shea) Butter, Xylitol, Allantoin, Hydroxyethylcellulose, Arginine, Lavandula Angustifolia (Lavender) Oil, Ethylhexylglycerin, Pullulan, Xanthan Gum, Carbomer, Disodium EDTA, Methyl Diisopropyl Propionamide, Glyceryl Acrylate/Acrylic Acid Copolymer, PVM/MA Copolymer, Polyglyceryl-10 Laurate
	Benefits	<ul style="list-style-type: none"> ✓ Restoring skin barrier damaged by physical stimuli ✓ Soothing ✓ Cooling ✓ Moisturizing ✓ Anti-aging
	Ingredients & Effects	<ul style="list-style-type: none"> ✓ PDRN: Salmon-derived DNA, It Promotes the release of anti-inflammatory cytokines to help soothe damaged skin. And it supports collagen and elastin synthesis ✓ Panthenol: Provitamin B5, It reduces itching and inflammation of skin and provides deep penetrating moisture to skin. ✓ Ceramide: As a major epidermal intercellular lipid component, it reinforces the skin's natural protective lipid barrier and improves long-term moisturizing. ✓ Phytosphingosine: By acting as a precursor of ceramide which creates a protective layer for stratum corneum of skin, it prevents skin from moisture-loss and helps skin to maintain its homeostasis. ✓ Butyrospermum Parkii (Shea) Butter: It retains moisture and lessens the loss of water by forming a barrier on the skin surface. Rich in Vitamin A, E and F, it provides antioxidant protection. ✓ Green Leaf Complex : It offers antioxidant, anti-inflammatory and soothing effects. (Complex of Camellia Sinensis Leaf Extract, Mentha Rotundifolia Leaf Extract, Thyme Leaf Extract)
	Application	<p>Take out one sheet mask with the built-in tweezers. Apply the mask closely to the face for 10-15 minutes. Remove the mask sheet and gently pat the remaining essence into your skin.</p> <p>*After use, make sure to close the closure seal and the cap tightly to prevent the product from drying out.</p>