

**dermalogica**

© Dermalogica, Inc.  
Dermalogica, Dist.  
Los Angeles, CA 90009 USA  
1-800-831-5150  
Europe: London KT22 8JB UK  
Dermalogica (Canada) Ltd.  
Canada: Toronto, ON M5V 2T3  
Australia: Chandos, NSW 2065

5187-00

# overnight retinol repair

customizable retinol therapy to reverse  
the signs of skin aging

overnight  
retinol  
repair

AGE smart®

**dermalogica**<sup>®</sup>  
a skin care system researched and developed by The International Dermal Institute

**dermalogica**<sup>®</sup>

# contents

Introduction	2
The Structural Changes of Skin over Time	3
New! Overnight Retinol Repair	5
Retinoids: Vitamin A	6
Other Key Ingredients	11
Ingredient Efficacy at Night	14
Overnight Retinol Repair Product Details	15
Professional Recommendations	17
Questions   Answers	18

professional.dermalogica.com  
800-831-5150 in the USA  
Dermalogica, Dist.  
Los Angeles, CA 90009 USA  
1-800-831-5150

*Europe:* London KT22 8JB UK  
Dermalogica (Canada) Ltd.  
*Canada:* Toronto, ON M5V 2T3  
*Australia:* Chandos, NSW 2065

© Dermalogica, 2015

No portion of this manual, or any of the parts thereof,  
may be duplicated in any format without prior written  
permission from Dermalogica.



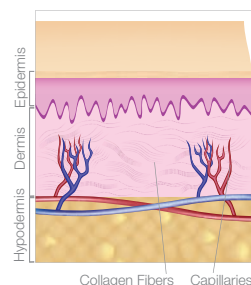
# introduction

There are more than 500 million aging consumers in the world today.<sup>1</sup> This population is contributing to the rising demand for products and ingredients that help treat the many signs of aging skin. Wrinkles, fine lines and discoloration become visible as early as our 20s and continue to emerge well into our 50s as the structural integrity of our skin succumbs to physiological, environmental and lifestyle stressors.

At The International Dermal Institute, we have researched the most active ingredients available to target the triggers behind skin aging, slow the aging process of the skin and protect against premature skin aging. Our research has yielded a variety of key ingredients known to counter the visible changes we see, such as increased wrinkle formation, loss of elasticity, decreased skin thickness, decreased water-binding properties and hyperpigmentation (age spots). These ingredients form the foundation of Dermalogica's best-selling AGE Smart® product line, designed to control skin aging at the source.

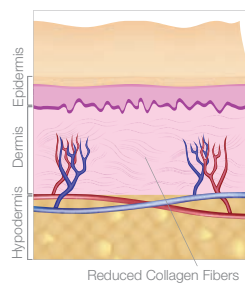
# the structural changes of skin over time

As we age, our skin goes through structural changes that affect its appearance. Sun exposure, lifestyle habits and internal factors all lead to the key biochemical reactions that trigger skin aging, which manifests as wrinkles, fine lines, pigmentation and dehydration.



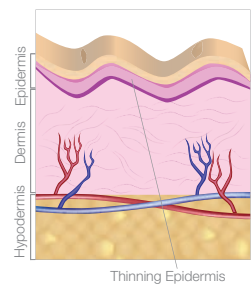
20s

Environmental damage and constant exposure to damaging UV rays begin to take their toll on skin. Free radicals attack the skin's structural integrity. Cell renewal and turnover rates begin to decline.



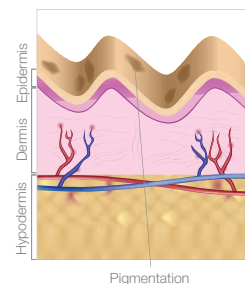
30s

In our 30s, collagen and elastin degrade, resulting in our first wrinkles. Cell renewal and turnover continue to decline, leading to a duller complexion and uneven skin tone.



40s

By our 40s, the skin is thinner, barrier lipids are not as pronounced and dehydration can be an issue. More prominent signs of skin aging may also appear, such as dark spots and significant dullness.



50s+

The protective barrier lipid layer lessens, leading to less efficiency in retaining moisture and more potential for sensitivity and dehydration. Skin shows wrinkles, fine lines and pigmentation.

In general, two types of factors contribute to structural changes in aging skin: 1) intrinsic factors such as our natural aging process, which is largely controlled by genetics; and 2) extrinsic factors such as our lifestyle habits (e.g., smoking, drinking, etc.) and our environment (e.g., UV light and pollution). Unhealthy lifestyle decisions, such as not wearing sunscreen, can exacerbate the structural changes that occur in our skin. In fact, UV-induced sun damage accounts for over 80% of the structural changes that occur from skin aging.

Scientists have now discovered that these intrinsic and extrinsic factors lead to structural changes by virtue of three primary biochemical reactions that occur within the skin and trigger the factors that cause skin aging.

## • Reactive Oxygen Species (ROSs)

Dangerous molecules, also known as free radicals, cause wrinkles and lessen the skin's ability to repair itself. ROSs also destroy lipids and cause inflammation.

## • Matrix Metalloproteinases (MMPs)

Enzymes that contribute to the breakdown of collagen while inhibiting new collagen formation.

## • Advanced Glycation End-products (AGEs)

Formed by a reaction between sugar (glucose) and proteins (collagen). AGEs contribute to the cross-linking of protein fibers and result in wrinkles, as well as many other signs of skin aging.

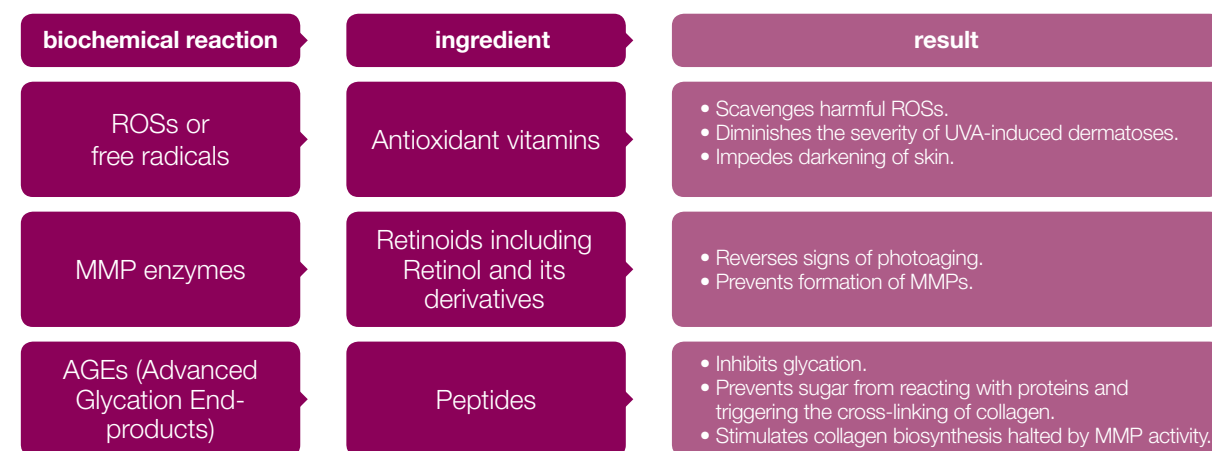
By addressing these biochemical reactions through key ingredients, we can help prevent or slow down the structural changes related to skin aging, and repair existing damage. The top active ingredients that have been proven to address and treat these reactions are antioxidant vitamins, retinoids and peptides (see Figure 1).

## Controlling Skin Aging from the Source

Dermologica AGE Smart® products, including new Overnight Retinol Repair, offer three main benefits:

- 1) protection against skin-aging catalysts,
  - 2) impediment of the biochemical reactions that lead to skin aging, and
  - 3) repair of existing damage to the skin.
- Each product is formulated with ingredients shown to impact the reactions that lead to structural changes in aged skin.

Figure 1. How AGE Smart® controls the biochemical reactions that lead to skin aging.





# new! overnight retinol repair

Now, we are proud to present the latest addition to AGE Smart®, Overnight Retinol Repair. Retinol is one of the most powerful, and popular, ingredients sought out by consumers and recommended by medical professionals to help diminish visible wrinkles, fine lines and hyperpigmentation. Studies have shown that Retinol possesses remarkable abilities to restore the structural integrity of the skin.<sup>2</sup> However, there are limitations to Retinol use due to its fragile chemical nature and tendency to induce inflammation on the skin. Exposure to UV light, air and water can all threaten the stability and efficacy of Retinol, which is why innovative formulas such as Overnight Retinol Repair must be designed to ensure Retinol molecules remain stable. In addition, care must be taken to help clients build their skin's tolerance to highly-active and effective forms of Retinol in order to maximize results and minimize discomfort.

The skin experts at The International Dermal Institute and Dermalogica carefully considered the challenges of working with Retinol when formulating Overnight Retinol Repair. The result is a concentrated, stabilized nighttime formula that can be customized for optimum comfort as it works to firm, smooth and restore the skin's structural integrity.



# retinoids: Vitamin A

Retinoids are Vitamin A derivatives that help boost collagen production, increase cell turnover and accelerate skin renewal to even out discoloration and smooth the skin. The most powerful effects of retinoids are on collagen, the structural foundation of our skin. Retinoids have a dual effect here: they not only help to decrease the amount of collagen breakdown from sun exposure by preventing the rise of MMP enzymes called collagenase, but they also help to stimulate the production of new collagen.

There are different types of retinoids with varying degrees of effectiveness (see Figure 2):

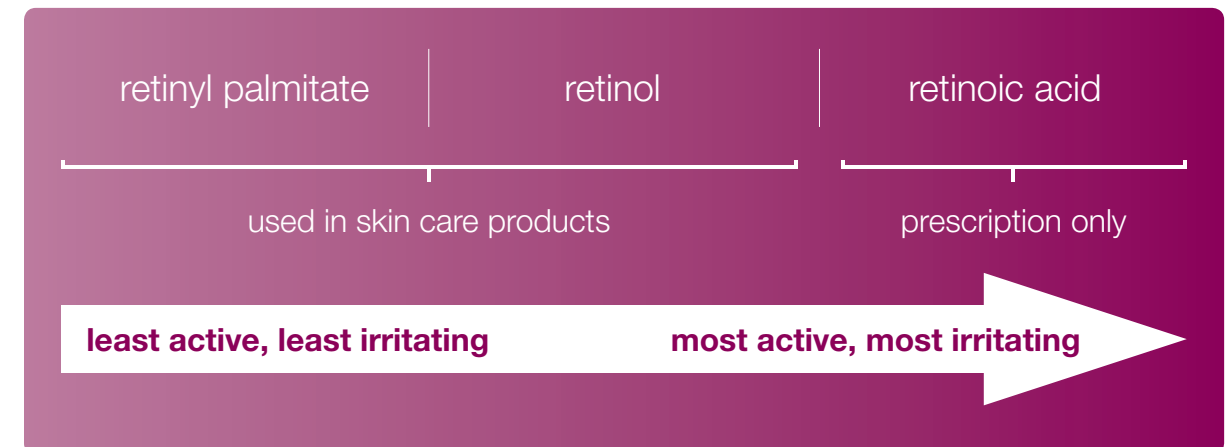
- **Retinoic Acid** is the only biologically-active form of a retinoid. This means that all other forms must be converted to Retinoic Acid for any physiological impact to occur. Retinoic Acid is available through a prescription in forms such as Isotretinoin and Tretinoin, and has the most potential for skin irritation.

- **Retinol** is the strongest form available without a prescription. While still highly-effective, Retinol is about 20% weaker than Retinoic Acid and is slowly converted into Retinoic Acid by skin enzymes.<sup>3</sup> This also means there is less skin irritation than Retinoic Acid.

- **Retinyl Palmitate** is the mildest retinoid. It takes longer to convert to Retinoic Acid and chances of skin irritation are minimal.

Obviously, prescription-strength retinoids are most effective in treating skin aging but they can cause a reaction in the skin. Retinol and Retinyl Palmitate can deliver similar results as a prescription retinoid, but because the skin must convert them to the biologically-active form, it takes longer and there is less potential for irritation.

Figure 2. The different forms of retinoids and their effectiveness.



## Scientifically-Proven Results

While Retinol has been used in skin care products for many years, it has only been in the past 10 years that research has focused specifically on the action and mechanism of Retinol for treating photoaged skin. Scientific studies clearly substantiate that Retinol regulates epidermal cell growth, stimulates collagen synthesis, prevents atrophy of connective tissue, stimulates glycosaminoglycan (GAG) synthesis, is essential in reproduction of basal membrane cells and normalizes pre-cancerous cells.<sup>2,4</sup>

Of particular significance to the skin care industry was the publication of a study conducted at the University of Michigan Medical School.<sup>5</sup> The study showed that Retinol improved skin texture and wrinkles on both photoaged skin and skin that had become wrinkled through the normal aging process. Researchers tested lotions containing Retinol on the skin of elderly patients. A lotion containing 0.4% Retinol was used on one arm of each participant, while a lotion without Retinol was applied to the other arm. According to the study, wrinkles, roughness and overall aging severity were all significantly reduced in the Retinol-treated arm compared with the control arm. The reduction of wrinkles in the study's participants was due to increased collagen production and a significant induction of GAGs, which are known to retain large quantities of water. In addition to stimulating collagen formation, it was shown that Retinol increased the rate of cell turnover and cell renewal – a critical aspect of treating aging skin.<sup>5</sup>

The effect of Retinol on skin produces a dose-dependent response; the higher the dose, the greater the effect. Studies comparing 0.1% and 0.5% Retinol on the skin for 5–7 days indicated that with 0.1% Retinol, the epidermis was thicker and the stratum corneum less prominent while 0.5% Retinol showed an increase in cellular activity with a marked increase in the size of the epidermis. Additionally, the 0.5% Retinol showed heavy exfoliation of the stratum corneum (seen as peeling). One theory is that there is a direct relationship between the epidermis and the dermis; as the epidermis thickens, the dermis will increase the support elements, namely the collagen

and elastin. This is probably a result of the Retinol or Retinoic Acid on fibroblast activity. It has been suggested that Retinol application to the skin inhibits UV-induced MMP synthesis and the corresponding degradation of collagen. Additional studies using 0.1% Retinol demonstrated improvement in the appearance of fine lines around the eyes by increasing epidermal cell proliferation and epidermal thickening.<sup>6</sup> Numerous studies using varying concentrations of Retinol all support the claim that topical Retinol positively treats the signs of aging skin.<sup>7</sup>

## Controlling Retinol Potency Through Dosage

Several unpublished studies have shown positive results when 0.15% Retinol was used for 3 months on women's skin.<sup>8</sup> Study results included a 50% improvement in surface roughness, a 30% improvement in fine lines and wrinkles, and a 35% improvement in lentigines. Based on clinical observations, it was noted that patients should start using a product containing Retinol at a concentration of at least 0.1% for appreciable results.<sup>9</sup> Better efficacy may be achieved with higher concentrations, since Retinol is dose-dependent, but higher concentrations have greater potential for skin irritation.

## Why Does This Happen, and How Does Retinol Affect the Skin?

Understanding how retinoids impact our skin requires deeper knowledge of the importance of retinoid receptors in the skin.<sup>10</sup>

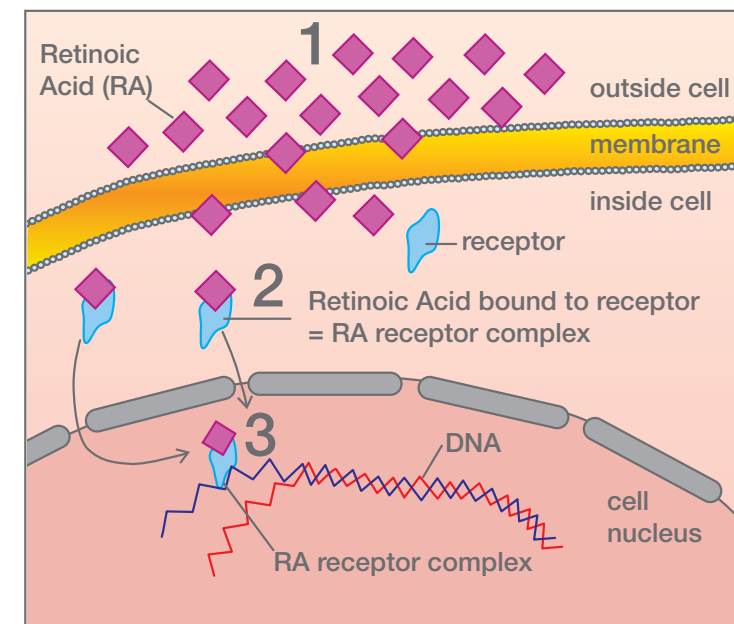
One of the benefits of using Retinol is that it produces changes in skin (in vivo) similar to those produced by Retinoic Acid but without measurable levels of irritation. Retinol is considered to be a prohormone of Retinoic Acid. It is believed that Retinol-induced responses in skin cells are due to its conversion to Retinoic Acid.

Within the cytoplasm of the cell, Retinol and Retinoic Acid are bound to specific cellular binding

proteins. (See Figure 3.) These proteins are involved in the regulation of the intercellular concentration of Retinol and Retinoic Acid by acting as both “storage sites” or “shuttle proteins” in retinoid metabolism. They maintain critical levels of free Retinol and Retinoic Acid in the skin, and they bind and release retinoids according to the needs of the cells.<sup>10</sup>

Studies showed that topically-applied Retinol (0.4%) was found to increase levels of these critical receptor proteins, similar to the increase induced by application of 0.025% Retinoic Acid.<sup>11,12</sup> This data supports the claim that Retinol can illicit the same response as Retinoic Acid but at a weaker level, and that topically-applied retinoids trip cellular receptors and cause retinoid signaling that leads to specific biological responses.

**Figure 3.** 1: Enzymes in the skin convert topically-applied Retinol to Retinoic Acid (RA). 2: RA receptors bind with RA to enter the cell's nucleus. 3: In the nucleus, the RA receptor complex triggers DNA to initiate collagen biosynthesis.



## Challenges When Formulating with Retinol

As a result of these groundbreaking studies, the use of Retinol in skin care products has reached an all-time high. Retinol has been proven to increase collagen production, tighten pores and inhibit MMPs, but there are two main challenges when formulating with Retinol:

### 1. Skin Irritation

While the benefits of using Retinol on the skin are numerous, skin irritation is a key challenge to overcome when applying this highly-active molecule to the skin. In the early phases of Retinol treatment, the skin responds with the so-called “retinoid reaction” of itching, burning and peeling. This is believed to be caused by the lack of retinoid receptors in the skin. In order to control the retinoid reaction, there are several options:

- Pre-condition the skin and build a tolerance to the retinoids. During the pre-conditioning phase, the skin produces receptors to bind to the applied retinoid molecule, in turn leading to a reduced irritation.
- Reduce the frequency of application.
- Reduce the concentration of retinoid until one builds up a tolerance.
- Apply soothing botanicals such as Aloe Vera gel extract, Licorice and Lavender.
- Wear a physical sunscreen at all times during the day. (Skin is more sensitive to UV exposure when using Retinol, or any retinol for that matter.)

### 2. Stability

Due to the chemical structure of the Retinol molecule (it is not stable), particular care must be taken to ensure that the Retinol remains viable with time. Exposure to light, air and even other molecules can degrade the Retinol molecule.

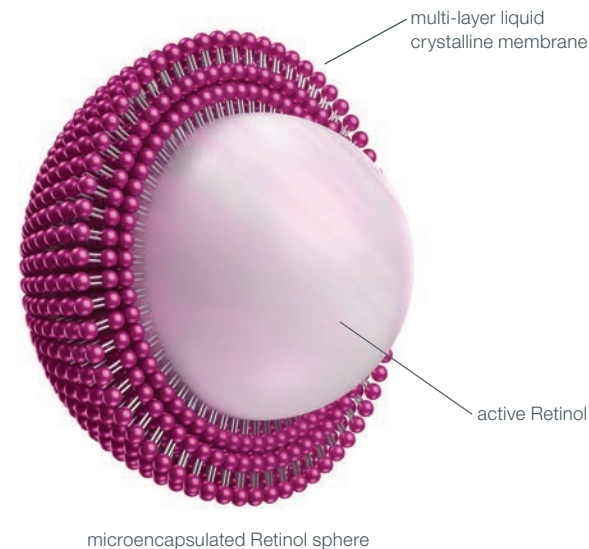
## Microencapsulation for Maximum Results

When evaluating the effectiveness of a Retinol product, the stability of the Retinol molecules can be more important than the percentage of Retinol in the product. This is because unstable Retinol molecules can degrade before they even have a chance to penetrate the skin.

In Overnight Retinol Repair, we use special microencapsulation technology to help ensure that the highly-active Retinol we use remains stable, maintains its 0.5% concentration level and has a controlled-release delivery to help it penetrate deep into the skin without degrading.

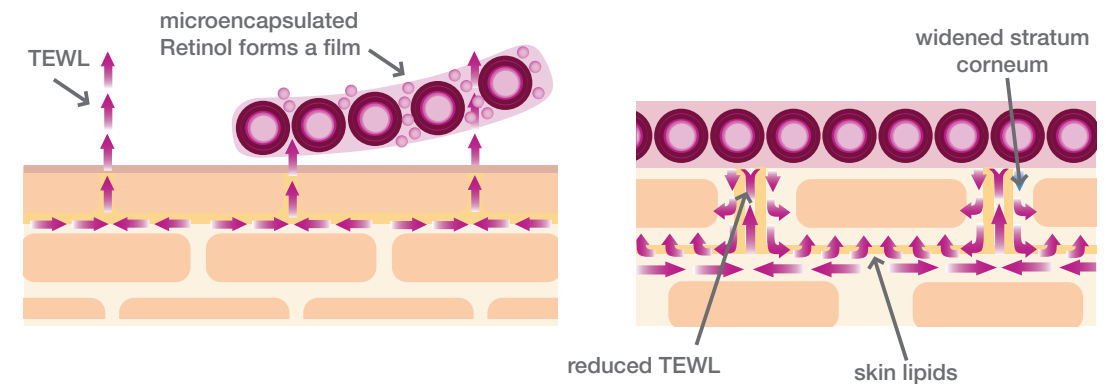
Microencapsulation technology involves placing oil-soluble Retinol in a lipid microstructure that is surrounded by a multi-layer liquid crystalline membrane. (See Figure 4.) This also allows us to place the Retinol in a water-soluble formula, and gives us a significant advantage over non-encapsulated or unstable Retinol products on the market.

**Figure 4.** A multi-layer liquid crystalline membrane enables controlled release of the microencapsulated Retinol.



Because of its optimum particle sizes, microencapsulated Retinol is able to form an ultra-thin, uniform film on the skin that helps reduce trans-epidermal water loss (TEWL). The non-evaporating water opens the pathways of the stratum corneum so that the microencapsulated Retinol can release from the film and move deep into the skin layers, where skin lipids are more accepting of oil-soluble ingredients. (See Figure 5.) This controlled-release delivery process begins as soon as the product is applied to the skin. After approximately two hours, microencapsulated Retinol will have penetrated the inner epidermis while non-encapsulated Retinol would still be sitting on top of the skin, degrading faster because of exposure to sunlight and air.

**Figure 5.** Microencapsulated Retinol forms a thin film that traps water in the skin and enables the Retinol to better penetrate skin layers.



# other key ingredients

Because Overnight Retinol Repair is part of the AGE Smart® family, its benefits go beyond the many provided by its star ingredient. Inside this technologically-advanced formula, we've included a variety of ingredients that work synergistically to support the skin's structure and impact the biochemical reactions that lead to skin aging. To date, this is what we know regarding how these ingredients work on the skin. Of course, science is always uncovering new methods by which they work, and revealing new possible agents to use in the future.

## Sodium Ascorbyl Phosphate (Vitamin C)

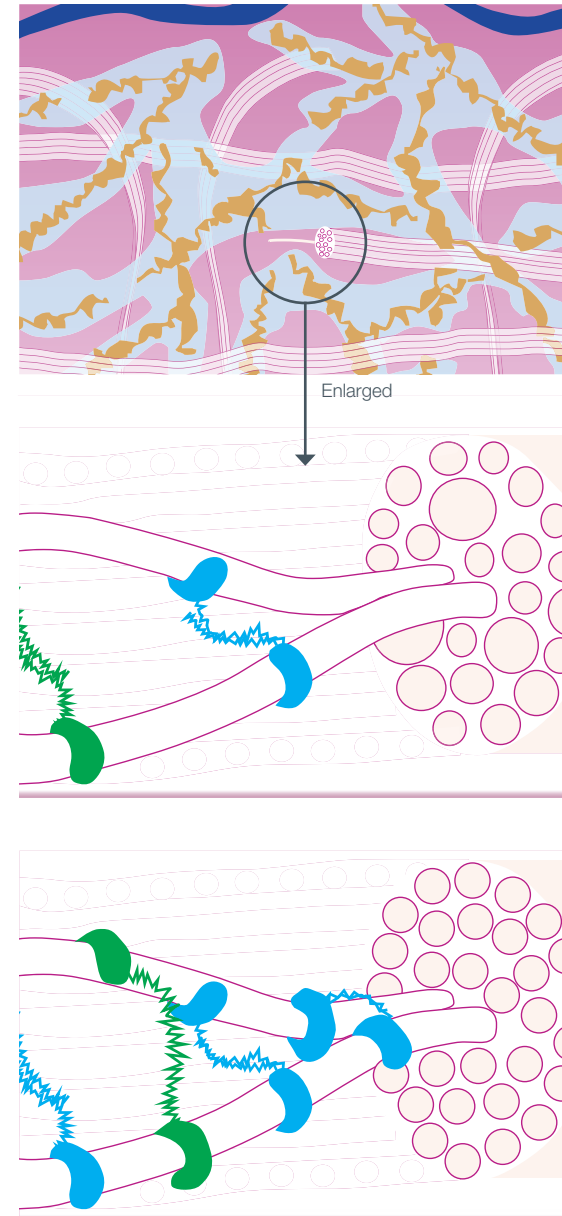
We have included a stabilized form of antioxidant Vitamin C that stimulates collagen synthesis in conjunction with Retinol. Ascorbic Acid (Vitamin C) has been shown to stimulate collagen synthesis in dermal fibroblasts by increasing the rate of collagen gene expression in the fibroblast. The end result is enhanced collagen biosynthesis.<sup>13</sup>

## Palmitoyl Tripeptide-5 and TAUT Peptide

While Retinol and Vitamin C induce collagen synthesis, we have supplemented them with two additional peptide molecules to optimize collagen formation. Peptides, made up of amino acids, act as cellular communicators, initiating a cellular activity such as collagen synthesis. In the case of age-fighting peptides, they help to revitalize the skin and counter the effects of UV-induced premature aging.

Palmitoyl Tripeptide-5 is a laboratory-synthesized patented tripeptide molecule made up of Palmitic Acid-Lysine-Valine-Lysine that boosts collagen production and provides protection against collagen-degrading MMPs. This peptide has also been shown to stimulate (TGF-β) Tissue Growth Factor-Beta, a key element in the synthesis of collagen.<sup>14</sup> The end result: Palmitoyl Tripeptide-5 helps treat wrinkles and firm the skin.

In addition to Palmitoyl Tripeptide-5, we have also included Tetradecyl Aminobutyrylvalylaminobutyric Urea Trifluoroacetate (TAUT), a tripeptide molecule comprised of three amino acids that has been shown to stimulate collagen and Hyaluronic Acid biosynthesis while inducing formation of two critical scaffolding proteins, decorin and lumican, that assist in proper collagen orientation and structure. The end result is firmer skin with increased hydration and tone. (See Figure 6.)



**Figure 6.** This is the extra cellular matrix of the dermis with collagen fibers (striped), hyaluronan network (brown) and surrounding water (blue).

These are collagen fibrils with decorin (blue) and lumican (green) that act as spacers. Lower decorin and lumican levels are typical signs of mature skin, leading to the irregular fibril structure that causes weak collagen fibers.

After using TAUT peptides, increased levels of decorin and lumican resemble levels in young skin with regular fibril diameter and orientation of strong collagen fibers.



## Bioenergized Copper Amino Acid Complex

A unique attribute of Overnight Retinol Repair is that we have included a bioenergized Copper amino acid complex that induces the synthesis of specific key proteins involved in maintaining the integrity of the dermis.

In aged skin, dermal fibroblasts – cells within the dermis that generate connective tissue and help skin recover from injury – deteriorate. These fibroblasts show a reduced capacity to synthesize proteins (collagen type I, collagen type III and elastin), as well as decreased mitochondrial activity due to – for example – DNA damage, or a reduced ability to transport nutrients. In essence, their metabolism slows and they lack energy.

The Copper amino acid complex stimulates the synthesis of these proteins by providing the cells with an energy molecule known as Methylglucoside Phosphate (MGP), as well as the specific essential amino acids (Lysine and Proline) and Copper needed for collagen and elastin biosynthesis. Lysine and Proline are key components of collagen, and Copper is a required co-factor for the enzyme Lysyl-Oxidase, involved in collagen biosynthesis. Clinical studies demonstrated that the Copper amino acid complex increased elastin biosynthesis, improved skin density and firmness, and helped reduce visible fine lines and wrinkles. (See Figure 7.)

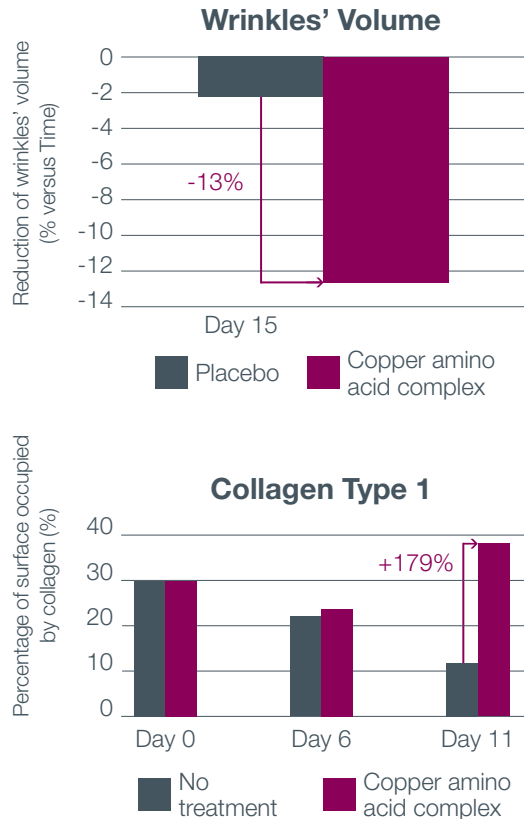
## Ceramides and Polysaccharides

Both Ceramides and Polysaccharides are able to control water balance in skin tissues. Ceramides help reinforce the barrier lipid layer that controls TEWL and Polysaccharides help retain water in the tissues.

## Lavender and Licorice Root

Lavandula Hybrida (Lavender) Oil helps soothe skin and calm irritation. Dipotassium Glycyrrhizate (Licorice) is a potent antioxidant that is also a strong anti-inflammatory and soothing anti-irritant.

**Figure 7.** Clinical results of the effect of Copper amino acid complex on wrinkle volume and Collagen type I formation. (% versus Time)



# ingredient efficacy at night

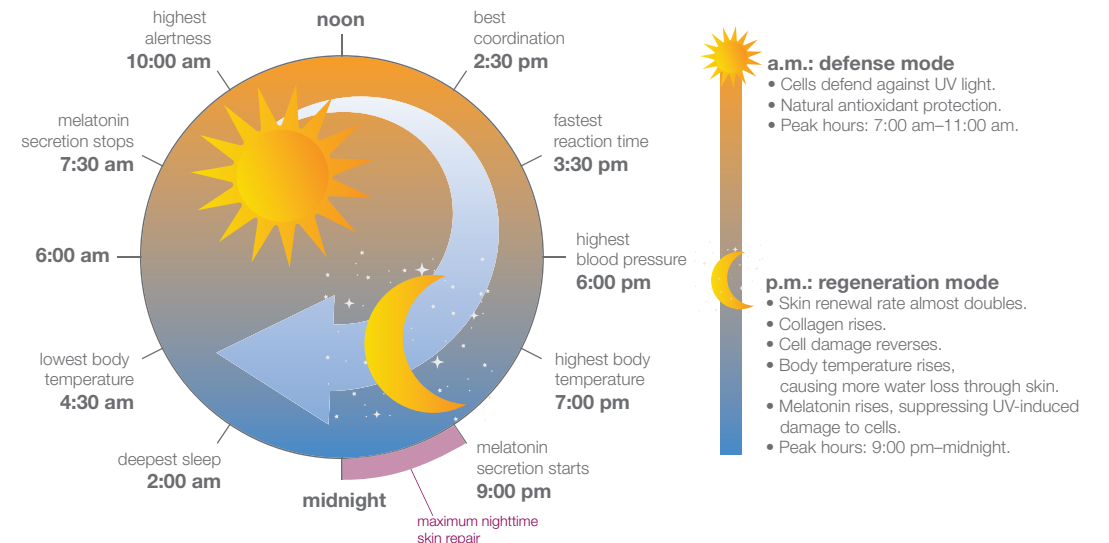
Overnight Retinol Repair is designed to be used only at night for several reasons: 1) to preserve the integrity of Retinol, which is susceptible to degradation when exposed to sunlight, 2) to work directly on clean skin without interacting with cosmetics or other topically-applied products, and 3) to coordinate with the body's natural nighttime circadian rhythm when cell renewal is at its prime.

Regarding the third reason, circadian rhythms are distinct fluctuations in biological activity that occur when we are awake and when we are asleep. These fluctuations are governed by the body's biological clock, or "body clock," and how it responds to light and dark. (See Figure 8.)

In the daytime, our cells are in defense mode, trying to protect themselves from damage related to UV exposure while also providing antioxidant protection. (This is why it is important to recommend that clients use sunscreen during the day, as well as antioxidant-rich formulas like MultiVitamin Power Serum and Antioxidant HydraMist, to help this process along.)

At night, our cells are in regeneration mode, trying to repair damage that has occurred throughout the day. Scientific researchers believe that skin cell renewal, a critical aspect of the skin repair process, is faster at night.<sup>15</sup> Cell regeneration increases at almost double the rate, while collagen production rises. The body also experiences more TEWL due to increased body temperature. Melanin production increases, suppressing UV-induced damage to cells. By using Overnight Retinol Repair at night, we can coincide with these fluctuations to help maximize nighttime skin repair.

**Figure 8.** The "body clock," or 24-hour cycle of circadian rhythms in the body and skin.



# overnight retinol repair product details



description

Concentrated customizable nighttime Retinol treatment cream accelerates skin renewal and reduces the appearance of skin aging.

- Highly-active, 0.5% microencapsulated Retinol to induce collagen synthesis and help reduce visible fine lines, wrinkles, discoloration and uneven skin texture.
- Antioxidant, collagen-stimulating Vitamin C for enhanced collagen biosynthesis.
- Powerful Peptides to help boost collagen production, firm skin, and increase hydration and tone.
- A bioenergized Copper amino acid complex, shown to help reduce visible wrinkles and improve skin firmness.
- Ceramides and active Polysaccharides to hydrate and prevent water loss in the skin, helping soften fine lines.
- Dipotassium Glycyrrhizate (Licorice) and Lavandula Hybrida (Lavender) Oil to help soothe the skin.



key ingredients

1. For the first two weeks, mix one part Overnight Retinol Repair with three parts Buffer Cream prior to applying to the face. (See Pre-Conditioning the Skin, p.17.) Avoid the eye area. For more sensitive skin, use on alternate nights. Using Overnight Retinol Repair during the day is not recommended.
2. As the skin adjusts, transition to nightly use, and gradually increase the ratio of Overnight Retinol Repair to Buffer Cream.
3. If Buffer Cream is depleted prior to the skin acclimating, substitute it with a prescribed Dermalogica Moisturizer.



application:  
nighttime



## Buffer Cream

Unlike other high-potency Retinol products on the market, Overnight Retinol Repair includes a Buffer Cream to provide client-controlled customization for maximum results with minimal skin irritation. This gentle formula uses the mildest emulsifiers and emollients to help skin acclimate to the highly-active levels of Retinol in Overnight Retinol Repair, minimizing the downtime that normally occurs with Retinol use.

During initial use, the Buffer Cream is designed to be mixed with Overnight Retinol Repair prior to applying to skin in order to customize the concentration of Retinol while skin is building retinoid receptors.



description

Gentle moisturizing formula helps clients control the concentration of highly-active Retinol in Overnight Retinol Repair as their skin builds tolerance over time.



key ingredients

- Moisturizing 8% Aloe Barbadensis Leaf Juice (Aloe Vera) gel extract base helps soothe the skin.
- Sodium PCA provides excellent hydration.

# professional recommendations

As a professional skin therapist, it is important to set reasonable expectations with your clients and outline a precise treatment regimen, both in the treatment room and at home, for the greatest success when treating signs of skin aging with Retinol. Be sure to explain the following points to your clients:

## Pre-Conditioning the Skin

Inflammation and aging are often linked together and called “inflamm-aging” because inflammation is one of the key causes in accelerated premature aging of skin. The key is to trigger the desired effects of Retinol without causing excess inflammation. Doing this requires a pre-conditioning period so the skin can acclimate. Advise your clients to pre-condition their skin by mixing the included Buffer Cream with Overnight Retinol Repair.

Pre-conditioning is particularly important for new or infrequent Retinol users, as it allows the skin to replenish its receptors and build a tolerance to the concentration of Retinol.

## Customizing Overnight Retinol Repair

Your client can adjust the ratio of Buffer Cream to Overnight Retinol Repair depending on their skin’s comfort level, type and condition, while their skin builds retinoid receptors.

When first using Overnight Retinol Repair, we recommend using the Buffer Cream in a 1:3 ratio (one part Overnight Retinol Repair to three parts Buffer Cream) for the first two weeks. This ensures that no other active ingredients, such as those found in other moisturizers or night creams, are interacting with the Retinol.

Once retinoid receptors have been fully built, the skin will be acclimated. At this stage, the amount of

Buffer Cream can be reduced or removed altogether so clients can maximize the concentration of Retinol. Avoid eye area. Use Age Reversal Eye Complex around delicate eye area.

## Ongoing Treatment

Overnight Retinol Repair should be applied prior to moisturizer. Clients who have not yet fully built a tolerance after they've run out of Buffer Cream can mix Overnight Retinol Repair with their prescribed Dermalogica Moisturizer.

## Sun Protection

It is imperative that sunscreen with a minimum of SPF30 be worn every day while using Overnight Retinol Repair. During the pre-conditioning phase, recommend a physical sunscreen.

## Contraindications

- If your client is pregnant or breastfeeding, have them consult a physician prior to using Overnight Retinol Repair.
- Do not use at least 72 hours before or after waxing or exfoliation.

Prescribe Overnight Retinol Repair as a targeted, at-home treatment, along with any other AGE Smart® or PowerBright TRx™ products that may help your clients address specific skin concerns. Work closely with your client to outline their regimen, and keep them motivated and dedicated. Above all, communicate to them that the key to getting results is to use their prescribed home-care products regularly.

# questions | answers

## Why did you formulate two separate products?

Every client has their own skin condition and unique tolerances of ingredients. Creating one product would limit who could benefit from this targeted treatment. By formulating two separate products, we allowed for the ultimate in at-home customization.

## What can my clients expect after using Retinol for the first time?

Different clients will react differently to Retinol. First-time users may experience some sensitivity, redness, flaking or irritation during early stages of use. These symptoms are temporary and will fade as their skin builds retinoid receptors.

## Is the Buffer Cream sold separately?

No. The Buffer Cream is specifically designed for use with Overnight Retinol Repair.

## Why should Overnight Retinol Repair only be worn at night?

Retinoids, including Retinol, have the potential of breaking down when exposed to sunlight and air. For this reason, and the reasons mentioned on page 14, Retinol products should only be used at night. This is also why Retinol products usually come in opaque pumps or tubes with tight-fitting caps.

## Is Retinol a photosensitizer?

No. The ingredient itself is sensitive to sunlight. The reason skin can become more sensitive and vulnerable to sunburn with Retinol use is because Retinol turns over skin cells quickly and thins the epidermis, making it more vulnerable to sunburn. With that said, Retinol shouldn't make skin any more vulnerable to UV rays than it would be after exfoliation.

## Can clients use Overnight Retinol Repair during summer months?

Clients can use this product any time of the year. In fact, summer can be a good time to start using it in regions where the air contains more moisture or humidity. This makes skin less likely to dry out as it adjusts to the Retinol content. To protect skin while it is being treated, it is imperative that your clients wear sunscreen of at least SPF30 during the day.

## How frequently can my client use Overnight Retinol Repair?

Greater benefits will be seen with consistent use over time, which is why we recommend using Overnight Retinol Repair every night. However, every client's skin is different and will have varying degrees of Retinol tolerance, which is why we developed the Buffer Cream. For more sensitive skin, we recommend using Overnight Retinol Repair every other night, then transitioning to nightly use as skin builds tolerance. Perform a Face Mapping® skin analysis to determine each client's skin condition before prescribing their customized treatment regimen.

## Where does Overnight Retinol Repair fall in my client's regimen?

Since Overnight Retinol Repair is a targeted treatment, it should be used at night after cleansing and toning, but before moisturizers, unless mixed in with Buffer Cream. We recommend not layering any other product other than a moisturizer atop Overnight Retinol Repair.








## Can Overnight Retinol Repair be used on the eye area, neck, décolleté and hands?

This product should NOT be used near the eye area; however, it can be used on the neck, décolleté and hands. To treat the eye area, use Age Reversal Eye Complex. Remember to use adequate sunscreen during the day on any other areas treated with Overnight Retinol Repair.

## How should I prescribe Overnight Retinol Repair with other targeted treatments?

Overnight Retinol Repair can be prescribed in conjunction with other AGE Smart® and PowerBright TRx™ targeted treatments to address multiple signs of skin aging. Your client should use other targeted treatments on alternate nights to avoid layering them with Overnight Retinol Repair.

### targeted treatments: what to use when

	product	description	benefits	use
daytime	 <b>MAP-15® regenerator</b>	Powder-to-emulsion treatment with concentrated Vitamin C	<ul style="list-style-type: none"> <li>Helps stimulate collagen production.</li> <li>Concentrated antioxidants neutralize skin-aging free radicals.</li> <li>Provides maximum Vitamin C for skin firmness and clarity.</li> </ul>	Daily, mixed with other products or as a spot treatment.*
	 <b>multivitamin power serum</b>	Velvety treatment cream with microencapsulated Vitamins A, C and E	<ul style="list-style-type: none"> <li>Helps enhance cell turnover and renewal.</li> <li>Provides antioxidant protection.</li> </ul>	Daily, all over the face.*
	 <b>C-12 pure bright serum</b>	Potent skin brightening concentrate with Oligopeptides	<ul style="list-style-type: none"> <li>Provides enhanced skin brightening.</li> <li>Helps combat hyperpigmentation and control melanin formation.</li> <li>Balances uneven skin tone.</li> </ul>	Daytime and/or at night, all over the face. Alternate nights with Overnight Retinol Repair.
nighttime	 <b>overnight repair serum</b>	Supercharged peptide facial oil with Argan and Rose oils	<ul style="list-style-type: none"> <li>Enhances skin nourishment, cell renewal and hydration.</li> <li>Boosts skin luminosity.</li> </ul>	At night, all over the face. Alternate nights with Overnight Retinol Repair.
	 <b>overnight retinol repair</b>	Concentrated Retinol treatment cream with Peptides, Vitamin C and Copper complex	<ul style="list-style-type: none"> <li>Helps reverse signs of photoaging.</li> <li>Accelerates skin renewal.</li> <li>Stimulates collagen production.</li> </ul>	At night, all over the face (avoid eye area). Alternate nights with other p.m. treatments. To customize, mix with Buffer Cream.

\*May also be used in the evening.

## citations

- BCC Research. Antiaging Products and Services: The Global Market. MarketWatch. MarketWatch, Inc, 19 Aug. 2013. Web. 30 Apr. 2015.
- Carlotti ME, Rossatto V, Gallarate M, Trotta M, Debernardi F. Vitamin A palmitate photostability and stability over time. J Cosmet Sci. 2004;55:233-252.
- Prystowsky JH. Topical Retinoids. In: Wolverton, SE, ed. Comprehensive dermatologic drug therapy. Philadelphia, PA: Saunders, 2001:578-594.
- Weiss R. Wrestling with Wrinkles. Science News. 1988;134:200.
- Voorhees JJ, Kang S, et al. Improvement of naturally aged skin with vitamin A (retinol). Arch Dermatol. 2007;143:606-612.
- Bellemère G, Stamatas GN, Bruère V, Bertin C, Issachar N, Oddos T. Antiaging action of retinol: from molecular to clinical. Skin Pharmacol Physiol. 2009;22(4):200-209.
- Mukherjee S, et al. Retinoids in the treatment of skin aging: an overview of chemical efficacy and safety. Clin Interv Aging. 2006;1(4):327-348
- Unpublished. From Kligman, cited in Derm. Times July 2000.
- Guttman C. Studies back Retinol as photoaging prescription. Derm Times. 2000.
- Roos TC, Jugert FK, Merk HF, Bickers DR. Retinoid metabolism in the skin. Pharmacol Rev. 1998;50(2):315-333.
- National Toxicology Program. All-Trans-Retinyl Palmitate. In: 6.0 Biochemical and Histological Effects on Skin. 2000:4-5.
- Boehnlein J, Sakr A, Lichtin JL and Bronaugh RL. Characterization of esterase and alcohol dehydrogenase activity in skin. Metabolism of retinyl palmitate to retinol (vitamin A) during percutaneous absorption. Pharm Res. 1994;11(8):1155-1159.
- Geesin JC, Gordon JS, Berg RA. Regulation of collagen synthesis in human dermal fibroblasts by the sodium and magnesium salts of ascorbyl-2-phosphate. Skin Pharmacol. 1993;6(1):65-71.
- Murphy-Ullrich JE, et al. Cytokine and growth factor reviews. 2000;11:59-69; <http://www.centerchem.com>.
- Kinosian J. Are You Getting Your Beauty Sleep? Prevention. November 3, 2011; <http://www.prevention.com/beauty/natural-beauty/nighttime-skin-care-tips>

## take the AGE smart® workshop!

Dermalogica and The International Dermal Institute (IDI) offer multiple classes on successfully treating, controlling and preventing the signs of skin aging for healthier, firmer skin. Ensure you are up to date on the latest product technology with Dermalogica's AGE Smart®: Investing in Your Future Skin. To learn more and register, visit [dermalinstitute.com](http://dermalinstitute.com).