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# WRINKLES & FINE LINES

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**A**ging skin is such a huge topic that we decided to break the process down to its elements, starting with wrinkles and fine lines.

If you hate wrinkles and their younger siblings, fine lines, you're not alone.

Join me as we take a deep dive into what wrinkles are, what causes them, how to prevent them and even treat them!

**Love, Dr Ginni Mansberg**  
GP & Co Founder of ESK



*What are wrinkles?*

**W**rinkles are visible creases or folds in the skin. Fine lines are the start of wrinkles. Technically wrinkles less than 1 mm in width and depth are defined as fine lines.

The number one cause of wrinkles is loss of collagen and elastin fibres in the dermis. This happens when the amount of collagen and elastin in our skin decreases.

# *the primary cause of loss of collagen & elastin are;*

- A decrease in the number of fibroblasts (cells that make collagen and elastin) in our skin.
- The remaining fibroblasts that we have, being less productive.
- More destruction of existing collagen and elastin in the skin.

Collagen breakdown is done by enzymes in the skin called matrix metalloproteinases and specifically matrix metalloproteinases MMP-1, MMP-8, and MMP-13 target collagen.

Elastin is broken down by enzymes called elastases, and these rev up when exposed to many skin diseases, any free radical damage (for example smoking) as well as inflammation and sun exposure.

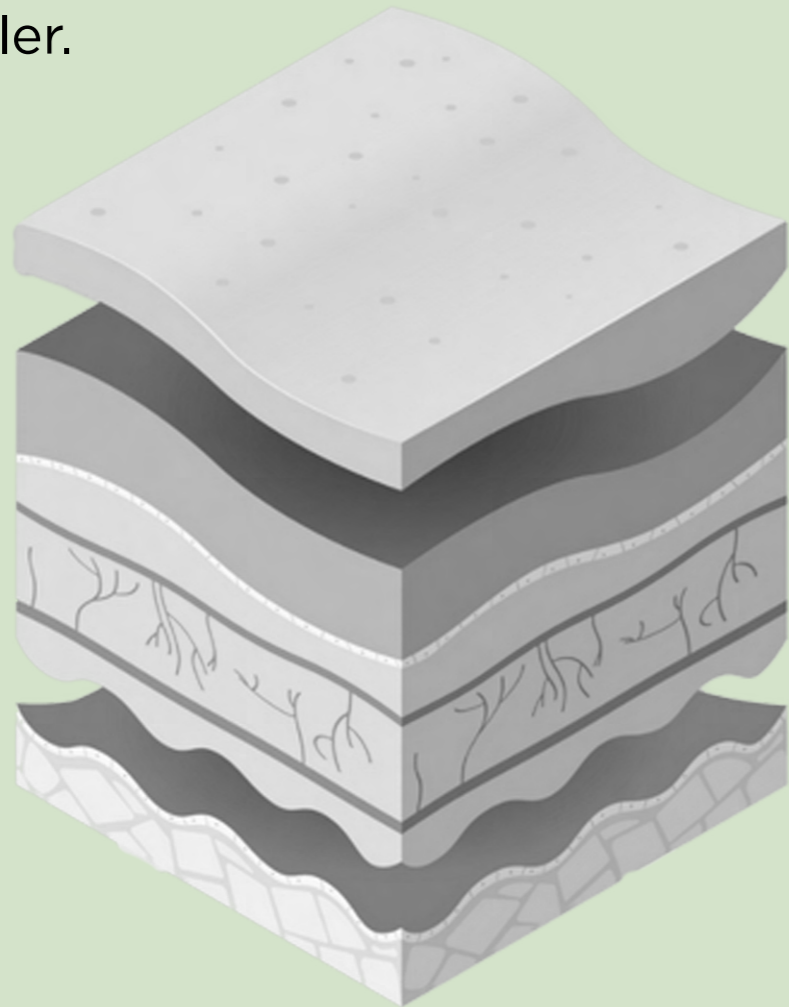


## *where does the breakdown occur?*

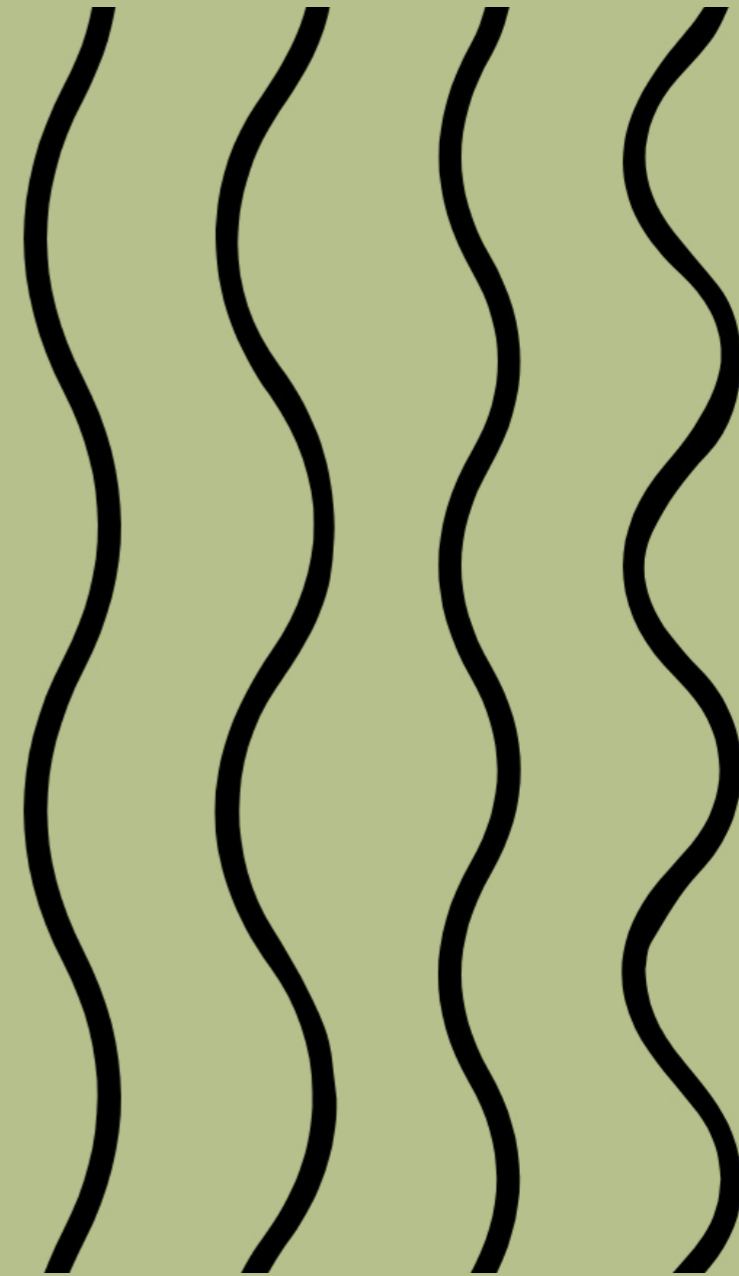
The topmost layer of the skin's epidermis is the stratum corneum (SC) which contains as much as 10-15% water to keep it flexible and elastic.

As we get older, and thanks to some extra skin stress, especially from sun exposure, the number of skin cells in the bottom- cushioning layer of skin layer declines.

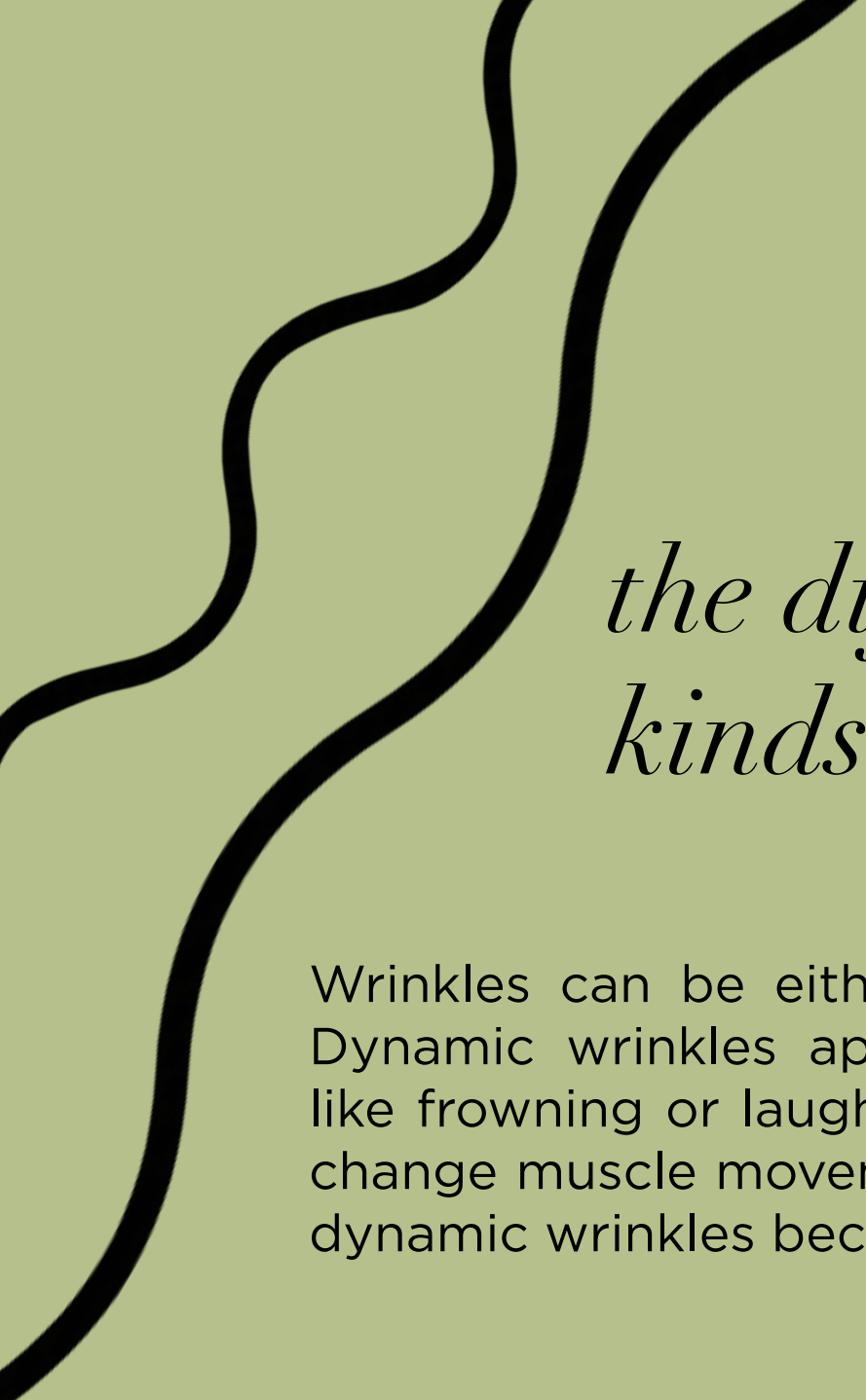
The tight surface area between skin cells of the epidermis and the dermis - the lower level of the skin - gets smaller.



The result is less nutrients supplied to the epidermis and fewer cells. This causes thinner, drier, less healthy, less well supported skin.



That's not all. With age we see a reduction of the fat cells under the skin (subcutaneous tissue) and this makes the thinning of the skin worse.



*the different  
kinds of wrinkles*

Wrinkles can be either dynamic or static. Dynamic wrinkles appear with movement like frowning or laughing. Static lines don't change muscle movement. Over time, most dynamic wrinkles become static.

News flash! Wrinkles make you look older. That's not a problem for some people who embrace them as the hallmark of a life lived well! But lots of us just hate them and want to prevent and minimize them if they happen!

# *why do they happen?*

There are lots of things that contribute to wrinkles and fine lines, including;





## *exposure to UV radiation*

The NUMBER ONE cause of wrinkles, like all signs of skin aging is the sun's Ultra Violet or UV rays. Studies have shown us that the sun's UV rays cause inflammation, impaired wound healing, and DNA damage. That means not only more wrinkles but higher cancer risk as well.

Even the smallest sun exposures, just by running in and out of the shops for example, add significantly to your total daily exposure to ultraviolet light. Sun exposure is thought to be responsible for 80% of facial aging.

Within UV radiation there are UVA and UVB rays. On any typical summer day, only 3.5% of the UV radiation that reaches the earth's surface is UVB, but 96.5% is UVA. Unlike UVB, UVA rays can penetrate through glass in windows. UVA rays do play a role in causing skin cancer. But the UVA rays, which penetrate deeper into the skin play a greater role in premature skin aging changes including wrinkle formation.

## *your age & genes*

The older you are, the higher chance of skin damage including wrinkles.

Recent research has indicated that 60% of HOW your skin responds to insults in the environment like UV radiation and smoking is genetic!

## *your hormones*

In postmenopausal women, you get almost negligible oestrogen levels. This low oestrogen seems to turbo charge your wrinkles.

Lots of studies have found that wrinkles increase in number and depth the further you get from the day you hit menopause. But postmenopausal women taking hormone replacement therapy have fewer wrinkles than women who've never taken it.

## *dry skin*

Dry skin is definitely more prone to wrinkling. At least the appearance of wrinkling. Ironically your skin often gets drier as you get older and the skin barrier doesn't work as well.



### *stress*

There is growing evidence that chronic stress can impair your skin's immune system and contribute to inflammation and aging including wrinkles.

### *smoking*

The jury is in, smokers get more wrinkles than non-smokers. The longer you smoke, the worse the wrinkles get.

### *alcohol*

Australian research has shown that drinking 8 drinks a week or more is linked to lots of signs of aging in the face including wrinkles.



# *preventing* WRINKLES



**H**ands down the best thing you can do to prevent wrinkles is avoid the sun's UV rays, especially UVA. Even small amounts of UVA can cause a lot of skin damage. That's why the best option is using a sunscreen, every single day.

When looking for a sunscreen, look for a broad-spectrum sunscreen which protects against both UVB (burning) and UVA (aging) rays.

UVA rays are there from sun up to sun down, 365 days a year and they penetrate glass.

Which is why your sunscreen should be used every day, even when you're not headed to the beach.

Many dermatologist recommend physical sunscreens over chemical sunscreens. Physical sunscreens, ingredients like zinc oxide or titanium dioxide reflect and scatter UV radiation rather than absorbing them as chemical sunscreens do. Generally considered safer and better than chemical sunscreens, they're particularly recommended for sensitive skins. Of the two, zinc oxide offers better UVA protection than titanium dioxide.

[SHOP ZINC SHADE](#)

*but if you already  
have wrinkles...*  
what are your  
options?

Most of us look back and wish we had used more sunscreen and spent less time in the sun. But it's not too late to combat those wrinkles!!!





# *skincare* for wrinkles

A great place to start is using the right skincare to combat fine lines and wrinkles.

## *Vitamin A (Retinoids)*

Vitamin A can block the activity matrix metalloproteinases, thus inhibiting collagen breakdown. Plus, Vitamin A helps your skin make collagen by increasing type-1 procollagen.

It is amazing but isn't without side effects. In some studies, 61% of users get redness, burning, dryness, flaking and/or stinging.

Retinols and retinaldehyde are available in several over-the-counter skincare products. Retinol is 20 times less potent than tretinoin. Retinal AKA Retinaldehyde has been shown to improve fine and deep wrinkles to the same extent as 0.05% tretinoin, only without skin irritation.



[SHOP ULTIMATE A](#)



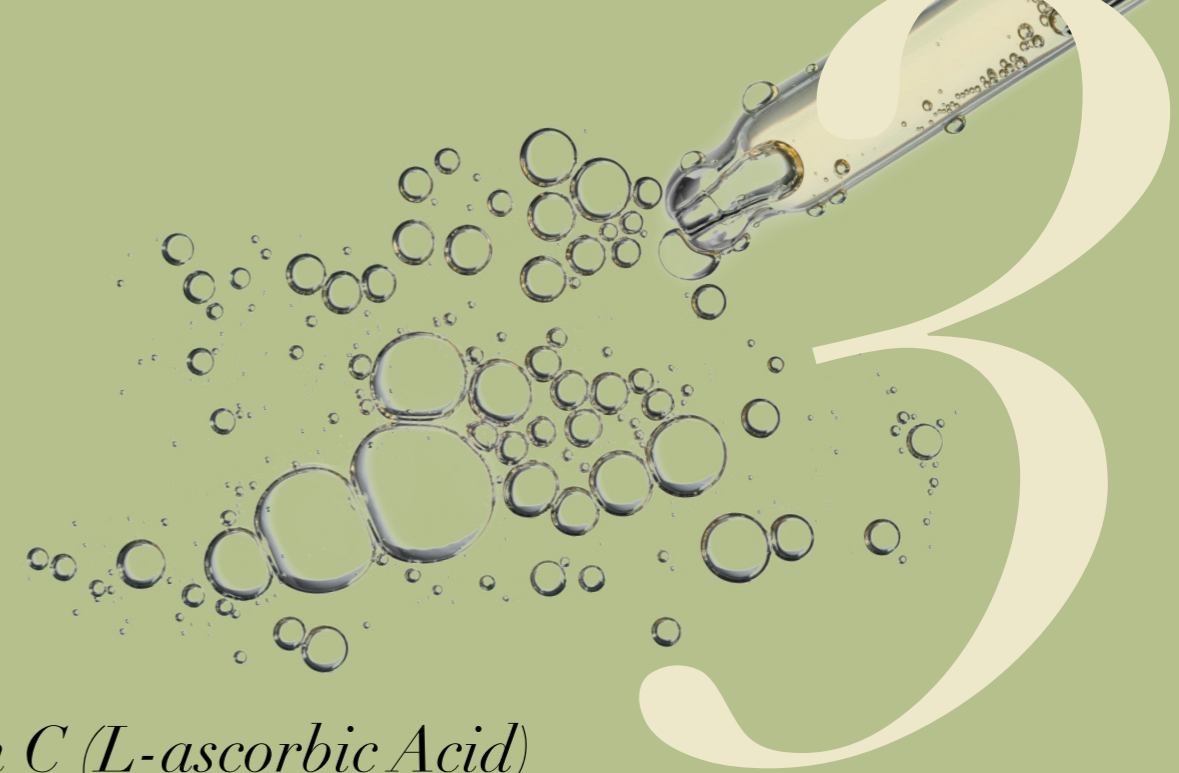
## *Vitamin B3 (Niacinamide)*

Niacinamide has been found to reduce both fine lines and wrinkles in trials. It does this by increasing collagen production in the skin.

Niacinamide is also an antioxidant and anti-inflammatory and inflammation has been found to increase matrix metalloproteinases which break down collagen.

[SHOP B QUENCHED](#)

# 2



## *Vitamin C (L-ascorbic Acid)*

Most dermatologists recommend using Vitamin C to manage skin aging. Given it prevents UV damage to the skin, you would expect that its effect would be especially potent as a preventer of wrinkles.

Vitamin C has had surprisingly few studies of its effectiveness for treating fine lines and wrinkles that have already emerged. We know that Vitamin C helps build collagen, so it has been proposed as an important ingredient to help combat fine lines and wrinkles.

One split study found that 10% L-ascorbic acid used daily for 12 weeks significantly reduced wrinkle depth and severity. Another study found similar effects with the use of 5% ascorbic acid for 6 months.

[SHOP C FORTE](#)

## *Hydroxy Acids*

Alpha Hydroxy Acids or AHAs are gentle but powerful exfoliators of dead skin cells by breaking the bonds between superficial skin cells.

The resulting sloughing off dull and rough skin promotes cellular renewal.

AHAs have been found to give you fewer wrinkles as well as smoother skin and lightened age spots. AHAs also improve the skin barrier function, and restore hydration by increasing hyaluronic acid.

[SHOP SMOOTH SERUM](#)



## *Hyaluronic Acid*

Hyaluronic Acid (HA) is a key component of the scaffolding of the skin and is essential for wound healing as well as elasticity in the skin.

HA is also extremely important for hydration, being able to bind water molecules over 1000 times its own weight.

Early studies show that when applied to the skin, Hyaluronic acid can significantly improve your skin's appearance, with fewer fine lines and wrinkles, as well as less roughness.

It's also been shown to improve your skin's hydration, as well as boost collagen and elastin in the skin.

But not all Hyaluronic acid is the same. HA comes in many different sizes.

Large molecular weight HA is anti-inflammatory and helps support the structure of the skin, but is too large to penetrate the skin. It forms a moisturising film on top of the skin which definitely has a moisturising effect.

Medium weight HA can penetrate the skin and promotes wound healing and skin regeneration. Small size HA penetrates the skin but can cause irritation and inflammation in some people. But it helps improve the skin's moisture content and regeneration of collagen as well as reducing fine lines.

[SHOP REPAIR +](#)



## *Copper Peptide*

In the skin, copper is involved in making the skin scaffolding that gets lost as we get older.

Clinical studies have shown that copper improves skin elasticity, combats facial fine lines and wrinkles, and promotes wound healing.

You can apply copper directly to your skin in the form of copper peptide. Typically, it comes as a copper complex called GHK-Cu.

[GHK-Cu has been shown to greatly reduce wrinkles.](#) Some evidence suggests GHK-Cu might not be well absorbed by the skin which can be overcome by using [microneedles to enhance delivery.](#)

[SHOP AGELESS](#)

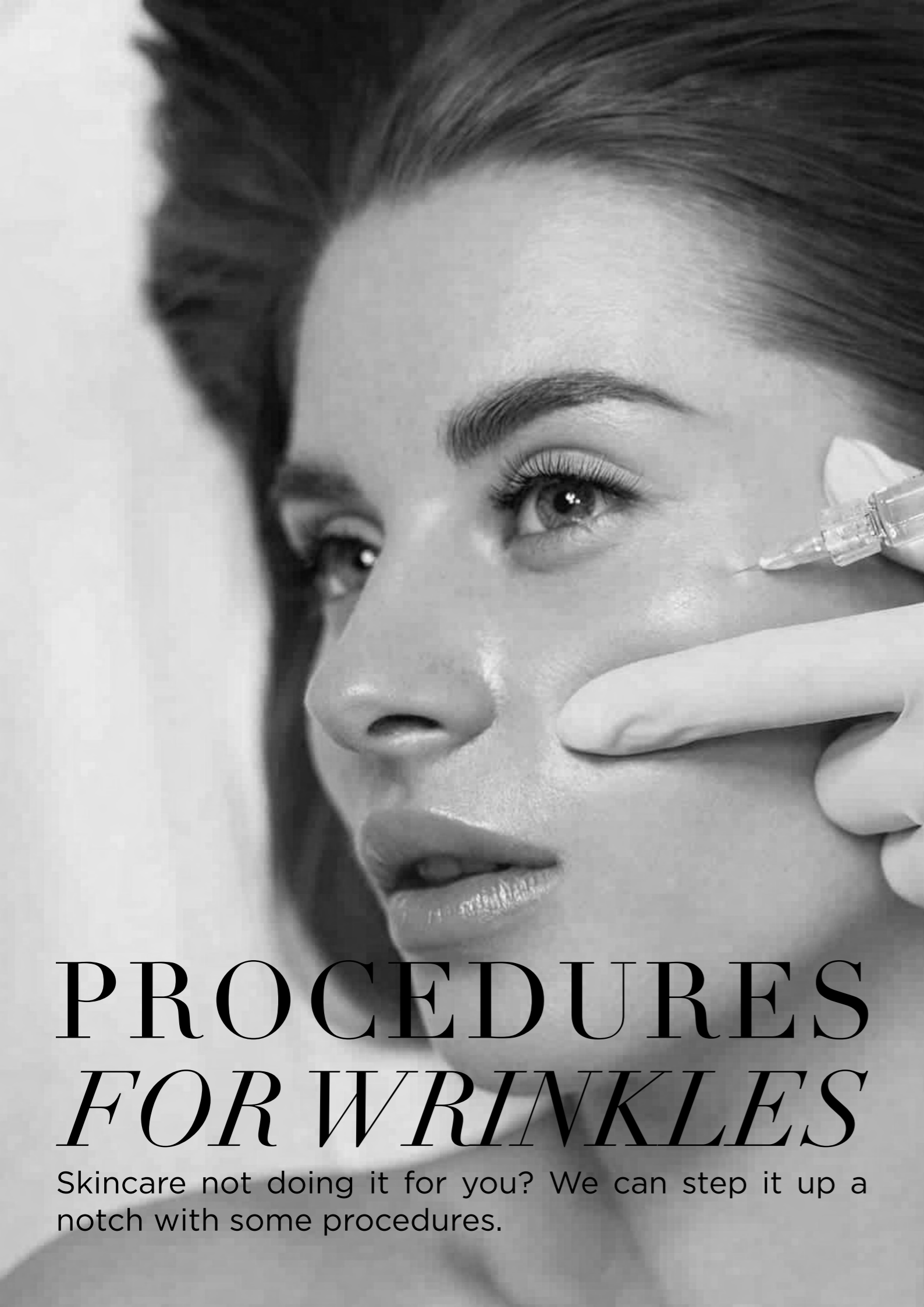


## *what about a* **MOISTURISER?**

Drier skin accentuates the appearance of wrinkles on the face.

Moisturising won't get rid of wrinkles, but it can make them look less severe.

Moisturisers won't help build collagen or elastin and most moisturisers can't repair your skin barrier unless they contain cosmeceutical ingredients.



# PROCEDURES *FOR WRINKLES*

Skincare not doing it for you? We can step it up a notch with some procedures.

## RESURFACING PROCEDURES

Resurfacing covers a range of techniques where the top layers of the epidermis are peeled off using chemical or mechanical tools.

Any ablative technique can work by damaging the skin, which leads to an inflammatory response, resulting in the production of new collagen.

The problem is that ablative techniques produce thicker bundles of scar collagen rather than the lattice network of collagen found in normal skin. Plus, the skin can become too inflamed which can cause the skin to become more sensitive to sun damage and more susceptible to complications like pigmentation.

## NON-ABLATIVE LASERS

Non-ablative lasers create tiny amounts of damage to the dermis while sparing the epidermis.

Infrared lasers, radiofrequency devices, and fractional lasers including Picosecond lasers are all examples of non-ablative skin rejuvenation procedures.

There is less downtime ( a couple of hours of redness) with non-ablative procedures but the amount of improvement to the skin with non-ablative procedures is often modest, so are best for milder wrinkling.

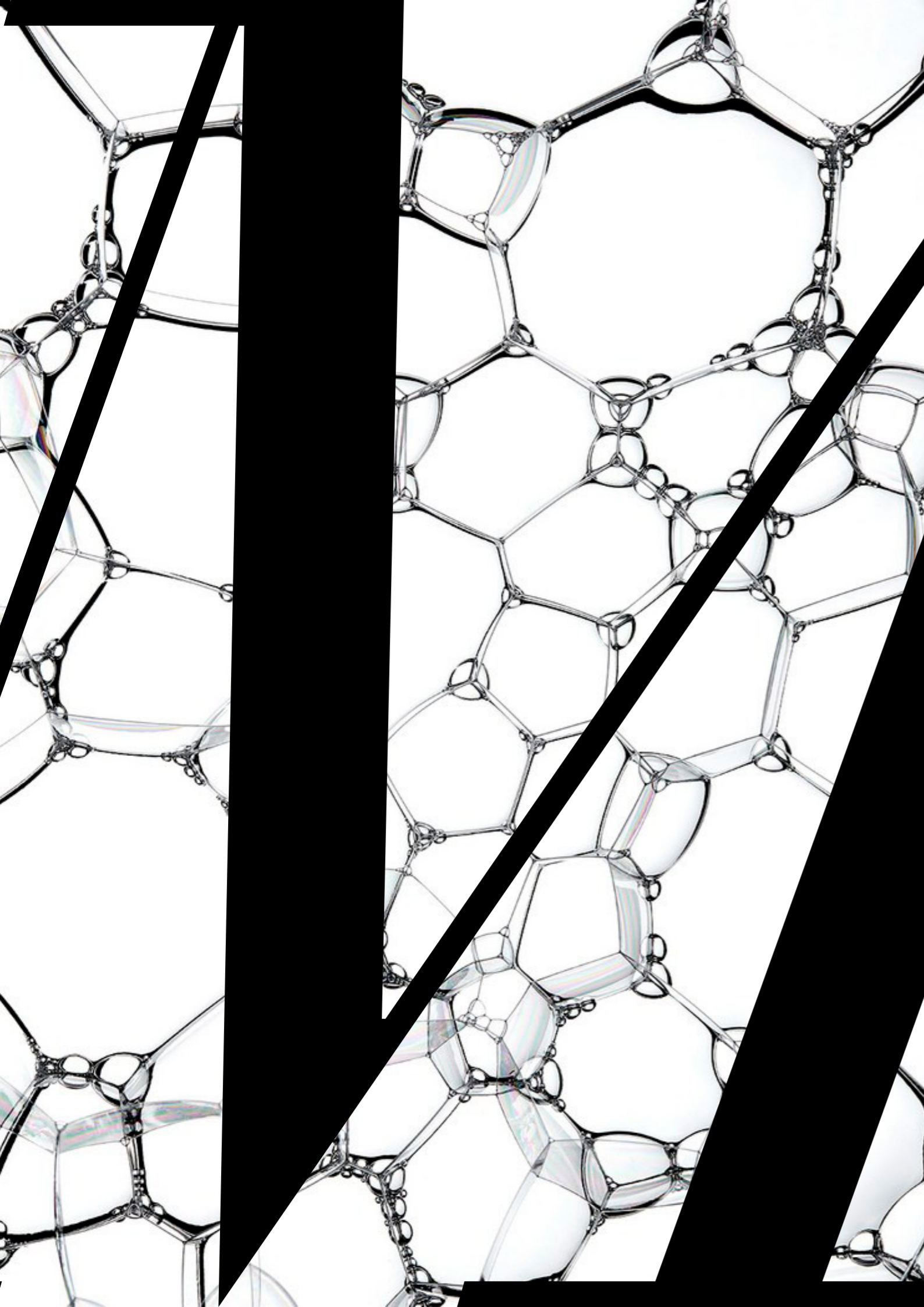
People with more severe wrinkling might not get such a benefit from them.

## ABLATIVE LASER

The idea with ablative lasers is that they use various techniques which remove the outer layers of aged or sun damaged skin. They can also stimulate the underlying skin, resulting in collagen formation and an improvement in wrinkles. Their downsides are that there is often a fair amount of downtime needed and there is a higher risk of post procedure inflammation, pigmentation and infections.

# *OTHER PROCEDURES*





## *Microneedling*

Microneedles are exactly what they sound like- tiny AKA “micro” needles (often less than one millimetre long) that puncture the outer surface of the skin.

The act of puncturing the skin causes tiny injuries! That sounds terrible but when the skin starts to heal it stimulates a cascade of chemical reactions that include growth factors to stimulate new skin cells along with new collagen and elastin.

Secondly, the needles allow certain larger molecules to get past the skin barrier (or stratum corneum) to deliver critical ingredients into the deeper epidermis and dermis.

In the beginning all microneedles were made of metal. They were rolled over your skin or stamped into the skin and skincare was added on top of the injured skin to improve penetration.

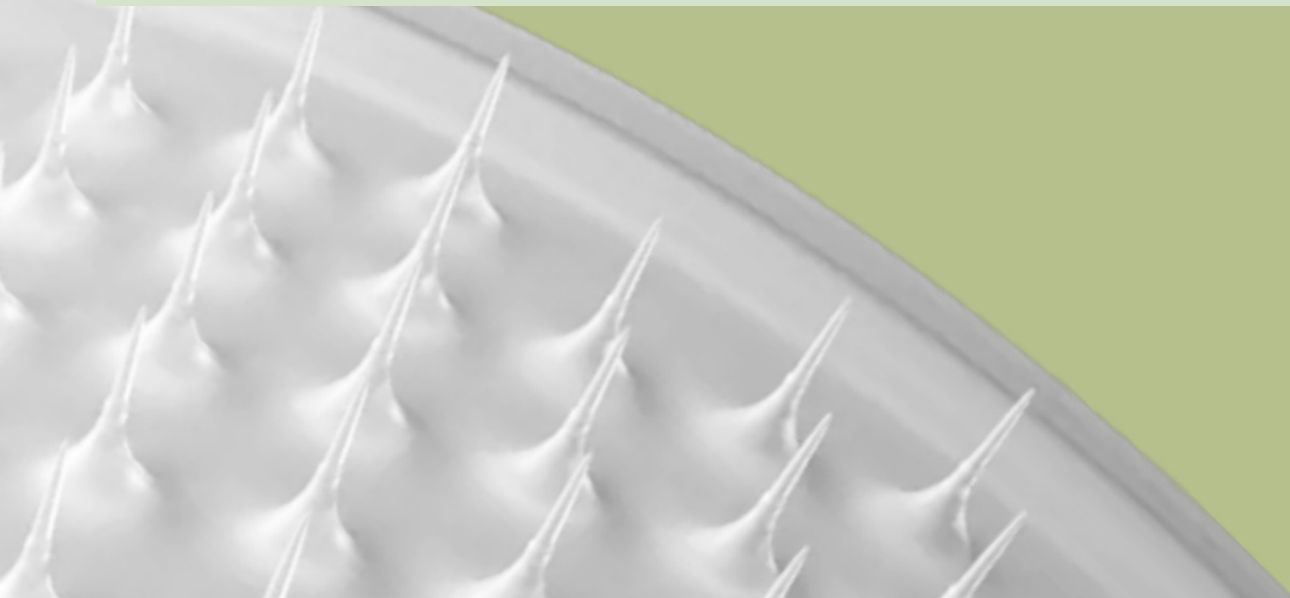


New technology has allowed us to make microneedles out of hyaluronic acid which are hard enough to penetrate the skin, but then dissolve in the outer layer of the skin.

That delivers the hyaluronic acid directly and efficiently into the skin layers. Hyaluronic acid is a great skin ingredient in and of itself because it is well tolerated by the skin, has low rate of immune system reactions and has its own [anti-aging](#) and [skin healing properties](#).

[With dissolving hyaluronic acid microneedles, actives can be encapsulated within the microneedles](#) so that after piercing into the skin - as the microneedles themselves dissolve, they also allow a super-efficient but controlled release of active ingredients into the skin.

[SHOP AGELESS](#)





## *Intense pulsed light, or IPL*

IPL, is a treatment similar to laser resurfacing in that it uses light to treat skin problems, particularly pigmentation problems, and rejuvenate the complexion.

IPL uses a high-intensity light source that emits light in the wavelength range of between 515 and 1200 nm delivered in brief pulses.

It's thought that IPL might help stimulate collagen production. It does this by creating a heat induced injury to the skin. Like micro needling, in healing itself, the skin makes more collagen.

In one German study of 38 people having 3 sessions over 3 months, 50% of them were satisfied with the outcomes.

IPL is a non-ablative treatment (no skin is removed during treatment), and typically requires little to no downtime.



## *Chemical Peels*

A chemical peel is where the dermal therapist puts a chemical solution to the skin which causes an even, controlled shedding of several layers of damaged skin cells to leave a new fresh layer of skin.

Superficial peels, penetrating only the epidermis, tend to be used to help with acne, pigmentation, and general sun damage.

Medium-depth peels, penetrating to the papillary dermis, may be used for pigmentation and sun damaged skin in general.

Deep peels, affecting reticular dermis, may be used for severe sun damage, wrinkles, or scars.

Peels can be combined with other resurfacing techniques. The more intensive the peel, the more likely to cause side effects like redness, pigmentation and scarring, especially of the lower part of the face.



## *Dermabrasion*

Similar to a chemical peel, dermabrasion is a procedure that resurfaces your skin.

The difference between a chemical peel and dermabrasion is that with dermabrasion, the dermal therapist or doctor uses a high-speed rotating brush to manually remove the top layer of skin instead of applying a chemical.

There aren't actually a lot of studies of micro-dermabrasion for wrinkles.

## *Fillers*

For deep established or static wrinkles, Botox can't do that much.

Deep troughs can be filled by injecting temporary fillers (most often made of hyaluronic acid) into the skin to "fill" the wrinkles.

Fillers generally last about 12 months.

There is some suggestion, not based on papers but the clinicians who do the fillers that having hyaluronic acid fillers reinjected into the same area does, in fact, eventually provide a long-lasting result.

Some people say this is due to the effects of hyaluronic acid actually growing more extracellular matrix. It also might be from repeated scarring.



### *Botox Injections*

Injection of Onabotulinum toxin type (the toxin that causes botulism!) AKA Botox into certain muscles of the face causes a temporary immobilization of muscle contractions by paralyzing the nerves that move the muscles.

It is especially good for dynamic wrinkles on the forehead and around the eyes (crows' feet). Botox injections last around 3 months.

### *Platelet Rich Plasma*

Autologous (your own) Platelet-rich Plasma (PRP) is derived from fresh whole blood, which contains a high concentration of platelets.

PRP contains various growth factors that might help promote the synthesis of collagen and other skin scaffolding components by stimulating the activation of fibroblasts, thus, rejuvenating the skin. Studies are super thin on the ground.

### *Cosmetic surgery*

Cosmetic facial surgery can include a facelift or mid-facelift to remove excessive skin and tighten underlying muscles of the lower two-thirds of the face, a brow lift to lift up drooping eyebrows or upper and/or lower blepharoplasty to remove redundant skin and fat pads from the eyelids. You can also have surgery to tighten wrinkles at the neck.



# 9

## *Collagen supplements*

Sorry, but there is no good independent (non-industry sponsored) evidence that these supplements work. And they make no sense.

Collagen must be broken down into amino acids and reformed by your cells. Your guts CANNOT absorb entire collagen molecules that are thousands of amino acids in length.

Just like the amino acids that were once an egg or a steak don't reform into steaks and eggs inside your body, nor can collagen from a shark or a rooster comb reform in your skin cells.





# *LIFESTYLE HACKS TO COMBAT WRINKLES*

GET A GOOD NIGHT'S SLEEP!

People who are sleep deprived look more tired, with droopy eyelids, redder, more swollen eyes, darker circles under the eyes, paler skin, more fine lines and wrinkles.

## THE RIGHT PILLOWCASE OR EYE MASK.

Remember how copper improves skin elasticity, combatting facial fine lines and wrinkles, and promoting wound healing? You can get copper into your skin from a face mask or a pillowcase! [In a couple of small studies](#), people were either given pillowcases containing copper oxide or a normal pillowcase. The copper oxide-containing pillowcases “resulted in significant decrease of crow’s feet after 4 and 8 weeks, but no crows’ feet reduction was seen in those sleeping on a standard pillow case. Interesting!

## GET ON YOUR HRT.

No, you can’t have it for its anti-aging properties alone. You need a medical reason (thinning bones or hot flushes for example.) But if you’re on it anyway... [HRT has been shown to increase skin collagen, hydration, skin elasticity, skin thickness plus reduce wrinkles.](#)

## CLEAN UP YOUR ACT!

We know smoking and drinking ups your wrinkles, so it’s time to quit! While you’re at it go for a diet high in proteins, vitamin C and zinc. There’s [emerging evidence](#) to support the idea that a diet full of sugar and saturated fat accelerates skin ageing, by accelerating inflammation in the skin. So, while you’re giving up your vices, it’s time to clean up your diet too!





Here are just a few of our customers we've helped to fight *fine lines & wrinkles*.

Take our Skin Quiz to start your journey.

[TAKE SKIN QUIZ](#)



# mature skin kit

Wind back the clock with this bundle of ingredients full of anti-oxidants scientifically crafted products using evidence-based ingredients. Minimise fine lines, wrinkles & pigmentation.

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