Facetime: Facing the Facts About Facial Aging

What is Skin Aging?
Facial aging begins the day you are born, and proceeds at different rates throughout your life. The face ages in five key ways:

- **Discoloration**: Skin changes occur, such as brown spots and sallow (yellowish or brownish) color.
- **Wrinkle Formation**: Wrinkles form from overactive muscles and dehydration, as well as due to loss of a key skin building block called collagen.
- **Volume Loss**: Volume depletes, causing hollow cheeks and temples due to fat loss and the age-related breakdown of the underlying facial structure.
- **Loss of Elasticity**: Skin no longer “bounces back” quickly if you press on it because of the loss of collagen and a related component called elastin.
- **Pull of Gravity**: As physicist and mathematician Isaac Newton remarked when he described the effects of gravity, “What goes up, most go down.” This is also true for facial tissues and structures.

How do Wrinkles Form?
When muscles contract repeatedly, collagen and elastin break down under the surface. Superficial or fine lines are caused by skin dehy-
dration and the loss of hyaluronic acid (HA). Deeper folds are the result of declining collagen and elastin.

There are two main types of wrinkles—dynamic and static. Dynamic wrinkles develop over time when you use your muscles to form facial expressions such as smiles and frowns. Static wrinkles, by contrast, are there all the time because of the decrease in collagen, elastin, and hyaluronic acid. Dynamic wrinkles morph into static wrinkles when your skin loses its spring. Wrinkles are treated on a continuum based on their severity and depth.

WHAT IS COLLAGEN? WHY IS IT IMPORTANT?
Collagen is found in the skin, bones, connective tissue, and blood vessels. Your natural supply dwindles with advancing age and after exposure to the sun’s damaging ultraviolet (UV) rays, smoking, and/or other environmental factors.

Collagen is also a building block of what’s called the extracellular matrix, an intricate network of proteins that support the skin. When collagen declines, skin becomes less elastic and the skin’s underlying framework takes a hit.

WHAT IS ELASTIN? WHY IS IT IMPORTANT?
Elastin is a protein that contributes to flexible and strong skin. Loss of elastin contributes to skin sagging. Like your collagen stores, elastin decreases with age, and the skin becomes less stretchy and resilient as a result.

WHAT IS HYALURONIC ACID? WHY IS IT IMPORTANT?
Hyaluronic acid is found naturally in almost every tissue in the body. It pulls moisture into tissues. As you age, your rate of HA production decreases and skin dries out. This is why hyaluronic acid is an important ingredient in many skin care products.

CAN COLLAGEN, ELASTIN, AND HA BE REPLACED?
Ask your doctor about ways to boost your supply of this powerful trio. One way is with radiofrequency (RF) microneedling devices, such as the Profound® treatment. With the Profound treatment, RF energy is paired with tiny microneedles to create dermal wounds to the skin. These wounds trigger the skin’s natural wound healing process. As compared to mechanical microneedling devices, the combination of RF energy with microneedling promotes the production of collagen, elastin and hyaluronic acid.
acid. In fact, studies show that the Profound treatment creates close to five times the elastin, twice the amount of collagen, as well as more hyaluronic acid in a single treatment. Just one Profound treatment is needed to see results. Expect about a week of downtime.

**DO GENES AFFECT FACIAL AGING?**

Yes, but your DNA is just one piece of the puzzle. Sun damage, pollution, alcohol, stress and even habitual facial expressions (smiling, scowling, squinting, and frowning) all cause and worsen the signs of skin aging. Your diet may also affect skin tone and quality.

**WHAT IS THE GREATEST EXTERNAL CAUSE OF AGING SKIN?**

Hands down, sun damage is the greatest threat to your skin. Fully 90 percent of skin aging is caused by exposure to the sun, according to the Skin Cancer Foundation. Protect yourself by wearing a broad-spectrum sunscreen with an SPF of 30 or higher every day.

**CAN I PREVENT FACIAL AGING?**

You are not powerless. You can’t change your genes or your age...yet. But you can hit pause to slow the rate at which your facial skin ages. Individuals who use sunscreen with an SPF of 15 or higher daily show 24 percent less skin aging than those who didn’t, according to the Skin Cancer Society. Don’t smoke, and if you do, quit. Smoking causes wrinkles by damaging your collagen and elastin stores.

You can’t always avoid stress, but you can change how you cope with it. Find something that helps you de-stress and do it every single day, whether yoga, meditation or deep breathing. If you are concerned about skin tone, wrinkles or the overall quality of your skin, talk to your doctor about what else you can do to slow the facial aging process.

For example, the Profound treatment can help you rebuild your collagen, elastin and hyaluronic stores;
replenishing the building blocks of youthful skin from the inside out. The Picoway Resolve laser can brighten skin and help smooth milder wrinkles; and CO₂RE has the ability go deep for more significant wrinkles and folds.

IT’S NOT JUST WRINKLES. AS I AGE, I FEEL LIKE MY SKIN IS DRIER AND I SEE OTHER CHANGES. WHY?

During menopause, the production of the female sex hormones estrogen and progesterone shuts down. This affects everything from your skin and hair to your bones and heart. Your skin becomes dryer and thinner during and after menopause. You may also lose some fat under your skin, and your skin becomes less elastic. This can result in sagging—especially around the neck.

WHY IS MY SKIN GROWING MORE RED WITH AGE?

Millions of people live with rosacea, a skin condition marked by flushing or redness on the cheeks, nose, chin, or forehead that may come and go in response to various triggers. With age, however, your skin may grow more red, even if you don’t have rosacea. As collagen breaks down due to age and sun damage, your blood vessels become wider and are more visible to the naked eye. Early treatment with a laser designed to target blood vessels, such as Vbeam Prim laser system, can erase these blood vessels. The earlier you start treatment, the more efficient it will be. Talk to your doctor today.

With the Vbeam Prima laser energy goes directly to blood vessels, where it destroys them below the skin’s surface, without damaging nearby skin. A series of three to four monthly treatments are usually needed to delete redness. Expect some redness, mild swelling, or puffiness that will last 1–3 days. The laser has a one-of-a-kind dynamic cooling device (DCD™) that differentiates it from competitors. The DCD protects the skin by keeping it cool as the laser energy is delivered to the blood vessels. Candela’s patented DCD is programmed to deliver precise and consistent epidermal protection with each laser pulse.

WHY ARE THERE BLUE VEINS AROUND MY EYES?

The skin beneath the eyes is among the thinnest and most delicate on the entire body, making it a prime spot for fine lines, wrinkles, and dark circles to form. Some people develop blue colored veins around the eye. When skin becomes thinner and less elastic with age, blue veins can be even more prominent. The Vbeam Prima can target and eliminate these veins.

WHAT ABOUT REDNESS AND VISIBLE BLOOD VESSELS?

If you are bothered by the appearance of blood vessels—often called spider veins—on the face, energy-based devices that target these blood vessels can help.

WHAT ARE “AGE SPOTS” REALLY?

Age spots—also called liver spots in lay terms and solar lentigines by doctors—are small dark areas on your skin. They tend to appear in places where you get a lot of sun exposure. These are not cancerous but you may be self-conscious about them—especially those on your face. Treatment with the PicoWay picosecond laser using the new Zoom handpiece can erase these telltale signs of aging, largely by breaking up the pigments that cause age spots. Ask your doctor if the PicoWay treatment can help erase your age spots.

HOW DO ENERGY-BASED DEVICES AFFECT THE SKIN?

The field of energy based devices has grown dramatically over
# YOUR SKIN: A DECADE-BY-DECADE GUIDE

## YOUR TEENS

During the teen years, hormones are raging, which causes increased oil production in the pores and often acne. Facial volume is still ramping up during these years, which is why teens often have chubby cheeks and oval faces.

- **YOUR OPTIONS**
  - Use SPF daily and avoid excess sun exposure to help reduce future skin aging. Keep up the daily SPF habit for your lifetime
  - Vbeam Prima laser system may be used to treat inflammatory acne

## YOUR 20s: Acne Scarring, Dullness, Pigmentation

Your body stops producing elastin in your 20s so your skin starts to lose its spring. Skin may appear duller, due to acne scars and/or environmental effects, such as sun damage.

- **YOUR OPTIONS**
  - Vbeam Prima laser system may be used for any visible vessels or hyperpigmentation
  - PicoWay laser can be used to treat pigmentation, acne scars and address any wrinkles

## YOUR 30s AND 40s: Facial Wrinkles, Dullness, Pigmentation, Vessels

You may experience a decrease in collagen production during these decades, but your underlying facial structure is still sound.

- **YOUR OPTIONS**
  - Vbeam Prima laser system for vessels or hyperpigmentation, diffuse redness, or rosacea
  - PicoWay laser can be used to treat pigmentation; its Resolve handpiece can be used to address wrinkles
  - CO₂RE treatment can improve overall skin quality, from dullness, pigmentation to superficial and deep wrinkles

## YOUR 50s AND 60s: Moderate to deep wrinkling, Sagging, Dullness, Pigmentation, Vessels

Changes occur both under the surface and above the surface during these decades. The facial structures supporting your skin grow weaker, and cumulative exposure to the sun and other environmental stressors cause changes in texture of the skin and wrinkling.

- **YOUR OPTIONS**
  - Vbeam Prima laser system for visible vessels or hyperpigmentation, diffuse redness, or rosacea
  - PicoWay laser and its Resolve handpiece for wrinkles
  - CO₂RE laser can improve overall skin quality, texture, deep wrinkles, and more
  - The Profound treatment for moderate to deep wrinkles

## YOUR 70s, 80s AND BEYOND: Deep wrinkling, Sagging, Dullness, Pigmentation, Vessels

Your skin’s supportive framework continues to atrophy, and fat begins to sag due to gravity. Facial plastic surgery need not be the only answer to younger, smoother-looking skin.

- **YOUR OPTIONS**
  - Vbeam Prima laser system for blood vessels or hyperpigmentation
  - PicoWay Resolve, CO₂RE, or Profound treatments can address wrinkles
the last two decades, and companies like Candela have been at the forefront, leading innovation. Most energy-based devices use light or other forms of energy that are intended to heat a specific target. That heat induces a thermal injury that sometimes destroys the target (such as the hair bulb for laser hair removal, components of blood when treating blood vessels, or even pigmentation in the skin). In other cases, that injury initiates a process of healing and regeneration that can help the skin replace lost stores of components like collagen and elastin. These are the two main proteins that are responsible for the supple, elastic properties most associated with youth.

Newer devices may rely less heavily on thermal (heat) damage and instead use non-thermal energy to generate changes in the skin. Some interventions, like microneedling, physically puncture the skin, creating tiny wounds that signal the natural healing process.

**SOUNDS LIKE SCIENCE FICTION. IS IT SAFE?**
Lasers are the stuff of science fiction. But they have been used in medicine for years. When properly applied and with appropriate safety precautions in place, these treatments are designed to be safe.

**TO THE RESCUE**
- Early treatment of rosacea with a pulsed-dye laser (PDL) such as the Vbeam Prima laser system can make a big difference. The Vbeam Prima laser system is the gold standard PDL; energy goes directly to blood vessels, where it minimizes their appearance, without damaging nearby skin. A series of three to four monthly treatments are usually needed to delete redness. The laser has a contact cooling hand piece that protects the skin.

Your doctor can talk to you about some safety measures that may be required. For example, many energy-based devices require that the doctor and the patient wear protective goggles to protect the eyes from intense laser light.

The efficacy of a given device often relies on the development of specific, controlled skin injury.

**WHAT WILL I FEEL LIKE AFTER?**
Immediately following treatment with CO₂ RE laser, for example, you may feel like you have a sunburn that will last several hours. You can expect peeling in the treatment area. This may last 7-10 days. Common side effects after treatment with PicoWay picosecond laser may include redness, swelling, and tingling that may last for a few hours to a few days after treatment. With the Vbeam Prima laser system, you may experience redness or mild swelling immediately following treatment, but this usually goes away in a few hours. Occasionally a bruise may occur.

**WILL TREATMENT WITH ENERGY-BASED DEVICES HURT?**
You may feel a slight tingling or pinprick sensation with some energy-based skin rejuvenation treatments, such as the Vbeam Prima laser system. Other treatments, such as the CO₂ RE laser, may involve moderate discomfort, but the anesthetic applied prior to the procedure will minimize any pain.

**SHOULD I TALK TO MY DOCTOR ABOUT MY AGING SKIN?**
Absolutely! Your doctor is the expert able to assess your unique needs and make the right recommendations for you. Even if you’re not ready for a procedure now, it can be helpful to better understand your own face and your options!

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6. Profound 510(k) clearance (K160483), September 2016.
7. PicoWay 510(k) clearance for tattoos (K143172), October 2014.
8. PicoWay 510(k) clearance for benign pigmented lesions (K150262), April 2015.
YOU MAY NOT WANT A FACELIFT,

BUT YOU’LL WANT THIS

One treatment. Lasting results.

The Profound® treatment is a single, nonsurgical solution that reduces facial wrinkles and rejuvenates your skin,¹,²,³ for smooth, younger-looking skin, naturally.

Contact your local provider to learn how the Profound treatment can benefit you.

beprofound.com

¹Data on file. Individual results may vary.

³ Naghshineh N. Profound before and after photos. Candela, data on file.

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