

**RADIANCE**





# 7

## Radiance, Youthfulness, and Beauty

*I don't want to look like a Vogue model. I just want to look less tired.*

—Anne Marie, 47, attorney

*I'm in a business where youth matters. It's cutthroat. If I don't look young, clients will think I can't act young. I need to get rid of these lines and bags.*

—Louis, 60, real estate agent

I can't think of the word *radiant* without thinking about *Charlotte's Web*. In that classic children's tale about aging and friendship, this powerful word is used again and again. In fact, I think radiance is the best way to capture what we all strive for in our lives: youthfulness, health, and, as important, inner vitality. It is impossible to separate our quest for vitality from appearing radiant and youthful. While we all recognize that we are on a continual march toward aging and becoming older, increasingly medicine offers us effective detours. Although feeling good on the inside often results in radiance there are still some areas where our "outside" can use extra help.

## ▪ IT'S YOUR CHOICE

Whatever your personal reason for wanting to look younger, be assured of one thing: it is *your* choice. Don't be embarrassed about wanting to improve yourself in some way. Don't let others tell you you don't need a face peel, a face-lift, or a hair transplant if your gut tells you it would make you feel better about yourself. On the other hand, be certain to learn as much as you can about the procedures available and the doctor who will be performing them. It is essential that you do everything you can to develop realistic expectations of what can be achieved.

There are dozens of books and countless magazine articles covering such topics as anti-aging therapies and keeping your skin looking young and fresh. Some books, articles, and television newsmagazine shows are accurate; others are not. Some are promoted by commercial interests (be careful!); others reflect the views of experts. Whatever your source of information, it helps to keep both eyes open. In addition, as you consider ways in which you would like to improve your appearance, it is important to reflect for a moment on self-image: How do you actually see yourself? How do you think others see you? (This is often very different from what you might think.) What is your own threshold for risk? (Any procedure or treatment you decide to pursue has some level of risk, but in most cases the benefits outweigh the risks, or the procedure would not be commonly done.)

## ▪ DO YOU CARE ABOUT LOOKING YOUNGER?

On a typical day how much time do you spend in front of the mirror washing your face, applying makeup or shaving, styling your hair, worrying about a new blemish, line, or wrinkle? No time at all? Half a minute? Five minutes? Half an hour? The time we take caring for our skin is a measure of how important it is to us that our appearance be as good as it can be. Our desire to look good to others is natural and has strong biological roots. The desire to be attractive continues throughout life, long after we've married, had children, and worry no more about dating or finding a mate. Why is this?

How we *view* ourselves affects the way we *feel* about ourselves. And that is especially important because it reflects on how others see us. For this reason we place a special emphasis on appearance. A healthy, attractive appearance tells others we are lively and spirited.

In truth the quest for beauty and youthful appearance is more than skin-deep. There is an internal side of wanting to look good and feel young that is driven by our desire for immortality. While we spend time in front of the mirror every day to improve how we look that particular day, we receive other messages back from that silver-plated sheet of glass, messages about how we are coming along in life and how, in fact, life is moving along.

From the day we are born, we begin to die, biologically speaking at any rate. The processes of growth and dying stand in counterpoint to each other. Aging is what we as organisms experience with the passage of time. While there is a net growth in the number and size of the cells that make up our body, cells die on an ongoing basis and are replaced. As we age and begin to feel the effects of aging, each cell divides a bit less well, like an aching back first thing in the morning. The DNA may not get it quite right and the cell may even make a mistake while it is dividing, leading either to a cell that just dies or, short of that, becomes cancerous. (Cancer is really a disease of aging.)

## ▪ HOW WE AGE

In the early 1960s it was first shown that the cells that make up our bodies actually go through a predictable, controlled process of aging. If cells are grown on a petri dish, they will divide about fifty times—with each division taking a little longer—until division ceases and the cell actually dies. In general, this process in a single cell affects the whole body, since we are those cells.

In the 1970s scientists demonstrated that a small piece of the chromosome called a *telomere* (pronounced TEEL-uh-mir) seemed to change as the cell aged. There is evidence that if one alters the length of the telomere, one can actually modify the aging process of the cell. As you can imagine, this has amazing implications. Although there are many factors involved in physical aging, being able to identify such a critical piece of the puzzle at the DNA level holds much promise for treatments that can affect aging.

In coming years, you will probably read a lot about *telomerase* (pronounced TEEL-ah-mer-ayz). This is an enzyme our cells make to control the length of the telomere. If we can find a way to control the enzyme we can possibly keep cells dividing indefinitely, finally achieving the goal of slowing the aging process. Longevity seems to run in certain families, sug-

## AGING OR MATURITY

I often refer to wrinkles as “lines of maturity.” It always inspires at least a polite chuckle. I use this phrase to emphasize that the lines and furrows we develop over time have not come unearned. Even though we would all prefer to wear such medals and stripes on our epaulets and coats and not our foreheads, there are things we can do about the range of changes that indicate aging.

gesting that aging is genetically controlled. In one experiment, altering just two genes increased the life of the flatworm six to eight times. When you think of the normal life span of a worm (which I am sure you do daily) compared with our own life span, you realize the magnitude of this life extension. (OK, I’ll tell you: it’s equivalent to extending human life to 600 to 700 years.)

Research into the telomere is still in the early stages. Since it seems to time how the cell divides, it will likely prove important in cancer therapy as well as aging. The actual role of telomerase in aging is not yet clear, and further research may yet identify other enzymes or genes that are critical. Nevertheless, the exciting message here is that since the dawn of time we were conceived, born, matured, and died all within a well-defined time period or life span. In the past, we never had a clue about how aging was controlled or predestined. Now we are honing in on ways that the aging of cells is regulated by our chromosomes. When we find a sufficient number of pieces to finish the puzzle, our problem will likely be finding enough food on the planet to feed all the 200-year-old men and women who are golfing, tending gardens, or working the slot machines.

### ▪ COSMETIC SURGERY OR ANTI-AGING THERAPY?

Dermatology is a medical specialty concerned with the health of the skin, the canvas upon which we paint the picture we would like to present to others. In my practice I deal with those skin problems that reflect concerns of aging. These can be called “cosmetics,” “cosmetic surgery,” or “aesthetic surgery”—but this aspect of the practice really is *aging therapy*.

While aging is hardly a disease, in some people it causes *dis-ease*, and

much of medicine addresses the *dis*-ease that we feel as a result of certain physical or psychological circumstances. A good term for this aspect of dermatology, taking a cue from the use of ancient languages to describe terms in medicine, would be kronotherapy (from *kronos*, the Greek word for “time”). I go to the trouble of newly defining this area because I believe that the traditional term of “cosmetic surgery” has gained a cheapened, narcissistic meaning. For example, there are those who contend that only the vain pursue cosmetic surgery and that people with a strong sense of values don’t worry about how they look. I disagree.

It is true that there are many people who don’t put their appearance as a number one priority, but I think we all care about how we look. Taken to the extreme, I think the popular musical *The Phantom of the Opera* would not have been so successful had it not appealed both to our fear of ugliness and our rootedness in deeper values of acceptance.

We all age, but some of us show the signs of aging more than others do. Often this is due to environmental and lifestyle causes (sun exposure, stress, smoking, etc.), but sometimes the tendency to wrinkle is simply in our genes. Aside from treating skin cancer and other “medical” problems, one of the satisfactions of being a dermatologist these days is having so many options for improving human appearance. There are many productive ways that dermatologists, plastic surgeons, and others in the field can contribute to your quality of life and, yes, happiness.

## ▪ LISTENING FOR THE REAL AGENDA

### QUESTIONS TO ASK YOURSELF

1. What feature of my appearance is it that really bothers me?
2. Why don’t I like the way it looks?
3. How would I feel if it disappeared or got better completely?
4. Does it bother me enough to undergo a surgical procedure and take the risk of possible temporary discomfort and scarring?
5. If I don’t change it, how many times a day will I notice it?

Because aging is so complex and how we feel about how we look is a crucible for so many personal issues, I try to listen carefully to patients who come for cosmetic consultations. There are several reasons for this:

1. Any procedure we might do would be purely elective and, by definition, not medically necessary. Therefore the risks we are willing to take are much less than if we were attempting to cure a medical problem on a non-elective basis.
2. Because no procedure is without risk, it is critical to be sure that you really *want* the procedure. There is so much misinformation about anti-aging treatments that some people arrive in my office with hugely incorrect ideas of what procedures involve, including the recuperation period and what can actually be achieved.
3. I have found that just talking about people's cosmetic concerns gives them a new outlook. Occasionally, talking allows the person to be happier without a significant procedure. For instance, a sudden need to look younger can often follow on the heels of a major life change, such as the death of a spouse or divorce. If that is the case in your situation, it is critical that no decisions about surgery be made until you have reached a new level of equanimity or balance in your life. Don't use surgery to fix a problem or concern it can't really improve. Such "proxy surgery" should be avoided.

## ▪ CHANGES IN AGING SKIN

It might not seem so each birthday when you say to yourself, "I can't be *that* old . . ." but one of the great pleasures of life is to age well. Certainly aging well is far superior than growing old and looking old before your time. But before you hop on the operating room table, there are some obvious things you can do to help stay in shape: eat well; don't smoke; if you drink alcohol, drink modestly; keep your weight trim; and get enough rest.

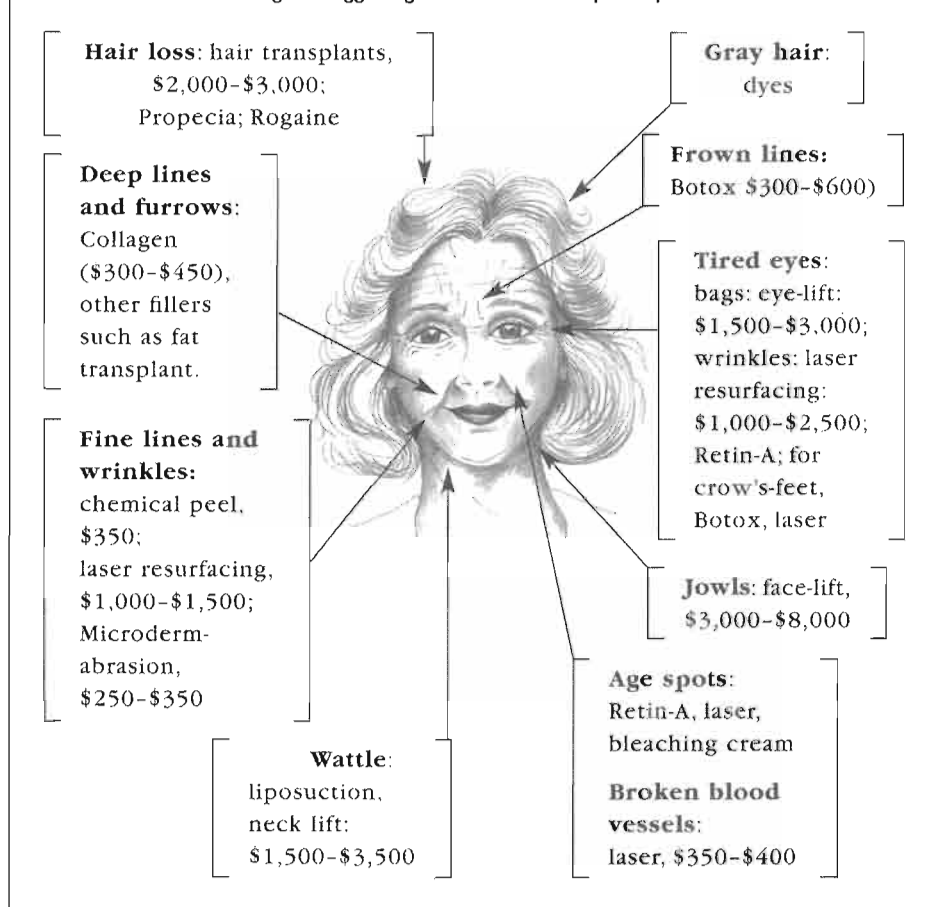
Some of the skin changes associated with aging you can do little, if anything, about. It is important to make the distinction between those intrinsic changes that you can't fight and others over which you have some control. One of the latter is photo-aging, or the effects of exposure to sunlight on your skin. For now, protecting yourself from the sun is still the best policy.

Your oil glands, which keep your skin moist, slow down their activity with age. Thankfully, the increasing dryness of your skin is also something you can have some control over. You can replace the decreased amount of

### MAP OF AGING

For every different problem of aging skin, there is a different possible solution.

This diagram suggests general solutions to specific problems.



natural lubricant with moisturizers. In addition, minimize dryness by avoiding environments that are very dry.

## PROFILE OF A WRINKLE AND WHAT YOU CAN DO ABOUT IT

What keeps our skin taut and smooth is its elastic properties. Elasticity of skin comes from elastin tissue and collagen that make up the dermis (see chapter 4, "Skin, Very Close Up"). As a result of natural

### A MIRROR EXERCISE

To get an idea of the way in which you have aged, try this exercise:

- Get photographs of yourself at three or four stages including high school graduation and now.
- Lay out the photos in front of you and look at them in order, from the youngest to most recent. Study how you've changed. Make a note of how you feel after doing this—e.g., happy, disgusted, saddened, content.
- Next, scramble the pictures and look at them again. How do you feel? To which picture are you most drawn?
- Finally, line the pictures up so you can see them in a mirror. Whom do you see? To which picture are you drawn the most? (Seeing the picture in the mirror reverses your facial features, which are naturally asymmetric. When you view yourself in the mirror you are seeing yourself not as others see you—only as you see yourself.) How do you feel seeing these images?

The odds are that you will be ultimately drawn to the current picture of yourself. That is good. Who we were twenty years ago is a part of us we can relive in our minds but never re-create. This is a key point to remember when it comes to cosmetic surgery and kromotherapy.

aging and because of the damaging effects of ultraviolet radiation, both elastin and collagen deteriorate. When they do, skin becomes less stretchy—more like an old sock that has lost its elasticity and can no longer hug your calves. Your skin begins to develop fine lines, then wrinkles. Jowls are due as much to this change in the skin as they are to the effects of gravity. (Jowls are relatively uncommon among two-toed

sloths that sleep upside down.)

Given what we know about the causes of wrinkles, it makes sense that the best way to improve them is to reconstitute the collagen and elastin tissue

### TWO KINDS OF AGING SKIN

- **Intrinsic:** Natural, or chronological, due to biological changes in the skin cell's DNA.
- **Extrinsic:** External, due to outside causes. The sun is the main culprit here, stimulating a process called photo-aging.

that we grew up with and took for granted. Several approaches have been developed to accomplish this. Some are topical creams, others are surgical. It should also be noted that in addition to the changes in the dermis that result in “weaker” skin, many changes occur in the epidermis—chief among them dryness—that contribute to the appearance of fine lines and wrinkles.

## LINES

Lines are wrinkles’ first cousins. They can first appear as incipient, creaselike indentations around the mouth, which are politely called *laugh lines*. Many people notice delicate creases across the forehead, which are reasonably called *worry lines*. If you are a frowner, you may also find that as you grow older the corners of your mouth may turn down and a crease or two may appear across the chin.

Needless to say, it is far better for your mental health and thus for your skin to collect laugh lines rather than worry lines. We already know that smiling uses approximately half the muscles of the face compared with frowning—certainly a boon for the skin.

Fine, early lines may be softened with a good moisturizer and eliminated for a time with collagen treatments. If shallow enough, they may also be removed by laser or other surgical procedures (see chapter 13, “Medical Lasers”).

## WRINKLES

Wrinkles are a natural part of life’s aging process. In Western culture they are often seen as a cardinal, unavoidable sign of aging. In other cultures, wrinkles are a sign of wisdom. This is well and good, but try convincing someone who is unhappy with their changing skin that it is better to be wise than to have tight skin. A truly wise patient might say: Why can’t I have both?

Be that as it may, not enough of us accept our wrinkles as a sign of hav-

### TOP FIVE SIGNS OF AGING SKIN

1. Fine lines and wrinkles
2. Mottled brown discoloration
3. Broken blood vessels or capillaries
4. Roughness
5. Deep wrinkling

ing lived long enough to know what we're doing and to enjoy life. Until that time comes, we dermatologists will continue to be asked, "Doc, how can I get rid of my wrinkles?"

The simple answer is there is still no magic wand that will re-create the lost skin of your youth. The only way to prevent big-time wrinkling is to avoid sun exposure, and most of us adults have already exposed our skin to far too much sun. What began as your yearly tan has turned into the most common sign of extrinsic aging, photo-aging. Thus, the damage has been done.

What you can do now to reduce further fine lines and wrinkles is to avoid the sun and use a waterproof broad spectrum sunscreen with an SPF of 15 or higher that protects against ultraviolet A radiation (UVA) and ultraviolet B radiation (UVB).

A clinical psychologist recently published an instructive study on attitudes about sun exposure. He found that beach-goers who would not otherwise apply sunscreen were far more likely to do so if they were told it would help them look younger, than if they were told to use it to prevent aging skin or cancer. The lesson, not surprisingly, is that people respond better to positive messages than to threats.

### *SMOKER'S FACE*

Evidence now exists that links smoking to an increase in lines and wrinkles. Most dermatologists would agree that people who smoke appear to have more wrinkles, and that those wrinkles are coarser than the wrin-

#### **HAVE REALISTIC EXPECTATIONS**

To gauge how much of a concern a particular aesthetic problem is, I ask my patients how often they think about it. Some might become aware of the concern only when they catch their reflection in a store window, suffer a moment of disgust, and move on. Others might struggle in front of the mirror every morning with lines that become like lines in the sand: borders of confrontation between their appearance and their psyche. In general, if you have realistic expectations of the outcome of any kronotherapy you will be happy. If you have unrealistic expectations about what surgery can do, you will be unhappy. The trick is for the doctor to talk with the patient and listen carefully to be sure that expectations are realistic.

kles on the skin of a nonsmoker's face. In fact, it's very easy to spot what dermatologists call *smoker's face*. The skin of a chronic smoker's face is crosshatched with crevikelike wrinkles and lines, often giving the cheek a tic-tac-toe look. The skin may also be sallow because of decreased blood flow since chemicals in smoke constrict the blood vessels in the skin (they do the same to the blood vessels in the heart and brain). Another identifying mark of smoker's face is the fine lines that radiate from the upper and lower lip due to perpetual puffing. Clearly, it isn't easy to give up smoking, or more smokers would be successful at quitting. However, if there is one habit worth eliminating from your life, it's smoking. To get help, consult your primary care physician. There are also many groups you can go to for additional support. To find out more, contact the American Cancer Society, American Heart Association, or the American Lung Association.

## ▪ SIGNS OF AGING: FIRST, KNOW THE ENEMY

In order to fix your aging skin problems, it's helpful to first know all the different changes that take place that add up to looking older.

### *ENLARGED PORES*

The medical term for a pore is a *follicular orifice*, but calling a pore a pore is equally acceptable in dermatological circles. Contrary to what many cosmetic companies and beauticians try to make you believe, it is impossible to change the size of your pores, self-stick patches or not. Although a toner, astringent, or mask may tighten pores for a few hours, they will then revert to their normal size.

In some people, large pores are present from youth; in others, they seem to become more prominent with time. Pore size is determined by genetics and age. Genetics determines the size of the sebaceous gland at the side of the pore and the size of the opening. As you age, pores become more noticeable because oils and skin cells accumulate that can plug up the pore and dilate it temporarily.

A common misconception is that the pore fills with dirt because you have not done a good job keeping your face clean. This is not true, so do yourself a favor—put the power washer away and keep the abrasive pads to clean your car.

Large or small, your best choice when it comes to your pores is to

wash your face gently and avoid clogging them additionally with excess creams and potions. Do not pick, squeeze, dig, excavate, or otherwise molest your follicles yourself. A professional facial can go a long way to removing the pore contents temporarily, thus minimizing the appearance of pores.

### *BROKEN CAPILLARIES*

A common change associated with aging is the appearance of tiny capillaries, or broken blood vessels, usually on the face. These fine red lines, which especially plague those with fair skin, appear most frequently on the cheeks and nose. The spidery networks are harmless, except to the self-esteem of those who find them unsightly. In addition, many people with red noses find that friends and acquaintances mistakenly believe that they drink alcohol excessively. Fortunately, it's quite easy to remove them with laser treatments.

### *SKIN TAGS*

“What’s that on my neck?” you may ask yourself with some alarm one morning. The “thing” is a skin tag. These are tiny growths of benign skin that protrude from the body, usually in the neck area and armpit. While unsightly to some, they are not dangerous and can easily be removed during an office visit.

If the tag is black, which can be due to the tag getting strangulated on its little pedicle, have it evaluated by a dermatologist.

### *RED DOTS AND DARK SPOTS*

With age, we develop an abundance of spots and dots, most of which are easily removed for cosmetic reason.

*Cherry hemangiomas* are about 1–2 millimeters in diameter. They are small, red hemangiomas that appear on the trunk, arms, and legs as we get older, first becoming noticeable in our thirties. These spots are not precancerous and can be easily removed with laser or other methods in your dermatologist’s office.

*Seborrheic keratoses* are rough growths that appear on the surface of the skin with the passage of time. I call them “barnacles of life” because they typically have the same stuck-on appearance. These harmless growths are usually scaly, brown, and raised; they may seem warty in

appearance and texture. People sometimes become concerned about them because they can be quite dark, change in some way, or even fall off. When this happens, fear about melanoma can arise. These concerns can quickly be quashed when your dermatologist examines the keratoses. They don't have to be removed, but your dermatologist can easily scrape them off when they become unsightly. They *should not* be excised, or you will get a permanent scar in place of a very superficial "barnacle."

If these growths become irritated, turning red and itchy, your doctor can remove them simply by scraping them off.

### LIVER SPOTS

Also called age spots, liver spots are flat and brown or tan in color. Harmless signs of aging, they usually appear on the hands, face, or other areas that have been continuously exposed to sunlight. Most dermatologists say, "Leave well enough alone," when it comes to liver spots. However, if you are truly bothered by their appearance, such spots can be treated by your doctor with acids, liquid nitrogen, laser, or you may have some success with fade creams.

Occasionally, a "liver spot" may become darker in one area or change in some way. Your dermatologist should evaluate this and a small biopsy might be performed to be sure that it is not an early form of melanoma called *lentigo maligna* (see chapter 22, "Melanoma").

### WATTLES

A wattle is usually defined as a fleshy, vividly colored flap of skin that sags from the neck or head of some birds and lizards. Unfortunately, this indelicate word also serves as a somewhat humorous nickname for similar-looking sagging flaps of skin on the aging human face. The good news is that through advances in cosmetic surgery no one need suffer with a wattle. In most cases, a procedure to tighten up the muscle of the neck or liposuction can improve the appearance of these folds, which are due to gravity and loss of skin elasticity.

### SAGGING JOWLS

Sagging jowls result from a combination of the effects of gravity and the natural breakdown in the elastin tissue of the skin that occurs over time.

A face-lift performed by a competent cosmetic surgeon—one who performs the procedure frequently—is still the only way to fight these signs of gravity and failing elasticity in the skin.

### HAIR LOSS

Hair loss is a cardinal sign of aging. See chapter 14, “Hair,” to learn more about what you can do.

### VARICOSE VEINS

As we travel the journey of life, gravity and the fact that we walk upright conspire to give us road maps on our legs in the form of varicose veins. For details on how these can be treated, see chapter 17, “Veins or Vanity.”

### FEET

*Corns* and *calluses* are the painful results of not paying enough attention to the feet. These irritating culprits are caused by prolonged and persistent pressure and friction on the skin of the toes or bottom of the feet.

Corns and calluses are both hyperkeratoses, or thickened areas of skin. A corn is usually round or cone-shaped, with a tip that points into

#### CARING FOR DRIER SKIN

Once you hit forty, a major challenge is protecting your skin from dryness. Dry skin accentuates wrinkled skin, and no person I've ever treated has wanted to speed up that process. Here are some tips:

- **Avoid the sun.**
- If you must be in the sun, use a broad-spectrum sunscreen of SPF 15 or more.
- Quit smoking, if you haven't already.
- Do not use soap. Find a nonsoap cleanser.
- Remember to pay attention to all parts of your body, not just your face, when it comes to dry skin. Use your moisturizer on your arms (particularly drying elbows), legs (the calves of aging legs often grow scaly in winter), feet, and anywhere else on the body where dry patches of skin have developed.
- Take baths in a natural bath oil to moisturize the entire body.

the skin. This point digs into your skin like a pebble, making the corn extremely painful. Corns are found on the outside of your toes most frequently, but soft corns may be found between your toes, and seed corns may appear in clusters on the bottoms of your feet. Calluses are skin thickenings that form over bone protrusions, such as the ball of your big toe.

Both of these conditions can be caused by abnormalities in your gait or abnormalities of bones. For example, people with a hammertoe—one that is permanently bent upward in a flexed position—are especially prone to corns in the affected area. By and large, most corns and calluses are caused by wearing shoes that don't fit well.

Ill-fitting shoes are most likely to pinch the last two toes. While women often develop corns or calluses on these last two toes due to wearing high heels, men can develop the same condition, though in their case it's often because they tend not to change their shoes as often as women do. To avoid pressure and friction on your toes, you should wear a shoe that gives your toes room and has a low or flat heel, so that your toes are not constantly being pinched and pressed forward. You should also have more than one comfortable pair of shoes in your closet, so you won't have to wear the same pair every day.

For temporary relief, soak your feet in warm water until the corn or callus has softened. Then use a pumice stone to gently wear away the dead skin and shrink the corn or callus. Avoid razors, scissors, or "callus parers," and don't try a medically treated pad, unless your doctor advises you to. If your corns or calluses are extremely bothersome, consult your dermatologist or podiatrist. You may benefit from orthotics, which are custom-made insoles designed especially to accommodate the shape of your feet. In some cases, surgery may also be necessary. In general, pedicures are an effective way of keeping the skin and nails of your feet in good shape.

## ▪ TURNING BACK THE LINES

A wide range of exciting techniques is available to remove lines and wrinkles. Each works in a slightly different way with a different risk profile. Chemical peels, soft tissue filler substances, laser, and topical Retin-A are the most reliable ways of improving fine lines and wrinkles. Some of these procedures, such as peels, are simpler than conventional wisdom would have it. Others, like laser, can be more complicated, with more post-operative care and higher

risk than the media portray. Let's take a look at the more common procedures used to decrease or remove fine lines and wrinkles.

## *CHEMICAL PEELS*

Carpenters and people who know fine furniture appreciate how the gentle removal of the surface of a piece of rough wood can transform it into a smooth, attractive piece of material. The same can be said of raw gemstones and marble. In fact, any material with imperfections can benefit from gentle smoothing or buffing. In a sense this is what a chemical peel, also called *chemexfoliation*, does for the skin.

The top layer of skin, the epidermis, is continually renewing itself; it sheds dead skin daily. This sloughing of dead skin cells has absolutely no effect on the development of fine lines and wrinkles or on the development of actinic keratoses, which are sun-induced precancers. However, the buildup of dead skin can leave a "less healthy" appearance to the skin in the opinion of some. A chemical peel can be used to remove this top dead layer of skin to rejuvenate the appearance of the skin. Depending on the depth of the peel, new collagen production can be stimulated.

There are several types of chemical peels, categorized by how deeply the chemical used penetrates the skin. You can think of a chemical peel as causing controlled levels of destruction in the skin. With the deeper chemical peels, you are in fact causing a mild and controlled chemical burn. The three main varieties of chemical peel are superficial, medium-depth, and deep.

A superficial chemical peel simply removes the very top layer of the epidermis. It causes no permanent changes, although as I've mentioned, it will improve the appearance of the skin. A medium-depth chemical peel removes epidermis and affects the dermis, the middle layer of the skin. Deep chemical peels extend deeper into the dermis. The risk of scarring relates directly to how deep the peel is. In general, the risk of scarring is low with superficial and medium-depth peels.

## *SUPERFICIAL CHEMICAL PEEL*

Superficial chemical peels are also called "freshening peels" by some. A variety of different acids are used. The goal here is to remove the top, dead layer of the epidermis leaving the skin with a fresher appearance.

Superficial peels generally result in the feeling and appearance of a few hours in the sun. In fact, when undergoing a superficial chemical peel, no type of sedation or local anesthetic are required. Some facialists perform peels that may be considered superficial, but your dermatologist will use acids that are stronger and may be of more benefit if you want to be more aggressive in your treatment.

After the acid is applied to the skin, a light white frost briefly develops. A mild amount of stinging resolves quickly on its own.

**QUEEN OF THE NILE:  
TALK ABOUT SUN DAMAGE!**

Cleopatra is said to have had chemical peels done with milk that contained various amounts of lactic acid, a form of the popular class of "anti-aging" creams called alpha-hydroxy acids.

**MEDIUM-DEPTH PEEL**

The medium-depth chemical peel is performed much like the superficial peel. The main difference is that after preparation of the skin with a degreaser such as acetone and application of a solution to remove the horny cells on the surface of the skin (Jessner's solution), trichloroacetic acid 35% (or a similar

**LASER OR PEELS: WHAT DO I NEED?**

The choice of treatment that is best for you depends on several factors: the depth of the lines or wrinkles, your skin type, your tendency to scar, your doctor's expertise, and your risk threshold.

In general, chemical peels will eliminate superficial changes in the epidermis but *will do nothing to deeper lines*. To eliminate these, actual destruction of dermis is necessary, so that new collagen will form. Laser resurfacing is the best choice here. A new technique called *coblation* may also be helpful.

Superficial and medium-depth peels cannot help scarring, such as that related to acne, because they do not penetrate deep enough to alter the dermis or scar tissue.

agent, depending on the choice of your doctor) is applied with a cotton tip applicator. After application of the trichloroacetic acid, the skin surface frosts lightly. Ice packs are applied during the procedure to cool down the heat and stinging associated with the action of the peeling chemical. The white frost usually fades within two hours. The irritation and scaling that develops in the skin peaks between five and seven days after treatment, but residual redness may remain for up to two weeks. Approximately one week after the treatment, the peeling skin resembles the peeling that occurs after a sunburn.

The medium peel is the type that I perform most often. A series of four or five of them, spaced six to eight weeks apart, results in visible rejuvenation of the skin that can last for some time. It is an excellent way to smooth sun-damaged skin, making it less mottled and fresher looking, and it may even decrease the number of precancerous growths that might be present. My approach with chemical peels is “easy does it.” I’d rather do five peels over time with relatively low risk than do one deep peel that could result in harmful effects.

### *DEEP PEEL*

Deep chemical peels are usually performed using a chemical called *phenol*. While this type of peel can remove some of the deepest wrinkles on the skin, phenol can be potentially toxic to the heart. Therefore small areas of the face are done sequentially while the patient is sedated and monitored with a heart monitor.

Although a deep peel reduces the deep wrinkles there is an accompanying risk of scarring. This peel is not suitable for dark-skinned individuals, because when the epidermis regenerates, it is often lighter than the skin it replaces. These peels are less commonly performed these days because of the advent of laser resurfacing although there are skilled dermatologists who still prefer this approach.

### *PEEL RISKS*

A chemical peel is no different than any other surgical procedure in that there can be side effects and no guarantee can be made about the final outcome. There is always the risk of scarring, increased or decreased pigmentation, and the possibility that you will not be satisfied with the result. Redness can persist for months. A chemical peel can induce an outbreak of cold sores, so if you are susceptible tell your doctor; he or she will typi-

cally put you on an antiviral medication just before the peel to help prevent an outbreak of cold sores. Some people get an impetigo-like infection after a peel, which can be treated with antibiotics.

### *THE LUNCHTIME PEEL*

Recently, a new technique to smooth the top surface of the skin has become popular, promoted under names such as Powerpeel, Parisian Peel, DermaPeel, and UltraPeel; it is generally known as the micropeel or micro-dermabrasion. In this technique, minute crystals of aluminum oxide, like tiny beads of sand, are sprayed over the skin at regulated pressure—in a sense, the top surface of the skin is sanded off. No anesthesia is required and these peels have a low incidence of side effects. Unlike laser or chemical peels, the after-effects are such that one could actually have the procedure done at lunchtime and go back to work. The only immediate effect that is noticeable for several hours is slight reddening of the skin. The procedure, which is very gentle, may be repeated as often as necessary to maintain the benefit.

There is no doubt that people who undergo the procedure feel that their skin is smoother after the session. Without changes in the collagen, however, it is unlikely that any lasting benefit will accrue. The micropeel is more aggressive than home treatment with alpha-hydroxy acids and less aggressive than a traditional chemical peel.

Different techniques to rejuvenate the surface of the skin vary in effectiveness and risk. In general, the more effective a technique, the more risk.

## ▪ HOW TO TREAT DEEP LINES AND WRINKLES

Chemical peels and micro-dermabrasion are helpful to control or remove very fine lines. Deeper lines and wrinkles are more of a challenge.

The idea that we can fill out a depression or puff up a crease has captivated dermatologists for generations. If you can put back what's been lost, you should be able to smooth out the skin and restore it to its youthful luster. Because the skin is accessible, either by needle injection or minor incisional surgery, we have long sought the ideal material to make up for the shriveled elastin tissue and collagen that wanes with age.

The first attempt at using an injectable material for cosmetic purposes was performed in 1899 with paraffin. Soon after its initial use, it was discovered that paraffin caused a number of problems, including the forma-

### FIVE EASY THINGS YOU CAN DO TO LOOK RADIANT

1. Practice aggressive sun protection.
2. Use Retin-A for fine lines and irregular skin surface.
3. Wash gently only once a day with a nonsoap cleanser.
4. Use makeup in moderation.
5. Regarding product claims, remember: If it sounds too good to be true, it probably is.

tion of lumps known as granulomas. The problems were significant enough that paraffin was no longer used after the 1960s. These days many other agents and techniques are used for filling in the depressions or contouring the defects that are a result of the aging of the skin.

### MICRO-LIPOINJECTION

Micro-lipoinjection is the transfer of fat from one area of your body to another. The fat can be harvested during liposuction, or it can be extracted with a syringe from any site in order to reinject into another area.

Micro-lipoinjection is frequently used to fill in the groove that runs from the nose to the corners of the mouth. Filling in this *nasolabial* fold, which over time tends to sag, can have an impressive effect on making you look fresher and less tired.

Other popular sites for this procedure are the lines at the corner of the mouth, depressions on the cheeks, and the backs of the hands which gradually lose fat over time. The transplanted fat seems to last longest in areas with the least movement—for instance, hollows that some people have on their cheeks will retain the fat longer than will the lines around the mouth.

Complications are rare but include infection (hematoma or black-and-blue mark) and swelling. Keep in mind that multiple treatments may be required to obtain any type of long-term result.

### DERMAL GRAFTING

The middle layer of the skin, the thick and tough dermis, provides such strength that certain contour defects can be treated with dermal grafting. This procedure may be used for furrows or certain acne scars.

Dermal tissue to be used in grafts is typically harvested from behind the ear. The tissue is then used where needed, much like a skin graft

would be; the key difference is that it is placed *under* the surface of the skin for purposes of filling out a defect. For example, a scar such as an acne crater would be anesthetized and prepared to receive the graft by creating a small pocket. The dermal graft is inserted in the pocket, pushing the tissue above its previous level.

After dermal grafting, people should expect to have some bruising, crusting, and swelling. Some mild to moderate pain can also be expected, but this should be easily controlled with various pain medications. More than one session is typically required. The first procedure corrects from 40 percent to 70 percent of the defect on average, but after two sessions, the majority of patients are usually fully corrected. If any settling of the grafts is to occur, it typically happens between one and six months following the procedure. Acne scars and smaller folds or wrinkles seem to respond with the best results. Grafts last up to five years. Newer alternatives have made this procedure less common.

### *INJECTABLE BOVINE COLLAGEN*

Collagen collected from cows is probably the most widely used injectable form of the substance. (Yes, that's *bovine* as in cow.) One of the common uses of injectable bovine collagen now is augmentation of the lips to give them a fuller, more sensuous appearance. Perhaps you never realized that leather is made almost completely of collagen. An anti-aging product containing bovine collagen was first used in the United States in 1977 and approved by the FDA in 1981 as the first soft tissue filler device. The collagen is derived from the hides of a specially raised American herd of cattle that does not intermingle with other cattle and cannot acquire veterinary infections. The cowhide undergoes many steps to purify and sterilize it. Bovine collagen is marketed under the trade name Zyderm and Zyplast.

Approximately 3 percent of individuals are allergic to this product. If you and your doctor are considering using bovine collagen to fix wrinkles or other skin defects, it is best to do two skin tests on the forearm, spaced four to six weeks apart. If you don't react to the collagen, then it means you can proceed safely.

The treatment itself involves no anesthetic. You usually sit in an upright position, so that the natural folds of the face may be seen. In general, 30 percent of people report an eighteen-month period of correction, while the other 70 percent require touch-up treatments at intervals of every three to twelve months.

Adverse reactions to bovine collagen can include redness for several hours and bruising that can last up to seven days. Rarer complications are very small needle marks, infection, superficial white marks, and swelling. Only 1 in 10,000 patients develops problems away from the site of injection. These may include joint or muscle aches. Less than 1 in 1,000 patients will have local reactions at the site resulting in a small scar.

If you are not comfortable using materials derived from cows, there are currently at least two forms of human collagen available for injection. In addition, other connective tissue, called *fascia*, is available commercially.

### *USING YOUR OWN COLLAGEN*

In a new technique, your own collagen is harvested, grown, and then reintroduced into areas that need to be filled. The dermatologist removes a small specimen of skin 3 millimeters across from behind your ear. This piece of tissue is sent to a commercial laboratory where your cells are multiplied in a culture or test tube. Once the specimen has expanded, it contains a concentrated dose of your own collagen. The company returns it to your physician to inject into the area to be treated. Because the collagen is from your own tissue there have been no reported allergic reactions to it. No infections or scarring have been reported either. Another product uses collagen fibers obtained from skin bank tissue.

### *GORE-TEX: NOT JUST FOR YOUR PARKA*

Expanded polytetrafluorethylene (ePTFE), commonly known by the trade name Gore-Tex, is an inert substance that is tolerated by human tissue. It has been used for grafting blood vessels together and repairing hernias.

In the cosmetic realm, the most common use for these ePTFE grafts is in blunting the nasolabial fold and augmenting the lip lines. In a simple procedure small slit incisions are made at both ends of the area to be augmented. A strip of ePTFE is threaded through from one end to the other and then clipped at both ends. Both small openings are closed with one stitch.

Mild redness can be seen at the entry and exit points for several weeks, but this will fade, and infection and extrusion of the implants are rare. Because ePTFE is permanent, it is expected that the cosmetic results will also be permanent.

## **BOTULISM: THE FRIENDLY POISON**

Despite the fact that botulism is a much feared toxin, it has important medical uses. Botulinum toxin, the product of an especially dangerous form of bacteria, acts by blocking the action of a certain chemical and its receptor in a muscle, so that a muscle is paralyzed. This effect has been exploited for beneficial results in krontotherapy.

The motion of facial muscles creates unflattering lines on our faces. The frown lines on our lower foreheads and between the eyebrows, as well as the crow's-feet alongside both eyes, are caused—and then made worse—by overaction of muscles. Injection of *very small amounts* of botulinum toxin will paralyze muscles within two to three days. The maximum amount of paralysis is reached about one to two weeks after injection, when the injected muscle fibers have shrunk in size as a result of not being used. Reduction in wrinkles lasting up to twelve months has been noted in several studies. However, retreatment is usually required in three to six months to maintain the effect.

Complications of injecting around the eyes may include a temporary droop of the eyelid. With injection into horizontal forehead lines, several patients have commented that their eyebrows have drooped slightly or that their forehead felt heavy. When treating the frown line between the eyebrows, complications are uncommon but have included a little droop of the upper eyelid. The droop will happen one to two weeks after injection if some of the botulinum toxin migrates into that area. The droop lasts anywhere from two to four weeks and occurs in approximately 2 to 3 percent of people.

Botox, the brand name for commonly used botulinum toxin, has also proven helpful in controlling excessive sweating of the armpits and palms. The toxin paralyzes the sweat gland unit in the skin. Botox treatment is safe and can be easily administered by your physician. Just keep in mind that repeat treatments will be needed.

### THE HOME FACIAL REJUVENATION PROGRAM

To smooth the surface of the skin and get a refreshed look follow these easy steps:

1. Wear sunscreen daily and practice good sun-safe habits.
2. Moisturize daily with moisturizer that will not cause pimples (non-comedogenic).
3. Wash your face with tap water and nonsoap cleanser once a day.
4. At night, apply Retin-A in one of its forms (I prefer the form Retin-A Micro) as follows:
  - a. Rinse your face with tap water and pat dry.
  - b. Apply a small pea-sized amount of Retin-A to each of the regions of your face:
    - right and left forehead
    - right and left cheek
    - right and left area around the eyes (avoid contact with the eye itself)
    - chin
    - upper lip and lower lip
    - jaw region
  - c. Massage in well.
  - d. When starting Retin-A treatment, begin with this application schedule:
    - two nights per week for two weeks
    - three nights per week for one week
    - five nights per week for one week
    - nightly thereafter

If redness, peeling, or irritation develops, discontinue use. Be sure to apply moisturizer. After skin has settled down, consider starting again more gradually if your dermatologist advises.