Smoothing facial wrinkles

Resurfacing your skin

You’ve heard them called “lines of distinction,” but to you they’re just face wrinkles. And you’re none too fond of them, nor the other blemishes you see. Can something be done to make them go away?

Maybe not completely, but resurfacing the skin can help. This involves removing one or more layers of skin that have wrinkles, spots or other blemishes. When the skin grows back, it may be tighter and smoother. Spots or wrinkles may diminish, or in some cases they may go away altogether.

Most resurfacing choices involve trade-offs. Generally, milder therapies produce more-modest results with minimal risk and discomfort. Harsher therapies produce more-pronounced and longer lasting benefits, but with greater risk, discomfort and recovery time. Fortunately, new technologies and techniques that are less harsh but still deliver good wrinkle-erasing results are starting to change this equation.

Whether a wrinkle treatment option is worth the effort and expense — which isn’t typically covered by health insurance — is entirely up to you and how you feel about your appearance.

Incurring damage

Of the skin’s three main layers, the middle layer (dermis) is the thickest and most important in terms of aging. The
dermis contains fibrous connective tissues called collagen and elastin that give skin its strength and elasticity. Thinning and breakdown of collagen and elastin contribute significantly to the aged appearance of skin.

Wrinkles and sun spots are commonly the result of exposure to sunlight, which breaks down collagen and elastin. That’s why the face, tops of the hands and forearms are typically the areas that show the most signs of aging. In addition, the fairer your skin, the more rapidly sun exposure leads to skin changes.

Aging also diminishes the body’s ability to replenish collagen, and normal facial movements over time often lead to wrinkle development. The damage that smoking causes to your skin can greatly accelerate the appearance of aging. Scars caused by acne, chickenpox or injuries can also leave blemishes.

### Diminishing wrinkles

Skin resurfacing is often done with one or a combination of the following:

- **Non-wounding (nonablative) laser resurfacing** — This doesn’t damage the outer layer of skin (epidermis), but heat energy from the laser damages collagen beneath your skin and stimulates the growth of new collagen, tightening underlying skin and improving skin tone and appearance. Over a series of treatments, improvements in skin texture and pigment gradually emerge.

- **Wounding (ablative) laser resurfacing** — With this, a laser destroys the epidermis and heats the dermis, leading to collagen destruction and subsequent regrowth. You’ll have a wound after this surgery. As the wound heals, new smoother and tighter skin forms. Ablative laser resurfacing can be harsh, but results are often dramatic and may last for many years.

- **Fractional laser resurfacing** — This new technique may use the same lasers as are used in ablative and nonablative laser resurfacing, but instead of fully destroying a broad area of skin, the epidermis and dermis are destroyed in thin, tightly spaced columns. The remaining columns of healthy tissue help speed healing of the epidermis within the columns of destroyed tissue. If an ablative fractional laser is used, collagen is damaged and new growth of colla-

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<th>Procedure</th>
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<td>Nonablative laser</td>
<td>A topical skin-numbing agent may be used, or nothing may be needed.</td>
<td>Your skin might be temporarily red and swollen. A chemical peel may leave skin irritated. You may be able to resume normal activities immediately, although skin healing may take a few days after a chemical peel.</td>
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<td>Mild chemical peel</td>
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<td>Fractional ablative laser resurfacing</td>
<td>This is done in a surgical facility. The area to be treated is numbed and a sedative or anesthesia may be used.</td>
<td>Skin may sting and be red, tight and swollen. As swelling decreases, treated skin will begin to form a crust. You may want to stay home for up to 10 days as skin heals. With the peel, redness might last for month, but can be covered with makeup.</td>
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<td>Medium chemical peel</td>
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<tr>
<td>Ablative laser</td>
<td>This is done in a surgical facility. The area to be treated is numbed, and sedatives or anesthesia may be offered. Anesthesia is sometimes used.</td>
<td>For a few days, treated skin will be raw, swollen, itchy and painful. Yellowish liquid will ooze from treated areas and may form crusts (scabs). Depending on the extent of the procedure, it may take a week or two before skin heals enough for you to be comfortable in public. Facial redness may last for several months, but can be covered with makeup.</td>
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<td>Deep chemical peel</td>
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gen is stimulated. Desired results of skin improvement are often nearly as good as with nonfractional ablative resurfacing, but it may take several treatments to reach that level.

- **Chemical peel** — This involves placing a chemical on the skin to destroy the top layers. A light chemical peel removes only the epidermis. You may need several peels to improve fine wrinkles, acne, uneven skin tone or dryness.

Medium to deep chemical peels remove the epidermis and some or most of the dermis. The harshness of the procedure usually correlates to the depth of treatment. Depth of treatment also usually matches results, with deep peels conferring the most dramatic, long-lasting results.

- **Dermabrasion** — This involves using a small, motorized device with an abrasive wheel or brush to remove the outer layers of skin. When skin heals and grows back, it’s usually smoother and younger looking.

**Not for everyone**

Facial resurfacing isn’t simple or risk-free. Your doctor will likely do a review of your medical history and a physical exam to make sure you’re healthy enough for the procedure. Heart disease, diabetes and many other medical issues may make facial resurfacing much riskier.

There are many factors that may rule out facial resurfacing as an option. These include having taken the acne medication isotretinoin (Amnesteem, Claravis, others) in the recent past, active acne or facial warts, having a history of scar tissue overgrowth (keloids), or a history of radiation therapy to your face.

If you’re a candidate for facial resurfacing, it’s important to consider the risks. They include:

- **Scarring** — Rarely, this may occur.

- **Changes in skin color** — Skin may become darker than normal (hyperpigmentation) or lighter than normal (hypopigmentation). Changes in skin color are more common in people who have darker skin and can be permanent. Persistent redness of the skin also may be a problem.

  - **Acne** — Acne may develop as treated skin heals, due to previous acne or the use of bandages and thick creams on healing and newly formed skin.

  - **Infection** — Bacterial, fungal or viral infections may occur. The most common is a flare-up of the herpes virus — the virus that causes cold sores.

  - **Heart, kidney or liver damage** — A deep chemical peel uses carbolic acid (phenol), which can harm heart muscle, the kidneys and the liver. To limit exposure to phenol, a deep chemical peel is done in portions at 10- to 20-minute intervals.

Your attitude and expectations also are important. Make sure you understand how many treatments you might need, how long it’ll take to heal and what your results might be. You’re also more likely to be satisfied with results if you are happy with yourself overall and are seeking cosmetic surgery to improve your appearance in a realistic way.

If you decide to proceed with skin resurfacing, you might need to take a number of preparatory steps. These include taking an antiviral or antibacterial medication to prevent infection, applying a retinoid skin cream to help prepare the skin, stopping certain medications such as drugs to prevent blood clots. If you smoke, stop. Smoking can interfere with healing.

**Doesn’t last forever**

Results of facial resurfacing may not be permanent. As you age, you’ll continue to acquire lines by squinting and smirking. In addition, sun exposure can damage and age skin after facial resurfacing, just as easily as it can in anyone. In fact, with laser resurfacing and chemical peels, you’ll need to avoid unprotected sun exposure for at least a year, or perhaps permanently, to prevent irregular pigmentation. Limit the time you spend in the sun and always wear protective clothing and hats. Also, use sunscreen on exposed skin, even in winter and on cloudy days.

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**Health tips**

**Choosing wrinkle creams**

The range of anti-wrinkle products is overwhelming. Some may slightly improve skin appearance if used continuously over time. Separate reality from hype by:

- **Looking for retinol or alpha hydroxy acid as ingredients** — Only a handful of active ingredients have been shown to diminish wrinkles. One is retinol, a vitamin A antioxidant compound that helps prevent skin cell breakdown and may also promote production of collagen, which gives skin its fullness.

  Alpha hydroxy acid is an ingredient that helps remove the upper layer of old, dead skin and stimulate growth of smooth, evenly pigmented skin. Nonprescription wrinkle creams contain lower concentrations of active ingredients than do prescription creams.

- **Considering antioxidants** — Many ingredients in wrinkle creams are related to antioxidant activity. Comprehensive research hasn’t been done on most of these ingredients. However, along with sunscreen, a morning application of a product containing antioxidants may provide some protection from sun damage.

- **Separating cost from effectiveness** — Regardless of cost, the most effective nonprescription skin care routine is to use sunscreen during the day and a moisturizer at night or after bathing.

- **Being leery of marketing claims** — Phrases such as “all natural” and “clinically proven” generally are misleading marketing ploys. The most you can expect is mild improvement in fine wrinkles.
Gut microflora

The secret life of bacteria

People generally associate bacteria with problems such as illness or infection. While bacteria do cause many health concerns, they also play a very significant role in supporting your health.

The body is home to a vast number of microorganisms — including bacteria — that coexist peacefully and constructively with their human host under normal circumstances. These bugs are collectively known by several names, including microbiota, microflora and microbiome. They’re found on skin, in the respiratory system, and in the gastrointestinal and urinary tracts.

The largest number of bacteria by far resides in the gastrointestinal tract. Considerable research is focused on understanding the relationship gut microflora have in maintaining health and what may jeopardize that balance, possibly leading to illness.

Gut-level facts

Microorganisms get the shelter and materials they need from your body. In exchange, they create a healthy environment to protect you from illness and help with food digestion.

Nowhere is there more action than in your gastrointestinal tract. The sheer surface area of the human gut is about the same as that of a tennis court. Here, more than 500 different types of bacteria work to support normal digestion.

Gut microflora evolve in response to things such as diet, aging, geographical location and environmental factors, including infections and use of antibiotics.

The digestive work of gut microflora helps produce several B vitamins, vitamin K, folate and certain fatty acids. In addition, the byproducts of bacterial interactions help supply up to 10 percent of your daily energy needs. Bac-
teria residing in your gastrointestinal tract also play a critical role in normal immune system development.

Generally, the give-and-take relationship between gut microflora and human host remains balanced, with this being associated with good health. The mix includes mostly good bugs that keep infections in check. However, disruptions to the balance of good and bad bacteria levels and the body’s reaction can result in illness or disease.

**Keeping balance**

If you’ve ever had bowel changes while taking or after taking an antibiotic, you’re not alone. As many as 30 percent of people who take an antibiotic encounter signs such as diarrhea. Antibiotic-associated diarrhea is due to an imbalance in gut microflora.

Probiotics are foods or dietary supplements that contain “good” bacteria or certain types of yeasts intended to provide health benefits. Probiotics may help counter that imbalance. Some studies have shown a significant reduction in the risk of antibiotic-associated diarrhea with use of probiotics.

Prebiotics are nondigestible substances that act as food for probiotics. When combined, prebiotics and probiotics form a symbiotic product. Fermented dairy products, such as live active-culture yogurt and kefir, are considered symbiotic — they contain live bacteria and the fuel bacteria need to thrive.

The potential value of probiotics in managing gut microbiota imbalances is an area of great interest among scientists. Consumer enthusiasm for probiotics also is high. Probiotic products are widely marketed as dietary supplements and are found in dairy foods with live active cultures. However, consumer enthusiasm often exceeds scientific knowledge about the safety and actual effect of probiotics.

The use of probiotics is an evolving area with many unanswered questions. Evidence supports probiotic use as a possible added therapy for certain bowel disorders, including irritable bowel syndrome (IBS), ulcerative colitis and pouchitis — a complication that may occur after surgery to remove the colon due to ulcerative colitis. Work with your doctor to determine whether prescribed probiotic therapy may help manage one of these conditions.

In addition, Dannon’s yogurt product Activia has been associated with some positive results for people with IBS, but only in a limited number of studies. There are well-controlled studies with strong evidence that Dannon’s DanActive yogurt drink may help prevent antibiotic-associated diarrhea.

However, probiotics may not help in all situations. A German study published in 2008 found that probiotics given to people with acute pancreatitis actually increased their risk of death from overwhelming infection.

**Microbiome therapy**

Among gut bacteria disrupters, *Clostridium difficile* (*C. difficile*) is a major concern. *C. difficile* is a bacterium that can cause symptoms ranging from diarrhea to life-threatening inflammation of the colon. *C. difficile* infections are becoming more frequent, severe and difficult to treat.

Most commonly, these infections affect older adults in hospitals or long-term care facilities after use of antibiotics. However, in recent years even otherwise healthy people who aren’t hospitalized or taking antibiotics have been sickened by *C. difficile*.

Antibiotics are typically used to treat *C. difficile*. Recurrences are fairly common. An alternative treatment for these recurrent infections involves transplanting fecal material from a healthy donor to the infected person’s colon (fecal microbiota transplantation, or FMT).

The intent is to introduce good bacteria found in healthy fecal material that can then repopulate and restore balance to the infected person’s gut microbiota. One review of studies found an overall success rate of 92 percent.

FMT is performed at Mayo Clinic in situations where *C. difficile* recurs despite antibiotic treatment or where symptoms of moderate to severe *C. difficile* diarrhea don’t improve after five to seven days of antibiotic therapy.

A review of studies published in late 2012 in the *Annals of Internal Medicine* indicates probiotics may offer protection against *C. difficile*. Based on their findings, the authors say there’s little reason not to encourage people at risk of *C. difficile* infection to use probiotics when prescribed antibiotics. Still, infection prevention and control, including hand hygiene, remains the cornerstone for prevention of *C. difficile* infection.

**Balance and disease**

Research is ongoing to understand how gut microflora might influence health changes and disease development. Among areas of interest are:

- Gut microflora changes as they relate to obesity
- Diet and gut microflora changes that may influence celiac disease
- Inflammatory bowel disease — namely, ulcerative colitis and Crohn’s disease — that may arise with altered gut microflora, which includes a less diverse than normal group of bacteria
- Gut microflora byproducts that may affect liver function and contribute to development of nonalcoholic fatty liver disease
- Dietary fat and byproducts of gut microflora that may contribute to atherosclerosis
- Gut microflora as a factor in regulating the nervous system
- A possible association between gut microflora changes and autism
- Autoimmune disorders, such as type 1 diabetes, multiple sclerosis and rheumatoid arthritis, and regulation of the immune system by gut microflora

Pain drugs and heart attack

What’s your risk?

Anti-inflammatory drugs are among the most widely used medications — particularly in older adults who experience pain and discomfort of muscles or joints. These are called nonsteroidal anti-inflammatory drugs (NSAIDs) and include celecoxib (Celebrex), diclofenac (Voltaren), ibuprofen (Advil, Motrin IB, others) and naproxen (Aleve).

You may know about some risks associated with these drugs, such as stomach ulcers and bleeding or kidney problems. However, another important downside of these drugs is that they may increase your risk of cardiovascular problems such as heart attack and stroke.

For those without a history of cardiovascular disease, most common types of pain medications are generally quite safe if taken at or below recommended doses for short periods. But the risk of cardiovascular problems may begin to climb as you take NSAIDs over longer periods or at higher doses.

NSAIDs appear to provide the largest benefit if you have heart problems. With some NSAIDs, your risk of heart attack may rise within days after you start taking them if you have heart problems.

Not created equal

NSAIDs relieve pain primarily by blocking molecules called prostaglandins formed by one of two cyclooxygenase (COX) enzymes. The COX enzymes are:

- **COX-1** — Among many functions, prostaglandins produced by this enzyme help regulate kidney function and are involved with inflammation and triggering pain. They also may counterbalance other substances that have a tendency to form blood clots.

- **COX-2** — Prostaglandins produced by this enzyme help regulate kidney function and are involved with inflammation and triggering pain. They also may counterbalance other substances that have a tendency to form blood clots.

Each NSAID drug blocks a different mixture of COX enzymes — some block more COX-1 than COX-2, and vice versa. When an NSAID blocks a higher amount of stomach-protecting COX-1, the risk of stomach bleeding rises. There may also be interference with normal clotting, making internal bleeding more likely. Naproxen and ibuprofen block more COX-1 than COX-2.

When an NSAID blocks a higher amount of COX-2, there’s a lower risk of stomach bleeding but a higher risk of cardiovascular problems. This is likely due to increased risk of blood clot formation in the blood vessels. Diclofenac and celecoxib block more COX-2 than COX-1.

Additional risks from NSAIDs include increased risk of high blood pressure, kidney problems, fluid retention and worsening of heart failure. The risk of these problems is higher if you already have impaired kidney function.

Pain plan

It’s important for you and your doctor to be cautious in selecting a pain medication. And when you do, use the lowest effective dose for the shortest time possible.

In addition, seek out alternate ways to reduce muscle and joint pain, such as by avoiding joint aggravation, maintaining a healthy weight, reducing stress, using warm soaks or cold packs, or developing an exercise plan with a physical therapist.

NSAID use for a short duration and at the lowest dose possible is reasonably safe for people with healthy hearts. However, if you’ve had a heart attack — or possibly even if you have established cardiovascular disease — things are different. For those who have had a heart attack, research indicates that over the course of five years, NSAID users are 63 percent more likely to die and 41 percent more likely to have another heart attack than are non-users. Even short-term NSAID use may significantly increase your risk.

If NSAID treatment can’t be avoided, naproxen may be best. Aspirin, which impairs blood clotting, thus helping prevent heart attacks and strokes, is another option. With either, caution is warranted due to risk of stomach bleeding. With the lowest dose of aspirin — 81-milligram “baby aspirin” — this risk is lower. Aspirin helps reduce the risk of subsequent heart attacks and prolongs survival in those who have had a heart attack and should only be stopped after careful discussion with your doctor.

Acetaminophen (Tylenol, others) isn’t an NSAID, and doesn’t raise the risk of heart attack or stomach bleeding.
Sex after heart attack

Far from mutually exclusive

Having a heart attack means making adjustments in how you live. Typically, cardiac rehabilitation, changing eating habits, losing excess weight and trying to reduce stress are all on the table — and, yes, it can seem like a lot to juggle. But, there’s one topic often missed in the post-heart attack discussion — that of sexual activity.

For men and women with cardiovascular disease — no matter how young or old — sexual activity is important to quality of life. But after a heart attack, it’s not uncommon to lose confidence in your heart’s ability to work properly under stress. In addition, your partner may worry that resuming sexual activity might harm you or cause physical pain, especially if you had open-chest surgery.

Concerns such as these prompted the American Heart Association (AHA) to release a statement on sexual activity and cardiovascular disease.

When is it safe to resume sexual activity? Probably sooner than you think.

Consider these facts

- **FACT:** Less than 1 percent of heart attacks occur during sexual activity. Men and women have similar heart rate and blood pressure responses during sexual activity. The greatest increase occurs during the 10 to 15 seconds of orgasm and then there’s a rapid return to normal. For young to middle-aged adults, the actual physical demand is comparable to climbing two flights of stairs or walking briskly. In older adults or those with cardiovascular disease, the degree of exertion may be greater.

- The risk of heart attack during sexual activity is just as low in men who have had a heart attack as it is in men with no coronary artery disease.

- **FACT:** Instances of sudden cardiac death during sexual intercourse are very low, ranging from 0.6 to 1.7 percent. The vast majority of those who died during intercourse were men, and 75 percent of them were having extramarital sex. In most cases, they were with a younger partner in an unfamiliar setting. In addition, excessive amounts of food and alcohol may have been consumed prior to the death.

**Green light factors**

Each person’s situation after a heart attack is unique. When discussing follow-up care with your doctor, the AHA’s recommendations can help guide your decisions. Different factors may need to be considered, such as:

- **Whether you’re able to pass a stress test** — An exercise stress test evaluates how your heart performs during mild to moderate activity. If you experience no heart-stress signs or symptoms — such as angina, excessive breathlessness, abnormal heart rhythm (arrhythmia) or decreased blood pressure (hypotension) — you pass the stress test. In that case, and in consultation with your doctor, it may be reasonable to resume sexual activity.

- If you’re capable of mild to moderate activity without heart-stress symptoms, a cardiac rehabilitation exercise program is typically begun a week after a heart attack. This program increases exercise capacity and lowers the peak heart rate during sexual activity. In addition, regular exercise itself may help decrease risk of a heart attack triggered by sexual activity.

- **Whether revascularization (percutaneous coronary intervention, or PCI) was done** — If angioplasty and stenting were necessary to restore blood flow to your heart’s coronary arteries and complete blood flow was restored, resumption of sexual activity may be possible in only a matter of days. The delay is necessary for healing at the puncture site — usually in the upper groin area or arm — where the catheter was introduced during the PCI procedure.

- **Whether you had open-chest surgery** — If you’ve had coronary artery bypass surgery, sexual activity is generally not recommended for six to eight weeks so that the chest’s sternum has time to heal. Avoid for several months positions that put too much stress on the chest. With robotic surgery or minimally invasive procedures, the healing time may be considerably less.

- There are circumstances where resuming sexual activity isn’t advised. Among these are:
  - Having uncontrolled heart rhythm problems (arrhythmias)
  - Having symptoms of heart failure that are worsening

**Balancing medications**

After a heart attack, you’ll likely need medication to support your ongoing cardiovascular health.

Drugs used to treat high blood pressure and heart failure — such as diuretics, beta blockers, calcium channel blockers and angiotensin-converting enzyme (ACE) inhibitors — sometimes lower blood pressure more than anticipated. If this occurs, you may experience dizziness, lightheadedness or even fainting. Hypotension may also occur if you take medication for erectile dysfunction — such as sildenafil (Viagra) — or if you are prescribed drugs classified as alpha blockers.

Nitrate drugs, which are commonly prescribed for chest pain (angina), shouldn’t be taken if you use erectile dysfunction drugs. The combination may result in a dangerous drop in blood pressure. Tell your doctor about all medications you take.

**Extra care**

Your doctor may counsel you to be well rested prior to sexual activity. Avoid unfamiliar locations and partners as well as heavy meals and alcohol before sexual activity. Avoid positions that might restrict your ability to breathe. It may take more exertion to reach orgasm, so be willing to work to increase your stamina over time.
Q Does taking a calcium supplement increase heart attack risk?

A This has been an area of controversy for the last couple of years, but the overall weight of evidence — including three new studies — indicates that appropriate calcium supplement use doesn’t increase heart attack risk.

The studies — all presented at the 2012 annual meeting of The American Society for Bone and Mineral Research — showed no increase in heart attack risk with calcium supplementation.

Combined, the studies looked at a pool of about 130,000 adults, most of whom were women older than 50. Some took calcium supplements, and some didn’t. When takers and non-takers were compared, all three studies concluded that there was no association between calcium supplementation and heart attack risk.

Mayo Clinic bone health experts say that adequate calcium and vitamin D intake is critical to reducing risk of bone thinning and osteoporosis. Vitamin D helps the body absorb calcium. They are reassured to see further evidence that there’s no association between calcium supplementation and heart attack risk.

Still, they recommend keeping consumption of calcium from diet and supplements combined to no more than 1,500 milligrams (mg) daily for those with or at risk of osteoporosis. The recommended calcium intake for women age 51 and older is 1,200 mg. For men ages 51 to 70, the recommendation is 1,000 mg daily. For men age 71 and older the recommendation is 1,200 mg. The recommendation for vitamin D intake is 600 international units (IU) daily for those 70 and younger, and 800 IU for those older than 70.

Q I read your March 2013 article on fallen arches with great interest. I’m wondering about my 3-year-old granddaughter’s feet. When she scampers around barefoot, it appears that she’s flat-footed. Is she likely to have foot trouble as she gets older?

A Time will tell, but trouble is unlikely. Most commonly, this is a variation of normal called flexible flatfoot. Most children under age 5 have very flat feet because the arches have yet to fully develop. As a result, when a young child stands, the arch may tend to disappear. However, if the child stands on tiptoes, the arch becomes visible. Toddlers and young children often have wide feet and will be more comfortable in a wider shoe with a broad rather than a narrow toe box.

With flexible flatfoot, the foot has normal muscle function and good joint mobility. Typically there’s no pain or difficulty with walking or other recreational or sports activities.

Most children develop arches without any problems as the soft tissues tighten and the foot’s arch is gradually shaped. These changes typically are seen between 5 and 10 years of age. Wearing special shoes or braces doesn’t affect whether an arch develops.

Approximately 1 in 5 children doesn’t develop an arch and will go on to have flat feet as an adult. Most adults with flexible flatfoot have no problems and are able to do all activities. On occasion, individuals with flexible flatfoot have some discomfort and do better in supportive shoes with arch support, but there’s no way to predict who might develop discomfort. There aren’t any special treatments, exercises or surgeries to prevent pain from flat feet, which is quite rare.

When the arches of young children are not yet developed, they may tend to disappear when the child stands. However, if the child stands on tiptoes, the arch becomes visible.