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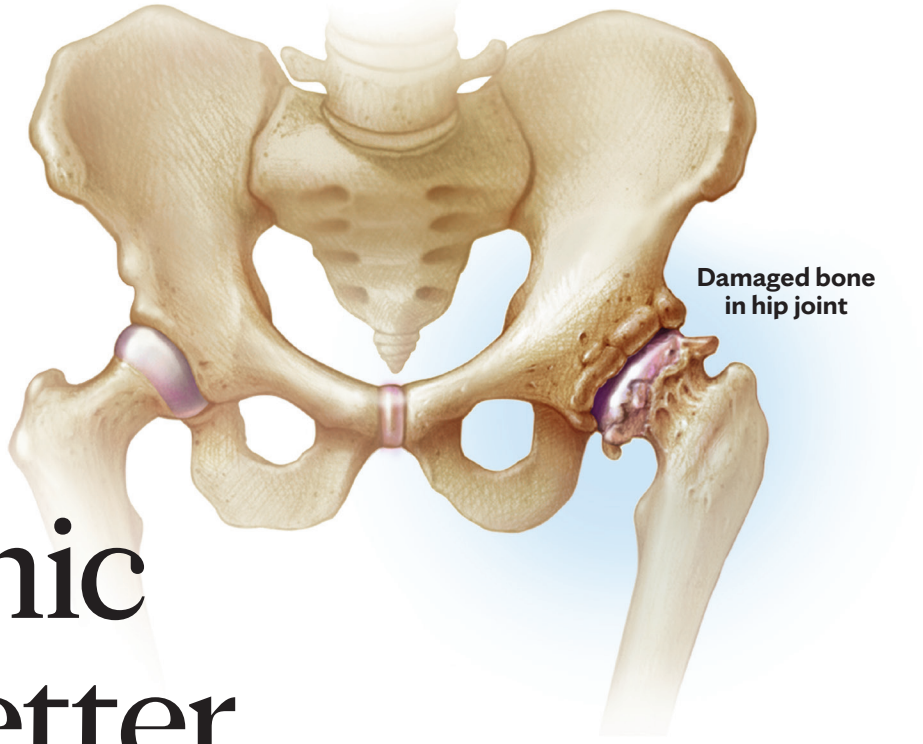


Mayo Clinic Health Letter

Reliable Information for a Healthier Life

Hip replacement

A big step toward pain-free motion

When you have hip pain, decades of gradual decline can add up to an unexpected crisis. One day, you notice your hips hurting while you walk across a parking lot. You may start to curtail activities but still manage to get by. Months later, aspects of daily living — such as simply getting into and out of the car — can feel too painful.

Wear and tear of the hip and hip pain can happen at any age but are more likely to occur in your 50s and beyond. When gradually worsening hip pain becomes severe and other pain management strategies have been tried and exhausted, it may be time to consider a hip replacement surgery.

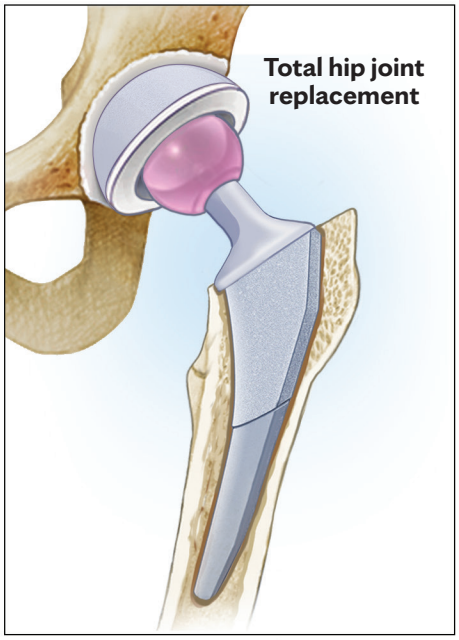
Significant advances in technology and research have made hip replacement procedures more broadly available, and recovery times faster.

Annually, more than 350,000 people have a hip replacement in the U.S. This number is expected to grow substantially in coming decades due to the aging population.

A workhorse joint

As the largest ball-and-socket joint in the body, the hip is designed to bear weight and allow for a wide range of motion. It includes the femoral head — that's the ball-like head of the thigh bone (femur). The femoral head fits deeply into the hip socket, called the acetabulum (as-uh-TAB-u-lum), and the joint is supported by muscles and tendons. Cartilage — a firm, slippery tissue — sits at both ends of the joint, enabling nearly frictionless motion.

Several types of arthritis can damage the cartilage in the hip joint. The most common are osteoarthritis, commonly known as wear-and-tear arthritis, and autoimmune arthritis such as rheumatoid arthritis.



In hip replacement surgery, a surgeon removes diseased or damaged bone and tissue from the joint before putting an artificial socket in place. The top end of the femur is hollowed out so that a stem made of metal — usually titanium — can be inserted into the bone. The surgeon connects the end of that stem to the socket, which is usually lined with a hard plastic material called highly cross-linked polyethylene (HXLPE).

Type of surgery	How it's done	What to know
Anterior	You lie on your back for this surgery. The surgeon enters through the front of the upper thigh and uses X-rays and robotic instruments to more accurately place prosthetic components.	This muscle-sparing approach generally results in slightly faster short-term recovery, gait improvements and less need for walking aids. But it has higher complication rates for people who are overweight.
Anterolateral	You lie on your side for this sugery. The hip is opened between a muscle on the outside of the pelvis (gluteus medius) and small muscles just in front of the hip joint (tensor muscle of fascia latae). Typically, the surgeon must cut at least a small portion of the gluteus medius to provide better access.	People who are at a healthy weight and have less-dense muscle mass tend to be the best candidates.
Posterior	You lie on your side for this surgery. The surgeon enters just behind the side of the hip bone, which can provide greater exposure to the pelvic bone and femur.	This is the most common technique, especially when a revision is needed.

Breakdown of cartilage in the hip joint can lead to subsequent changes to the surrounding bone and soft tissues that cause pain, especially when bearing weight. That pain usually is worse at the initial stages of movement, such as getting up from a seated position. You feel it in the groin and front of the hip, but it also can spread to nearby areas including the buttocks, thigh and toward the knee. As the condition worsens, it can cause pain so severe that it's difficult to sleep, walk or get dressed. The condition also can cause one leg to be shorter than the other.

If your hip has reached a point where the pain significantly limits your daily activities — and pain relievers and other pain management strategies aren't giving enough relief — talk with your healthcare team about whether you're a candidate for hip replacement.

Surgery an option for most, not all

Advances in the materials used in the prosthetic hips along with improved recovery procedures have expanded the age range of candidates for hip replacement. It's an option for people as young as 20 and as old as 100. However, not everyone qualifies. Some potential limiting factors include:

- *Infection* — A current infection anywhere in the body, but especially in or near the hip, must resolve before surgeons can operate.
- *Smoking* — People who smoke are at significantly higher risk of complications after hip replacement.
- *Weight concerns* — Being overweight can increase surgical complications and risks. Your surgeon may recommend weight loss prior to your surgery to improve your opportunities for a better outcome.

Hip to be repaired

The different approaches for hip replacement surgery have their own risks and benefits. The table above gives an explanation of the three main types.

In general, the procedure goes like this: Your surgeon makes an incision through layers of tissue. Muscles, ligaments and tendons are separated with minimal cutting to get at the joint. The surgeon removes diseased or damaged bone and tissue from the joint before putting an artificial socket in place. The top end of the femur is hollowed out so that a stem made of metal — usually titanium — can be inserted into the bone. Your surgeon connects the end of that stem to the socket, which is usually lined with a hard plastic material called highly cross-linked polyethylene (HXLPE). Once it's determined that the joint moves as it should and isn't prone to dislocation, the surgeon repairs tissue and muscle affected by the procedure and closes the incision site with stitches or staples.

Mayo Clinic Health Letter

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After surgery, you may benefit from taking prescription pain medications for at least a few days. But it's sometimes possible to manage this discomfort with nonprescription pain relievers.

In the hours and days after surgery, you're at increased risk of blood clots in your legs. To lower that risk, you'll likely take a prescription clot-preventing medication starting the day of or day after surgery. You may take the medication for as long as 4 to 6 weeks. Walking with crutches, a cane or a walker is encouraged starting the day of surgery to improve blood flow and start the recovery process. Wearing elastic compression stockings on your legs — or inflatable air sleeves — both during and after surgery helps keep blood from pooling in leg veins.

Outcomes, possible risks

Large studies have found that more than 90% of people who have hip replacements are satisfied with the result 15 years after the procedure. However, compared with knee replacements, hip replacements result in slightly higher complication rates. People who have hip replacements also have higher rates of needing to go back for a repeat surgery. This is known as a surgical revision.

Hip replacement can result in complications, including:

- *Infection* — Infections can occur at the site of the incision and in the deeper tissue near the new hip. Most can be treated successfully with antibiotic medications unless the joint itself is involved. If this occurs, a surgical revision is often necessary.
- *Dislocation* — Rarely, the ball of a new joint can become dislodged. This is especially likely to occur in the months after surgery. If needed, your healthcare team can fit you with a brace to hold the hip in the correct position. Surgery may be required to stabilize it.
- *Mismatched leg lengths* — Occasionally, the leg with the new hip may feel slightly longer than the other. This is often caused by muscles near the new hip needing to be stretched to ensure that the new joint stays in place. The mismatch may improve or resolve over time, but using a lift inside the opposite shoe can even out the difference. In addition, a physical therapist may be able to provide help with adjusting to or improving your gait.

In the past, a hip replacement surgery was done only under general anesthesia. It took a few hours in the operating room and required 3 to 5 days in the hospital. Now there are more options, including using regional anesthesia that blocks pain in the lower half of the body. The hip replacement procedure usually takes less than two hours, and most people can return home the same day or, on occasion, the day after.

Recovery times after the procedure have improved too. Often, it's possible to begin the rehabilitation process — including walking with assistance — on the same day as your surgery.

For most people, having a hip replacement means about a year of recovery before regaining full mobility and strength without pain. It's a long process, but it can greatly reduce — or even eliminate — daily pain and allow you to live a far more active and healthier lifestyle. ■

HEALTH TIPS

FIREWORKS SAFETY

Lighting off fireworks can inspire awe and foster patriotic feelings. But as fireworks surge in popularity during the Fourth of July period in the U.S., so do fireworks-related injuries. Visits to the emergency room for these injuries have jumped 17% in the last decade, according to one major report.

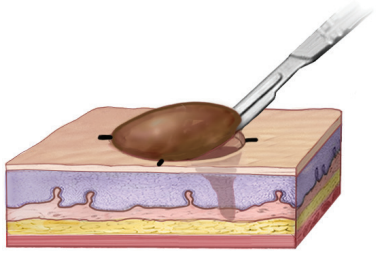
Here are tips to keep yourself from becoming a fireworks-injury statistic:

- *Stay sober* — Alcohol and other substances slow reaction time and may impair judgement. This can increase the risk of injuries to yourself and to others when you handle all types of fireworks.
- *Cover those eyes* — Eye injuries are very common. Whether you're lighting the fireworks or just observing, consider using protective glasses or goggles.
- *Light right* — When lighting a fuse, never hold the firework in your hand or have any part of your body over it. To be safer, use a long-handled lighting device.
- *Stand back* — Spectators should stay at least 35 feet away from ground-based fireworks such as fountains. Expand that range to 150 feet for fireworks that go airborne, such as bottle rockets.
- *Keep pets and children away* — Pets are often terrified of fireworks and should be kept inside. Safety also is critical for children. Mitigate their risk while preserving their ability to enjoy by finding a window they can watch through.
- *Mind the sparklers* — Sparklers can be festive and fun. But they burn very hot and often cause injuries. Watch children closely while they're using sparklers and be sure that all users are wearing closed-toe shoes. Have a safe place to discard used sparklers to protect against burns.
- *Stay grounded* — Fireworks that propel upward are most likely to cause injuries. This is in part because they're unpredictable and cover more distance. To prevent injury, stick to ground-based fireworks. You'll see a beautiful display or hear loud booms without the risk of an errant aerial firework veering off.
- *Keep water nearby* — Have a container of water nearby. Submerge used fireworks and disposable lighting devices in the water promptly after use. ■

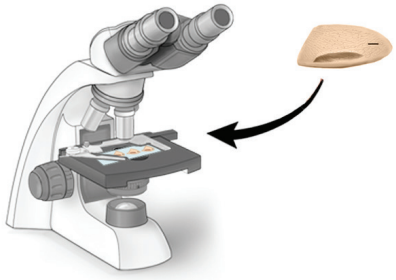
Mohs surgery

Skin cancer's worst foe

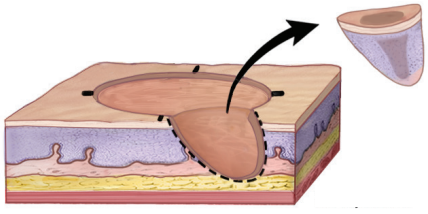
When it comes to skin cancer, a healthcare team's first thought is to remove the cancer and limit or eliminate its chances of regrowth. But with cancers found on the head and neck, appearance matters too. These areas tend to be more visible, and the skin can be more sensitive due to not having the same depth as in other parts of the body.



In Mohs surgery, a surgeon uses a scalpel to remove the visible portion of the cancer along with a thin layer of tissue underneath and around it as healthy skin margins.



The surgeon analyzes the tissue for cancer under a microscope.



If cancer is found in a certain place in the tissue sample, the surgeon knows precisely where to remove additional layers of tissue until the last tissue sample removed is cancer-free.

Mohs surgery aims to address this dilemma. In this type of surgery, just enough skin is cut away so that all cancerous tissue is removed and no more. Mohs surgery removes skin in and around the growth, with each layer examined for the presence of cancer cells while the patient waits. If cancer cells are present, another small amount of skin is removed. Skin removal stops when cancer no longer is detected.

The precision of skin removal and near certainty that all cancer cells have been removed make Mohs surgery the go-to procedure for many types of skin cancer occurring in areas where skin preservation is a must.

Gained acceptance

For decades, doctors relied on a traditional method to remove skin cancers. This involves cutting away suspicious skin areas with a wide margin of tissue that's likely to be healthy and free of cancer cells. This method works well in large areas of the body — such as the trunk, arms or legs — where there's ample tissue, and scarring is less of a concern. It's also often necessary and works well with deadly cancers, especially melanoma.

Mohs surgery — named for the doctor who developed it — has been around since the 1930s, but didn't gain wider acceptance until the 1970s and 1980s. Today, Mohs is the gold standard procedure for treating many types of skin cancer that occur — or recur — on the face, head, neck, hands, feet and genitals. This matters especially because about 80% of some skin cancer types occur above the shoulders.

When it's used, Mohs surgery has the lowest recurrence rates of any skin cancer removal process. It's primarily used for the two most common types of skin cancer:

- *Basal cell carcinoma* — Mohs surgery results in a cure rate of 99% at five years for a first-time cancer, and of 96% to 98% for a recurrent cancer.
- *Squamous cell carcinoma* — Mohs surgery results in a cure rate of better than 97% at five years for a first-time cancer, and of about 94% for a recurrent cancer.

Melanoma skin cancers aren't as common as these other types, but they are particularly deadly. Mohs surgery is not recommended for the primary treatment of invasive melanomas when clear margins can be obtained. Margins include the visible boundary of the cancerous area plus an additional area of noncancerous skin around it. However, the surgery sometimes is used for shallow melanomas in complex, delicate areas such as around the eyes, lips or nose.

What to expect

Mohs is an outpatient procedure that requires only local anesthetic and sometimes a relaxing medication. Most of the time, the procedure takes less than four hours.

The area of skin to be operated on is cleaned and then outlined with a special pen. After the anesthetic takes effect, the surgeon uses a scalpel to remove the visible portion of the cancer. The surgeon also takes a thin layer of tissue underneath and around the cancer as healthy skin margins. A temporary bandage is placed where the skin was removed.

The tissue is then analyzed under a microscope. This part of the procedure usually takes the longest time. If cancer is found in a certain place in the tissue sample, the surgeon knows precisely where to remove additional layers of tissue until the last tissue sample removed is cancer-free.

At the outset of surgery, it's impossible to predict exactly how far the cancer has spread. For most people, the surgery is a very smooth process, with the cancer removed and the wound repaired in a half day. Often, scars heal in a way that's barely noticeable. But some cancers are more widespread. They require a longer surgery, and skin repair may become more complex, such as involving a skin graft.

Mohs surgery is usually a very safe procedure, with complications occurring 2% or less of the time. Bleeding, infection and numbness in the area of the procedure are among the more common — but still rare — complications.

Recovery considerations

Most wounds are repaired at the end of Mohs surgery. You may have some mild pain and soreness afterward. Nonprescription pain medicines may help. Severe pain after surgery is not common and should be reported to your care team.

Your care team can give you instructions on how to take care of the wound. You can expect to wear a bandage over the wound for at least a week, though exactly how long you'll need a bandage depends on your situation. You may be asked to change the bandage every day.

Keep vigilant

Though Mohs surgery has a high rate of cure for skin cancer, there's still a small risk of cancer recurrence. In addition, those who develop basal or squamous cell carcinoma frequently develop another skin cancer within five years. Be sure to talk with your healthcare team about a plan for regular follow-up skin exams to catch any future cancers as early as possible and about ways to reduce your risk of those cancers. ■

NEWS AND OUR VIEWS

FDA UPDATES 'HEALTHY' CRITERIA

For the first time in 30 years, the U.S. Food and Drug Administration (FDA) has updated the definition of what the word "healthy" means on food labels. The goal is for healthy claims to help consumers make informed food choices at a glance.

The rule changes are based on current nutrition science and recommendations such as the Dietary Guidelines for Americans. To qualify to be labeled as healthy, a food must meet:

- Minimum amounts of vegetables, fruits, dairy, protein or whole grains.
- Specific limits for saturated fat, sodium and added sugars.

Nutrient-dense foods — such as fruits, vegetables, whole grains, lean meat, beans, fat-free and low-fat dairy, and seafood — automatically qualify as long as they have no added ingredients other than water. The updated criteria apply to vegetables and fruits that are fresh, frozen, chopped, canned or dried.

Foods and products that newly qualify include 100% olive oil, avocados, eggs, higher fat fish such as salmon, nuts, seeds, trail mix containing nuts and dried fruit, plain low-fat or fat-free yogurt, and water.

Previously, foods could be claimed to be healthy if they met limits for total fat, saturated fat, sodium and cholesterol, and if they met requirements for vitamin A, vitamin C, calcium, fiber, iron or protein. Now, some foods can no longer be claimed healthy, including fortified white breads, fruit punch, and products with added sugars such as yogurt, cereals, snack bars and fruit snacks.

Mayo Clinic experts agree that the change is long overdue. Today, about 5% of packaged foods are labeled as healthy. Updating the definition may help consumers eat a healthier diet and help lower rates of type 2 diabetes and heart disease.

Food companies making products that meet the updated criteria can label them as healthy. Manufacturers may change recipes to meet the new rule. If the word "healthy" is part of a product name, manufacturers may choose to rebrand if they don't want to tinker with the recipe. ■

MINDFULNESS SIMILAR TO MEDICATION IN TREATING ANXIETY

Practicing mindfulness has long been appreciated as a healthy way to improve mood and reduce stress. A recent study suggests it can be more: an alternative therapy for people with anxiety disorders that delivers similar relief from symptoms with fewer side effects.

The study, published in *JAMA Psychiatry*, involved 276 adults who had one of the following conditions: fear or avoidance of places that may cause feelings of being trapped or embarrassed (agoraphobia), panic disorder, generalized anxiety disorder, or social anxiety disorder. Participants were divided into two groups, with one group taking escitalopram (Lexapro), a selective serotonin reuptake inhibitor (SSRI) drug commonly used for anxiety. The other group was taught to practice mindfulness meditation, a type of daily mindfulness, but was not given the medication.

After eight weeks, the groups scored similarly in a measure of reduced anxiety symptoms, with people taking escitalopram showing a small edge in symptom improvement. Where the groups clearly differed significantly was in side effects. About 79% of people taking escitalopram reported having at least one side effect potentially related to the treatment, including sleep problems, nausea, fatigue or headache. In contrast, the only side effect reported in the mindfulness group (15%) was increased anxiety.

Meditation is a type of mind-body medicine. Meditation can help you relax deeply and calm your mind using a variety of exercises. During meditation, you learn to observe your thoughts, without judgement, while focusing the mind on a task such as breathing. With greater awareness of the wandering mind, you become more able to observe and allow negative or worrying thoughts to come and go. This prevents you from getting stuck in those thoughts that crowd your mind and cause stress.

Mayo Clinic experts say the study provides more evidence to support mindfulness as an effective approach. But larger studies that look at longer term outcomes are needed. Talk with your healthcare team about treatment strategies that are best for your mental health concerns. ■

Eating well with kidney disease

What to eat and what to limit

Eating a well-balanced diet is important for anyone who wants to optimize health. It's especially important if you're living with chronic kidney disease (CKD).

Although it's important to pay close attention to certain nutrients and foods, there is no one diet that fits all people with kidney disease. Your healthcare team can advise you on the best foods to eat, as your needs may change over time. A registered dietitian also can create a healthy-eating plan tailored for you.

Some dietary recommendations for CKD are universal: eat a variety of whole foods such as fruits, vegetables, whole grains and plant-based protein; limit the amount of animal protein, particularly red meat; avoid ultraprocessed foods, especially processed meats and refined carbohydrates; choose foods that are low in fat, sugar and salt; and eat appropriate portions to maintain a healthy weight.

But there are additional dietary restrictions that you need to follow with CKD. Although you have to watch what you eat, you'll get a double benefit — what's good for your kidneys is good for your whole body.

Special dietary concerns

When you have chronic kidney disease, your kidneys don't work as well to filter waste products. This can mean your kidneys have a harder time maintaining the proper balance of nutrients and electrolytes. People with CKD need to pay particular attention to the amount of sodium (salt), protein, potassium, phosphorus and calcium they consume.

Sodium

Too much sodium can increase fluid buildup in your body, raise blood pressure and put strain on your heart. To reduce the amount of salt in your diet, you'll likely need to do more than just stop reaching for the saltshaker. Many packaged and convenience foods have added salt, including frozen dinners, canned vegetables, processed meats, and some cheeses. Ask your healthcare team about your daily sodium limit, and then hone your label-reading skills when grocery shopping. Prepared foods, such as rotisserie chicken from the grocery store, fast food and restaurant meals are often high in sodium. Try to cook at home when you can. If you eat out, tell your server about your dietary restrictions.

Protein

It's important to maintain the right protein balance in your body. You need enough to build muscle, fight infection and repair tissue, but not so much that waste products from protein build up in your blood. If you are not on dialysis, experts usually recommend that you choose primarily plant-based options, such as beans, lentils and tofu. If you do eat animal sources, try to consume smaller, leaner portions of meat and limit red meat. If you are on dialysis, however, you may need more protein in your diet. Your healthcare team and dietitian can calculate how many grams of protein you should aim for each day.

Potassium

Balance is also important when it comes to potassium. Your muscles, including those in your heart, need this mineral to work properly. But potassium levels can build up in CKD. If you have high potassium levels, your healthcare team may recommend limiting foods such as bananas, oranges (and orange juice), potatoes, spinach, melons and some dairy products. Choose apples, carrots, green beans, grapes and strawberries. In addition, check nutrition labels on salt substitutes — some contain potassium.

Phosphorus and calcium

Phosphorus that is naturally found in some foods is easier on your body than phosphorus that is added as a preservative. High phosphorus levels in the blood can weaken your bones. If your levels are high, you may need to limit foods such as processed meats, organ meats, dairy, and foods and beverages that have "phos" ingredients — such as phosphoric acid or sodium phosphate — listed on the food label.

Foods that are either naturally high in calcium or calcium fortified are often high in phosphorus. Ask your healthcare team about your target goals for calcium. ■

HOW TO GET STARTED WITH DIET CHANGES

Even small changes can help manage your kidney disease. Set a goal you think you can achieve — maybe switching to low-sodium canned foods or eating two meatless meals a week. Once you've made that a habit, set another goal.

Give yourself some time to get used to dietary changes. After a few months of eating low-salt foods, you may find that you prefer them.

Here are a few suggestions to make diet changes easier:

- Instead of eating out with friends, host a potluck dinner at your house — making sure you provide a healthy dish.
- When you do eat out, plan ahead — suggest a restaurant with healthy options and check the menu before you go.
- Drink water instead of soda to cut down on phosphorus and sugar.
- If you eat meat, limit portion size.
- Add flavor to food with herbs and spices that are salt-free. These include basil, cinnamon, cumin, curry powder, rosemary, smoked paprika and thyme. Many spice companies also provide a line of salt-free seasoning blends.

Ductal carcinoma in situ

Treatment shifts for this early form of breast cancer

When breast cancer is diagnosed, it's natural for thoughts to go straight to treatment. But for some early cancers, is prompt treatment — or sometimes, any treatment at all — the only path worth considering?

That's a question medical experts are exploring with ductal carcinoma in situ (DCIS). This very early form of breast cancer makes up around 25% of breast cancer diagnoses.

How it develops, how it's found

DCIS is cancer cells that are found in a duct in the breast that haven't moved outside of the duct to surrounding tissue. DCIS is sometimes referred to as noninvasive, preinvasive or stage 0 breast cancer.

Most DCIS is first identified with a screening mammogram. DCIS cells typically attract small calcium deposits, called calcifications, in the breast. These calcifications show up as a group of white, irregular spots on a mammogram. As mammogram technology has become more sensitive, these calcifications have become less difficult to identify.

Typical management

Treatment for DCIS has historically involved surgery, radiation and endocrine therapy. Around 1 in 4 women with DCIS has a mastectomy — surgical removal of all tissue of the affected breast. This treatment may be recommended based on whether DCIS affects a large area or multiple areas of the breast. Most often, a choice of mastectomy is a personal preference — typically for peace of mind.

Most women with DCIS opt for breast-conserving surgery, also known as lumpectomy. This procedure removes the cancer and some of the tissue around it. After the surgery, women often have radiation therapy to reduce the chance that DCIS will recur in that breast or progress to invasive cancer. However, for some women with low-risk DCIS — particularly older women — radiation therapy may not be necessary.

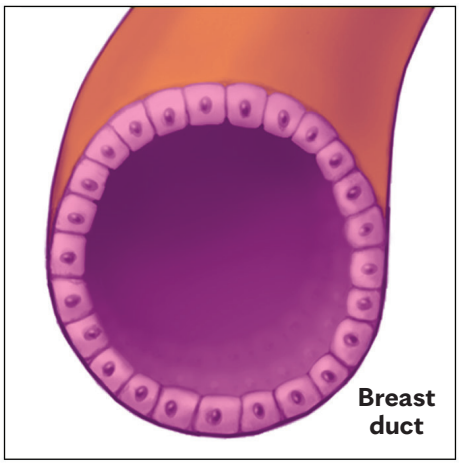
Endocrine therapy also may play a role in treatment. With DCIS, 2 out of 3 cancers express an estrogen receptor (ER) protein. For these cancers, a medication may be used to either block estrogen activity on the cancer cells or reduce the body's ability to generate estrogen. Endocrine therapy lowers the risk of the cancer returning in the affected breast and a new cancer developing in the other breast. For DCIS, endocrine therapy is typically recommended for five years after surgical treatment.

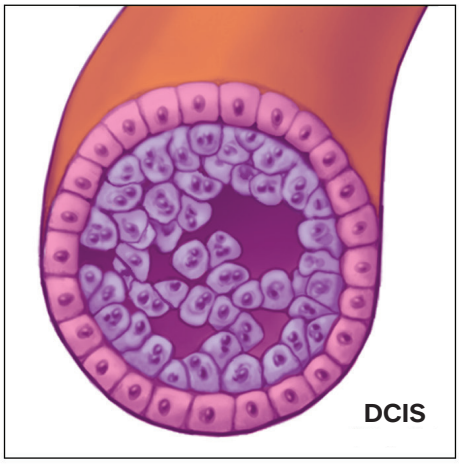
Is treatment always necessary?

Much uncertainty remains about whether an identified DCIS will progress to invasive cancer. While the current recommendations call for surgical treatment, data show that women with DCIS have a very low long-term risk of dying of breast cancer — just 3%. So a question medical experts continue to explore is whether surgery is necessary for low-risk DCIS.

Some experts are looking at the possibility of following an approach called active surveillance. This means that the cancer is regularly monitored with mammograms, but no treatment is started unless the cancer spreads or develops concerning features. That's because data suggests that surgical treatment may not significantly improve survival rates with DCIS, especially for women with low-grade DCIS — meaning cancer cells that look just a little different from healthy cells and are likely to grow slowly. Clinical trials are in progress at Mayo Clinic and other medical centers to further explore the active surveillance option.

Shifts have already been made in the last decade to deescalate treatment of DCIS. Sentinel lymph node removal is no longer standard with surgery, as few women with DCIS have lymph node involvement.





Similarly, for some with small, low-grade DCIS, the standard 15 days of whole-breast radiation therapy has been replaced with partial breast radiation. This can often be delivered over just a few days with minimal side effects.

Work with your care team

As cancer screening techniques have improved, many types of cancer are being diagnosed at an earlier stage. And as information grows on how people with these early cancers fare over time, it's common for treatment recommendations to change.

Work with your care team to choose a treatment path that aligns with your overall health and values. Different treatments continue to be explored for DCIS as medical experts aim to optimize treatments for individual needs. Research also is ongoing to identify genetic indicators, called biomarkers, that can better predict the likelihood of DCIS progressing to invasive cancer. ■

Second opinion

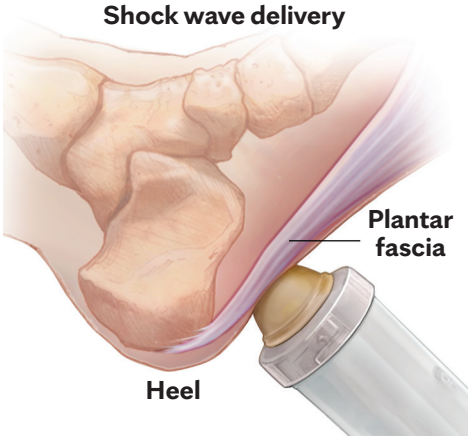
Q Over the years, I have had plantar fasciitis off and on. Normally I do some physical therapy and the pain goes away. But now it's only getting worse, and my doctor suggested using shock waves. What should I know about it?

A Although it may sound a bit scary, shock wave therapy is a common and often effective treatment for some foot and ankle conditions, including plantar fasciitis. Extracorporeal — meaning outside the body — shock wave treatment was originally used to treat kidney stones. However, since the early 1990s, it's been used to treat certain orthopedic conditions as well.

There are two different types of shock wave devices: radial and focused. A radial device works by generating pressure waves when a projectile in the handpiece contacts the skin, transmitting energy into the targeted tissue. Focused shock wave treatment involves the application of sound waves transmitted in a narrow or focused pattern, similar to how loudspeakers work. These treatments are used separately or combined, depending on the condition being treated.

The treatment works by delivering sound or pressure waves into the damaged tissues to stimulate the healing process. The sound waves may reduce pain and inflammation, break up scar tissue and adhesions, promote bone healing, and improve blood flow to damaged tissue. Additionally, shock wave treatment can relax muscles.

Shock wave therapy is an outpatient procedure usually done in a series of 3 to 6 treatments spaced 3 to 7 days apart. The treatment has minimal risks, though it can cause pain, slight bruising or mild swelling at the treatment site. While receiving the treatment, you likely will need to discontinue taking anti-inflammatory medications. The full effects of shock wave therapy can be seen up to 10 to 15 weeks after the final treatment.



Extracorporeal shock wave treatments work by delivering either sound or pressure waves into damaged tissues to stimulate the healing process.

Most people with plantar fasciitis improve with basic care steps — such as gentle stretches, proper footwear and short-term use of anti-inflammatory medicines — or physical therapy. However, healing can be slow and frustrating, requiring patience to succeed. If you aren't finding relief, you might benefit from newer, nonsurgical therapy options such as shock wave therapy. ■

Q I see people at my health club standing on machines that make their whole body shake or vibrate. What kinds of health benefits do they get?

A Whole-body vibration (WBV) can offer some health benefits. However, limited research has not concluded that WBV alone matches the benefits of active exercise.

WBV has roots as far back as the 1850s. It was once a popular with some eastern European Olympic athletes to aid recovery from strenuous workouts.

In the current version of this treatment, you stand, sit or lie on a vibrating platform. The platform transmits energy to your body. This forces your muscles to contract and relax dozens of times each second. As a result, you may feel as though you're exerting yourself. WBV has become a popular option at health clubs and in home gyms.

Small studies have found mixed results, with some benefits shown for helping treat cardiovascular diseases and bone conditions including osteoarthritis and osteoporosis. Other reported benefits include better flexibility, enhanced blood flow and improved muscle recovery after workouts. It's not yet clear whether whole-body vibration provides the same range of health benefits as that of active exercise such as walking, biking or swimming.

Talk with your healthcare team before starting any new exercise routine. Mayo Clinic experts say that if you choose to try WBV, it's best considered alongside regular exercise, physical therapy and other proven health-promoting therapies. ■

Have a question or comment? We appreciate every letter sent to Second Opinion but cannot publish an answer to each question or respond to requests for consultation on individual medical conditions. Editorial comments can be directed to:

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