Rotator cuff injury

Quieting a painful shoulder

Rotator cuff injuries of the shoulder are best known for putting baseball pitchers on the disabled list.

But rotator cuff problems don’t just occur in athletes. In fact, adults older than age 60 have the highest rate of rotator cuff problems of any other age group.

Shoulder pain can often be treated in the short term with a few simple steps, including ice, rest and medications as needed. Over the long term, certain exercises and stretches can help keep your shoulder muscles limber and well-balanced in terms of strength. For many, taking these steps can reduce or eliminate pain, restore shoulder motion and help prevent future shoulder problems.

Muscles and tendons

Your rotator cuff is made up of four muscles and tendons. These muscles and tendons run between the bones of your upper arm (humerus) and shoulder blade (scapula). In addition to facilitating shoulder movement, these muscles help hold together the ball-and-socket joint connecting your upper arm and shoulder. Injury to the rotator cuff includes any type of irritation and stretches can help keep your shoulder muscles limber and well-balanced in terms of strength. For many, taking these steps can reduce or eliminate pain, restore shoulder motion and help prevent future shoulder problems.

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or damage to the muscles or tendons that make up the rotator cuff.

It’s easy to understand how the muscles or tendons of your rotator cuff can be strained, bruised or torn by some sort of trauma. It can happen when you use an arm to break a fall, fall on your shoulder, or lift or pull something that’s too heavy — particularly if it involves lifting overhead.

When strains or tears occur, they may range from microscopic tears to partial or full-thickness tears. In full tears, the muscle and tendon groups that make up the rotator cuff are ripped apart or separated from the bone.

In addition, many subtle factors also can contribute to rotator cuff irritation or injury, including:

- **Repetitive overhead movement of your arms** — Seemingly harmless activities such as painting a wall or ceiling may be enough to irritate your rotator cuff. So can more-intensive activities such as tennis, golf, or occupations that involve work with your arms and shoulders, such as the construction trades. Repeated stress on the rotator cuff from overhead use can lead to tendon or muscle wear and tear even in the absence of an injury.

Overuse of the shoulder can also irritate the fluid-filled sac (bursa) located between your shoulder blade and your rotator cuff tendons, causing the bursa to become inflamed. This is called bursitis.

- **Degeneration of muscle and tendon with age** — Increasingly after age 40, you’re likely to have the breakdown of fibrous protein (collagen) in the cuff’s tendons and muscles. This may cause tissues to become less resilient and more prone to inflammation and injury.

- **Pinching and irritation of tendons (impingement syndrome)** — The development of arthritis in the joint that connects your collarbone to your shoulder can lead to the growth of bony protrusions or bone spurs. These can irritate tendons by rubbing on them or by narrowing the space in which the tendons have to move.

Other factors that can lead to irritation include the development of calcium deposits within a tendon, which can irritate your tendon and bursa.

Likewise, poor posture with slouching your neck and shoulders forward can allow the space where the rotator cuff muscles reside to become smaller. This may cause your muscles or tendons to become pinched under your shoulder bones.

- **Imbalance of muscle strength** — For many people, muscles at the front of the shoulders and chest are stronger than are muscles at the back of the shoulders and upper back. This can put undue stress on rotator cuff muscles and tendons.

**Mainly pain**

Pain is the most common symptom of most rotator cuff problems. Pain may only occur when you move your shoulder in certain ways, particularly overhead movements such as combing or shampooing your hair, putting on a jacket, or carrying something heavy. You may find that lying or sleeping on the affected shoulder also is painful.

Sometimes, rotator cuff injuries can cause severe or continuous pain. Additional signs and symptoms of rotator cuff injury include shoulder tenderness or weakness or loss of shoulder range of motion.

The amount of pain you’ll experience isn’t necessarily indicative of the amount of injury you’ve sustained. A full-thickness rotator cuff tear sometimes causes little pain. On the other hand, a fairly minor irritation can cause enough pain to substantially affect your quality of life.

**Minor injuries**

A minor injury or pain from a bout of overuse will often feel better within a few days with proper care. Self-care tips include:

- **Rest** — Avoid movements that aggravate your shoulder and cause pain, especially repetitive overhead activities.

- **Ice the shoulder** — Apply a cold pack wrapped in a cloth for 15 to 20 minutes at a time, three or four times during the daytime. This can help to reduce pain and inflammation.

- **Medications, as needed** — Nonprescription pain medications such as acetaminophen (Tylenol, others) may help ease the pain for a couple of days. Talk to your doctor if the pain doesn’t improve with normal doses of pain medication or if the pain doesn’t improve after a few days.
Gentle exercises — Try doing some gentle shoulder movements within a range of motion that isn’t painful. Total shoulder inactivity can cause the shoulder joint to stiffen up.

Seeking care

It’s important to seek care for severe or persistent shoulder pain to prevent a permanent loss of motion. If pain or limited shoulder motion is bothering you, keeping you awake at night, or interfering with your day-to-day life, there’s probably something that can be done to improve your symptoms. Sudden loss of motion after an injury also requires early evaluation.

Often, the foundation of treatment for rotator cuff pain and injury is exercise therapy. This may involve working with a physical therapist on specific exercises that will help heal your injury, improve the flexibility of your rotator cuff and shoulder muscles, and provide balanced strengthening of shoulder, upper back and chest muscles. Results with physical therapy may not occur instantly. However, a commitment to consistent physical therapy over a few weeks or months is likely to reduce pain and improve shoulder function.

With ongoing pain — especially if it interferes with your ability to do physical therapy — your doctor may recommend an injection of an inflammation-suppressing corticosteroid. This may help reduce pain and inflammation, particularly if inflammation appears to be the root of the problem, such as with bursitis.

Surgery

If your rotator cuff symptoms are related to a bone spur or calcium deposit that’s pinching or irritating a tendon, certain relatively minor surgical procedures may be helpful.

With calcium deposits in a tendon, ultrasound imaging can be used to guide placement of a needle that’s used to break up the deposit. Fragments of the calcium deposit can then be suctioned away.

With bone spurs that have formed on an arthritic joint, a scoping device and small surgical instruments can be inserted through small incisions near the shoulder. These instruments can be used to trim away bone spurs and suction out debris.

Partial and full-thickness tears may not need to be repaired, depending on how you’re getting along with the injury. Still, some partial tears can be improved with a trimming and smoothing procedure done using an arthroscope. Larger partial tears and full-thickness tears are repaired by reconnecting torn muscles and tendons. This can be done as open surgery with a larger incision, or using an arthroscope. Either method typically requires four to six months or more of rehabilitation before full shoulder function is restored.

Health tips

Disposing of medications

In most cases, drugs shouldn’t be flushed down the toilet. The Food and Drug Administration (FDA) recommends that you:

- Properly dispose of medications in your household trash — Remove medications from the original container and mix them with an undesirable substance, such as cat-box filler or used coffee grounds. Seal the mixture in a disposable container, such as a margarine tub or a plastic bag. Remove any personal information. Place the sealed mixture and empty drug containers in the trash.

- Take medications to a drug take-back program — Check with your local government’s household trash and recycling service to see if there’s such a service near you.

The FDA recommends that certain medications — mostly painkillers and sedatives — be flushed down the sink or toilet. The agency lists more than two dozen medications best disposed of in this manner. Ask your pharmacist if your medication is on the FDA’s flush list. Or, you can view the list by going to the FDA’s website — www.fda.gov — and entering “drug disposal” in the search box. Select the first item from the list of results in order to view the FDA document that contains the list.

Daily stretches and regular strengthening can help prevent rotator cuff problems — or help prevent them from recurring. Exercises, from left to right, include squeezing your shoulder blades together, gently stretching your arm across your body, circling your arm for range of motion and walking your fingers up a wall.
Iron deficiency

Causes determine treatment

Being this tired isn’t like you. You have even tried to get more sleep, but it isn’t helping. Now your legs have begun to feel twitchy at night.

Your doctor wants to have your iron levels checked.

Iron deficiency results when your blood lacks adequate iron. With persistent or continued iron deficiency, your body reduces production of healthy red blood cells, causing anemia. Whether or not you’re anemic, iron deficiency is a concern in and of itself and can cause symptoms.

The cause may be clear. Among premenopausal women, iron deficiency is commonly due to menstrual blood loss. There may be several ways to treat this type. Iron deficiency also can occur with the increased demands for iron during pregnancy.

But when a cause isn’t readily identifiable, iron deficiency may indicate other, more-difficult-to-diagnose disorders, such as celiac disease, or a more serious underlying condition, such as Crohn’s disease or colon cancer. Discovering what’s behind iron deficiency is crucial to determining the best treatment.
ness of breath. Less commonly, you may feel twitchy and possibly experience restless legs syndrome. You may have brittle nails, a sore tongue and unusual cravings for items such as dirt, paper, pure starch or ice.

**Prime suspects**

Iron deficiency often stems from losing more iron than you can take in due to:

- **Loss of blood** — This is the leading cause of iron deficiency. The source of blood loss is more obvious when associated with conditions such as heavy menstrual periods, or with trauma or injury. Frequent blood donors whose diets don’t include enough iron may become iron deficient, as well.

  Bleeding that’s not visible can be more challenging. This type can be slow. Among possible causes is chronic, unrecognized bleeding in the gastrointestinal tract, possibly related to cancer or other diseases.

- **Impaired iron absorption** — Normally, iron is absorbed in the gastrointestinal tract from food. However, certain conditions — such as celiac disease, gastric bypass surgery, Crohn’s disease and *Helicobacter pylori* (*H. pylori*) infection — are associated with lower iron levels.

**Putting it to the test**

Blood tests can help confirm iron deficiency. Several aspects of a blood sample may be considered in making a diagnosis, including:

- **Ferritin** — This protein provides an estimate of your iron reserves. Low ferritin usually indicates a low stored iron level and can be an indicator of iron deficiency.

- **The size and color of red blood cells** — As iron deficiency progresses, red blood cells become smaller and paler than normal.

- **The level of hemoglobin** — Lower than normal hemoglobin indicates anemia, which could be due to a lack of iron.

**Stages of iron deficiency**

The illustration at left shows blood cells in which bone marrow iron stores are reduced and ferritin is low. The second box shows smaller and paler red blood cells. The final box shows anemia, with fewer red blood cells that are even smaller.

**Making the most of iron supplementation**

Your doctor may prescribe iron supplements to increase hemoglobin production and build up your iron reserves. Most people can take iron supplements by mouth. Typically, stools become very dark when taking iron, and constipation may occur. A stool softener or laxative may help.

<table>
<thead>
<tr>
<th>Types of oral iron</th>
<th>Elemental iron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous fumarate, 1 tablet</td>
<td>106 milligrams (mg)</td>
</tr>
<tr>
<td>Ferrous gluconate, 1 tablet</td>
<td>28 to 36 mg</td>
</tr>
<tr>
<td>Ferrous sulfate, 1 tablet</td>
<td>65 mg</td>
</tr>
<tr>
<td>Ferrous sulfate, 1 teaspoon</td>
<td>44 mg</td>
</tr>
</tbody>
</table>

Your doctor can help you determine which is best for your situation and how long you should keep taking an iron supplement. Iron is best absorbed in the company of acid, so it’s generally helpful to drink orange juice with your supplement or take a 250-milligram (mg) vitamin C tablet. Another option is Vitron-C, which is a formulation containing ferrous fumarate and vitamin C.

Enteric-coated iron tablets aren’t recommended. The coating delays iron release, hampering absorption.

Don’t take iron with milk, tea, coffee, certain antibiotics or calcium supplements. Take your iron one to two hours before or two hours after any of these. If you use antacids, iron should be taken two hours before or four hours after you’ve taken an antacid.

If you can’t tolerate oral iron or don’t absorb enough iron from your gastrointestinal tract, the best route may be intravenous iron. This is most often used when the level of continued bleeding surpasses the gastrointestinal tract’s ability to absorb iron.

**Further considerations**

If iron deficiency is diagnosed, iron supplementation is generally started. But it’s still important to find out why you’re iron deficient. If the cause isn’t obvious, additional testing may be recommended.

A key concern in older adults and those who have a family history of colon cancer is determining if colon cancer may be behind blood loss. One of the first signs of colon cancer can be iron deficiency.

Stool testing, a colonoscopy exam or an upper endoscopy may be done to help locate the source of the bleeding. ©
Fish on your dish

The heart of the matter

Part of healthy eating can be making a regular place for fish in your diet. That’s especially true if you’re concerned about or living with heart disease. The fats in fish — omega-3 fatty acids — are known to reduce the risk of heart disease.

But could contaminants — such as dioxins, polychlorinated biphenyls (PCBs) and mercury — overshadow the potential heart-healthy benefits of the fish you eat?

Heartthrob

Eating one or two servings of fish a week, especially fish higher in omega-3 fatty acids, could reduce the risk of dying of a heart attack by a third or more.

Some research links consumption of omega-3 fatty acids to a decreased risk of abnormal heartbeats (arrhythmias) that may lead to sudden cardiac death. Evidence also suggests omega-3s may play a role in helping lower triglyceride levels and possibly decrease the rate of plaques growing in blood vessels (atherosclerosis).

Salmon is just one of many fish that are good sources of omega-3s and also have low mercury levels. Other healthy choices are listed on the chart on this page.

Chain of buildup

Fish is a good source of protein, and some fish are also good omega-3 sources — but fish is also where you’re most likely to encounter mercury in its organic form, the majority of which is methyl mercury. Methyl mercury is a component of industrial air pollutants that fall as acid rain into fresh and ocean waters. Fish take in the methyl mercury as they feed.

Methyl mercury buildup in fish is variable. It depends on the water fish live in, what they eat and how long they live. Larger ocean fish that are higher on the food chain — particularly shark, tilefish, swordfish and king mackerel — have the most methyl mercury. Certain freshwater fish also can be high in mercury. Information on how much locally caught fish is safe to eat can be found by contacting your state or local health department or by accessing the Environmental Protection Agency website at: www.epa.gov/fishadvisories/states.htm.

If you eat enough fish containing high levels of mercury, you’re at increased risk of accumulating toxic amounts in your body. However, for most adults there’s a large range between what’s typically considered a normal mercury blood level and what’s toxic. For pregnant women or women planning to become pregnant, the toxicity threshold is much lower.

All things considered

The benefits and risks of eating fish vary, depending on your age. For pregnant or breast-feeding women and young children, the Food and Drug Administration (FDA) advises not eating fish with the highest mercury contamination — specifically tilefish, shark, swordfish and king mackerel.

The FDA suggests that other people aim for two meals a week containing fish and shellfish that are lowest in mercury, such as salmon, pollock and catfish. Keep portion sizes small, totaling no more than 12 ounces a week. Recommendations for tuna consumption are controversial. Canned white (albacore) and fresh or frozen tuna are higher in mercury than is canned light tuna. All should be consumed less frequently.

However, for adults in general, some recent research suggests higher weekly fish and shellfish consumption may be beneficial. For postmenopausal women and middle-aged and older men, the cardiovascular health benefits of regularly eating a variety of low-mercury fish far outweigh the risks, according to a study in the journal Environmental Health Perspectives.

The study suggests fish and seafood such as tilapia, pollock, flounder, shrimp, trout, herring, salmon, canned light tuna and cod can be eaten daily. Canned white tuna, halibut, sea bass and lobster can be eaten twice weekly, according to the study, and tuna steak can be eaten once weekly. The study recommends against eating swordfish and shark.

<table>
<thead>
<tr>
<th>Fish and serving size in ounces (oz.)</th>
<th>Omega-3s (in milligrams)</th>
<th>Mercury (parts per million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmon, farmed (6 oz.)</td>
<td>4,504</td>
<td>Less than 0.05</td>
</tr>
<tr>
<td>Salmon, wild (6 oz.)</td>
<td>1,774</td>
<td>Less than 0.05</td>
</tr>
<tr>
<td>Herring, Atlantic (3 oz.)</td>
<td>1,712</td>
<td>Less than 0.05</td>
</tr>
<tr>
<td>Anchovy (2 oz.)</td>
<td>1,165</td>
<td>Less than 0.05</td>
</tr>
<tr>
<td>Mackerel, Atlantic (3 oz.)</td>
<td>1,059</td>
<td>0.05</td>
</tr>
<tr>
<td>Trout (2 oz.)</td>
<td>581</td>
<td>0.07</td>
</tr>
<tr>
<td>Sardines (2 oz.)</td>
<td>556</td>
<td>Less than 0.05</td>
</tr>
<tr>
<td>Pollock, Alaskan (2 oz.)</td>
<td>281</td>
<td>Less than 0.05</td>
</tr>
<tr>
<td>Catfish, farmed (5 oz.)</td>
<td>253</td>
<td>Less than 0.05</td>
</tr>
</tbody>
</table>

Source: Journal of the American Medical Association, 2006
Jet lag

Reducing its effects

There’s no shortage of advice on how to thwart jet lag — a phenomenon of long-distance airplane travel that has gotten many a vacation off to a slow, tired start. But what really works?

Recommendations based on scientific research have found that medications and strategies specific to your direction of travel can help make your plan for minimizing jet lag more precise and effective.

That sleepy feeling

Jet lag is a temporary sleep disorder that can affect anyone who quickly crosses multiple time zones. Tiredness, daytime fatigue and insomnia are common symptoms of jet lag. You may also feel generally unwell, possibly experiencing digestive discomfort or sore muscles.

Jet lag is primarily caused by the disruption of your body’s internal clock — or circadian rhythm. Your circadian rhythm is greatly influenced by sunlight and darkness. The onset of darkness results in the release of a sleep-promoting hormone melatonin. In the daytime, when it’s light out, melatonin production is very low.

Additional factors that may contribute to jet lag include losing sleep over long hours of travel, dry and dehydrating cabin air, cabin pressure that’s equivalent to being at high altitude, and noise and vibrations of the airplane.

Jet lag is likely to be worse and last longer the more time zones you cross. Notably, it often takes longer for older adults to adjust to a new time zone and get over jet lag. In addition, most people find they have more jet lag symptoms when traveling west to east than when traveling east to west.

East or west?

Here are a few tips for reducing jet lag symptoms and shortening its duration that are specific to your direction and duration of travel.

<table>
<thead>
<tr>
<th>When traveling eastward</th>
<th>When traveling westward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shift the timing of sleep one to two hours earlier for a few days before travel.</td>
<td>Shift the timing of sleep one to two hours later for a few days before travel.</td>
</tr>
<tr>
<td>If you cross fewer than eight time zones, seek exposure to bright light in the morning.</td>
<td>If you cross fewer than eight time zones, seek exposure to bright light in the evening.</td>
</tr>
<tr>
<td>If you cross eight or more time zones, avoid bright light for the first two to three hours after dawn during the first two days. After that, seek exposure to bright light in the morning.</td>
<td>If you cross eight or more time zones, avoid bright light for the two to three hours before dusk during the first two days. After that, seek exposure to bright light in the evening.</td>
</tr>
<tr>
<td>Consider taking a sleeping pill at the local bedtime for a few days to help you fall asleep when you aren’t tired.</td>
<td>Consider taking a short-acting sleeping pill if you wake up in the middle of the night and can’t get back to sleep.</td>
</tr>
<tr>
<td>Consider taking up to 6 milligrams of a melatonin supplement at the local bedtime until you adapt to the new time.</td>
<td>Consider taking a short-acting, half-milligram dose of a melatonin supplement if you wake up in the middle of the night.</td>
</tr>
</tbody>
</table>

General tips

Minimize jet lag by:

- **Being well rested** — Avoid last-minute packing and other details that keep you from getting good sleep before you travel.
- **Staying hydrated** — Drink plenty of water on the flight.
- **Wearing foam earplugs, and when resting, an eye mask** — Studies have shown that the reduction in airplane cabin noise you get from foam earplugs can significantly reduce your body’s stress levels.
- **Limiting alcohol and being thoughtful about caffeine** — Both alcohol and caffeine cause dehydration. Caffeine can disrupt sleep schedules. If you plan to take a sleeping pill, avoid alcohol. If you plan to sleep on the flight, avoid caffeinated beverages.

- **Possibly taking a prescription sleeping medication** — A short-acting sleeping pill such as zaleplon (Sonata) may help you get some sleep on a long flight, without leaving you groggy upon arrival.
- **Staying on your new schedule** — For stays of more than a day or two, do your best to lock into the local time upon arrival. This may involve staying awake even if you’re tired or going to bed even if you’re not. If a nap seems irresistible, keep it short so that you don’t disrupt your attempt to go to sleep at the local bedtime.

Caffeinated beverages may help you stay awake in a new time zone, but consuming caffeine after midnight of the local time may interfere with your ability to sleep at night.

Source: The New England Journal of Medicine, 2010
Second opinion

Questions and our answers

Q: My mom, a spry, generally upbeat 88-year-old, has seemed somewhat depressed in recent months, even to the point of not eating like she usually does. Is there anything that might help her feel better and gain back some of the weight?

A: Given the changes in your mother that you describe, it would be reasonable for her to check with her regular doctor. An underlying medical condition might account for her changed outlook and eating habits.

If depression is diagnosed, then your mother may be helped by choosing an antidepressant, such as mirtazapine (Remeron), that can also cause weight gain. Mirtazapine is prescribed to manage depression, but it also has properties that can help increase appetite.

Q: What makes my stomach growl when I’m hungry?

A: Stomach and intestinal noises, such as rumbling, gurgling and growling, are a normal part of the digestion process. These can occur as food particles, liquids and pockets of gasses are slowly propelled through your intestines.

However, stomach growling — also known as borborygmi (bor-buh-RIG-mee) — can also occur when you haven’t eaten and are hungry. Hunger and appetite are controlled by a complex system of hormone-like substances primarily made by your digestive system. When you haven’t eaten for a while, these substances are released and cause a part of your brain called the hypothalamus to “switch on” your desire to eat.

A message is then sent to your stomach and intestines. This triggers muscle contractions and the release of acids and other digestive fluids — which causes the rumbling, grumbling sounds you hear — as your body prepares for you to eat. The thought, sight or smell of food also can trigger this response.

Q: Are some of the more exotic berry types, such as goji and açai berries, better for health than the more common berries, such as strawberries, blueberries and raspberries?

A: Probably not. Berries of many types — exotic and common — are typically very nutritious and can be an important part of a healthy diet.

A laboratory study published in the June 2010 issue of *Pharmaceutical Research* found that consuming either noni berries, wolfberries — also known as goji berries — or açai berries all caused bloodstream antioxidant levels to rise.

However, the study also found that strawberries, blueberries, black raspberries and red raspberries elevated the blood levels of antioxidants just as high or higher than did the more exotic berries. In the laboratory setting, all of the common and exotic berry types had a similar inhibitory effect against certain cancer cells.

In addition to antioxidants, berries of most types are also good sources of fiber. However, a berry product in the form of a juice or extract — which is how exotic berries are often marketed — is likely to have much lower fiber content than fresh, frozen or dried berries.

One of the biggest differences between various berry products often is their price. Based on current evidence, paying premium prices for exotic berries is unlikely to provide you with health benefits that can’t be obtained by eating more common — and reasonably priced — berries.

Have a question or comment?
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