



Hughston Health Alert



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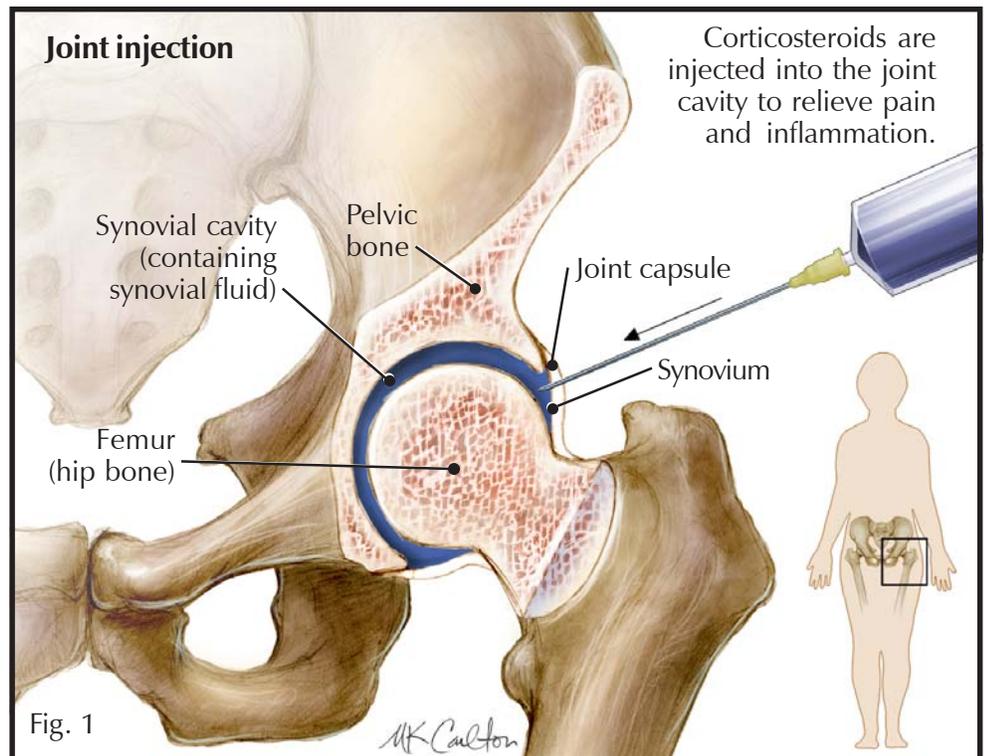
Injections

A shot of relief

You may not like the idea of getting a shot, but injections often help relieve pain and inflammation and help improve joint movement. To control your pain, your doctor can inject medication directly into the problem area instead of prescribing pills to be taken by mouth. Injections are not a cure, but they can help you through a period of intense pain. Often, injections offer an alternative to patients whose only other choice to relieve pain is surgery. Injections also offer relief to patients for whom surgery is not a viable option because of other health conditions. Injections are used to relieve knee pain, low back pain, hip pain, and many other conditions resulting from acute injuries, overuse injuries, and medical conditions such as arthritis.

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- Garland K. Gudger MD



Corticosteroids are injected into the joint cavity to relieve pain and inflammation.

What are injections used for?

Injections can be used to diagnose as well as to treat injuries and illnesses. Injections are sometimes used to learn more about what is causing your pain and how it can be treated. For example, if an injection provides pain relief in the area that is injected, it is likely that the area is the source of the problem. On the other hand, if the injection does not relieve the pain at the injection site, the pain could be the result of nerve damage, which can mean the pain traveled to that area of the body from

another area. Therapeutic injections are used as treatments for temporary relief from pain and are typically divided into 3 categories based on the part of the body that is injected. Joint injections, soft tissue injections, and nerve block injections are common treatments for the relief of inflammation and pain.

Joint Injections

An adult over age 45 often experiences arthralgia or joint pain. Many types of injuries or conditions can cause joint pain. For example,

rheumatoid arthritis is an autoimmune disorder that causes pain and stiffness in the joints, and osteoarthritis involves the growth of bone spurs and degeneration of cartilage at the joint, causing severe pain. An injection of corticosteroid medication is often prescribed to help relieve the pain caused by different types of arthritis, or it can be prescribed after an injury or surgery.

Corticosteroid medications imitate the effects of the hormones cortisone and hydrocortisone, which are produced by your adrenal glands. Corticosteroids can be injected into affected joints, such as the shoulder, elbow, hip, or knee, and can relieve pain for 4 to 6 months.

Injections are often given in the hip joint to relieve pain resulting from arthritis (Fig. 1, pg. 1). The most common disease that affects the hip, arthritis is a degenerative disease that can cause pain, stiffness, inflammation, and damage to the joint cartilage (the smooth tissue at the ends of bones that allows them to glide against one another). Such damage can lead to joint weakness, instability, and visible deformities that can interfere with basic daily tasks such as walking, climbing stairs, sitting, rising from a chair, or getting out of bed.

Usually, 3 injections of a corticosteroid are given over a 3-week period. The procedure is performed under fluoroscopy (visual diagnostic examination on a screen or monitor) while the patient lies on his or her back on the fluoroscopic table. After the hip is cleaned with iodine and alcohol, the needle is advanced into the hip joint. Often, a small amount of water-soluble contrast (dye) is injected to confirm proper needle location. Then, the

needle is slowly withdrawn. The entire procedure only takes minutes, but the benefits can last for months.

Soft tissue injections

Bursitis, or inflammation of the bursa, causes nagging joint pain. You have more than 150 bursae (small, fluid-filled sacs) in your body, which cushion the pressure points between your bones and the tendons and muscles near your joints. When a bursa becomes inflamed, movement or pressure on the affected joint can be painful. Bursitis most often affects the shoulder, elbow, or hip. Injections of corticosteroid can help reduce the inflammation and pain (Fig. 2).

Trigger point injections

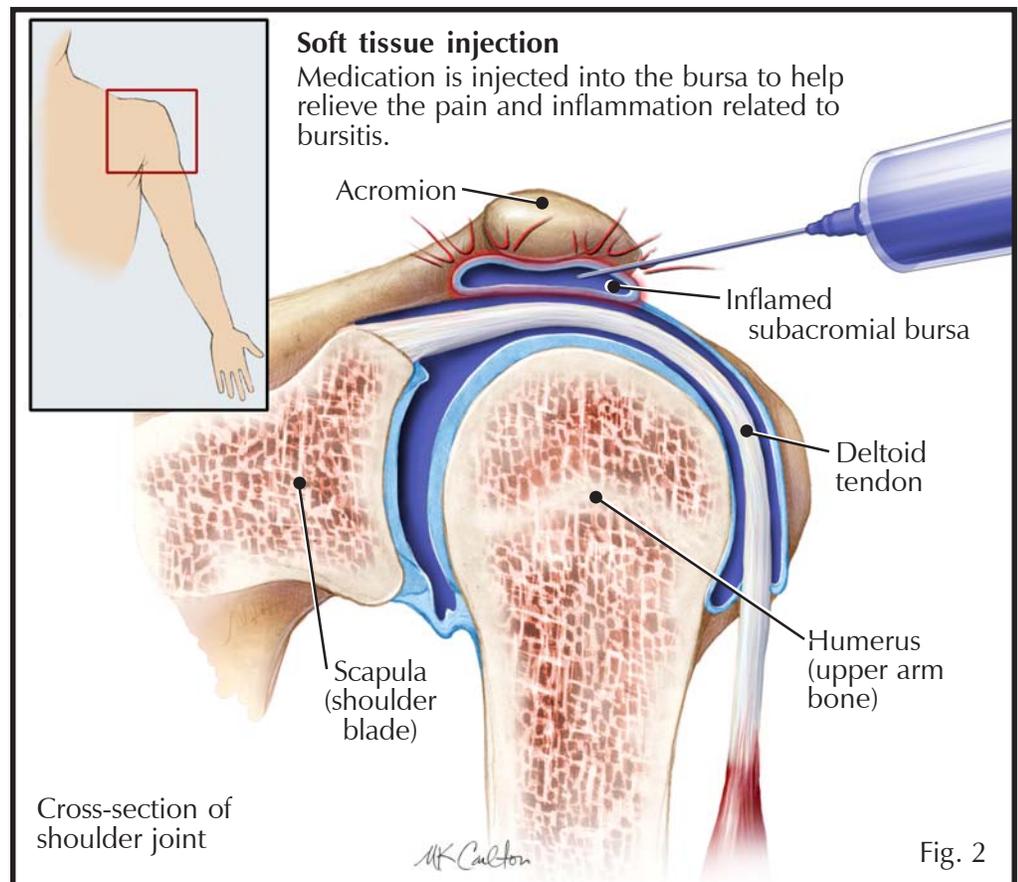
Trigger point injections are prescribed when your muscles are sensitive and painful to the touch. Depending on the medication used, trigger point injections can reduce pain and inflammation in your muscle

or can relax a muscle. A combined injection of anesthetic and corticosteroid medication can reduce pain and promote increased range of motion. Because the corticosteroid can take 3 to 4 days to begin reducing the inflammation and providing relief, anesthetic is also given for the pain until the inflammation can be controlled. Sometimes an anesthetic alone is used if there is little or no inflammation and the goal is to relax the muscle for effective stretching.

Nerve block injections

A nerve block prevents pain messages from traveling along a nerve pathway and reaching your brain. Nerve blocks are often used to relieve pain for a short period, such as during surgery. If there is inflammation around a nerve, an injection of corticosteroid medication in conjunction with the nerve block anesthetic can provide longer relief.

There are 3 major types of nerve



blocks, peripheral, spinal, and sympathetic. Peripheral injections are used for localized pain and are injected away from the spine. For pain that affects a broad area, an anesthetic is injected in or near the spine. An injection directly into the spinal fluid is called an intrathecal injection. An intrathecal injection is often used during surgery on the abdomen or legs.

The sympathetic nervous system controls circulation and perspiration and are part of your autonomic nervous system. An injection of an anesthetic to block the sympathetic nerves can relieve chronic pain caused by diseases such as complex regional pain syndrome, which affects your sympathetic nervous system.

Side effects

You can experience side effects after an injection, such as an infection, an allergic reaction, local bleeding, or skin discoloration. Not everyone develops side effects, and symptoms vary from person to person. Side effects rarely occur if injections are given less than every 3 to 4 months. However, if injections are given more frequently you could experience weakened ligaments, tendons, and bones.

Some people simply don't like shots, while others have serious phobias about injections. Despite any fear you may have, if your doctor recommends an injection, you should consider the benefits. You may experience some pain initially during the procedure, but that only lasts minutes. On the other hand, if you have the injection, you could get a shot of relief that lasts for months.

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You and Your Medicine

Medicine is the most common treatment for many of the problems associated with aging. Medicine treats and cures diseases, prevents life threatening illnesses, relieves pain, and helps terminally ill patients. Often, people have a better quality of life and live longer because of the medicine they take.

However, medicine can sometimes be a double-edged sword for the aging person. If prescription medications, over-the-counter medications, and herbals and supplements are not taken properly, there can be devastating results. Taking medication improperly can lead to unnecessary visits to the emergency room, hospitalization, or admission to a nursing home.

Changes in your body

Aging causes a change in the body's processes. These changes

Table 1. Symptoms that can mean your dose needs to be adjusted

- feeling drowsy
- being confused
- feeling down or depressed
- can't sleep
- shaking
- bladder problems
- loss of memory
- acting unusual
- not steady in walk

create a need for a different dose strength of some medications that are taken by the elderly. In some instances, a medicine can be most effective in a child's dose. It is important that your doctor, nurse, and pharmacist know your age so the right dosage and dose strength is prescribed. Overdoses can occur in aging adults because of the body's inability to handle the medication. During routine visits to your doctor, be sure to discuss any new symptoms that you may have experienced since your last visit (Table 1).

Age-related problems associated with taking medicine can be easily overcome if you discuss them with your doctor (Table 2). Problems

Table 2. Age-related problems with taking medications

Memory	I forget to take my medicine.
Vision	It's difficult to read the labels.
Hearing	I can't hear my doctor very well.
Dexterity	I can't open the bottles.
Swallowing	I can't swallow tablets and capsules.
Scheduling	I take my medicine at different times of the day.
Polypharmacy	There are too many medicines.

Do's and Don'ts for taking medicine

Do

- Keep a current list of medicine with you all the time that includes how much to take and how often you take it.
- Store all of the medicine in the same location unless it must be refrigerated. If there is an emergency then the medicine is in one place.
- Keep medicine out of the reach of children.
- Destroy all expired medicine.
- Keep a written schedule that includes how much and how often you take each of your medicines.
- Take the medicine only as directed.

Don't

- Do not store medicine where there is moisture or heat, such as in the bathroom.
- Do not mix different medicines in the same container.
- Do not share medicine with anyone else.
- Do not take more doses, more often than prescribed.
- Do not start taking any other medication including supplements without first talking with your doctor.
- Do not stop taking the medication or skip days.

remembering to take medication, being able to read the labels, and being able to open the bottles are just a few of the everyday problems that should be discussed with your physician. There are solutions available to help you overcome these types of problems. For example, inexpensive electronic devices that beep to remind you when to take your medicine are available. You can ask that instructions and labels be printed in large print to make it easier to read. Getting a printout of instructions also helps if you have difficulty hearing your physician or remembering what he said.

When your doctor prescribes medication, don't be afraid to ask questions about it. You should always know what you are taking and why. Ask your doctor if the medication is necessary and if it is the best medicine for your condition. Also, be sure to ask if the new medication will affect other medicines that you are taking. Ask if you are taking the right

dose, although, often, the dose has to be adjusted a time or two to get it just right for you. Ask what side effects you may have while taking the medication. After you begin taking a medication be sure to let your doctor know if you experience any problems such as feeling drowsy, confused, or depressed. Let him or her know if you can't sleep, feel shaky, or are not steady when you walk. All of these symptoms are important considerations in prescribing the right medication and the right dosage.

Just because the label of an over-the-counter herbal supplement says "natural" does not always mean it's safe. You should keep in mind that herbals can interact with your prescribed medicine. The Food and Drug Administration (FDA) does not regulate herbals so companies don't have to demonstrate if their herbal is effective, safe to use, or if it has an adverse effect on other medicines. For example, ginkgo biloba and other herbal supplements used in memory loss can interact with blood thinners, high blood pressure medications, ibuprofen, and naproxen. Remember, it's important to let your doctor and pharmacist know what kind of herbals or supplements you are taking.

Keeping a record

The benefits of your medication are at the highest when you take the proper dose at the prescribed intervals. If you take a medication daily, it is best to take it at the same time each day. Keeping a written record of your medication schedule is an excellent way to keep up with how much you have taken and when the medication was taken. A spiral notebook is an inexpensive and convenient way to keep a written record of your medication schedule. You can show the record to your doctor at each visit. You can also note any new symptoms or side effects you experience. The record can help

For more information, visit these Web sites:

- American Geriatrics Society: www.americangeriatrics.com
- Food and Drug Administration: www.fda.gov/cder/consumerinfo/DPAdefault.htm
- National Council on Patient Information and Education: www.talkaboutrx.org
- Peter Lamy Center for Drug Therapy and Aging, School of Pharmacy, University of Maryland: www.pharmacy.umaryland.edu/lamy

pinpoint the cause of any problem. You can also list the results of any testing your doctor has prescribed for you to do at home, such as the results of testing your blood pressure or blood-sugar level.

Taking medications doesn't have to be a double-edged sword. For better health and management of your medications, talk to your health care professional if you have questions about your medicine. Make sure your doctor knows everything you take, which includes herbal tea, vitamin supplements, or over-the-counter medicine. Your medicine should improve your health and well-being rather than contribute to illness, so always speak up if you have questions, and tell the doctor if you have side effects.

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Spinal Injections

Oh, my aching back!

If your back aches, join the club! Nearly 84% of people will experience back pain at some point in their lives. Back pain can be caused by many things, but remember, it is usually self-limiting. Common causes include muscle strains, arthritic conditions, and disc herniations. Less common causes include infections, fractures, and tumors.

Sciatica, the leg pain often associated with back pain, is less common and only occurs in about 40% of back-pain patients. Inflammation of the nerve caused by mechanical compression of the nerve or chemical irritation of the nerve root due to herniation of disc material is often the cause.

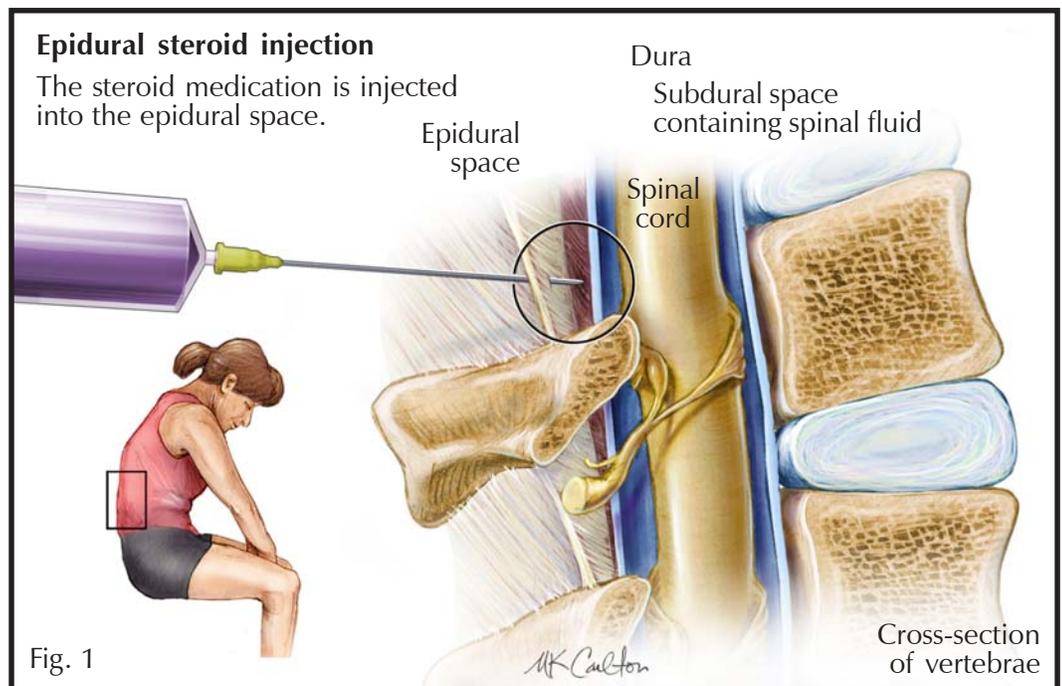
Treatment for back pain and sciatica include anti-inflammatory medications and a strengthening program along with aerobic exercise. However, severe pain may require more aggressive measures, such as

epidural steroid injections (ESI), selective nerve root blocks (SNRB), or facet injections. Often, before an injection is prescribed, your physician will examine you and a magnetic resonance imaging (MRI) study will be taken to help evaluate the cause of your pain.

Epidural steroid injections

An ESI may be done to relieve the severe leg pain associated with conditions such as degenerative disc disease, spinal stenosis, and postlaminectomy syndrome. This injection is done on an outpatient basis. Using x-ray guidance to determine its proper position, the needle is positioned above the sac containing spinal fluid. Its position is verified with an injection of a small volume of dye. Next, a mixture of steroid medication and an anesthetic is injected (Fig.1).

The steroid is a powerful anti-inflammatory medication that can relieve pain in as quickly as 15 minutes or take as long as 2 weeks, and the pain relief can last for as long as 3 months. Approximately 62% of patients experience relief with a



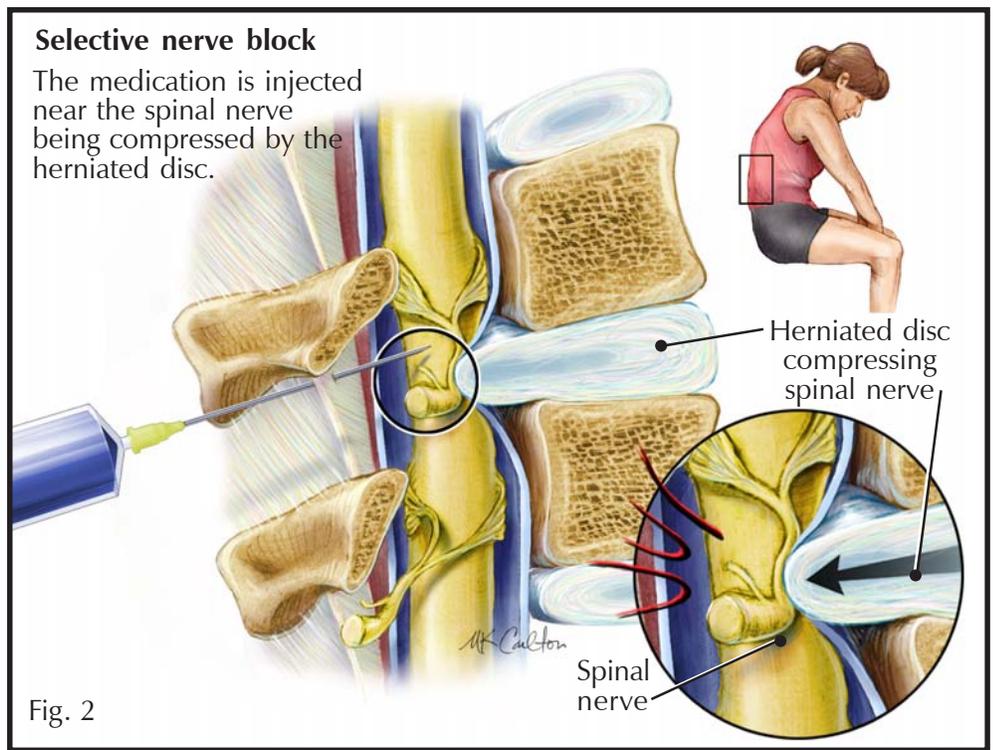
single epidural steroid injection. However, some patients can require as many as 3 injections to experience relief.

Selective nerve blocks

Selective nerve root blocks are similar to ESI, however, they are more effective for disc herniations. This procedure is done on an outpatient basis using x-ray guidance. During the procedure, the needle is positioned near the nerve as it exits the spinal column (Fig. 2). The injection gives temporary relief while the disc is healing. About 87% of patients experience relief for up to 3 months with this type of injection. Patients are more likely to experience numbness or slight temporary weakness after this type of injection.

Facet injections

Facet injections are prescribed to relieve degenerative arthritis that affects the small joints in the spine.



Facet injections are also done on an outpatient basis under x-ray guidance. A steroid medication and an anesthetic are injected into the

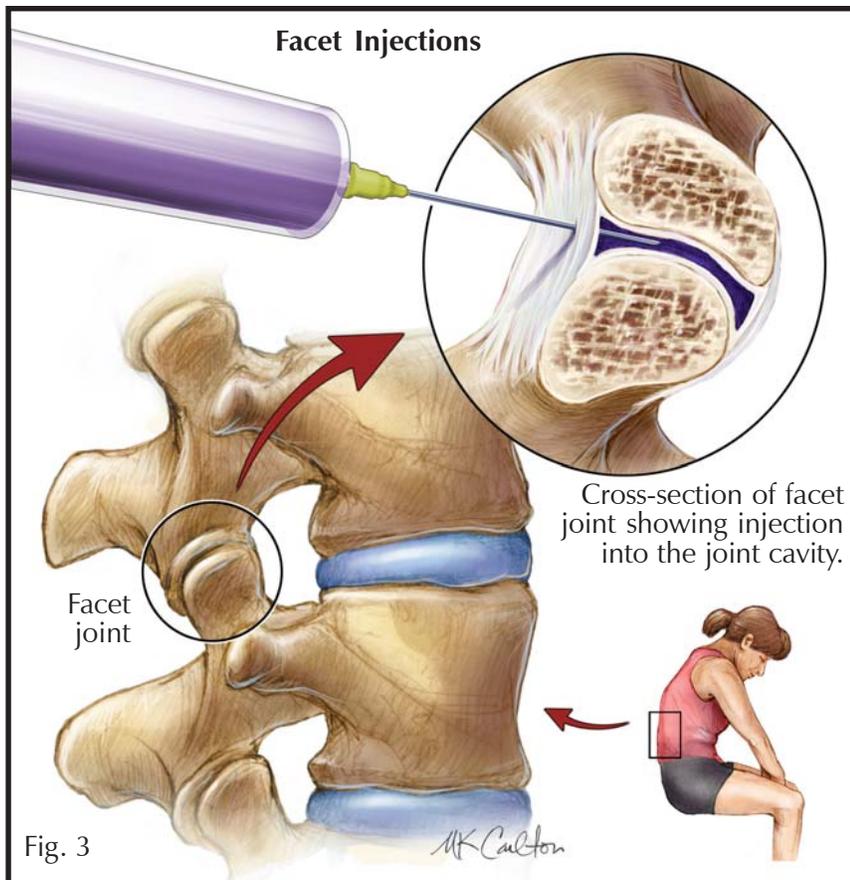
capsule surrounding the small facet joints of the spine (Fig. 3). These injections are made on the side that is often the most painful and sometimes the treatment may require injections at multiple levels. The injections do not cure the underlying arthritis, but they may give pain relief for up to 3 months. They may be repeated, if good relief is obtained.

For more information on back pain and treatment options check the AAOS Web site at www.AAOS.org

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Osteoporosis

A fragile-bone disease

Osteoporosis is a silent disease that affects all bone in the skeletal system, but it often leads to broken bones in the hip, wrist, spine, and pelvis. The disease is common in women past menopause, and in men over 70 years of age, but it can also affect children who spend too much of their time indoors and breast-fed babies. Until a fracture occurs, osteoporosis often remains hidden and undetected by the physician and patient because it occurs slowly over many years.

Risk Factors

Osteoporosis is considered a disease of women, and it does, in fact, affect women past menopause. However, all females are at risk if they have an estrogen deficiency due to hysterectomy; amenorrhea (absence of menstrual periods) for any reason, including athletics; or oligomenorrhea (decreased frequency of menstrual periods). A sedentary lifestyle (secretaries, draftsmen, children who spend too much time playing video games, etc.) are also at an increased risk of osteoporosis. Breast-fed babies are at risk if the mother has low levels of Vitamin D. Elderly and institutionalized patients are at increased risk, as are men over 70 years of age. Smoking and alcoholism are risk factors for osteoporosis as well. Certain other diseases are associated with an increased risk of osteoporosis, including rheumatoid arthritis, kidney disease that requires dialysis, seizure disorders, cancer, and thyroid disease, to name a few.

Prevention

The most important treatment for osteoporosis is prevention. Osteoporosis may be partially prevented by building and then maintaining strong bones. The

necessary building blocks for strong bones are calcium and Vitamin D. Growing children need 1200 mg (milligrams) of calcium per day. Adults need 1000 mg of calcium per day; postmenopausal women and elderly men need 1200 to 1500 mg per day. Everyone needs 400 to 800 IU (International Units) of Vitamin D.

There are many forms of calcium and all are equally effective. Calcium citrate is the most easily absorbed, but calcium carbonate is the least expensive. If you hate pills, drink 4 glasses of milk per day and get 30 minutes of sunshine three times a week. It is also important to maintain a healthy weight and get at least 30 minutes of weight-bearing exercise, such as walking, running, dancing, or aerobics, each day. Decreasing the risk of falls for elderly patients by removing area rugs, adding nightlights, and hiding extension cords are also good preventive measures.

Diagnosis

Osteoporosis can be detected by a simple and painless test for bone mineral density (BMD) called a bone densitometry, or DXA, scan. This test is performed in the x-ray department, is completely painless, and can be completed in about 15 minutes. Every woman past menopause, every man over 70 years of age, anyone with a fragility fracture (broken bone due to minimal or no trauma), and children with risk factors should receive this simple test, **before** they have a broken bone. If the test is normal, it should be repeated every 3 to 5 years, or more often, if there is an increase in the risk factors.

Treatment

Treatment for osteoporosis is started when the bone mineral density identified on the DXA scan drops below normal. There are many medications that are used to treat

osteoporosis.

Two commonly used medications, alendronate (Fosamax) and risendronate (Actonel) both prevent the reabsorption of bone, thereby increasing the bone mineral density and decreasing the fracture risk.

Raloxifone (Evista) helps increase bone density, but only decreases risks of fractures in the spine. Parathyroid hormone (Forteo), a daily injection, stimulates the formation of new bone and has been shown to dramatically decrease fracture risks. Once a fracture occurs, treatment becomes even more important to prevent more fractures in the future.

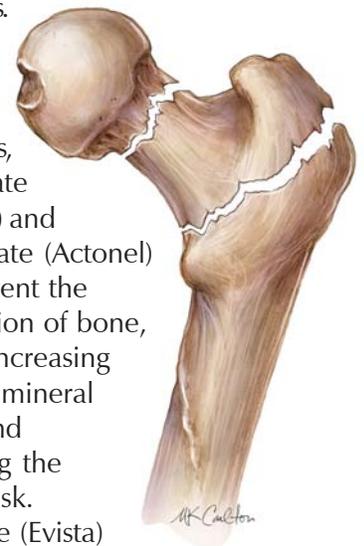
The pain of multiple spinal fractures can be treated by newer surgical techniques of vertebroplasty and kyphoplasty (injection of bone cement into fractured vertebrae). New medications are currently under development. However, the best treatment occurs before the first fracture.

For more information about osteoporosis go to www.aaos.org or www.osteoporosis.org.

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graduated from LaGrange College and earned his medical degree at the Medical College of Georgia. He completed his orthopedic residency at Greenville General Hospital System in Greenville, South Carolina, and at Shriners' Hospital he trained in pediatric orthopedic surgery. Certified by the American Board of Orthopedic Surgeons, Dr. Gudger holds memberships with many professional societies including the American Medical Association, the American Academy of Orthopaedic Surgeons, the Georgia Orthopaedic Society, and the Southern Orthopaedic Association.

Dr. Gudger and his wife, Kay, have one child. In his free time, he hunts, fishes, or plays tennis. His clinical interests and specialties include general orthopaedics, sports medicine, trauma, and orthopedic surgery.



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