

Spine Center

Chasing Back Pain



Here's the most important thing to know about back pain: Eight out of 10 people have it at least once, and most recover without doing anything beyond resting for a few days or weeks, taking aspirin or ibuprofen, and using common sense.

Here's another important fact: Lahey Clinic's new Spine Center is set up to consult with, evaluate, review treatment possibilities and recommend therapy—whether surgery, rehabilitation programs, pain management or some combination—for the 20 percent of back sufferers whose problems have proved reluctant to go away.

“The fact is, the great majority of back problems can be treated best at the primary care level,” says orthopaedic surgeon Bernard A. Pfeifer, MD, the Spine Center's director, “and most back pain sufferers will get better in four to six weeks.

“It's the patients with problems that haven't responded to routine care over a period of months that we're set up to serve,” he says.

A multispecialty approach

Bringing together specialists in neurosurgery, orthopaedic surgery, pain management and rehabilitation, the Spine Center draws on experts with diverse perspectives to offer patients treatment that's most appropriate for them.

Meeting at Lahey Lexington each Monday, Spine Center staff members—Pfeifer, neurosurgeon Subu N. Magge, MD, pain management specialist Cynthia H. Kahn, MD, physiatrist James Sarni, MD, and several others—consult with and evaluate patients referred by physicians both within and outside the Lahey network.

“The pathology of back pain is not as clear as with knee or shoulder pain,” says Sarni, the physiatrist—a specialty that focuses on physical medicine and rehabilitation. “One of the most important things to do when someone comes in is to get a sense of what's going on and develop a treatment plan.

“Surgery is basically your last resort,”

he says. “Before you reach the point of referring a patient for surgery, you want to take him or her as far as possible with rehabilitation and pain control.

“And you need to know when surgery is the appropriate recourse.”

A complex system

Visualize the spine and you most likely see the system of vertebral bones, discs and cartilage that form your backbone. In fact, the back is a complex system of muscles, ligaments and nerves as well as vertebrae and discs that all have to work together to support the weight and stress of your body.

Possible causes of back pain are myriad—strained muscles and ligaments, osteoarthritis that wears on vertebrae, degenerative disc disease that erodes the fibrous discs that separate vertebrae, compressed or inflamed nerves within the spinal column, osteoporosis that leads to compression fractures, disc herniation that causes the disc to bulge or rupture and press against nerves.

And a major factor is the way you treat your back. Excess weight, poor muscle tone caused by lack of exercise, poor posture, heavy lifting—all can contribute insult to your back.



Range of motion, flexibility and muscle tone are among the factors physiatrist James L. Sarni, MD, checks out during a patient evaluation in the Spine Center.

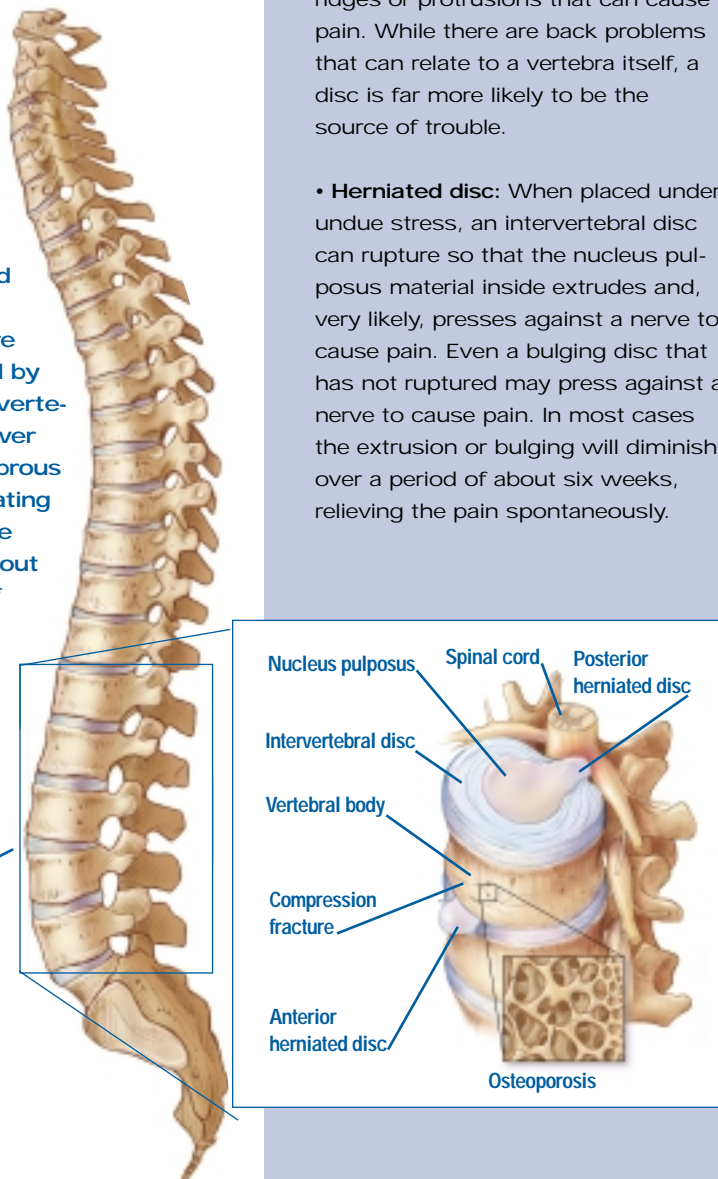
A Glossary of Back Pain



Neurosurgeon Subu N. Magge, MD (left), and orthopaedic surgeon Bernard A. Pfeifer, MD, are two members of the multispecialty Spine Center.

Involving 33 separate bones, the spine's greatest stresses and most likely problems are experienced by the lumbar vertebrae—the lower back. The fibrous discs separating the vertebrae make up about a quarter of the spine's length.

Lumbar L1-L5



- **Muscle and ligament strains:**

These are the most common back problems, and the ones that can usually be dealt with over a matter of days or weeks through rest and simple pain medications. Common causes are excessive stress on the back, such as heavy lifting, "out of condition" muscles, and twisting your back into positions it's not built for.

- **Degenerative disc disease:** Discs are flexible pads of fibrous material called the annulus fibrosis that enclose a jelly-like substance called nucleus pulposus and serve as shock absorbers. Aging and wear lead to a period of instability and inflammation of the disc. Effects can vary, but they can include narrowing of the discs or development on the vertebra of bone ridges or protrusions that can cause pain. While there are back problems that can relate to a vertebra itself, a disc is far more likely to be the source of trouble.

- **Herniated disc:** When placed under undue stress, an intervertebral disc can rupture so that the nucleus pulposus material inside extrudes and, very likely, presses against a nerve to cause pain. Even a bulging disc that has not ruptured may press against a nerve to cause pain. In most cases the extrusion or bulging will diminish over a period of about six weeks, relieving the pain spontaneously.

- **Discectomy:** If the extruded disc material has become trapped outside the disc, the pressure against a nerve that it causes will not be able to resolve spontaneously. It is estimated that 70 percent of disc herniations will resolve by themselves, but discectomy—the procedure to remove the offending disc material—may be necessary.

- **Laminectomy:** The removal of a vertebra's bony lamina, often but not always to access the disc to perform a discectomy.

- **Sciatica:** When a nerve is pinched or compressed by a bulging or herniated disc or other problem, shooting pain can be experienced down one or both legs. Sciatic pain by itself is not usually a criteria for surgery, as it will diminish when a disc problem spontaneously resolves. Often, spine specialists also look for weakness in leg muscles as a sign of a serious problem.

- **Spinal Fusion:** When two vertebrae meet together abnormally, the resulting instability can cause pain. Spinal fusion is a process of joining the unstable bones together to eliminate the abnormal movement. This is often performed with special screws and rods to pin bones together as they heal.

- **Osteoporosis:** As people age, they stop building bone and start losing calcium, resulting in thinning or reduction in the density of bone material. Osteoporosis is most common in—but not limited to—women who have passed menopause, and it can affect bones throughout the body.

- **Compression fracture:** When a vertebral bone loses enough density—and strength—it can collapse. The problem often can be repaired surgically, or with the interventional neuro-radiology technique of vertebroplasty, in which "cement" is injected into the bone to reinforce it. Lahey is one of only a few institutions in New England offering vertebroplasty services.



Pain management specialist
Cynthia H. Kahn, MD.

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“In fact,” says Sarni, “an absolute diagnosis is generally made in only about 15 percent of back pain patients.”

A streamlined process

The enormous advantage of the multi-specialty Spine Center approach, says Kahn, the pain management specialist, is that it eliminates the potentially long process of finding the right doctor for patients with

complex, multifactorial problems.

“With an efficient screening process and all of this expertise represented in the center at the same time, we can refer to the right colleague very quickly,” she says.

Notes neurosurgeon Subu Magge, MD, “Lahey has long had a strong spine surgery service, based in the Departments of Neurosurgery and Orthopaedic Surgery, with very good outcome rates. In fact, laminectomy is one of the most frequently performed surgical procedures at Lahey.

“Our program includes six back surgeons and two nonoperative physicians, as well as extensive Physical Therapy Departments at Burlington, Peabody and Lexington. So it’s not so much that all of these capabilities are new, but that we’re improving access to them,” he says. Surgery is performed at Lahey Clinic Medical Center in Burlington, and pain management interventions are provided at Lahey Arlington.

Quality of life a goal

The Pain Management Center, based at Lahey Arlington, represents strong capabilities for dealing with chronic pain—an array of treatment options ranging from implants, nerve blocks and epidural steroid injections to radiofrequency lesioning.

“Our role,” Kahn says, “may be to help the patient prevent or delay surgery, or in some cases if pain remains after surgery, to help them manage that pain. We also treat patients who are not surgical

candidates and need some type of pain control to improve their function and quality of life.

“We have options we can provide to the patient, such as IDET (intradiscal electrothermocoagulation) and pain control through medications, exercise and rehabilitation, and injections, if needed. Our goal is to keep them working and help them maintain their quality of life.”

Surgery can have the benefit of a decisive fix for appropriate cases, but in fact most back problems are more suitable for a rehabilitation program, with or without pain management intervention.

“The basic goal of a rehabilitation program,” says Sarni, “is to strengthen the injured segment in order to protect it from future overwhelming stresses. You strengthen a muscle system by placing a load on it—always enough to strengthen it, not to make it worse.”

Sarni’s role is to diagnose and prescribe a program that can be fulfilled by the patient and physical therapists, using an assortment of hand and knee exercises, weight strengthening machines, even the large red exercise ball found in most physical therapy departments and health clubs.

“The most important thing,” Sarni says, “is to maximize patients’ range of motion and activity. If they don’t have motion, they develop weakness and stiffness, and then there’s more pressure on the painful segment.

“The vital concept is to strengthen safely,” he says. “That’s why I’m a big believer in supervised therapy.”

Patients are seen in the Spine Center upon referral by a physician. If you would like to be evaluated in the Spine Center, your physician can make a referral by calling 781-744-8899. See the Spine Center web page at www.lahey.org/spine/ for more information about staff and services, including pelvic tilt exercises and body mechanics. See our web page at www.lahey.org/vertebroplasty/ for more information about Lahey’s vertebroplasty service.



How to Keep Your Back Healthy
Tuesday, December 18, 4:30 pm

For details about this and other health and wellness events, turn to the Healthcare Calendar inside the back cover.

Protecting Your Spine

The good news is that there are a number of things you can do to minimize the chances of back problems altogether. The bad news is that you actually have to do something to achieve and maintain a healthy spine.

- **Exercise:** There are specific pelvic tilt exercises you can do to strengthen the back and abdominal muscles that protect the spine. In addition, some forms of regular low-impact exercise can help in strengthening the muscles that protect the spine, but Sarni notes that low-impact aerobic activity does not take the place of low back-strengthening exercises. “A physical load must be placed across the spine to improve muscle strength,” he says, “but this should be done in a very gradual manner and starting at a load the patient knows is safe.”

Also, weight-bearing exercises like walking and biking are important to prevent osteoporosis, and a good program should include both, Pfeifer adds.

- **Lose weight:** Excess weight, especially a “pot belly,” places an enormous strain on the lower back and is a major contributor to back problems.
- **Practice good posture:** Watch body mechanics and posture in all activities, including sleep. Bend your knees rather than your lower back when bending over. Use your legs in lifting heavy objects.