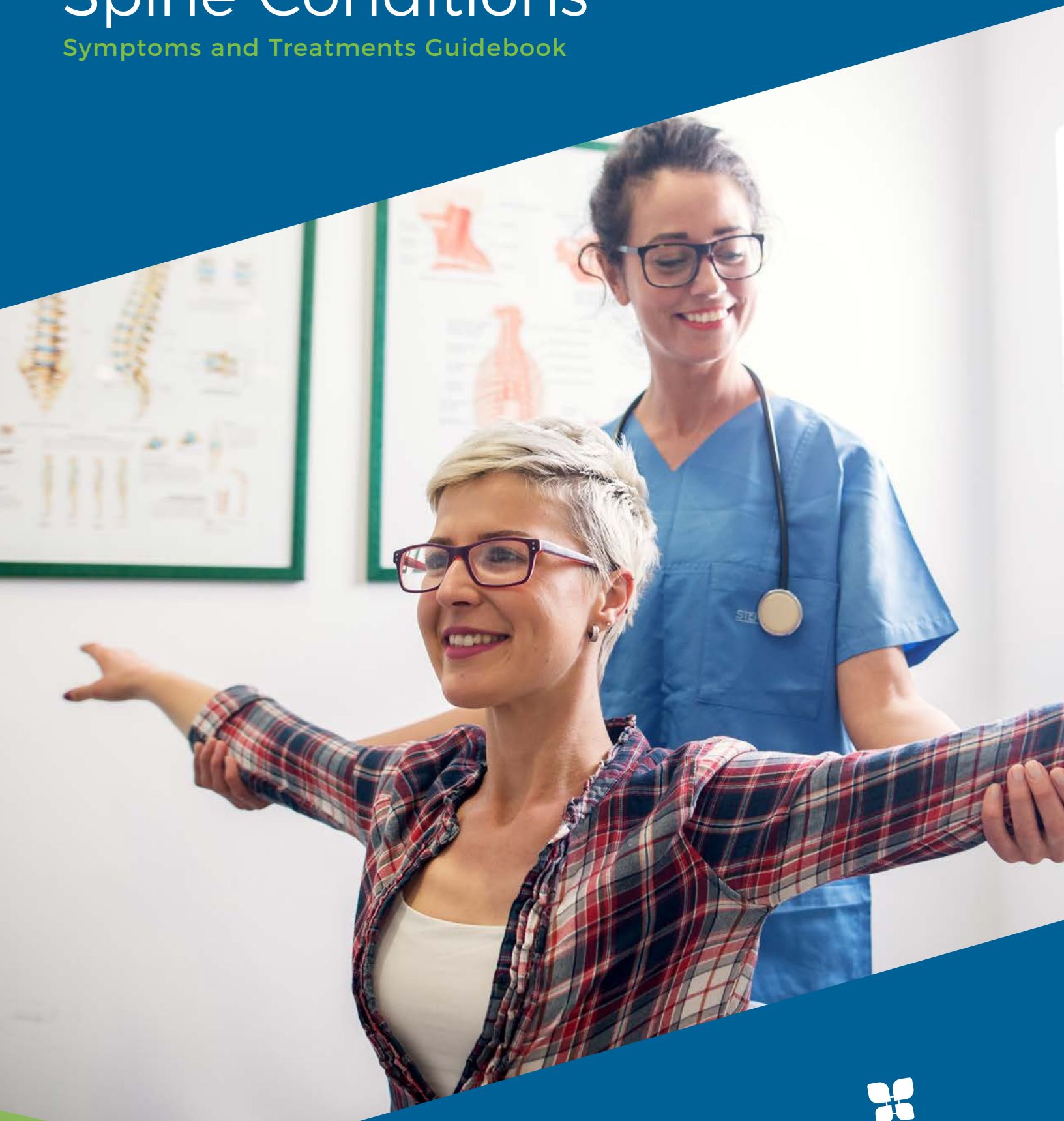
Spine Conditions

Symptoms and Treatments Guidebook



AdventHealth

Don’t Let Back and Neck Pain Control Your Life

We have treatments and therapies that can help.

At the AdventHealth Neuroscience Institute, we know that back and neck pain caused by various spinal conditions can keep you from living a normal life. Approximately eight out of every 10 people will suffer from back pain at some point in their lives – in fact, it’s one of the most common reasons for seeking medical assistance.

Understanding that each person’s pain is different, the goal of our spine program is to provide you with the individualized care you need to be pain-free so you can live a whole life that’s full of the activities you love again. From advanced pain management techniques to minimally invasive surgeries and beyond, rely on the experts who perform thousands of spinal surgeries every year.

This guidebook will explain what you need to know about certain spinal conditions and some of the therapies and procedures that are available to help you feel whole again. Your doctors can discuss which of these options might work best for you.

Spine Components

The human spine is a complex structure that supports the entire body, guards the spinal cord and enables you to move. It is comprised of three major sections of vertebral bones including the cervical, thoracic and lumbar spine, followed by the sacrum and coccyx. The spine has a very distinct, curved design, which allows it to absorb the energy from movements like walking and running.

CERVICAL SPINE

This is the top segment of the spine that's comprised of seven vertebrae. It runs from the base of the skull to the upper chest. Neck pain is a symptom of various cervical spine conditions – though pain in the arms and lower extremities, paralysis and other symptoms can also result from a cervical spine injury. Common cervical spine conditions include arthritis, cervical fractures, cervical radiculopathy (a pinched or irritated nerve), cervical spondylosis (degenerative disease), congenital torticollis (twisted neck) and a herniated disc.

THORACIC SPINE

The middle segment of vertebrae is known as the thoracic spine and runs from the upper chest to the middle back. It connects to the rib cage and includes 12 total vertebrae. Common thoracic spine conditions include arthritis, fractures, herniated discs and kyphosis (round back).

LUMBAR SPINE

This is the lower segment of your spine that supports much of the body's weight and is one of the most common areas for back pain. It's made up of five larger vertebrae. Common lumbar conditions range from arthritis to cauda equina syndrome (compression of the spinal nerve roots), bone fractures, herniated discs, lumbar spinal stenosis, sciatica, spondylolysis (a stress fracture) and spondylolisthesis (slipped vertebra).

SACRUM

This is the part of the spine that attaches to the pelvis. It is comprised of five fused vertebrae.

COCCYX

This is the tailbone and is made up of three to five connected segments.

SPINAL CORD

The spinal cord connects the brain to the peripheral nervous system and functions as the body's main information highway as it runs through each vertebra. Injuries and diseases impacting the spinal cord can result in changes to the strength and sensation in different body parts, as well as paralysis and loss of bodily functions.

DISCS

Located between each vertebra are flat, round intervertebral discs that provide flexibility and strength and enable movement while strengthening the spine. Intervertebral discs have a gel-like, spongy interior that allows them to act as spinal shock absorbers. Damage to the intervertebral discs can cause serious pain when part of the disc or leaked material from within it puts pressure on a nearby nerve.

VERTEBRAL COLUMN

The vertebral column is the backbone, but it's actually more than just one bone. It is comprised of 33 individual vertebrae that enclose and protect the spinal cord. The vertebrae are connected to one another with facet joints. Multiple ligaments help hold the vertebrae in a column and support their movement.

Spine Conditions

At the AdventHealth Neuroscience Institute, our doctors are experts in identifying, diagnosing and treating a wide range of spinal conditions and disorders – from the common to the complex. Below are details about some of the conditions we see most frequently in patients who seek care for neck and back pain at our world-class institute.

LOW BACK PAIN

Activities such as bending, lifting heavy objects or twisting, and overuse injuries such as muscle strains and sprains, can all contribute to this very common complaint. While such minor injuries usually resolve themselves within a few weeks, the aging process can begin to cause wear and tear on the spinal structures, thereby causing back pain, starting when you are still in your 20s. Other causes of low back pain can include slipped discs, degenerative disc disease, stress fractures, spinal stenosis, bone spurs, scoliosis, and diseases of the spine.

BONE SPURS

Bone spurs, also called osteophytes, are bony projections that develop along the edges of bones. The bone spurs themselves aren't painful, but they can rub against nearby nerves and bones and cause pain. Bone spurs can form on any bone, and they often form where bones meet each other – in your joints. But they can also be found where ligaments and tendons connect with bone. Bone spurs that form on the spine's vertebrae may go undetected for years. But when they become symptomatic and limit your range of motion, they may require surgery. The type of surgery that is recommended will depend on the location and other aspects of your bone spur.

BULGING DISC

A bulging disc is a disc that protrudes into the spinal canal. It is also referred to as a ruptured disc or slipped disc. As a disc degenerates, it can herniate (the inner core pushes outward) back into the spinal canal. When the disc is located in the lumbar area, this can cause pain to radiate all the way down the leg and into the foot. When the disc is within the cervical spine, pain can radiate from the neck down into the arms and fingers. When needed, surgery can remove the portion of the bulging disc that is pressing against a nerve and causing symptoms.

COMPRESSION FRACTURE

A compression fracture is a common fracture of the spine. It implies that the vertebral body has suffered a crush or wedging injury. The vertebral body is the block of bone that makes up the spinal column. When an external force is applied to the spine, such as from a fall, car accident or sports-related collision, the forces may exceed the ability of the bone within the vertebral body to support the load. This may cause the front part of the vertebral body to crush, forming a compression fracture. The compression fracture may range from mild to severe, with minor fractures causing minimal deformity. A severe compression fracture may be such that the spinal cord or nerve roots are involved. This can cause severe pain, a hunched forward deformity (kyphosis) and, rarely, neurologic deficits from spinal cord compression.

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DEGENERATIVE DISC DISEASE

Degenerative disc disease is a condition in which the fibrous discs that serve as shock absorbers between the spine's vertebral bones become more brittle, shrink and lose their sponge-like quality due to a decline in their moisture content as a person ages. As the discs dry out, they flatten, allowing the vertebral facet joints above and below them to rub against each other. This, in turn, may cause the development of bone spurs that can press on a nerve root, causing pain, numbness and weakness throughout the area that the nerve supplies. When necessary, epidural or facet joint injections may be used to provide temporary relief from symptoms.

FACET DISEASE

Facet disease, also known as spinal osteoarthritis, is rarely the only cause of a patient's lower back pain. People suffering from facet disease will most often have other conditions such as degenerative disc disease, spinal stenosis and arthritis in other parts of their spine contributing to the symptoms. Most people suffering from lumbar spinal arthritis will show signs of facet disease or joint degeneration on medical imaging scans.

HERNIATED DISC

A herniated disc occurs when the soft center of a disc that separates two vertebrae bulges out through the tough, outer rings of the disc and pushes on a spinal nerve. This can cause radiating pain that travels down the arms or through the buttocks and legs. In severe cases, this spinal compression can even cause loss of bladder or bowel control. While they can be very painful, herniated discs are quite common and are usually treated non-surgically via oral and injected pain medications and physical therapy that includes targeted exercises. When such treatments fail to bring relief from a patient's symptoms or if neurological deficits are involved, spinal decompression surgery may be provided via a discectomy or micro-discectomy procedure.

KYPHOSIS

Round back, also known as kyphosis, is a condition that causes a "hunchback" appearance due to an outward curvature of the spine. In children, it is most often associated with a developmental disorder called Scheuermann's disease, while in adults it can be associated with degenerative arthritis, osteoporosis and injuries causing vertebral compression fractures. In Scheuermann's disease, wedge-shaped vertebrae that develop during adolescence are to blame for the increasing physical deformity of the spine. Many patients with kyphosis don't need advanced medical care, but for those with severe cases, spinal fusion surgery may be an option.

OSTEOPOROSIS

Osteoporosis is the thinning of bone tissue and loss of bone density over time. It is the most common type of bone disease. An estimated 10 million Americans have osteoporosis, while another 18 million have low bone mass, or osteopenia, which may eventually lead to osteoporosis. Osteoporosis occurs when the body fails to form enough new bone, or when too much old bone is reabsorbed by the body, or both. Symptoms of osteoporosis include bone pain or tenderness, loss of height, back and neck pain due to fractures, and stooped posture.

PINCHED NERVE

A pinched nerve occurs when a nerve is subjected to pressure from surrounding tissues, bones, cartilage, muscles or tendons. This compression irritates the nerve and causes pain, tingling, numbness or weakness. A herniated disc in your lower spine can put pressure on a nerve root, causing pain to radiate down the back of your leg in a condition referred to as sciatica. A number of things can cause tissue to compress a nerve, including blunt trauma, poor posture, osteoarthritis, stress from repetitive movements associated with your job or sports activities, and obesity. Rest and other conservative treatments usually allow patients to recover from a pinched nerve within a few weeks. However, in some cases surgery may be needed.

RHEUMATOID ARTHRITIS

Rheumatoid arthritis (RA) is the most debilitating type of arthritis because it can cause deformity and disability. It affects more than one million Americans, including children who have juvenile rheumatoid arthritis. In the spine, RA usually affects the joints in the neck (cervical spine). The joints in the upper cervical spine include the odontoid process, a tooth-like structure that arises from the second cervical vertebra. Some of the symptoms of RA include headaches, neck pain, burning sensations, weakness in the arms and legs, and fatigue.

SCIATICA

Sciatica is a common spinal condition that often arises in adults aged 30 to 50. It occurs when a herniated disc or bone spur comes in contact with a spinal nerve root, causing pain that travels from the lower back to the buttocks and then down into one leg. Some patients describe the pain as a burning sensation, or even like a lightning bolt. Alternatively, tingling or numbness may occur. Sciatica usually happens due to the natural aging process, when the soft interior portion of a vertebral disc leaks out and puts pressure on a nerve. Sometimes, sciatica will go away with non-surgical treatments such as medication, corticosteroid injections and physical therapy. But for sciatica symptoms caused by a herniated disc, a laminotomy and discectomy may be a surgical option for relieving pressure on the spinal nerve.

SCOLIOSIS

Scoliosis refers to an abnormal curvature of the spine that occurs as a child grows. In most cases, the deformity and its symptoms are fairly mild, but sometimes surgical correction is needed. While the specific cause of this disorder isn't known, heredity seems to be one component. In limited cases, scoliosis may occur due to a spine infection or a neuromuscular disorder such as cerebral palsy. When surgical correction is necessary, instrumentation (or "hardware") such as plates and screws can be used along with bone grafts to straighten, fuse and stabilize the spine.

SPINAL STENOSIS

Spinal stenosis is the name for any condition in which the spinal canal is narrowed, thereby putting pressure on the spinal cord and nerves. This can occur as part of the normal aging process or could be due to osteoarthritis, a herniated disc, bone spurs, a spinal tumor, spinal trauma or a systemic disease. Classic symptoms of spinal stenosis include back and/or neck pain, radiating pain that goes down one leg, and numbness or weakness in the extremities. Treatment depends on what caused the condition but often includes anti-inflammatory and pain medications, targeted exercises, a back brace, and rest. Surgery may be recommended if these options prove unsuccessful.

SPONDYLOSIS

Spondylosis refers to the wear and tear that the spine endures as part of the aging process. It is a degenerative condition in which the bones and/or intervertebral discs slowly break down over time, as occurs in spinal arthritis, facet joint osteoarthritis, spinal stenosis and degenerative disc disease. Treatment for spondylosis depends on the severity of a patient's condition but may initially involve nonsurgical methods such as hot and cold therapy, physical therapy and medications. But when the condition causes neurologic issues, spinal decompression surgery may be considered in the form of a laminectomy, discectomy, foraminotomy, corpectomy or osteophyte removal.

SPONDYLOLISTHESIS

Spondylolisthesis is a potentially debilitating spinal condition in which a vertebral bone – most commonly in the lumbar (lower) spine – slips overtop of the bone below it. This can happen in adults due to excessive wear and tear on the spine, or due to traumatic injury or bone disease. In children, it is usually tied to a birth defect. Some patients with this condition do not have symptoms, but those who do will typically report low back pain; pain and numbness in the buttocks and upper legs; persistent stiffness; and leg muscle weakness. Conservative treatments may involve staying away from contact sports, wearing a back brace, receiving pain medications and physical therapy. When necessary, surgical treatments may be considered, including decompressive laminectomy and spinal fusion.

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Tips for Avoiding Back Injuries and Re-Injuries

While not all back injuries can be avoided, now is the time to start protecting yourself against preventable spine problems that may occur later in life. Likewise, if you've previously experienced a back or neck injury, it's important to take steps that will help you avoid re-aggravating your condition. This starts with exercising regularly to keep off excess weight and strengthen the core muscles in your back and abdomen. You can do so with targeted stretches as well as non-impact aerobic activity such as walking, bicycling, swimming and yoga. Be mindful of your posture, even while seated at your desk, and make needed adjustments to your chair and computer screen to reduce strain on your back and neck.

Most importantly, always warm your muscles before any physical activity. You should also avoid lifting heavy objects by yourself whenever possible, and use correct bending, twisting and lifting techniques. See below for a list of these and other methods you can employ to protect your neck and back from unnecessary or further injury.

- Strengthen your core muscles via targeted exercises
- Practice correct posture and make ergonomic adjustments to your work station
- Avoid lifting objects that are heavier than 25 percent of your own body weight
- Eat a balanced diet that includes anti-inflammatory foods and vitamin D to keep your bones strong
- If you're a smoker, get the help you need to stop
- Buy a more supportive mattress or try a better sleeping position
- If you live with lots of stress, find ways to relax and loosen your back and neck muscles at the end of each day
- •Be practical about your exercise routine, and avoid overdoing it with repetitive movements that can lead to muscle strains and sprains
- Treat strains and sprains with rest, ice, compression and elevation as soon as possible, and consult a medical professional if your pain is recurring or persists for more than two weeks
- Talk to your doctor about over-the-counter medications for controlling pain and inflammation

Know Your Treatment Options

Your treatment plan may involve one or many different therapies to treat pain, build strength and avoid future injury. After learning your symptoms and diagnosing their cause, our team develops a specialized treatment plan for comprehensive care of your condition. These are just a few of the treatments we offer to help reduce your pain and prevent further injury:

- Exercise programs designed to restore or maximize function and build strength
- Ergonomic assessment and modifications
- Physical therapy
- Acupuncture
- Trigger-point injections
- Epidural steroid injections
- Nerve blocks
- Intrathecal pain pumps
- Spinal-cord stimulation
- Spinal surgery including minimally invasive and robotic-assisted procedures

As part of our mission to provide comprehensive care, our team focuses on the least-invasive and most effective treatment methods along with specialized patient education. For those facing surgery, our weekly pre-surgery classes help patients better understand how to prep for the procedure, reduce pain and recover from surgery. We also work with each patient personally, so you understand how to avoid injuries and maintain optimal spine health.

When is it time to consider surgery?

Chronic back and neck pain should always be treated with nonsurgical methods prior to considering surgery. Indeed, most patients can obtain effective pain management through physical therapy or simple injections rather than an operation, which is why just 10 percent of patients will receive surgery. But when such methods fail to bring needed relief and your pain keeps you from doing the things you love in life – and when your discomfort is related to a mechanical problem that could feasibly be corrected with surgery – it may be time to consider your surgical options.

As significant as the decision is to undergo surgery, it may help to learn about the innovative and minimally invasive procedures that are available to you today. These approaches allow for much smaller incisions, less time spent in surgery and in the hospital, a shorter recovery period and potentially better outcomes than traditional techniques that were formerly the standard. Below are some of the many spine procedures we perform at AdventHealth.

DISCECTOMY

A discectomy is a surgical procedure aimed at relieving the pressure placed on nerve roots or the spinal cord (usually in the lower back) by a herniated disc or bone spurs. In this procedure, the surgeon makes an incision in the back over the vertebral levels to be treated and removes all or part of the disc – sometimes including bone material – that is pressing on the nerves and causing pain. Arthroscopic and microdiscectomy are minimally invasive forms of this surgery that involve very small incisions and quicker recovery times.

KYPHOPLASTY/VERTEBROPLASTY

Kyphoplasty is a procedure to relieve chronic pain tied to a vertebral compression fracture that typically occurs because of osteoporosis. This is a simple operation that can be performed on an outpatient basis. In a minimally invasive kyphoplasty procedure, the patient is given local anesthesia prior to the surgeon using a syringe to place a balloon within the collapsed portion of bone with the help of X-ray guidance. The bone is next inflated to restore the vertebra to its normal height, and a special cement is injected within the bone. This cement will cure in place and fuse with the bone, providing a permanent solution against fracture.

LAMINECTOMY

A laminectomy is a spinal decompression procedure that creates a “window” in the roof of the spinal canal to allow for removal of material that is pressing on the spinal cord and provide additional space within the canal. This procedure can be performed using a minimally invasive approach that avoids harm to surrounding muscle tissue and allows for quicker healing. In cases where an entire disc must be removed, the laminectomy may need to be combined with spinal fusion so as to stabilize the spine. Patients suffering pain from spinal stenosis caused by a herniated disc or bone spurs may be good candidates for this procedure.

SPINAL FUSION

Spinal fusion is a type of spine surgery in which two or more vertebrae are permanently fused together to reduce the symptoms of spinal compression (when two discs rub against one another) and stabilize the spine. The fusion may be accomplished via instrumentation – specialized hardware such as screws, rods, hooks or wires – or by the placement of a bone graft between the affected discs. Fusion surgeries can be performed using minimally invasive techniques and are often provided in tandem with other procedures such as discectomy in order to provide stabilization to the spine after the removal of bone or disc material.

We're designed to help patients like you.

AdventHealth has built an experienced team of spine care specialists to care for your every need. Our Spine Center performs over 4,000 procedures annually by using a multidisciplinary approach through pain management, neurosurgery and rehabilitation to achieve the best possible outcome for you. With the latest surgical techniques including robotic-assisted, minimally invasive and new disc replacement procedures, you can be assured that you will have access to some of the most advanced treatments available in this country.

From the moment you contact us, our Spine Care Coordinators will walk you and your family through each step of the treatment process – beginning with scheduling an appointment and continuing through your return home after a life-changing surgery.

Don't wait another day if you're experiencing back pain. We're here to help you feel whole again — in body, mind, and spirit.

- Three world-class spine care centers in Central Florida
- Designated Spine Care Coordinators to help you navigate your treatment plan
- World-class expertise derived from performing 4,000-plus procedures annually
- Emphasis on conservative treatment options
- Minimally invasive and robotic-assisted procedures
- Multidisciplinary expertise in spine surgery, neurology, pain management, and physical therapy
- Awarded the Blue Distinction® for spine surgery, designated by the Blue Cross and Blue Shield companies to recognize medical facilities that have demonstrated expertise in delivering quality health care. This designation is based on rigorous, evidence-based, objective selection criteria established with input from expert physicians and medical organizations.

Let's talk in person.

For more information, or for a physician referral, call our Spine Care Coordinator at 407-612-7353.

This guide is provided to the general public to disseminate health-related information. The information is not intended to be used for diagnosing or prescribing. Please consult your physician before undertaking any form of medical treatment and/or adopting any exercise program or dietary guidelines.

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