



UNIVERSITY of MARYLAND
BALTIMORE WASHINGTON
MEDICAL CENTER

Guide *to* Relieving Neck and Back Pain

Treating Common and Complex Spinal Conditions



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NECK AND BACK PAIN: Is It Time to See a Specialist?

Use this checklist to know when it's time to schedule an appointment with the neurosurgical care team.

NECK:

Do you experience any of the following?

- Neck pain that is constant and intense
- Weakness and/or numbness in one or both arms
- Pain that travels down one or both arms
- Difficulty with fine motor skills (examples: holding a pen, buttoning a jacket)

BACK:

Do you experience any of the following?

- Back pain that is constant and intense
- Pain that travels down one or both legs, knees or feet
- Weakness, numbness or tingling in one or both legs
- Trouble walking and standing

If you have any of the symptoms listed, it's time to see a specialist at the Spine and Neuroscience Center at UM Baltimore Washington Medical Center.

CALL **410-553-8160** TO SCHEDULE AN APPOINTMENT WITH OUR TEAM, OR LEARN MORE AT umbwmc.org/neuro.

Below are some questions our team may ask you:

1. When did your pain start?

2. Is your pain constant or does it come and go with certain activities?

3. Have you had a recent injury, fall or other trauma?

4. Has your pain improved, worsened or stayed the same over the last month?

5. Have you had any treatment so far, such as physical therapy, medications or pain management?

6. Have you had any imaging, such as an MRI, CT or plain X-rays in the last 6 months?

7. Have you seen spine specialist?

8. Have you made any lifestyle changes to improve your overall health, such as quitting smoking, healthy diet, exercise, yoga or core strengthening? Has it helped?

The spine team at UM BWMC recommends exhausting every appropriate non-surgical option before considering surgery. If you and your primary care doctor have determined that non-surgical options have not been effective in reducing or eliminating your pain, an appointment with our neurosurgical team may be the next step.

Why Choose the Spine and Neuroscience Center at UM BWMC?

The spine and neurosurgeons at UM BWMC's Spine and Neuroscience Center are board-certified and fellowship-trained to treat patients who suffer from conditions or injuries that affect the spine spinal cord, and brain. With intense training and over 100 years of combined experience, our physicians specialize in treating common and complex spinal conditions using a range of non-invasive and surgical treatment options.



CONSERVATIVE TREATMENT PLANS

We understand how debilitating and frustrating neck and back pain can be — keeping you from living an active, healthy life. The causes of neck and back pain are wide-ranging and complicated. That's why our spine and neurosurgery team begin every patient care plan with a conservative approach.

Many symptoms will improve without any surgical intervention, using medication, physical therapy and different forms of non-invasive pain relief. No two patients are alike, so the entire spine team collaborates to pinpoint the source of pain and create personalized treatment plans.

HIGH-TECH, CLOSE TO HOME

You don't have to travel far to find highly skilled physicians and innovative technology. It's available close to home. Our neurosurgeons offer patients the most advanced technology and the very latest techniques, including minimally-invasive procedures that offer fewer risks of complications and a quicker recovery.

COLLABORATIVE TEAM APPROACH

In addition to our spine and neurosurgeons, patients work closely with our certified physician assistants and certified registered nurse practitioners throughout their treatment. If surgery is needed, patients are supported by nurses, physical and occupational therapists, care managers and other health partners. We also communicate regularly with your primary care provider to keep everyone informed and ensure you have a safe and cohesive experience at all of your doctors' appointments.

When Is It Time to See a Neurosurgeon?

You should schedule an appointment with your primary care provider if you experience changes in your physical health or any painful symptoms in your neck or back. Your doctor will take your medical history and provide a thorough examination and may recommend diagnostic images like X-rays, CT scans and MRIs.

It is important to exhaust every appropriate non-surgical option before considering surgery. If you and your doctor have determined that non-surgical options have not been effective in reducing or eliminating your pain, an appointment with a neurosurgeon may be the next step.



However, you should see a neurosurgeon right away if:

- Your neck or back pain is constant and intense, or wakes you from a deep sleep
- You experience sudden weakness or intense headaches
- Your pain travels down one or both legs, especially if it extends below your knee
- You experience weakness, numbness or tingling in one or both legs
- You have loss of appetite or unexplained weight loss

Why Should I See a Neurosurgeon for My Spine?

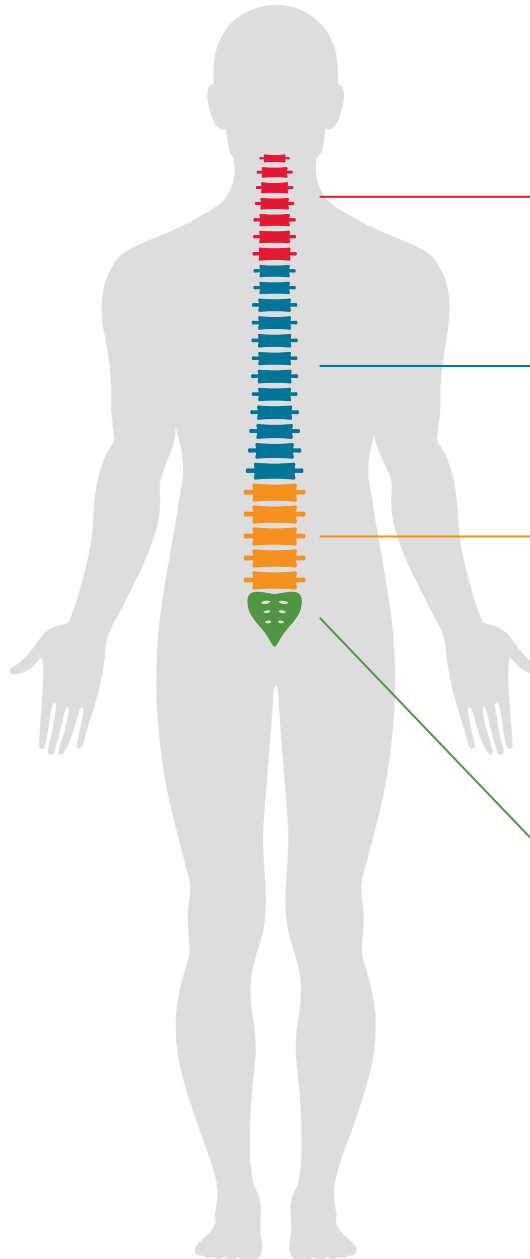
Neurosurgeons are trained spine specialists who have extensive knowledge of every component of the spine and spinal cord — not just the bone structure. From the brain to the neck to the tailbone, neurosurgeons know the intricacies of the nerves, discs, joints and soft tissues of the spinal column, and how they all interact with each other to help you move.

Though most patients think of neurosurgeons as brain surgeons, the majority of operations performed by neurosurgeons across the country are spine surgeries.

Understanding the Spine

The spine is a structure of supportive bones, elastic ligaments and spinal discs that surround the spinal cord and keeps the body upright.

The spine is divided into several parts:



NECK

Cervical spine (neck) consists of seven vertebrae that supports the head, protects the spinal cord, and provides mobility to the head and neck.

UPPER BACK

Thoracic spine (upper back) consists of 12 vertebrae and is located in the chest. It is attached to the ribcage and it protects vital organs.

LOWER BACK

Lumbar spine (lower back) consists of five vertebrae and allows for forward, backward and twisting movement. It carries the most weight and has the most movement.

SACRUM & TAILBONE

Sacrum is a large, strong, triangular bone at the bottom of the spinal column and supports the weight of the upper body. The coccyx, or tailbone, is fused to the sacrum.

Causes of Neck and Back Pain

While there can be many causes of neck and back pain, a few common ones include:

- Overuse or improper use (such as repetitive or heavy lifting)
- Age-related wear and tear or deterioration
- Trauma, injuries or fractures
- Poor posture
- Reaching/lifting beyond what is safe
- Excess body weight
- Smoking, which increases degeneration of the spine

Diagnosing Neck and Back Pain

The spine is a long, complex structure, so it can be difficult to find an exact cause of painful symptoms. Therefore proper diagnostic tests and screenings are critical to developing a treatment plan. You should begin with a thorough consultation and examination with a physician. When symptoms and triggers are described in detail, a physician can start to narrow down the source of the pain.

Your physician may then refer you to a specialist, like a spine and neurosurgeon, and will likely recommend you have diagnostic imaging done, like an X-ray, CT scan or MRI. These images allow a doctor to get a clear view of the spine and determine the problematic area(s).

“The care I received at UM BWMC was wonderful. The day I went in for surgery, I had amazing nurses. Dr. Liang, his office staff and everyone who supported me through the process were wonderfully kind.”

- MIA A., PATIENT



Non-Surgical Treatment Options

We believe that often the best surgery is no surgery at all. Fortunately, many patients suffering from neck and back pain will find relief from non-surgical treatments. Your physician may recommend the following treatments to help relieve your pain:

Physical therapy: A physical therapy program may help to increase function and mobility, decrease symptoms and teach you how to maintain a healthy neck or back. This can also help to prevent future problems. Physical therapy may include using heat or ice application and electrical stimulation.

Medications: Over-the-counter medicines such as acetaminophen (like Tylenol) or non-steroidal anti-inflammatory drugs (like Advil) may help relieve your pain. You may also be prescribed medications such as muscle relaxants.

Lifestyle changes: Neck and back problems may occur as a result of repetitive motions associated with an occupation or activity. Your doctor may recommend you avoid these motions to see if your symptoms improve. Additionally, being overweight or obese can lead to back problems, as your body struggles to carry the extra weight. Your physician will advise you to eat a healthy diet and exercise to control your weight.

Alternative or holistic methods: Acupressure, yoga, acupuncture, nerve stimulation or chiropractic sessions may also relieve your pain. Injections may also be helpful, which involves injecting short-term numbing medication or long-lasting anti-inflammatory medication into a muscle, nerve or joint in the spine.



“The entire spine team is dedicated to understanding the latest techniques and providing care that is tailored to each individual patient.”

– AMIEL BETHEL, MD

Surgical Treatments for Common Spine Diseases and Conditions

If you have tried several non-invasive treatments for your neck or back pain and have not had any improvement, you and your spine and neurosurgeon may decide that surgery is the best treatment option. The following diagnoses could indicate that you may be a candidate for surgical treatment:

Degenerative disc disease: This is a result of wear and tear on an aging spine. The discs in between each vertebra are like shock absorbers and help the back stay flexible. As we age, these discs begin to shrink and lose durability, which could cause back pain.

Sciatica: When a herniated disc or bone spur presses on the sciatic nerve, it leads to pain radiating from the low back down through one or both legs. The sciatic nerve branches from the lower back through the hips and buttocks and down both legs.

Spinal stenosis: This condition occurs when the spinal canal starts to narrow, causing pain in the back or legs that comes and goes with activities. This can often make it difficult to walk distances. Spinal stenosis can be a birth defect or develop in older adults.

Herniated, bulging, slipped or ruptured discs: When discs in between the vertebrae enlarge, move out of place or rupture, it can cause pain in the back, neck, legs or arms.

Spinal tumors: Benign (non-cancerous) and malignant (cancerous) tumors can develop in the bones, nerves and tissues that make up the spine.

Osteoporosis: This condition affects older adults and occurs when the body loses bone mass or produces too little bone. This can cause the spine to become weak and brittle which could lead to pain and possible fractures.

Spinal fractures: Fractures can happen as a result of weak bones or from injuries including vehicle accidents and falls.

Scoliosis: This disorder causes the spine to curve sideways. When scoliosis is severe, it can be painful and debilitating.

Corrections or revision surgeries: If patients are unsatisfied with the results of previous spinal surgery, or their symptoms return, revisions and corrections may be possible through another carefully-planned procedure.



Surgical Methods and Advanced Technology

When you and your neurosurgeon have decided that surgery is the right treatment plan for you, you will be supported by a team who will guide you through each step of surgery and recovery.

Our surgeons use the latest minimally-invasive techniques to ensure patients have safe and successful procedures, short hospital stays and smooth recoveries. They use less invasive techniques whenever possible to provide the most accurate treatment with tiny incisions, low risks of infections, and speedy mobility. Our goal is to help you return to doing the activities you love with minimal downtime.

Your neurosurgeon will perform your procedure in UM BWMC's state-of-the-art surgical suite. The high-tech operating rooms include a navigation system that acts like a GPS for the spine, enabling surgeons to see highly detailed views of the spine and surgical site and perform complex procedures with precision. The rooms also feature multiple high-definition monitors, where surgeons can constantly watch the surgical site, view images like CT scans, monitor vital signs and even retrieve live microscopic pictures from pathology.

Common surgical procedures that we use to treat neck and spine conditions include:

- **Laminectomy:** When a surgeon removes the lamina (back part of the bone) from the back of the spine to relieve pressure on the spinal cord and the spinal nerves. To add support where the bone was removed, a mixture of the patient's own bone and biological "cement" is used along the sides of the spine, or metal rods and screws can be affixed to the spine to provide stability.
- **Hemi Laminoforaminotomy:** Also known as keyhole laminectomy, this is when a small opening is made on one side of the spinal lamina to allow the surgeon access to the spinal nerve. The opening where the nerve comes out of the spine is carefully enlarged to relieve the pressure on the nerve that's been causing pain.
- **Spinal fusion:** Used to stabilize spinal bones, a fusion can correct problems with the small bones of the spine by fusing together the painful vertebrae so that they heal into a single, solid bone.
- **Discectomy:** This procedure removes a portion of an intervertebral disc to relieve pressure on a nerve. This is commonly used to treat radiating pain caused by a herniated or bulging disc.
- **Disc replacement:** When an entire disc is diseased, disc replacement surgery may be an option. This involves replacing a worn or degenerated disc with an artificial one made of metal, plastic or a combination of the two.

- **Kyphoplasty and vertebroplasty:** These procedures treat spinal fractures and involve injecting bone cement into a fractured vertebra through a small hole in the skin.

Recovery and Rehabilitation

Depending on the severity and location of your condition, your hospital stay could last from one to three days. Your neurosurgeon and the entire care team will guide you in the weeks leading up to surgery so you know what to do, what to avoid and what to expect.



Following surgery, patients return to the doctor's office for post-operative visits with a member of our care team 10 days after surgery, then 30 days, 60 days, and finally 90 days. This allows us to monitor your progress, answer your questions, support your individual needs and ensure you have a safe and steady recovery.

Following your treatment, the Spine and Neuroscience Center becomes your long-term partner to support you through recovery and beyond. You will have several follow-up appointments to ensure your recovery is progressing and to monitor any ongoing health concerns. In addition, UM BWMC's inpatient and outpatient Rehabilitation Services to help patients

regain mobility after an injury or open surgical procedure. If rehabilitation is part of your recovery plan, your doctor can refer you to physical therapy or occupational therapy at UM BWMC.



Preparing for an Appointment

The UM BWMC Spine and Neuroscience Center provides a full spectrum of care, so no matter your problem, we have an experienced specialist who can help you. If you have not received imaging (CT scans or MRIs) prior to your first appointment, you may begin by seeing an advanced practice provider in our office to complete a thorough assessment and better understand your symptoms. Your conditions and concerns will then be reviewed by a physician who will work with you during a future appointment to develop an individualized care plan, if necessary.

To make the most of your appointment, you should come prepared with the following:

- A physician referral if one is required by your insurance provider
- Scans or images (MRI or CT scans) you've had in the last year on a CD
- Knowledge of your medical history including a list of your current medications, past surgeries, chronic conditions, and treatment you've had such as physical therapy or pain management with injections
- A list of questions you have regarding your symptoms or treatment options
- Specific concerns if you're seeking a second opinion

OUR SPINE AND NEUROSURGEONS



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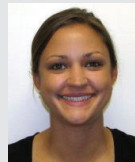


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