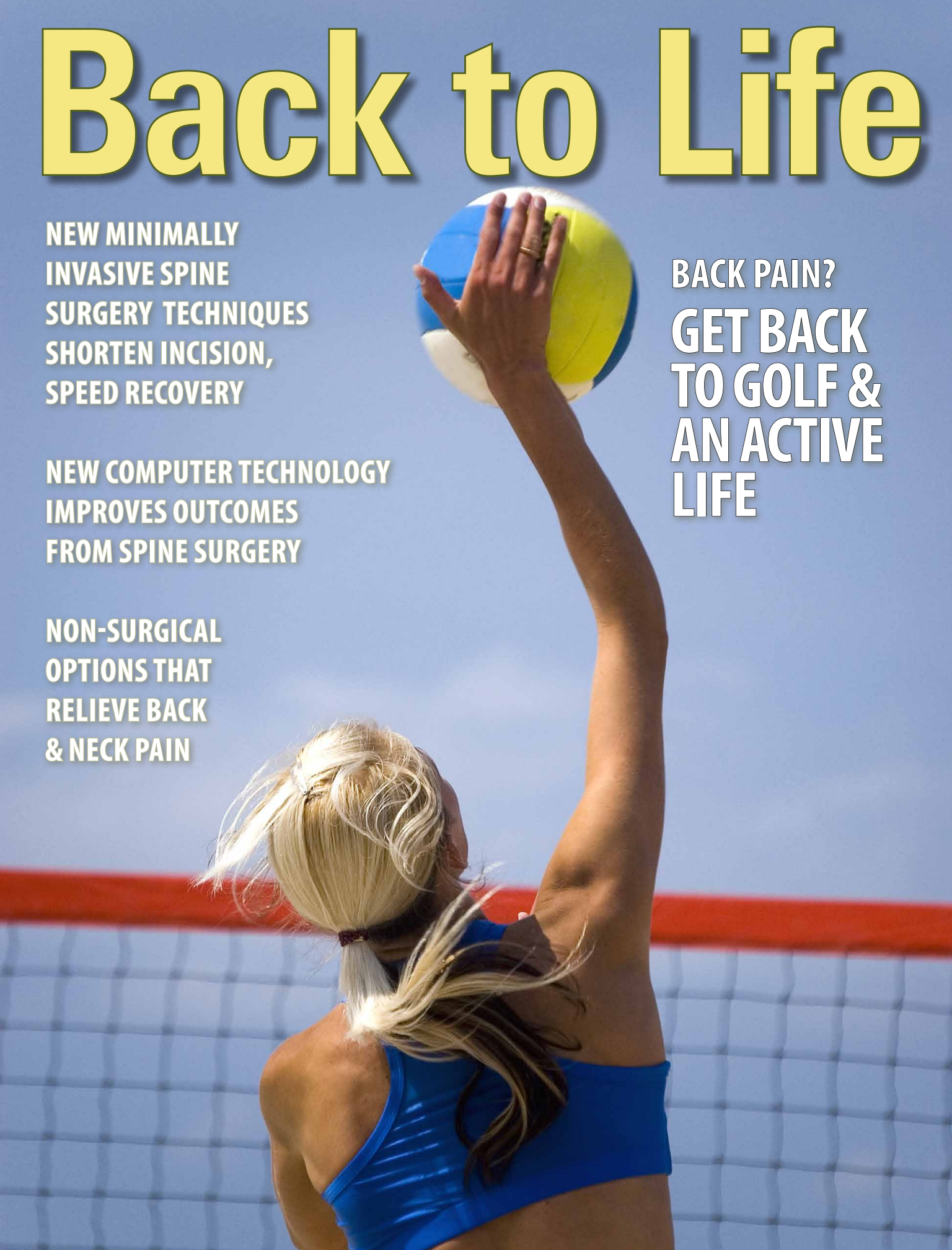
Back to Life



NEW MINIMALLY INVASIVE SPINE SURGERY TECHNIQUES SHORTEN INCISION, SPEED RECOVERY

NEW COMPUTER TECHNOLOGY IMPROVES OUTCOMES FROM SPINE SURGERY

NON-SURGICAL OPTIONS THAT RELIEVE BACK & NECK PAIN

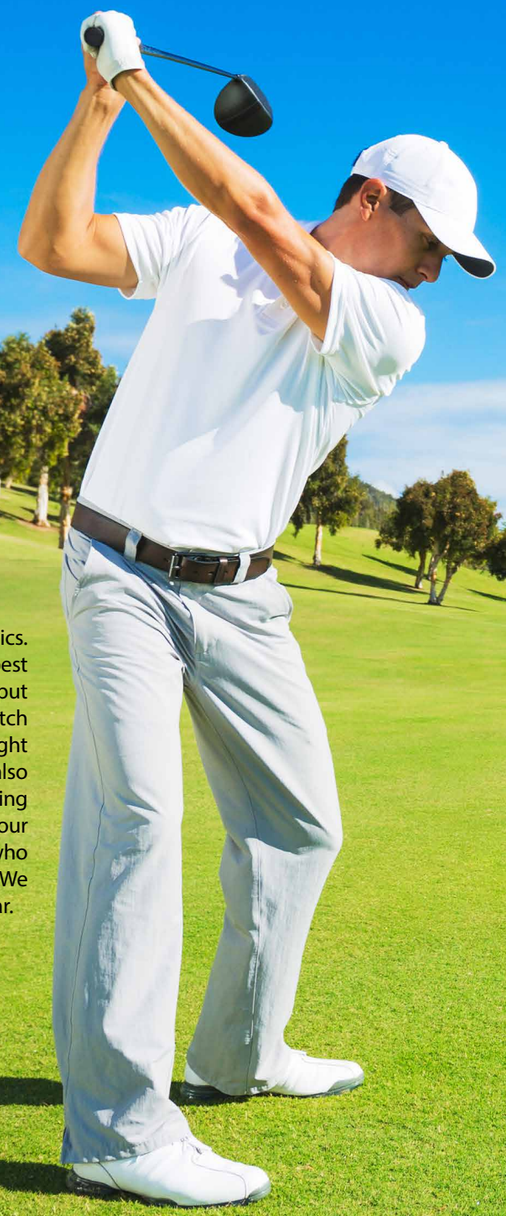
BACK PAIN?

GET BACK TO GOLF & AN ACTIVE LIFE

Get Back to Golf this year!

by using the right "back swing"

"The best part about golf is getting outside with friends and enjoying the sunshine and beauty of a golf course," explains Dr. Michael Rohan Jr., a specialist in back & neck pain "Propelling a small white ball around the course doesn't have to be the main objective. Consider changing the focus to fun rather than score. Some people hit to a limit of six or eight strokes per hole and then pick up and enjoy the rest of the hole as spectator or commentator. Consider letting someone drive the cart with your clubs while you walk. Or start by limiting yourself to 9 holes rather than 18. Golf can be an avenue back to an activity that can be healthy for your weight and your back."



GET BACK ON COURSE WITH THE RIGHT SWING MECHANICS

Most back strain in golf can be traced to poor swing mechanics. Fact: Golf requires solid swing mechanics to provide the best impact and distance. In the 1970s, the "reverse C" finish put excessive strain on the back. Modern swing gurus like Butch Harmon now preach a finish where the back is perfectly straight at the finish — which lessens strain on the back. Amateurs also swing way too hard. Tour pros achieve huge distance by staying in balance and swinging at 80%. The best investment to save your back is to have a lesson with a PGA-certified teaching pro who can provide the right instruction to lessen strain on the back. We provide here additional tips to get you back on course this year.

1 STANCE & ADDRESS
Proper grip and stance at address presets either success or failure. Ideally the feet should be aligned "parallel left" of your target. Your feet and club should be aligned like two railroad tracks aimed at your target. If alignment is off, it will cause a series of compensations to get the club back to the ball. A good PGA pro can help you start with the correct basics.

2 CORRECT TAKEAWAY
Most amateurs and beginners snatch the club away from the ball, which causes an "over-the-top" movement where the clubface swipes across the ball creating an undesirable slice that robs distance and accuracy. A good tip for a correct take away is taking the club back with the grip pointing at your stomach for the first few feet of the swing.

3 TRUNK LEADS THE ARMS
In a proper golf swing, the rotation of the trunk pulls the arms and hands around the body like a whip. Instead of hips sliding back and forward, the golf swing is a rotary engine, as if a spike were going through the center of the body. Your hips should not move laterally, but instead should rotate around a pivot point to generate power.

4 NIX THE "REVERSE C"
Back in the 1970s the fashionable swing of young Johnny Miller featured the back bent backward in the follow through which looked like a backward C. Today, the modern golf swing is much better on the back, and positions the back in a more straight up position as the body turns on a straight left leg. Ironically, as Johnny Miller aged, he too changed his swing to a more rotary swing that has a finish that's easier on the back.

GOLF STRETCHES FOR THE COURSE

STANDING ROTATION
Above: Put a golf club across your back and rotate your trunk in both directions.

STANDING PIRIFORMIS
Right: Lean against a tree for support. Then raise your knee up, and across your body. Hold for 5 seconds and repeat with other leg.

THE GOAL IS TO SAVE YOUR BACK, NOT SAVE PAR

1 KICK IT OUT OF THE ROUGH & SAND
Most injuries are from swinging too hard, especially when trying to gouge the ball out of deep heavy grass or sand. Hitting the ball fat also creates resistance with the ground. Adjust your goals: Play for the enjoyment of the game. Tell your playing partners that your goal is to play golf without risk of re-straining your back. They'll understand and applaud your eagerness to get back on the course.

2 START WITH 9
For someone with back pain, it's a good idea to start off with just a nine-hole outing and gradually build up your endurance to a full 18 holes.

3 WALK RATHER THAN RIDE
Let your playing partner drive the cart so you can walk at a leisurely pace. A bumpy ride in a golf cart can also put some strain on a back.

4 THE SWING'S THE THING
Tour pros spend hours on the range refining very efficient swings. Most beginners, however, never invest in learning a proper swing. Many times, back injury at golf stems from swinging too hard with a violent out of balance swing. A lesson with a PGA pro can get you back on the course in a way that lessens risk of future injury.

WANT TO TACKLE BACK PAIN?

Paradoxically, when a back spasm strikes, the natural reaction is to stop what you are doing. This is good advice in general for the first 48 hours after a back strain.

But beyond that, the key is movement. Research studies conclusively proved that too much rest actually hurts your back. For example, a landmark study in the New England Journal of Medicine in 1986 found that people did worse with extended bed rest beyond two days. Another 1995 study in Finland found that persons with back pain who continued their activities without bed rest recovered faster than those who rested in bed for a week. Other studies linked bed rest to other problems like depression and weakened muscles. Some researchers went as far as saying that bed rest may be the most harmful treatment for simple acute back strain.

"When you have a charley horse in your calf, the immediate natural reaction everyone has is to get up and walk on it to relieve the muscle spasm," explains Dr. Michael Rohan Jr., a board-certified, fellowship-trained orthopedic spine surgeon at Northwest Florida Spine. "But interestingly, when we have a back spasm, too many times the immediate reaction is to stop all movement. Rest, ice and heat might be okay for the first day or so, but beyond that, inactivity creates problems. A short walk on flat ground can be great therapy for a back strain because it improves circulation in the tissues and loosens up strained ligaments. The other benefit is that for simple back strain, a walk outside can change a person's focus from their pain symptoms to enjoying the outdoors. You have to convince yourself that getting moving will actually help relieve your pain symptoms."

Just what the doctor ordered

So in fact, a little hike outdoors may be just what the doctor ordered for your simple back strain. But first, it's important to understand what may be causing your back pain. For example, 80% of back pain is related to strain of the muscles in the back. The other 20% of back pain can come from disc-related problems. How do you know the difference? Disc-related problems create symptoms that radiate into the leg or arm. For disc problems in the back, the symptoms of pain, numbness or weakness can radiate down into the leg or foot.

"A back strain can be excruciating and drop you to your knees," adds Dr. Rohan, Jr. "While a disc problem in the back is more serious, the symptoms are typically felt in the leg, which sometimes may be treated with drugs or spinal injections to reduce inflammation on the nerve root. Weakness or numbness in the foot are emergency symptoms that need to be seen within a week to prevent nerve damage which would cause these symptoms to become permanent. So while watchful waiting can be used for radiating pain in a leg or foot, that is not the case with numbness or weakness in a leg or arm."

Take a hike

Even disc problems can benefit from movement, adds Dr. Rohan Jr. "Studies have concluded that for rehab of injured tissues to occur, you need blood circulating oxygen to the injured tissues. You need movement to get circulation and nutrients to the disc and ligaments in the back. The less movement you have, the more you impair the back's ability to recover from strain."

The second common by-product of back strain can be depression. Back pain can prevent a person from enjoying normal recreational activities, or it may knock them off their job, all of which can raise stress. The longer a person is off the job, the more they worry about losing their job which in turn affects their financial security. Back pain if not addressed quickly can create a disability spiral.

The journey back to activity requires a first step off the couch. "For simple strains, we often will recommend that the person begin with a walk in the neighborhood," says Dr. Rohan Jr. "Start with several blocks, and you gain confidence that your back strain didn't return. You didn't hurt yourself. Then work up to longer walks. Ultimately, you should strive toward a mile or more."

For longer distances, those with back pain should have good shoes, hike with a very light backpack and use a walking stick or hiking poles to help with balance. "Hiking poles or a walking stick can help distribute body weight to the shoulders and arms especially going uphill or downhill when balance can be difficult," he adds.

"Secondly, we recommend that people stick with even surfaces, like a sidewalk, dirt road or foot path, rather than rocky, uneven ground that increases the risk of falling," adds Dr. Rohan Jr. "For those who are overweight or sedentary, taking a hike can be a new experience. Try not to push yourself too hard at the beginning.


Dr. Michael X. Rohan, Jr.

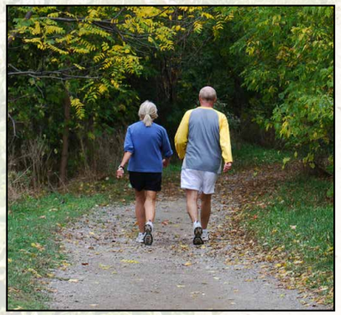
Work up your distance until you can take an hour long hike. Take someone along. You'll enjoy your conversations as you enjoy nature. Pretty soon, you'll be focused on all the things you can do with your back, instead of all the things you can't do. That's when you are on the road to recovery."

Smart tips for hiking with a bad back

LIGHT ON THE PACK

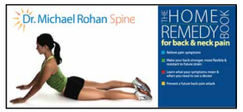
USE A WALKING STICK

GOOD SHOES/FLAT ROAD



TAKE A HIKE

UNDERSTANDING SYMPTOMS AND WHEN HOME REMEDIES CAN BE USED



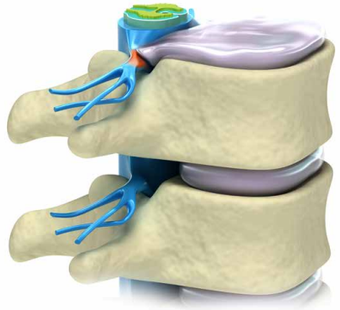
People can request the 36-page Home Remedy Book through the web site at MichaelRohanSpine.com.

It's important to understand what may be causing your back pain. For example, 80% of back pain is related to strain of the muscles in the back. The other 20% of back pain can come from disc-related problems. How do you know the difference? Disc-related problems create symptoms that radiate pain or numbness into the leg or arm.

"Make no mistake, a back strain can be excruciating and drop you to your knees," explains Dr. Michael Rohan Jr., a board-certified, fellowship-trained orthopedic spine surgeon in Jacksonville, Florida.

"While a disc problem in the back is more serious, the symptoms are typically felt in the leg. This may be treated with drugs or spinal injections to reduce inflammation on the nerve root," adds Dr. Rohan Jr. "Weakness or numbness in the foot are emergency symptoms that need to be seen within a week to prevent these symptoms from becoming permanent. So while watchful waiting can be used for radiating pain in a leg or foot, that is NOT the case with numbness or weakness in a leg or foot."

"Even disc problems can benefit from movement," he adds. "Studies have concluded that for rehab of injured tissues to occur, you need blood circulated to the injured tissues. You need movement to get circulation and nutrients to the disc and ligaments in the back. The less movement you have, the longer the recovery period. The second common by-product of back strain can be depression. Back pain can prevent a person from enjoying normal recreational activities, or it may knock them off their job, all of which can raise stress. The longer a person is off the job, the more they worry about losing their job which in turn affects their financial security. Back pain if not addressed promptly can create a disability spiral. It can seem like a formidable journey back to work, let alone activities like golf or tennis, but the journey back to activity often starts with taking the first step off the couch. We encourage patients to stay active."



Understanding your back or neck pain symptoms

It's estimated that 80% of back and neck pain symptoms will go away on their own over six weeks with some special exercises. However, some problems represent emergency symptoms and need immediate medical attention to prevent permanent neurological damage. Here's some brief information on how to recognize some danger symptoms. Any symptom that does not improve over three days is a signal to seek medical attention. If you have any emergency symptoms, be sure to note that to the spine specialist when calling for an appointment.

Have you experienced any...
- loss of control of bowel or bladder?
- numbness or tingling in an arm or leg?
- difficulty moving an arm or leg?
- SEVERE trauma, fall or car accident?
- Neck pain WITH severe headache, nausea, bright lights bother your eyes?

YES
- Loss of bowel/bladder control is an EMERGENCY symptom. You need to see a spine surgeon or go to an Emergency Room within 24 hours, or the symptom could become permanent.
- Numbness, pain or tingling into a leg or arm, especially when it extends below a knee or elbow, could imply a disc problem, and should be seen by a spine specialist within 2 days.
- Any traumatic fall or car accident could have fractured bones in your spine, or herniated a disc. You should see a spine specialist promptly who may perform X-rays to assess you.
- Neck pain with headache/nausea is an EMERGENCY symptom. See a doctor in 24 hours.

NO

Did the pain come on after lifting, or after aggressive exercise or sports activity?

YES
- Lifting or sports activities can strain muscles, ligaments & tendons, causing painful spasms. Extreme pain can require a spine specialist. Home remedies include anti-inflammatories like Advil/Nuprin, rest, ice and some simple stretching exercises. However, if symptoms don't improve over 3 days, you need to be assessed by a spine specialist.

NO

Is the pain mostly in your low back, AND accompanied by a FEVER, or making you sick?

NO
- Back or neck pain that doesn't radiate pain or numbness into a leg or arm can be caused by a variety of problems, including a strain of the muscles or ligaments in the back or neck.
- Home remedies include anti-inflammatories like aspirin, Advil or Nuprin, rest, ice and some simple back/neck exercises. Don't do any exercise that causes an increase in pain.
- Remember: Those who self diagnose themselves and self treat themselves do so at their own risk. Back and neck pain can arise from a variety of causes and may require a spine specialist to perform diagnostic tests to identify your problem and the best treatment. A spine specialized therapist can also create a home exercise program customized for you.

YES

Pain in the low back, along with a fever, could be a kidney infection. You should see a spine specialist immediately.

Those who self-diagnose and self-treat themselves with home remedies and exercises, do so at their own risk. Copyright 2025 Prizm.

WHEN SHOULD YOU GO TO THE DOCTOR FOR BACK & NECK PAIN?

UNDERSTANDING YOUR BACK OR NECK SYMPTOMS:
WHEN YOU CAN USE WATCHFUL WAITING & WHEN YOU CANNOT

NOTE: A person may use "watchful waiting" for a few days for symptoms of muscle strain or even radiating pain into an arm or leg. However, ANY WEAKNESS OR NUMBNESS in an arm or leg, or loss of control of bowel or bladder, are emergency symptoms. You need to see a spine specialist promptly (as noted below) to prevent the symptoms from becoming permanent.

PAIN LIMITED TO THE NECK: Neck pain can be caused by traumatic injury, like whiplash from a car accident, or muscle or ligament strain. See our Home Remedies section on our Internet site. If pain persists beyond a week, you should see a spine specialist to determine the underlying cause.

LOSS OF BOWEL OR BLADDER CONTROL: This is a SERIOUS emergency symptom (cauda equina) that needs to be treated immediately by a spine surgeon within 24 hours. If you experience these symptoms at night or on the weekend, go to the emergency room. If not treated quickly, the person may lose control over their bowel and bladder permanently.

RADIATING PAIN INTO THE LEG: Pain that radiates into a leg below the knee can imply a herniated disc in the low back. But many times radiating pain can be treated non-surgically. Radiating pain should be seen by a spine specialist within 2 weeks.

NUMBNESS OR WEAKNESS IN LEG OR FOOT: Numbness or weakness in the leg or foot is a SERIOUS disc-related symptom that is NOT appropriate for watchful waiting. Left untreated, the symptom can become permanent. You should see a spine specialist within 3 days.

TRAUMA / FALL/ACCIDENT: Any time you fall, are in a car accident, or could have fractured a bone in your back, you should see a spine specialist immediately!

FEVER, DROWSINESS, SEVERE HEADACHE, NAUSEA, VOMITING, UNUSUAL SENSITIVITY TO LIGHT? Other symptoms may be unrelated to a back or neck problem, like cervical meningitis. This can be serious. You should consult a physician immediately for any of the above symptoms.

RADIATING PAIN IN THE ARM: Pain that radiates into an arm below the elbow can imply a herniated disc in the neck. Many times, radiating pain can be treated non-surgically. Radiating pain should be seen by a spine specialist within 2 weeks.

NUMBNESS OR WEAKNESS IN ARM OR HAND: Numbness or weakness in the arm or hand is a more serious disc-related symptom that is NOT appropriate for watchful waiting. Left untreated, the symptom can become permanent. You should see a spine specialist within 3 days.

PAIN LIMITED TO THE LOW BACK: Pain that is limited to the low back may be the result of muscle strain. While pain spasms can be excruciating, muscle strain problems do not require surgery. See our Home Remedies section on our Internet site for special stretches that can relieve pain, and the proper use of anti-inflammatories. While less common, a kidney injection or kidney stone may also cause low back pain symptoms. Consequently, you should consult a spine specialist accordingly for symptoms that persist beyond 5 days to determine the cause of your symptoms and the best treatment options, including a customized home exercise program that will make the back stronger, more flexible and resistant to future strain.

FOOT DROP / WEAKNESS IN FOOT: If pain, weakness or numbness extends into the foot so that you are unable to lift your toe as you walk, that is called Foot Drop, which is an emergency disc-related symptom. You need a spine specialist within 48 hours. If not treated promptly, it could lead to permanent weakness in the foot.

Minimally invasive surgery shortens incision & enables a fast & less painful recovery

Minimally invasive spine surgery has evolved over the last 10 years to address a variety of spinal disorders including herniated discs, spinal deformity, injuries, fractures and degenerative disc disease.

Minimally invasive spine surgery makes use of a half-inch or 1-inch incision and endoscopic instruments that have cutting devices and cameras in the tip. The surgeon then views the surgical site via TV monitors that provide close-up images.

By contrast, with old-style spine surgery the surgeon makes a large 3-inch incision and spreads the incision open with retractor instruments the pull apart the incision further.

"While this provides the surgeon an open view of the spine, cutting all the tissue disrupts, muscles and tendons that then creates a more painful recovery," explains Dr. Rohan, Jr. "In a sense, the surgeon is taking the most convenient approach for themselves, at the expense of a longer and more painful recovery for the patient."

Educated patients understandably are now asking the right questions during a visit with a spine surgeon to see if they provide minimally invasive spine surgery.

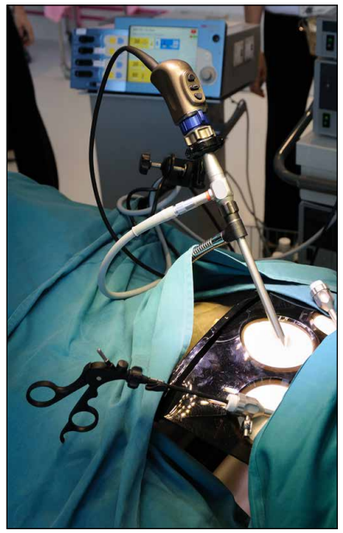
What is minimally invasive EXACTLY?

Some spine surgeons who aren't trained in minimally invasive spine surgery confuse patients by saying they do minimally invasive surgery when they really don't. These surgeons might reduce the incision from 4 inches to 2 or 3 inches, but they are not operating through tubular retractors and half-inch incisions.

Traditional open back surgery pulls the muscles away from the spine which disrupts the tissue causing a more painful and longer recovery after surgery. Some patients stay longer in the hospital.

By contrast, patients who have their back surgery with a half-inch incision and a tubular retractor typically go home later the same day.

Consequently, the patient should ask the spine surgeon if they are operating through a tubular retractor. A tubular retractor resembles a tube about the width of a large ballpoint pen. The surgeon first makes a half-inch incision and the tube is then inserted through the incision. Other



tubes slide over this first tube to open the hole slightly wider. The surgeon is then able to insert the necessary endoscopic instruments to access the herniated disc.

At the end of the endoscopic instrument is a camera with a video feed to a TV screen, enabling the surgeon to view the surgical area through the scope. Another instrument has a cutting device and the surgeon is able to then remove the herniated disc by watching high resolution images on a TV monitor in the operating room.

Once the disc herniation is removed, the tubes are removed and the tissues close up naturally around the half-inch incision. With a few stitches and a large band-aid, the patient is ready to go home several hours later.

Minimally invasive spine surgery reduces the hospital stay, reduces pain, results in less blood loss during surgery which can lessen the need for donated blood and the risks inherent in that. The small half-inch incision means a faster return to work and activities, and less chance of infection than traditional open back surgery with a 2 or 3-inch incision.

With that said, there are some surgeons who are more comfortable doing traditional back and neck surgery because of the time involved to be trained and experienced in minimally invasive spine surgery. Consequently, a patient needs to be well informed about the options available to them currently and to select a surgeon who is able to use the new instrumentation involved with minimally invasive spine surgery.

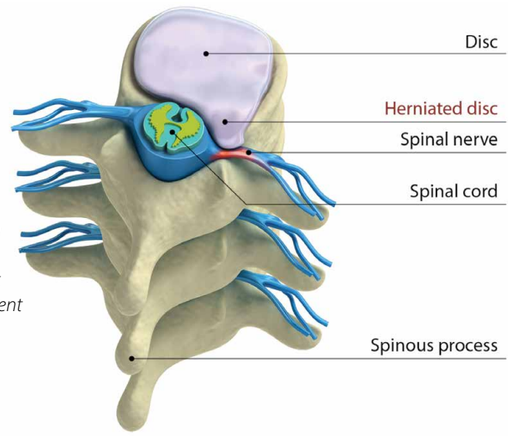
Some spine surgeons have been quick to adopt this new minimally invasive technique along with the equipment needed, as it presents many benefits to the patient. With that said, there are some surgeons who make larger 3-inch incisions because of the time involved for them to learn how to perform minimally invasive spine surgery with the specialized instruments involved.

Sadly, many surgeons say they perform "minimally invasive surgery" as a marketing gimmick to attract patients, but they aren't using tubular retractors, and unfortunately the patient ends up with a traditional, open spine surgery. Minimally invasive spine surgery is more difficult for the older surgeon because it involves a great deal of training to become proficient.

Dr. Michael Rohan, Jr. at Northwest

Dr. Rohan is one of few spine surgeons in Northeast Florida who operate through tubular retractors that reduce the incision size to less than an inch.

Florida Spine was the one of the first spine surgeons in the Gulf Coast area to use tubular retractors. Unlike many other spine surgeons, the spine patients who undergo minimally invasive surgery with Dr. Rohan, Jr., can often have their surgery on an outpatient basis and be home later the same day. Recovery in one's own home can be more comfortable than staying in a hospital bed.



A herniated disc can press on nerves branching off from the spinal cord, causing pain or numbness into a leg or arm. If numbness is not treated promptly, it could become a permanent disability.

Benefits of Minimally Invasive Spine Surgery:

- Smaller 1-inch incision & smaller scar
- Less damage to tissues & muscles
- Less blood loss
- Able to go home the same day
- Less painful recovery
- Quicker return to activity

MINIMALLY INVASIVE SURGERIES PERFORMED

MIS Lumbar Discectomy

A minimally invasive lumbar discectomy is when a herniated disc is removed in the lower back that pinches a nerve that may cause severe leg pain, numbness, or weakness. This procedure is done by making a small 1-inch incision over the herniated disk and inserting a tubular retractor. Then the surgeon removes a small amount of the lamina bone that allows the surgeon to view the spinal nerve and disk. Once the surgeon can view the spinal nerve and disk, the surgeon will retract the nerve, remove the damaged disk, and replaces it with bone graft material.

MIS Lumbar Fusion

A minimally invasive lumbar fusion can be performed the same way as traditional open lumbar fusion, either from the back, through the abdomen, or from the side.

Transforaminal Lumbar Interbody Fusion

A common minimally invasive procedure is called the TLIF. This procedure is done by approaching the spine slightly from the side, which reduces the distance spinal nerves must be moved and prevents disruption of the midline ligaments and bone. However, this does not provide the surgeon with a full view and is often more challenging to remove the disk completely, which can make fusion healing more difficult. As a result, a surgeon may use additional bone graft besides the patient's bone to improve healing. The surgeon may complete this procedure by placing one retractor on either side of spine. By using two retractors, the surgeon can remove the lamina and the disk, place the bone graft into place,

and insert screws or rods for additional support.

Minimally invasive surgery with a lateral approach

A complex minimally invasive surgery with lateral approach is a minimally invasive technique that is performed on the side of the body, which is less invasive as compared to traditional surgery. This procedure can be used to help treat various conditions such as degenerative disc disease, herniated discs, spinal instabilities, osteomyelitis and spondylolysis.

Lateral interbody fusion (LIF)

A LIF is performed by removing a disc and replacing it with a spacer that will fuse with the surrounding vertebra. The procedure is completed on the side of the body in order to reduce the effect on the nerves and muscle of the back.

Dr. Michael Rohan, a board-certified fellowship-trained orthopedic spine surgeon, advises patients to be cautious about the artificial disc, as the technology is still evolving and has limitations. Also, few herniated discs qualify for disc replacement as a treatment alternative.

Percutaneous posterior pedicle screw

A percutaneous posterior pedicle screw fixation is when metal rods are attached along a vertebra to help stabilize the spine.

Endoscopic discectomy

An endoscopic discectomy is performed by making a tiny incision to insert a tiny camera, or endoscope, to remove part of a herniated disc that is applying pressure on spinal nerves.

Posterior cervical microforaminotomy (PCMF)

A PCMF is performed to help relieve pressure and discomfort in the spine by making a small incision in the back of the neck and removing excess scar tissue and bone graft material.

Anterior cervical discectomy

An anterior cervical discectomy is used to reduce pressure or discomfort in the neck by removing a herniated disc through a small incision in the front of the neck. The space is then filled with bone graft material and plates or screws may be used to increase stability.

Artificial cervical disc replacement or total disc replacement (TDR)

A TDR occurs when most or all of a disc is removed and replaced with a artificial one.

Anterior lumbar interbody fusion (ALIF)

An ALIF is a procedure done to remove a disc through an incision in the front of the body through the abdomen. The disc is removed and replaced with a spacer that contains bone graft material that will fuse with the surrounding vertebra.

Mini ALIF

A Mini ALIF is the same as a standard ALIF, but is done through a smaller incision in the front of the body to remove the disc and replace the disc with a spacer that will fuse with surrounding vertebra to increase spinal stability.

Laminectomy

A Laminectomy is a procedure done to help decrease spinal pressure by removing all of the lamina, which is the thin bony layer that covers the top of the spinal cord.

Laminotomy

A Laminotomy is a procedure done to help decrease spinal pressure by removing part of the thin bony layer that covers the top of the spinal cord called the lamina.

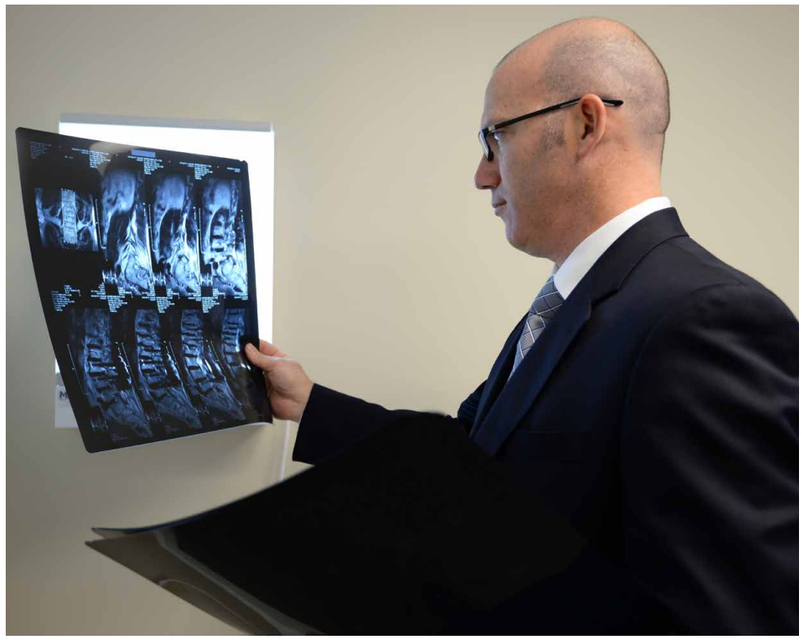
UNDERSTANDING THE NEW ARTIFICIAL DISCS

So it's been about two months after you've noticed the onset of symptoms, and you've tried spine therapy and then injection therapy, and still symptoms like radiating pain or weakness into an arm or leg persist.

It's probably time to meet with a surgeon if only to become educated on your surgical options, if spine surgery can quickly relieve your symptoms, and when you should take the plunge for surgery. For disc herniations and other serious problems, spine surgery may be the only way to repair damaged discs, bone spurs, facet joint problems or fractured vertebrae.

But it's important to remember there is great variation in quality among spine surgeons. And it's up to the consumer to shop for the best spine surgeon. When you meet with the spine surgeon, you should ask about the surgeon's expertise with "tubular retractors" and artificial disc replacement.

During your visit with the spine surgeon, you may be told you need a fusion surgery. If you have a herniated disc in your neck, be forewarned that you should now explore other options than a spinal fusion. That is no longer the gold standard treatment for disc herniations in the neck.



Alternatives to spinal fusion

In some cases, a disc may be damaged so badly that removing the herniated disc tissue then eliminates the space needed between the two vertebrae for the nerve root. In this case, the surgeon must restore the natural disc space with a small wedge of bone in between the vertebrae. The bone can come from either the patient's own hip, or from a bone bank which uses sterilized cadaver bone. If the patient elects to use a piece of his own hip bone, the post surgical discomfort from harvesting this bone can be as bad or worse than the back surgery itself.

Up to about three years ago, spinal fusion in the neck and low back was viewed as the gold standard when removal of a herniated disc would cause instability and ongoing symptoms.

However, new research in 2019 published by the North American Spine Society (NASS) proved that when two levels are locked together with a spinal fusion, it creates more stress on the discs above and below the fusion site causing them to herniate as well. This is called "adjacent segment disease." The spine researchers found that using an artificial disc in the neck reduced adjacent segment disease.

At the same time this research came out, artificial disc technology was improving greatly with nine discs now FDA-approved for use in the neck.

Consequently, artificial disc replacement in the neck has now replaced spinal fusion as the gold standard for neck surgery.

The other reason for this change is that there are only seven vertebrae and six disc levels in the neck, so fusing one or two levels greatly reduces the natural motion of the neck and increases the stress on the remaining four or five discs — often causing them to also herniate. Then the person would have a completely locked neck with no ability to rotate at all.

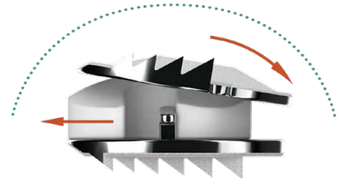
Artificial discs for the low back

Unlike the neck, there are many more disc levels in the low back to provide motion, and fusing one level doesn't dramatically reduce the motion of the spine. There are other issues of concern that cause most spine surgeons cautious currently about doing lumbar artificial disc replacement.

Issue #1: More complex surgery. Accessing the front of the neck is relatively easy for a surgeon. That is NOT the case with low back surgery. A surgeon needs to operate through the abdomen to get to the front of the spine to access and correct the herniated disc. That requires navigating around internal organs. This issue is also of concern if a second revision surgery is needed, which can be very complex.

Benefits of the artificial disc:

- Retains motion of the vertebrae.
- Prevents damage to other disc levels.
- No bone graft required.
- Quicker recovery & return to activity.
- Less painful surgery than a fusion.
- Less blood loss during surgery.



Issue #2: More stress on the artificial disc causing it to wear out. Because of the weight of the body and the rotational stress that the trunk places on discs in the low back "lumbar" area, more stress is placed on artificial discs in the lumbar area vs. the neck. This can wear out the disc prematurely — especially in the case of an obese patient. Statistically, one-third of Americans are classified as obese.

"Any artificial disc can wear out over 15 years or so," explains Dr. Rohan Jr., "and the revision surgery is complex. Also, while the current discs provide rotational movement, they don't mimic the up and down shock absorption that the natural disc provides. So the technology is still evolving. This is not the case where you want to be the first on your block with this type of new technology."

Dr. Rohan, Jr. was one of the first spine surgeons in the Gulf Coast region to be trained in Mobi-C — the first artificial disc to be approved by the FDA for two levels in the cervical spine.

"The advantages of the Mobi-C® device over traditional cervical fusion is that the neck maintains normal motion and reduces the stress placed on the other discs in the neck," explains Dr. Rohan, Jr.

"The goal with motion preservation is to retain the normal rotation of the neck and lessen the need for any future surgery at other levels in the neck," he adds. "The problem with herniated discs in the neck, is that there are few levels to provide all the necessary rotation. If you fuse one level you have less motion in the neck which then causes other discs to herniate. This is called adjacent segment disease. With the Mobi-C disc we can retain that normal movement in the neck and lessen the risk to the other discs at other levels."

Patients can learn more about new artificial disc replacement options at MichaelRohanSpine.com. Dr. Rohan Jr. can do an evaluation to see if they qualify for artificial disc replacement.

NEW SURGICAL NAVIGATION

IMPROVES SPINE SURGERY OUTCOMES

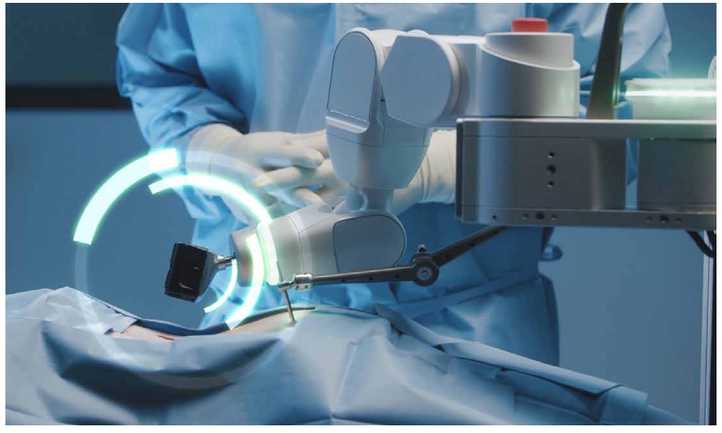
Over the past five years there has been new computer-guided technology introduced into the operating room that enables the spine surgeon to place instruments, screws and implants with far greater precision than is possible with the human eye. While the human eye can differentiate among 256 shades of gray, the new computer-based navigation software can differentiate between 65 million gray scales.

Many people would be surprised to learn that such computer-guided surgery systems are now commonplace with knee and hip replacements. It's estimated that the most advanced joint replacement centers in the United States use computer based surgery systems to improve how the artifiicial joint is fitted to the patient. Both joint replacement surgeries require bone to be shaved to make room for the artificial joint. Studies have shown surgeries performed with this technology enables the joint replacement surgeon to be more precise with bone cuts. This in turn salvages more of the patient's bone during surgery.

In the area of spine surgery, robotic and computer-guided surgical navigation technology similarly provides a new level of precision related to navigation within the internal components of the body. Software within the systems links with three-dimensional diagnostic images from MRI and C-arm fluoroscopy.

The Medtronic StealthStation Surgery System enables the spine surgeon to do precise placement of any plates or screws needed in the surgery. Placement of fixation screws in particular can be mapped out in advance to show the optimal angle of screws.

Mapping out the surgery in advance speeds the spine surgery the next day, as the robotic arms are preset precisely to a quarter of a millimeter that then enable the spine surgeon to insert a tubular retractor the width of a large ball point pen through an incision at the optimal angle.



In 2020, Dr. Michael X. Rohan, Jr. was the first spine surgeon in the Northern Florida region to be proficient in the use of the Medtronic Mazor Robotic Surgery System and the Stealth Computer-Guided Navigation System for spine surgery. The technology harnesses the power of computer technology to enable the spine surgeon to map out the surgery in advance; more precisely navigate during spine surgery; and place screws and implants with far greater precision than is possible with the human eye.

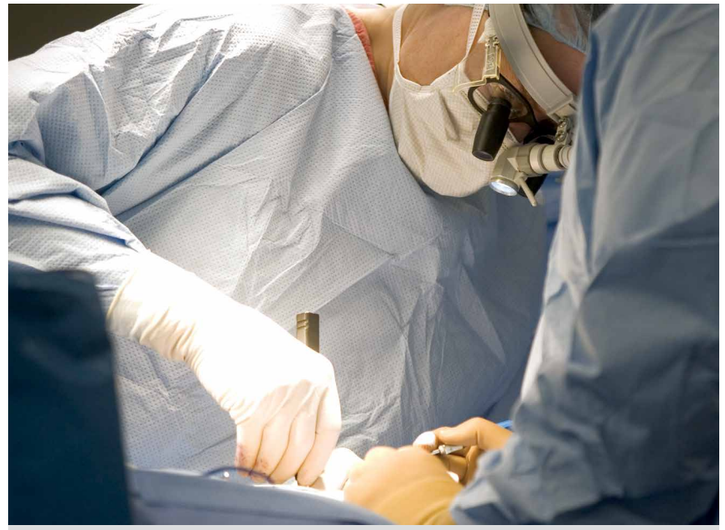
Dr. Rohan, Jr. was one of the first spine surgeons in the Florida Gulf Coast region to begin using the Mazor Robotic System and StealthStation navigation system for spine surgery .

"This new technology provides huge benefits to the spine surgery patient," expalins Dr. Rohan, Jr. "Because the surgery can be mapped out in advance, surgery goes much faster. This means that the patient is spending less time under anesthesia and less time under fluoroscopy. The other benefit is added safety for the patient because the computer-guided systems provide more precise navigation around the spinal cord and other delicate areas."

Dr. Rohan notes these systems complement minimally invasive spine surgery that enables the surgeon to operate through a 1-inch long incision, rather than a large 3-inch incision. Consequently, the patient has less blood loss, less tissue disruption and less pain during recovery. Many patients go home later the same day rather than spending days in the hospital. Consequently, they are back to activity much faster than with traditional spine surgery.

Benefits of the STEALTH Navigation System for spine surgery:

- Increases the precision of spine surgery and helps to preserve surrounding healthy tissue
- Enables surgeons to more accurately place screws and implants
- Reduce the risk of exposure to radiation from imaging scans
- Shortens time in the operating room under anesthesia
- Lessens pain after surgery for a quicker return to daily activities



Dr. Rohan, Jr., is referred patients from across the Jacksonville region as patients seek out artificial disc replacement and advanced minimally invasive spine surgery expertise.

Dr. Michael Rohan Spine

Board-Certified Orthopedic Surgeon • Fellowship-Trained Spine Surgeon
Specializing in Minimally Invasive Spine Surgery & Artificial Disc Replacement

2853 Henley Rd.,
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Dr. Michael X. Rohan Jr.

Board-certified orthopedic surgeon, Fellowship-trained in spine

Dr. Rohan specializes in the treatment of back and neck pain, including degenerative disease, spinal deformity (scoliosis) and spinal trauma.

Dr. Rohan received his D.O. degree from Nova Southeastern University College of Osteopathic Medicine and completed his orthopedic surgery residency at the University of Medicine in New Jersey.

He then completed a spine surgery fellowship at the world-renowned Texas Back Institute where he learned some of the latest innovations in minimally invasive spine surgery, motion preservation surgery and artificial disc replacement.

Dr. Rohan is a member of the American Osteopathic Academy of Orthopedics and is able to surgically treat problems in the cervical, thoracic, and lumbar spine. He has also participated in spine surgery research projects and has published his results in the annual meeting of the North American Spine Society.

Second opinion for spine surgery

A second opinion can help you determine if you have considered all possible treatment options and if there are any other non-surgical options that can relieve symptoms. Many times a minimally invasive surgery option can shorten the incision and make your recovery faster and with less discomfort after surgery. Second opinions can be requested at MichaelRohanSpine.com.

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Dr. Michael Rohan, Jr. believes the best healthcare comes from an educated patient. Accordingly, he emphasizes non-surgical treatment options in advance of spine surgery. If spine surgery is necessary, Dr. Rohan, Jr. uses minimally invasive spine surgery techniques that use a 1-inch incision, which enables most patients to go home the same day. He also was one of the first spine surgeons in Florida to be trained in artificial disc replacement. Dr. Rohan, Jr. provides an online spine encyclopedia at MichaelRohanSpine.com that has symptom charts, home remedies for back problems, medical illustrations and video animations on spine conditions and surgeries. Along with this educational 16-page Back to Life Journal, the spine center, as a free community service, provides a free 36-page Home Remedy Book to those in the Jacksonville, Florida region. Requests can be made online at MichaelRohanSpine.com.