

Joint Pain:

Joint Pain Demystified

Joint pain can cause varying degrees of pain, discomfort and even immobility – ranging from an impact radius of just one joint occasionally to several joints simultaneously. It can be due to any injury affecting the surrounding ligaments, cartilage and bones within the joint, infection, or just to the normal wear and tear that accompanies the physical aging process.

As many as 1 in 4 Americans suffer from joint pain due to inflammation. It can occur in the major joints – your shoulders, knees, neck, back, hips, wrists, elbows and ankles; as well as in the more minor ones – your fingers, toes and sacroiliac. And those suffering from joint pain will most often complain of the following symptoms:

- Redness
- Swelling
- Tenderness
- Warmth
- Limping
- Stiffness
- Weakness
- Pain
- And in more extreme cases, locking of the joint or loss of mobility

When it comes to treating joint pain, the goals are to reduce pain, decrease inflammation and improve overall functioning. To accomplish this, we use oral and topical medications, injections and physical therapy.

Oral medications used for treating joint pain typically fall under the non-steroidal anti-inflammatory (NSAID) umbrella. These are extremely effective at reducing inflammation, but care should be taken around dosing as they can cause stress on the cardiovascular system and should not be taken during times of increased physical activity.

The most common **topical treatment** used to alleviate joint pain is methyl salicylate.

Injection therapy is used most commonly to treat arthritis and more chronic joint issues by injecting steroids or hyaluronan (a synthetic version of joint fluid) into the affected area to target inflammation and reduce pain. Draining excess fluid around the affected joint can also be done to treat the unwanted symptoms of chronic joint inflammation.

And finally, **physical therapy** utilizes a range of treatment modalities centering around diet and exercise to help strengthen the joints, increase range of motion and alleviate unnecessary weight-bearing stress on the joints by reducing the overall body mass.

Word count: 327

Neck Pain:

Miraculous Mobility: The Cervical Spine

Is your daily activity getting to be a pain in the neck, literally? Well, you can count yourself in good company. The cervical spine offers both mobility and stability in a complex manner that is essential for proper form and physical function. But all this excess mobility can sometimes leave the neck vulnerable to injury and overuse.

Not only does it support the weight of your head (15 lbs on average), your cervical spine is also responsible for your ability to change lanes safely (rotation), Hold the phone while typing (tilt), marvel at the beauty of a blue sky (extension) and gaze at your children lovingly standing so many feet below you (flexion).

Amidst all the joints, muscles and ligaments that stabilize the structure and enable the type of movement discussed above, there are nerve roots that spread like tree branches into the vertebrae. Neck pain can often result from injury, overuse, disease or anything resulting in excess inflammation that can compromise the area or even pinch one or more of the associated nerves.

This can result in any of the following symptoms:

- Dull aching
- Numbness
- Tingling
- Tenderness
- Sharp shooting pain
- Fullness
- Pulsating sensations
- Headache
- Shoulder pain
- Facial pain
- Limited range of motion

Treatment modalities often revolve around minimizing pain and improving range of motion, with fewer than 5% of patients actually requiring surgery. These can include:

- Rest/Ice/Heat
- Oral medications (NSAIDs or muscle relaxants)
- Physical Therapy
- Cervical Epidural Steroid Injection
- Trigger Point Injections
- Facet Joint Injections
- Endoscopic Facet Fusion
- Occipital Nerve Block
- Medial Branch Block
- Spinal Cord Stimulator
- Rhizotomy (RF Therapy)
- Prolotherapy
- Cervical Discectomy
- Rhizotomy

The treatment recommended will depend on a comprehensive diagnosis of the symptomology, cause and severity of the pain. When injury is suspected, or further testing is required for diagnosis, various instruments may be used to assess the issue, including X-ray evaluation, CT scan, bone scan, MRI Scan, nerve conduction velocity tests (NCV), myelogram and electromyography (EMG) testing.

Word count: 328

Back Pain:

What's Causing Your Back Pain?

Affecting up to 80% of the population at some point in their lives, back pain can be acute, chronic or intermittent. It can result from injury, overuse or disease, and cause mild discomfort, chronic strain or even immobilizing pain.

When it comes to the causative factors of back pain, a bulging or herniated spinal disc could often be the source of the problem.

Positioned between each bony vertebrae of your spine, spinal discs act as shock absorbers to enable comfortable mobility while protecting and stabilizing the spine. They are cartilaginous with a liquid center called the nucleus and a firm outer covering that holds the nucleus in shape called the annulus.

The function of the nucleus is to move and shift as necessary to adjust to your physical activity and the resulting pressure on your spine. However, if injury in any capacity causes the nucleus to 'bulge' past the annulus, the disc becomes herniated. And in severe cases, it can even rupture.

When bulging or herniated, the disc material can pinch any one of the nerves extending through the spinal canal, causing pain.

The most common causes of a bulging, herniated or ruptured disc are a pre-existing weakness in the annulus or a sudden increase in pressure throughout the disc that causes the annulus to tear. Sudden and unexpected load on the disc (as in a car accident or incorrect heavy lifting), as well as poor posture (repeated microtrauma) are common causes, with genetics playing only a minor role.

Symptoms of a bulging disc include:

- Back pain
- Leg pain
- Spasms
- Cramping
- Numbness
- Sciatica
- Pins and needles
- Pain when coughing, sneezing sitting, lifting, straining or bending forward
- And even compromised bladder or bowel function in more severe cases

Treatment will depend on the diagnosis and severity of the disc issue, with the goal being long-term relief and greater mobility. Less invasive treatments include physical therapy, ice and heat therapy, chiropractic manipulation and oral medications including NSAIDs, narcotic pain medication and oral steroids – all of which serve to decrease inflammation and manage pain.

If non-surgical options are not effective, a discectomy can be performed to remove the herniated disc material pressing against the nerve root or spinal cord.

Word count: 359

Pain Management

Pain Management as Individualized as You Are

It's no secret that we're all different. We all have different bodies, different nervous systems, different minds... the list goes on and on. And we process everything according to our own individual experience – including pain. This means when you're looking to manage your pain, you need a plan that honors your individuality and adjusts accordingly to your personal needs, wants, goals and threshold.

We understand. At the Texas Pain Network, we offer a variety of pain management options as individualized as you are. Our goal is to decrease your pain, increase your quality of life and work with you every step of the way to ensure lasting results.

When it comes to pain, you can manage it in a way that enables you to maintain your quality of life or, when living with it is not an option, you can treat it in a more aggressive manner that serves to alleviate the symptoms that are otherwise unmanageable.

We strive to properly diagnose both acute and chronic pain issues to ensure a reduction in the physical, emotional and mental impact your pain has on you and your loved ones. Whether it's:

- Joint pain due to arthritis
- Back or neck pain due to injury or disc degeneration
- Peripheral neuropathy due to diabetes
- Foot pain or piriformis syndrome due to overuse
- Or even overall pain due to disease or immune disorder
- And these are just to name a few

Your pain management plan will be driven by feedback, not assumption, and will be customized continuously to your day-to-day experience. And there are plenty of physical, psychological and behavioral therapies to try that do not involve prescription medication or invasive procedures:

- Acupuncture
- Massage
- Meditation
- Water therapy
- Biofeedback
- Oral medications that fall under the non-steroidal anti-inflammatory (NSAID) umbrella; ibuprofen, aspirin and naproxen.
- Topical Treatments
- Physical Therapy
- Injection therapy
- Cognitive Behavioral Therapy

Depending on the nature of your pain, some of these therapies may be encouraged as part of your pain-management plan.

Word Count: 334

Pain Treatment

Pain Treatment: Start Being Yourself Again

There are circumstances where pain becomes unmanageable – meaning living with it and simply managing the symptoms are no longer an option. In this scenario, we move to more aggressive treatment modalities to get you back to being yourself and recapture the quality of life you once had. And again, each treatment plan is customized to you and your own individual experience of your pain.

In order to assess your condition as accurately as possible and offer treatment options that address your specific needs, goals and physiology, a comprehensive diagnostic exam will be performed to help our doctors understand the root cause of your pain and treat it accordingly.

And of course, the goal is long-term relief, so we'll work with you compassionately and comprehensively even after your treatment plan has concluded to develop a maintenance program to help sustain your results.

We offer the following treatments at the Texas Pain Network:

- Trigger Point Injections
- Lumbar Sympathetic Block
- Rhizotomy (RF)
- Discectomy
- Medial Branch Block
- Cervical Epidural Steroid Injection
- Lumbar Epidural Steroid Injection
- Spinal Cord Stimulator Implant
- Facet Joint Injections
- Sacroiliac Joint Steroid Injections
- Occipital Nerve Block
- Lumbar Transforaminal Epidural Steroid Injections
- Invasive Surgery Alternative Therapy

And depending on the nature of your individual issue, supplemental therapies such as vitamin therapy or a personalized weight-loss program may also be recommended to enhance your results.

There are lots of options to choose from when it comes to treating your pain and getting you back to you. Our staff of comprehensively trained physicians will work with you and your family to help determine what your individual treatment plan looks like and educate you along the way to enable your sustained results.

Word count: 283

Peripheral Nerve Stimulator

Stimulate Pain Relief from the Inside Out

Among the many things our nervous system is responsible for, pain signals are one of them. We have nerves extending throughout our entire body that own the job of sending signals to alert the brain of potential threat to the system, among other responsibilities crucial to our survival. The brain then responds to these signals by creating the sensory experience of pain, so we will disengage from whatever activity is currently threatening the integrity of the system.

The central nervous system (CNS) consists of the brain and the spinal cord, while the peripheral nervous system (PNS) consists mainly of everything else extending from the CNS throughout the entire system – its main function being to connect the CNS to every other part of the body.

Should one of your periphery nerves get damaged, it will continually send out pain signals regardless if a threat exists or not. And this is where you get chronic pain that has the potential to significantly impact your quality of life.

Peripheral Nerve stimulation (PNS) is a pain-management technique in which electrodes are strategically placed along the path of the peripheral nerves for the purpose of controlling pain. Here, the electrodes job is to administer a weak electrical current to the nerve or nerves that the patient experiences as a pleasant tingling sensation.

This, in turn, disengages the brain's threat response by stimulating a non-painful sensory expression that promotes the brain to turn off (or significantly reduce) the chronic pain signals. As a result, pain relief occurs and many patients are able to either diminish or completely discontinue use of their pain medications.

These devices are extremely safe, and the patient is able to actively control stimulation by powering the device on and off or adjusting the stimulation levels as needed. It also offers a very high success rate when it comes to treating a variety of severe neuropathic conditions.

Word Count: 321

Knee Arthroscopy

Knee Arthroscopy: Take Back Your Mobility

Knee pain is a very common complaint when it comes to pain in the body. It can impact a very wide range when it comes to age and be the result of injury, disease or just natural wear and tear that accompanies the aging process. It can be acute, chronic and vary from slightly unmanageable to completely immobilizing. But regardless of the cause, age or level of intensity, it always has the potential to significantly impact your quality of life.

We need our knees for just about everything. When they are even remotely compromised, our ability to engage in any sort of weight-bearing activity is challenged – this includes walking, standing and even sitting.

So, what can we do?

A knee arthroscopy is a surgical technique whereby a tiny camera – called an arthroscope – is inserted into your knee via a small incision. This will enable your physician to investigate the problem and effectively treat the cause of your knee pain, versus just managing the symptom.

There are limited risks with this procedure and the outlook for most patients is very good.

This procedure can be used to diagnose and treat the following knee injuries:

- Fracture of the knee bone
- Torn meniscus
- Swollen synovium (the lining in the joint)
- Torn anterior or posterior cruciate ligaments
- Removal of Baker's Cyst
- Mispositioned patella
- Pieces of torn cartilage that are loose and breaking down the joint

To begin, your surgeon will pump a bit of saline into your knee via a few small incisions to expand your knee for better viewing purposes. The arthroscope is then strategically placed through one of the incisions so your doctor can examine your joint using the attached camera.

Once the problem has been successfully diagnosed, small tools may then be inserted to correct the issue. The doctor will then drain the saline from your joint and close the small incisions with a few stitches.

Your prognosis and recovery time will then be assessed based on the severity of the knee problem and the complexity of the resulting procedure required to correct it.

Word count: 344

EMG NCV

At the Root of Your Pain: EMG and NCV Testing

The human body is a fascinating instrument that runs on a complex series of pre-determined and impressively hardwired cause-and-effect nerve signals. These signals trigger our muscles accordingly to enable things like walking, running, sitting, standing, driving and all other manner of physical activity required to live our daily lives.

In short, your muscles will move when nerve signals from the brain tell them to. If these nerve responders get compromised in any way, however, one could experience symptoms of pain, tingling or even muscle weakness. For individuals experiencing chronic symptomology such as this, electromyography (EMG) and nerve conduction velocity (NCV) are two tests that may be recommended by your physician to help you get to a working diagnosis and treatment plan.

EMG: Put simply, this test measures how well your muscles respond to the signals your brain delivers that promote the desired movement. During an EMG, a thin needle electrode is inserted through a specific muscle and as you relax and contract that muscle, the electrical impulses are recorded and measured. Should the tests pick up a problem, you may be diagnosed with something called a neuromuscular disorder.

NCV: The nerve signals required for your muscles to respond and initiate activity are fast-moving electrical impulses that travel throughout your entire nervous system. This test measures the integrity of the individual nerves – assessing how fast and strong the electrical activity is. Here, patch-like electrodes are applied to the skin that dispense low-level electricity to stimulate the nerve. The velocity at which this electrical signal flows is then measured and assessed. Should this test pick up an issue, a damaged nerve may be at the root of your pain.

These tests will be given to enable a diagnosis for the following chronic symptoms:

- Tingling or numbness
- Cramping or pain
- Muscle weakness

And they are helpful in diagnosing (or ruling out) the following conditions:

- Neuromuscular disease such as muscular dystrophy
- Nerve problems in the spine resulting from a herniated disc
- Pinched nerves
- Guillain-Barré syndrome (your immune system attacks the nerves in your legs and arms)
- Carpal tunnel syndrome
- Peripheral nerve issues in your arms and legs

Together, these tests are able to help your physician diagnose the root cause of your nerve and muscle pain.

Word count: 379

Lab testing

Verify Diagnosis at the Cellular Level

Depending on the nature of your pain and the symptom's you're expressing, your doctor may want you to have some blood testing done to help assist in a more accurate diagnosis. The main thing these blood panels are testing for is your adrenal functioning and inflammatory response – both of which will often be noticeably out of range if chronic pain is present in the system.

These lab tests are used to pinpoint the level of systemic disturbance your pain is causing in your individual mind/body experience. Depending on your symptoms and suspected diagnosis, the most common labs your doctor will recommend are:

- AM Cortisol
- AM Testosterone
- Erythrocyte Sedimentation Rate (ESR)
- C-Reactive Protein (CRP)
- AM Pregnenolone

Pain itself has the potential to cause hyperarousal of the hypothalamic-pituitary-adrenal axis, often resulting in the depletion of such hormones as **cortisol** and **testosterone**.

The pituitary gland's main role is to secrete hormones into your bloodstream, while the hypothalamus is responsible for maintaining the state of balance in the body known as homeostasis. The adrenal glands also play a big role in the proper secretion of vital hormones such as cortisol and adrenalin – both of which get elevated under conditions of extreme stress (like acute or chronic pain). And should the pain continue, these too can eventually get depleted.

So you can see how an overstimulation of this axis can cause a noticeable disturbance in the body that can be mapped and measured by your cellular response.

If your doctor suspects rheumatoid arthritis or hepatitis to be the cause of your pain, for example, he or she may recommend the **ESR** and **CRP** panels as both of these serum levels will elevate should that be a possible diagnosis. Similarly, ESR levels will be elevated in instances of uncontrolled pain and then normalize once pain control has been established and sustained.

Pregnenolone, also referred to as the “mother hormone” is essential for healthy hormone balance as all other hormones are derived from it. In situations where chronic pain is present, this hormone will often register below the normal range in your lab testing.

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