PMPMA

Physical Medicine &
Pain Management Associates P.C.

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PMPMA

Physical Medicine &
Pain Management Associates P.C.

Precision Diagnostics • Personalized Care • Pain Relief Solutions

*Take the **first step** in treating musculoskeletal conditions with PMPMA*

ADVANCED SPINE, SPORTS & PAIN CARE

ABOUT PHYSIATRISTS

Specializing in restoring function...

Physical medicine and rehabilitation (PM&R), also called physiatry, is the branch of medicine emphasizing the prevention, diagnosis, and treatment of disorders - particularly related to the nerves, muscles, and bones that may produce temporary or permanent impairment.

Physiatrists are medical doctors who specialize in three major areas of medical care:

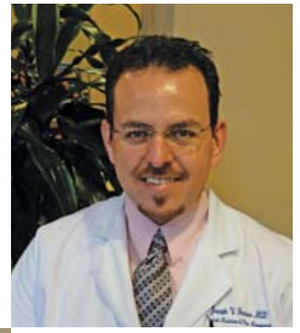
- Diagnosis and treatment of musculoskeletal injuries and pain syndromes
- Rehabilitation of patients with severe impairments, i.e. stroke, Brain injury, Cerebral Palsy, Spinal Cord Injury, etc.
- Electrodiagnostic Medicine – evaluation and testing of nerve and muscle disease or injury.

If surgery is necessary, physiatrists work with patients and their surgeons before surgery and coordinate their care afterward to achieve a successful recovery. Physiatrists work closely with neurologists, psychologists, neuro and orthopaedic surgeons, chiropractors, as well as physical and occupational therapists, and speech pathologists.

PMPMA are the experts at diagnosing and treating pain while restoring maximum function.

Rehabilitation physicians are nerve, muscle, and bone experts who treat injuries or illnesses that affect how you move. The physicians at PMPMA are Board Certified in Physical Medicine and Rehabilitation, treating a wide range of problems and conditions. Our goal is to decrease pain and enhance performance without surgery. We will design a treatment plan that can be carried out by the patients themselves or with the rehabilitation medical team.

Meet our doctors:



JOSEPH FERRARO, MD Board Certified in Internal Medicine and Physical Medicine & Rehabilitation, he continued his training with a Fellowship Training in Spine, Musculoskeletal & Interventional Pain Medicine. Dr Ferraro relocated from Florida with his wife and joined PMPMA in 2009.

WILLIAM THAM, MD Board Certified in PM&R after attending Albert Einstein College of Medicine in New York. He has an undergraduate degree in Psychology which adds to expertise in working within pain management. Dr Tham founded PMPMA in 1994. He has participated as a member of the Alternative MEDICINE Program Advisory Council for the National Institute of Health, as well as other community initiatives.

SOPHIA LEONARD-BURNS, PA-C Obtained her education from George Washington University. As a long time resident of the Annapolis area, she joined PMPMA in 2001. Previously she worked in family practice, hospital emergency department, and drug rehabilitation. She serves as lead mid-level.

SUSAN ZIMMERMAN, MD Graduated from the University of Pennsylvania with a BA in Biology. She then attended and graduated from Albert Einstein College of Medicine in NYC. She completed her Internship at Long Island Jewish Hospital, and her residency at the John F Kennedy Rehabilitation Institute in Edison, NJ. She is one of the founding partners of the practice established in 1992.

KAREN SCOTT, PA-C Obtained a Masters of Science from George Washington University. Prior to becoming a PA-C she worked as medical and surgical assistant in podiatry and ENT. As a PA-C she then worked with orthopedic surgery specialty prior to joining PMPMA in 2005.

THOMAS LEE, MD Attended Columbia University, receiving his BS in Chemical Engineering. He received his Medical Degree from University of Medicine & Dentistry in New Jersey Medical School. He is Board Certified in PM&R as well as Pain Management and Fellowship Trained Interventional Spine and Musculoskeletal Pain Medicine. Dr Lee has published in clinical journals as well as a national speaker and instructor.

CARYN CALKA, PA-C Obtained her physician assistant from Anne Arundel Community College. She has a Master of Medical Science from St Francis University and a BA in Psychology from University of California. Her past experience while practicing in emergency medicine, surgery, internal medicine, and family practice has brought to PMPMA a wealth expertise.

MAURICIO ACEBEY, MD Received his Doctor of Medicine from Northwestern University Medical School in Chicago followed by a fellowship in Interventional Spine and Pain Management. He is Board Certified in PM&R as well as Pain Management. His accomplishments include numerous professional volunteer, participation with clinical research and authoring publications, as well as invited national speaker.

AMY FERNANDEZ, PA-C Amy Fernandez joined PMPMA in 2009 after obtaining her PA certification at Anne Arundel Community College. She obtained a Masters of Medical Science at St. Francis University Loretto, PA. Prior to entering the medical field she held a Bachelor of Electrical Engineering degree.

OUR **REHABILITATION PHYSICIANS** MAY TREAT:

MUSCULOSKELETAL DISORDERS

- Cervical, Thoracic, & Lumbar Disorders
- Degenerative Disc Disease & Spinal Conditions
- Arthritis and Osteoarthritis
- Post-traumatic, i.e., whiplash, job-related repetitive injuries
- Other soft tissue problems (i.e., bursitis, tendonitis)
- Fibromyalgia
- Carpal Tunnel Syndrome, trigger fingers
- Radiculopathy

NEUROLOGICAL DISORDERS

- Neuropathies

SPORTS INJURIES

- Running injuries - i.e., knee, ankle, shin splints
- Sprains and strains
- Shoulder and elbow pain
- Evaluation and/or advice on exercise programs

MEDICAL

- Vascular/Claudication-Amputees
- Pregnancy and Back Pain
- Cancer Patients

Persistent Pain can affect every aspect of daily life. **The relationship between the patient and the health care provider is an essential component of effective pain management.**

To develop and maintain a good relationship, it is important for the patient to feel comfortable enough to ask questions and important for the health care provider to answer questions and address concerns thoroughly.

THE **PATHOPHYSIOLOGY** OF PAIN

WHAT IS PAIN?

From a clinical perspective, pain is far more than a distinct type of physical sensation. The International Association for the Study of Pain provides a practical definition of pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage."

TYPES OF PAIN:

- **Transient, or nociceptive, pain** results from a noxious stimulus, such as injury, disease, or inflammation. Such pain may, but does not always, require medical attention.
- **Neuropathic pain** is caused by damage to the brain, spinal cord, or peripheral nerves.
- **Acute pain** results from local tissue damage and generally subsides within weeks.
- **Chronic pain** extends beyond the period of healing and disrupts both sleep and normal activities of living.

Did you know? **80 million Americans suffer from chronic pain, which makes it a major healthcare crisis in the United States. Fortunately, new medical breakthroughs may offer relief to those in pain.**

Whether you have lived with pain for years or have just been diagnosed,

POWER OVER YOUR PAIN

Why pain can become worse: There is a "wind-up phenomenon" that causes untreated pain to get worse. Nerve fibers transmitting the painful impulses to the brain become "trained" to deliver pain signals better. Just like muscles get better at sports with training, the nerves may become more effective at sending pain signals to the brain. The intensity of the signals increases over and above what is needed to get your attention. To make matters even worse, the brain may become more sensitive to the pain. So your pain may feel much worse even though your injury or illness is not getting any worse. At this point, pain may be termed chronic pain. And it may no longer be helpful as a signal of illness.

WHAT IS **CHRONIC PAIN?**

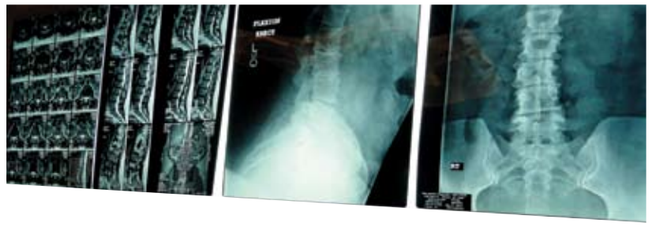
When pain lasts for a long time, it is called chronic pain. This type of pain is often caused by illness or injury or the source of the pain can be unknown. Some doctors consider pain to be chronic when it lasts one month longer than expected, but the general medical definition is pain that has lasted for six months or longer.

Chronic pain can be difficult to treat because it varies so much from person to person. Even two people with the same kind of pain may need different treatments. Chronic pain is also problematic because it can change frequently—from day to day, week to week, and month to month. It can even change hourly, depending on your activity, mood, stress level, and general health.

Did you know?

Chronic pain affects some 80 million Americans and, following cancer and heart disease, is the third leading cause of physical impairment in the United States.

PRECISION DIAGNOSTICS



A major emphasis and effort is invested in obtaining an accurate diagnoses for our patients.

How do rehabilitation physicians diagnose?

We take the time needed in our efforts to pinpoint the source of an ailment. The specific diagnostic tools we use are the same as those used by other physicians (medical histories, physical examinations, and imaging studies), with the addition of special techniques in electrodiagnostic medicine and interventional diagnostics. These techniques help the physicians at PMPMA to diagnose conditions that cause pain, weakness, and numbness.

IMAGING

MRI - An MRI (or magnetic resonance imaging) scan is a radiology technique that uses magnetism, radio waves, and a computer to produce images of body structures. The MRI scanner is a tube surrounded by a giant circular magnet. The patient is placed on a moveable bed that is inserted into the magnet. The magnet creates a strong magnetic field that aligns the protons of hydrogen atoms, which are then exposed to a beam of radio waves. The image and resolution produced by MRI is quite detailed and can detect tiny changes of structures within the body. For some cases, contrast agents, such as gadolinium, are used to increase the accuracy of the images.

CT Scan - also called computerized tomography or just CT - is an X-ray technique that produces images of your body that visualize internal structures in cross section rather than the overlapping images typically produced by conventional X-ray exams.

ELECTRODIAGNOSTIC TESTING

Electrodiagnostic testing - provides information about muscles and nerves helping the physician arrive at a diagnosis. The idea of EMG is not all that different than EKG. In EKG electrodes record the electrical activity of the heart. In EEG, the same thing can be done to record electricity within the brain. Technology has made it possible to record electrical activity of muscles and nerves (other electrical tissues) throughout the body.

EMGs (electromyography) - measures muscle response to nerve stimulation and evaluates electrical activity within selected muscle fibers. The test can help to differentiate between a muscle and nerve disorder. A needle electrode is introduced into specific muscles, one at a time, in order to receive both visual and auditory information about the electrical functioning of that muscle and the nerve which supplies it. The test generally takes between 30-60 minutes, although there are exceptional cases which require more or less time. For a good part of that time, the patient feels absolutely nothing while the physician is setting up, measuring, calculating, and thinking.

Nerve Conduction Studies - evaluates the speed of nerve impulses as they travel along a nerve. This test can help determine if there is nerve damage, the extent of the damage, and if nerves have been destroyed.

DISCOGRAM

A discogram is a diagnostic procedure to determine if your vertebral disc(s) is/are your source of back pain.

This procedure is primarily a diagnostic test and is used to determine if your pain is being generated by one of your intervertebral discs. The discs are components of your spine which basically allow motion and pressure distribution. They have a soft gelatinous-type center which is surrounded by a tough fibrous outer layer. Unfortunately, disruption or degeneration of these discs can lead to pain in the spine and occasionally into the arms or legs. No current diagnostic test can definitively tell 100% when pain is being generated by a disc, despite the anatomic appearance on imaging of the disc. Even MRIs cannot determine 100% whether the pain is being generated by a particular disc.

For this reason, a pain specialist may need to inject the disc with a small amount of contrast material to see if this reproduces your pain in its usual distribution. The results of this test can then be used to focus or direct further treatment. The internal anatomy of the disc will also be evaluated. Occasionally, at the discretion of the physician, a CAT scan of the lumbar spine will be done immediately after the discogram to fine tune the findings.

The test is done as an outpatient and is generally done with some mild-to-moderate sedation. The physician cannot administer a deep anesthetic because he will need to communicate with you about your responses during the injection. Most patients tolerate this procedure well, with discomfort which lasts for a short period of time.

Did you know? **Low back pain is second only to the common cold as a cause of work absences in patients less than 55 years of age? If you are suffering of this condition or have any other types of pain, don't be afraid to seek treatment with one of our Medical Board Certified Pain Management Specialist at PMP-MA. Stop your suffering and call today for an appointment.**

PAIN **RELIEF** SOLUTIONS

PHARMACOLOGIC TREATMENT OPTIONS

1. Nonopioids (nonsteroidal anti-inflammatory drugs and acetaminophen) Nonopioid pain medications include nonsteroidal anti-inflammatory drugs (NSAIDs) and analgesics such as acetaminophen. NSAIDS work to reduce inflammation, as a result of COX-2 inhibition. Analgesics include acetaminophen, which may work by inhibiting COX-3 receptors. Analgesics relieve pain and generally do not cause renal toxicity or gastric bleeding.

2. Adjuvant Analgesics (such as antiepileptic drugs and antidepressants) Adjuvant drugs are used to hasten or improve the primary mode of treatment, to treat certain types of pain (e.g., neuropathic pain, bone pain), and to reduce side effects of other pain relievers. Antidepressants can reduce pain and help patients sleep. Three classes of anti-depressants that are commonly used to treat nerve pain are tricyclics, SSRIs and SNRIs. Now, certain anti-convulsants are given to relieve nerve pain too. Anti-seizure medicines can relieve pain caused by damaged nerves, which can often be described as "Shooting Pain".

3. Opioids "Opioid" refers to all medications related to opium. Morphine and codeine are obtained from the opium poppy, while hydromorphone and oxymorphone are synthetically derived from natural opiates. Opioids work by mimicking the effects of natural neurotransmitters at opioid receptors throughout the nervous system. Healthcare professionals have relied on opioids to relieve pain for thousands of years. Today many healthcare professionals agree that opioids can be a safe and effective component of pain management.

IMPORTANT TIPS FOR **TAKING** MEDICATION:

- **Always take your medicine as directed by your health care provider. You may need to take it for a few weeks before you will know if it can help relieve your pain.**
- **Make a list of all your medications and bring it to each medical appointment.This includes OTC, herbal, and homeopathic medicines, vitamin and mineral supplements and prescription medicines.**
- **Ask questions and tell your healthcare provider about the side effects that are bothering you. Ask your healthcare provider about dose ranges, possible side effects, drug interactions and the probability of success of each medication that you take.**
- **Do not suddenly stop taking a medicine. If you do not think a medicine is working or you are bothered by its side effects, talk to your health care provider first. Your health care provider can provide proper instructions to avoid complications.**

TIPS ON **TALKING ABOUT PAIN** WITH YOUR HEALTHCARE PROFESSIONAL:

Pain assessment is critical for effective pain management. The following approach to assessing your pain by focusing on words to describe intensity, location, duration, and aggravating and alleviating factors will better help your healthcare professional develop effective treatment strategies for you.

Words to describe pain Intensity (0 to 10) If 0 is no pain and 10 is the worst possible pain, what is your pain now? In the last 24 hours?

Location Where is the pain?

Duration Is the pain always there? Or does the pain come and go? Do you have both types of pain?

Aggravating and alleviating factors What makes your pain better? What makes your pain worse?

Kind of pain Is it aching, throbbing, shooting, stabbing, bruised, shock-like, continuous, burning, deep, tingling, skin sensitivity, crushing, numbing, pressing, cramping.

How does pain affect your life? Does it cause nausea/vomiting, itching, urinary retention, constipation, sleepiness/confusion, sleep, energy, relationships, appetite, activity, mood.

PAIN **RELIEF** SOLUTIONS

PROLOTHERAPY FOR PAIN - IS THIS THE ANSWER FOR YOU?

Prolotherapy has been known by different name such as Sclerotherapy, as an older term, which was in use when the technique was thought to create scar in reducing symptoms. Now, due to the increased use and efficiency of diagnostic musculoskeletal ultrasound, the effect of tissue remolding to its normal architecture has been seen, thus there has been a movement to re-name it regenerative injection treatment (RIT).

Prolotherapy is a simple, natural technique that stimulates the body to repair the painful area when the natural healing process needs a little assistance. The two general situations for the use of prolotherapy are a traumatic injury, which incompletely resolves or a repetitive stress beyond the reparative process. Some barriers to completely heal include: excessive or inappropriate use of anti-inflammatory medications, corticosteroids, poor diet/malnutrition, smoking, maladaptive behaviors (poor training technique, posture, etc.), and other existing diseases which stress the body (co-morbidities).

Prolotherapy involves the treatment of two specific kinds of tissue: tendons and ligaments. A tendon attaches a muscle to the bone and involves movement of the joint. A ligament connects two bones and is involved in the stability of the joint. A strain is defined as a stretched or injured tendon; a sprain, a stretched or injured ligament. Once these structures are injured, the immune system is stimulated to repair the injured area. Because ligaments and tendons generally have a poor blood supply, incomplete healing is common after injury. This incomplete healing results in these normally taut, strong bands of fibrous or connective tissue becoming relaxed and weak. The relaxed and inefficient ligament or tendon then becomes the source of chronic pain and weakness.

INJECTIONS TO KICK-START TISSUE REPAIR

Prolotherapy works by exactly the same process that the human body naturally uses to stimulate the body's healing system, a process called inflammation, resulting in the deposition of new collagen, the material that ligaments and tendons are made of. The technique involves the injection of a proliferant (a mild irritant solution) that causes an inflammatory response. The growth of new ligament and tendon tissue is then stimulated. The ligaments and tendons produced after Prolotherapy appear much the same as normal tissues, except that they are thicker, stronger, and contain fibers of varying thickness, which can be up to 40% stronger in some cases.

A typical course of prolotherapy treatment is six to 10 sessions, sometimes with multiple injections at each session. Prolotherapy is known to cause some pain at the injection site, but this is typically mild and temporary. As with any injection, there is a risk of infection, bruising, bleeding or tissue damage.

These are some of the painful conditions that have been treated successfully by Prolotherapy:

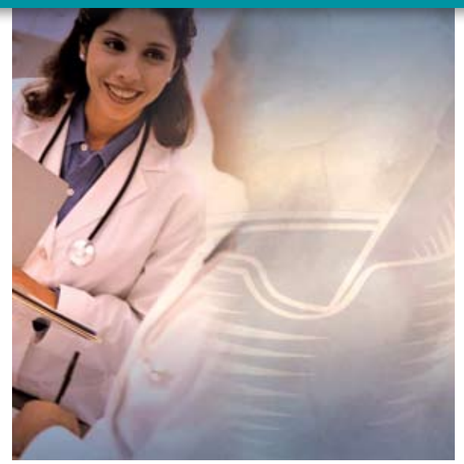
- Arthritis
- Back pain
- Neck pain
- Heel spurs
- Sports injuries
- Whiplash
- Carpel tunnel
- Sprains
- TMJ
- Degenerative discs
- Shoulder pain
- Knee pain
- Elbow pain

"I have used Prolotherapy for many of my patients that struggle with back pain, neck pain, ankle pain, shoulder pain, knee pain, headaches and more to help them avoid surgery and go on to live pain-free," states William Tham, MD.

NON-SURGICAL SOLUTIONS

- Eliminate need for drugs & surgery
- Stimulate the body's natural healing mechanism
- Low risk of side effects
- Potentially permanent results

PMPMA PROVIDING ADDED VALUE



An added benefit and convenience for our Workers Compensation and Personal Injury patients with an onsite medication dispensing program is available with IPM.

What Does a Pharmacy Management Program Mean to You?

COMPLIANCE: All medications are DEA and PDA approved and pre-packaged by dose and size. They are double sealed and clearly labeled.

CONVENIENCE

- IPM makes our patients happy to be able to walk out of the office with medications in hand.
- No more transportation problems to the pharmacy.
- No more long waits at the pharmacy.
- No more days of waiting for authorizations from your insurance company.
- No out of pocket expense.

IPM
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ORAL & TOPICAL MEDICATIONS AVAILABLE INCLUDE:

- Anti-inflammatory
- Muscle Relaxants
- NSAIDS
- GI Protection
- COX2
- Anti-convulsants
- Sleep Aids
- Anti-Seizure
- Anti-depressants

THE FACTS:

- 80% of the population will suffer from at least one serious bout of back pain during their lifetime
- Men and women are equally affected by lower back pain and no age is immune
- One in four Americans will suffer from chronic back pain (exceeding three months)
- Cost of medical care for severe back pain exceeds $50 billion annually
- More than 515 million work days are lost each year due to back pain

PAIN **RELIEF** SOLUTIONS

Our goal is to minimize pain,
increase daily function,
and improve the overall
QUALITY OF LIFE.

There are **THREE** levels in the pain treatment continuum. After a thorough diagnosis, you and your doctor at PMPMA will decide the best treatment for your pain. These are general guidelines and can vary depending on your condition, your response to previous treatments, and the recommendation of one of our specialists.

Level One

The first step in the treatment continuum begins with conservative treatment and progresses to more aggressive approaches.

Exercise Programs. One of the first treatments may be light exercise, such as walking. Exercise stimulates the release of the body's natural pain relievers called endorphins. It promotes flexibility, strength, and endurance, and it helps reduce stress. Exercise can also strengthen unused or weak muscles to help take over the work of a muscle that is overworked and causing pain.

Over-the-Counter Pain Medications. This is another early treatment that may be combined with limited bedrest. Common medications include analgesics (such as aspirin or acetaminophen) or an anti-inflammatory agents (such as ibuprofen).

Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) and Adjunctive Medications. A physician may need to try a number of medications and therapies before they find the best treatment for you. Many NSAIDs are over-the-counter (OTC) medicines, while others are prescription. These drugs may help relieve pain, redness and swelling (and also fever). Taking this medicine alone may not be very effective for treating pain, but it may help if combined with other pain medications. **Adjuvant analgesics** were originally developed to treat medical conditions other than pain and can be used alone or with opioids.

Rehabilitative Therapy. This includes a variety of techniques—physical / occupational / massage therapy, chiropractic therapy, and retraining of physical activities—to reduce pain and increase function. Therapists may use stretching exercises, heat or cold therapies, water therapy, muscle relaxation techniques, biofeedback, traction, or weight training and conditioning.

Cognitive and Behavioral Modification. Chronic pain is a tremendous psychological burden, and the way a person responds to and tolerates pain depends on factors such as their personality, culture, and past pain experiences. Cognitive and behavioral therapies take these factors into account in an effort to help a patient learn new skills and strategies for dealing with chronic pain. These skills and strategies can include relaxation techniques, visualization exercises, and one-on-one counseling sessions with the patient and family to build coping skills.

Level Two

The second step in the treatment steps includes procedures or treatments that are more invasive.

Injections. Injections, as part of the evaluation and treatment of pain, are commonly recommended. There are many different types of injections that may be used to help diagnose the painful condition and to help treat the painful condition. Therapeutic injections can help to reduce or eliminate your pain symptoms.

Systemic Opioids. Powerful pain medications known as opioids are often prescribed when severe chronic pain does not respond to first-step therapies and when surgery is either not an option or has failed. Opioids are effective in relieving the most severe pain. However, side effects—ranging from drowsiness and constipation to an increased risk of addiction—are common, particularly when opioids are administered by pills or skin patches.

Thermal Procedures. Thermal procedures, such as radio-frequency (RF) lesioning, use temperature to disrupt a nerve's ability to transmit pain signals.

With RF lesioning, high-frequency energy is used to produce heat and thermal coagulation of the affected nerves to disrupt the nerves' ability to transmit pain signals. The RF energy is directed only at the targeted nerves, which minimizes the risk of damaging adjacent structures. RF lesioning can provide pain relief for up to a year or more and is repeatable.

Level Three

Relieving stubborn pain takes time and patience, and at times, clinical judgment calls. Certain pain conditions can be very resistant to first- or second-step pain therapies. If this is the case, your physician may consider more advanced treatments to relieve your pain.

Surgery. Surgery may be performed to repair or correct an anatomical defect or a defect due to an illness or injury. Surgery may also be performed on a nerve to interrupt the transmission of pain signals. Surgery carries a greater risk than noninvasive procedures.

Spinal Cord Stimulation. Spinal cord stimulation (SCS) is used to treat certain types of chronic neuropathic pain in the body (trunk) and/or arms and legs (limbs). Spinal cord stimulation uses low-level electrical impulses to interfere with or to block pain signals from reaching the brain. This therapy replaces painful sensations in the affected areas with a more pleasant sensation.

PHYSICAL **THERAPY**

Personalized Physical & Occupational Therapy

Physical and Occupational Therapies are widely used to help people recover after an injury or surgery. Many patients with nerve injuries or painful muscle spasms will benefit from a supervised exercise routine. Even the lightest amount of exercise and stretching can be helpful. Manual therapy, electrical stimulation, and neuromuscular re-education, if used in conjunction with an active exercise program, will help ease your symptoms, improve your physical function, and ability to fully perform your activities of daily living.

COMPREHENSIVE **REHABILITATION** SERVICES

Research Based Industrial Rehabilitation Services

REHAB AT WORK's outpatient Physical Therapy and Industrial Rehabilitation services are effective and efficient. Statistics prove that proactive, functionally oriented physical rehabilitation can save time and medical costs for the patient and employers in injured worker cases. There are a multitude of research based therapy services that assist in providing appropriate and proven care necessary for successful outcomes.

Industrial Rehabilitation Services include; a Functional Capacity Evaluation, an initial evaluation, to assess functional levels of the musculoskeletal status, Work Hardening and Work Conditioning Programs, daily functional rehabilitation programs incorporating conditioning exercise and real work simulation, and Work Site Services, inclusive of Work Site Therapy, Transitional Work Rehabilitation, Work Site Analysis, and Pre-Employment Functional Testing.

REHAB AT WORK'S goal is to help their clients resume their normal speed to live healthy and active lives. The therapists provide the following treatment programs that are customized to give you results:

- Orthopedic Physical Therapy
- Sports Rehabilitation
- Back & Neck School Education
- Industrial Rehabilitation
- Work Site and Employer Services

WHAT ROLE DOES **EXERCISE** SERVE?

Exercise promotes fitness despite pain. Different forms of exercise promote a variety of benefits.

1) Flexibility - Stretching exercises promote increased motion and allow for better function before "pain signals" are triggered.

2) Strengthening - Strengthening muscles surrounding the joint will increase stability, reduce abnormal joint motion, and result in decreased pain.

3) Endurance - Endurance promotes better circulation through injured tissues which can help to promote healing and can increase the body's level of endorphins, which relieves pain.

REHAB AT WORK

It's Our REHAB That WORKS

www.rehabatwork.com

Rehab Hotline: 1-888-827-6361

INTERVENTIONAL PAIN MEDICINE

Powerful Pain Relief without Surgery or Down Time

Advanced technology coupled with a more precise understanding of the origins of pain has paved the way for state-of-the-art procedural interventions designed to generate long-term pain relief for patients who otherwise might have no where to turn.

The physicians of PMPMA are expertly trained to perform a myriad of advanced procedures once a differential diagnosis of the underlying cause of pain has been identified. Below is a summary of some of the more innovative procedures, how they work and the types of patients who may be candidates.

Did you know? **Fluoroscopic injection often allows invasive pain management to be performed with more comfort, fewer complications, and better results.**

FLUOROSCOPY

A fluoroscope is a powerful tool that is used for precision diagnostics and treatment of spine-based pain. During fluoroscopy, the patient is positioned between an x-ray source and a fluorescent screen. The live images generated by the x-ray source onto the fluorescent screen allow our interventional physicians to see the size, shape, and structure of a patient's internal bony structures.

With the use of fluoroscopy, procedures can be directed towards specific anatomical structures to aid in pain management. If pain relief occurs, the pain generator may be identified and future care may be more precisely targeted. The use of fluoroscopy in pain treatment allows medications to be injected more precisely into the painful area.

Sometimes certain injections require fluoroscopy or some other form of guidance to be performed more accurately and safely. These injections may include:

- Epidural Injections
  - Interlaminar (midline)
  - Transforaminal
  - Caudal
- Selective Nerve Injections
- Facet/Z-Joint/Zagapophysial Injections
  - Z-Joint Nerves/Medical Branch
  - Intrarticular Joint Injection

- Radiofrequency Ablation/Neurotomy/Denervation
  - Z-Joint Nerves/Medial Branch
- Intradiscal Procedures
  - Electrothermal Anuloplasty
  - Percutaneous Disc Decompression
  - Discography/Discogram
- Sympathetic Nerve Blocks
- Neuromodulation
  - Spinal Cord Stimulation
- Joint Injections
  - Hip
  - Sacroiliac Joint Injection

INJECTIONS

Injections comprise a less invasive and relatively conservative treatment option for pain in the back and other joints in the body. They are typically considered as an option to treat pain after a course of medications and/or physiotherapy or in combination, but before surgery is considered. Injections can be useful both for providing pain relief and sometimes as a diagnostic tool to help identify the source of the pain.

For pain relief, injections can be more effective than an oral medication because they deliver medication directly to the anatomic location that may be generating the pain. Typically, a steroid medication is injected to deliver a powerful anti-inflammatory solution directly to the area that is the source of pain. Depending on the type of injection, some forms of low back pain relief may be long lasting and some may be only temporary.

Diagnostically, injections may be used to help determine which structure in the back is generating pain. If lidocaine or a similar numbing medication is used, and there is temporary relief after an anatomic region is injected (e.g. facet joint or sacroiliac joint), it can then be inferred that the specific region is the source of the pain. When considered in conjunction with the history, physical exam, and imaging studies, injections used for diagnostic purposes can be very helpful in determining further treatment.

TRIGGER POINT INJECTIONS

Trigger points are described as hyperirritable spots in skeletal muscle that are associated with palpable nodules or taut bands of muscle fibers Trigger point injection (TPI) is used to treat extremely painful areas of muscle. Normal muscle contracts and relaxes when it is active. A **trigger point** is a knot or tight, ropy band of muscle that forms when muscle fails to relax. The knot often can be felt under the skin and may twitch involuntarily when touched (called a twitch response or jump sign). The trigger point can cause referred pain — pain felt in another location or part of the body. Scar tissue, loss of range of motion, and weakness may develop over time.

TPI is used to alleviate myofascial pain (pain involving the muscle) that does not respond to other treatment, although there is some debate over its effectiveness. Many muscle groups, especially those in the arms, legs, low back, and neck, are treated by this method.

Injections are given in the physician's office and can take approximately 5-15 minutes.

SYMPATHETIC BLOCK

A block that is performed to determine if the sympathetic nervous system is involved in pain propagation for certain patients. This procedure may provide some diagnostic information, but it may also provide pain relief far in excess of the duration of the anesthetic. This injection can be performed bilaterally, but not at the same time. The patient may note some temporary changes consistent with interruption of the sympathetic system, such as warmth or skin color changes. In the cervical spine, this injection can also be referred as a Stellate Ganglion Block.

Sacroiliac Joint Injection

The sacroiliac joint is a large joint in your low back and buttocks region. When the joint becomes painful, it can cause pain in its immediate region or it can refer pain into the lower limb. Although not the most common source of low back pain, the sacroiliac joint is a common area of referred pain and can be the primary focus of pain. The typical pain pattern is to an area around and just caudal to the posterior superior iliac spine with or without referred pain into the lower limb. The SI joint should therefore be treated within the context of the entire spine and kinetic chain, including the pelvis, hips, and lower extremities.

A sacroiliac joint injection serves several purposes. First, by placing anesthetic medicine into the joint, the amount of immediate pain relief you experience will help confirm or deny the joint as a source of your pain. That is, if you obtain significant relief of your main pain while the joint is anesthetized, it may mean this joint is more likely than not to be your pain source. Furthermore, a steroid will be injected into the joint to reduce any presumed inflammation, which on many occasions can provide long-term pain relief.

When sacroiliac joint injections are employed, they are best performed under fluoroscopic guidance using contrast medium to ensure proper needle and medication placement. If prior injections were helpful, and there is a recurrence of pain, they can be repeated; however, injection frequency should be monitored. A comprehensive exercise program will likely be important.

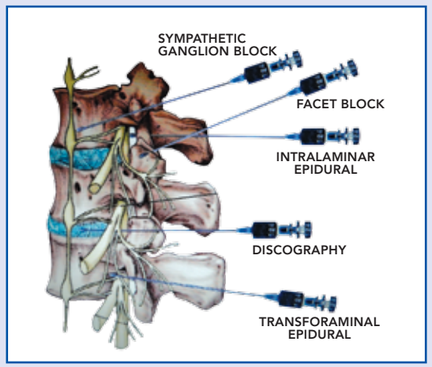
INTERVENTIONAL PAIN MEDICINE

ZYGAPOPHYSIAL (FACET) JOINT INJECTIONS

Facet Joints are located in the posterior spine and help to enable spinal movement and provide stability. The cervical, thoracic and lumbar vertebrae each have a pair of facet joints per level. The articular processes from the upper and lower vertebrae join together (like entwined fingers) to form a facet joint. Like other joints in the body, there is cartilage.

About 15-40% of neck and back pain are from facet joint disease. To successfully relieve the pain, having an accurate diagnosis is the key. The facet joint injection serves two purposes. First, by placing anesthetic medicine into the joint, the amount of immediate pain relief you experience will help confirm or deny the joint as a source of your pain. That is, if you obtain significant relief of your main pain while the joint is anesthetized, it may mean this joint is more likely than not your pain source. Furthermore, steroid will be injected into the joint to reduce any presumed inflammation, which on many occasions can provide long-term pain relief. If prior injections were helpful, and there is a recurrence of pain, they can be repeated; however, injection frequency should be monitored. A comprehensive exercise program will likely be important.

Currently, the best method to determine whether the facet joints are the source of pain is the intraarticular injection or facet joint nerve (medial branch) blocks. Based on available current literature, CT scans, X-Rays and MRIs can demonstrate anatomical changes but cannot definitely identify these joints as the source of pain.



Zygapophysial (Facet) Joint Nerve/ Medial Branch Blocks

The medial branches of the dorsal rami of the spinal nerves are involved in pain signal propagation related to the facet joints. Medial branch nerve blocks are used to confirm whether the facet joints are the source of pain. From a diagnostic standpoint, they are equal or better than the intraarticular facet joint injection. However, they usually do not provide a significant therapeutic benefit. These injections are most often done to help determine if a patient is a candidate for radiofrequency denervation.

EPIDURAL (TRANSFORAMINAL, INTERLAMINAR, CAUDAL) INJECTIONS

In the spinal canal, there is a space between the dura and surrounding bone structures called the epidural space. Epidural injections mean delivery of medications into the epidural space. The typical medications utilized are a steroid and anesthetic.

Epidural injections are used to reduce inflammation and temporarily impede pain propagation related to the spinal nerves. Spinal nerve irritation can be caused by a variety of reasons. Epidural injections are commonly used to treat radicular pain (pain radiating down an arm or leg) caused by irritated spinal nerve roots, also there are instances where it is used for axial pain. Pain radiating down the leg can be referred to as sciatica. Herniated discs and spinal stenosis are common causes of spinal nerve compression / irritation. When elective epidural injections are employed for pain, they are best performed under fluoroscopic guidance using contrast medium to ensure proper needle and medication placement.

In addition, it is not uncommon that "selective nerve root block" injections are requested. From an anatomical standpoint, these injections are the same as transforaminal epidural injections. It is not uncommon for the two terms to be used interchangeably. If the injection's role is mainly therapeutic with some diagnostic value, the above injection is valuable. If the main purpose of the injection is for diagnostic utility, then one should perform a "Spinal Nerve Block" based on anatomy. The dorsal and ventral spinal nerve roots come together as they enter the intervertebral foramen. When they come together, they are known as the spinal nerve. Once the spinal nerve exits the intervertebral foramen, it divides into the ventral and dorsal rami. Once the medication enters the epidural space, the exact distribution or spread cannot be accurately predicted. As a result, the medication needs to be isolated to the short segment of the spinal nerve to maximize predictability of medication location.

JOINT INJECTIONS - (HIP)

The hip joint can be a source of axial and lower limb pain. The hip joint injection serves two purposes. First, by placing anesthetic medicine into the joint, the amount of immediate pain relief you experience will help confirm or deny the joint as a source of your pain. That is, if you obtain significant relief of your main pain while the joint is anesthetized, it may mean this joint is more likely than not your pain source. Furthermore, steroid will be injected into the joint to reduce any presumed inflammation, which on many occasions can provide long-term pain relief. Fluoroscopy or ultrasound may be used in hip joint injections for guidance in properly targeting and placing the needle, and for avoiding nerve or other injury.

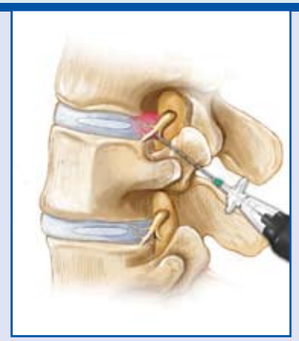
WHAT IS RADIOFREQUENCY NEUROTOMY/ABLATION?

This procedure can potentially provide a longer lasting result through thermal denervation - interrupting the small nerves that provide pain transmission to the facet/Z-joint. Using a radiofrequency probe, these nerves are deadened in order to reduce the pain. In RF, the interventionalist numbs the site and, using fluoroscopy guidance, places a special radiofrequency needle alongside the nerves that supply the involved joint. The nerve is then deadened with thermal energy provided by radiofrequency. Radiofrequency neurotomy usually takes 40 to 60 minutes, depending on the number of levels that require treatment.

DISC DECOMPRESSION USING STRYKER DEKOMPRESSOR

Percutaneous Discectomy with the Dekompressor (Stryker) is a non-surgical, minimally invasive procedure for effective treatment of back and neck pain, especially radicular, associated with herniated disc disease. Typically when a disc herniates, the anulus fibrosis is disrupted and allows the disc nucleus to protrude and compress structures such as nerves.

Under fluoroscopic imaging, the Dekompressor probe is inserted through the skin into the disc to remove disc material from bulging or contained herniated discs. This reduces pressure in the disc and surrounding area and may provide pain relief.



ABOUT THE **SCS PROCEDURE**

Spinal cord stimulation is usually considered when surgery, injections, physical therapy, medications, and other treatments have failed to give enough relief of pain. The pain is considered chronic and severe. It is considered the last resort of pain management. Before having the device implanted, you will be required to undergo a history and physical exam to help determine your candidacy. This will include a psychological evaluation along with a trial. The trial determines whether or not your pain rating, medication dosages, and activity level are improved. You will be considered for the implanted device only if the trial is successful.

The goal of neurostimulation with SCS is to achieve significant or total relief from back pain and to be able to return to a more productive lifestyle. While this therapy does not work for everyone, most patients with SCS are able to report a 50-70% reduction in their overall pain and are able to decrease or possibly taper off painkiller medications. With successful SCS, patients hopefully can function during normal activities, return to work, and fully participate in family and community life.

THE TRIAL PROCEDURE

To make sure the patient will benefit from SCS, a temporary system is implanted and tried for a few days or a week. This procedure is often performed on an outpatient basis at a hospital or at a day surgery center. The trial implantation may be performed under conscious sedation.

During the procedure, one or more leads are placed in the epidural space. The leads are typically inserted using a needle. The exact placement depends upon the location of your pain. When the leads are positioned in the best location, they are connected to a portable, external generator.

Once connected, the system generates mild electrical pulses that will be programmed to replace your areas of intense pain with a more pleasant sensation known as paresthesia.

CONDITIONS

PMPMA has a Patient-Centered Philosophy... our goal is to provide unequaled patient care. We utilize the most advanced technology for our patient's physical improvement, but we also work to strengthen our patient's emotional ability to cope with the sometimes debilitating effects of pain in order that they may return to a more productive life.

With an emphasis on personalized, compassionate, yet cost-effective treatment, progress is closely monitored. Referring physicians continually are apprised of progress to ensure a team approach to the healing process. By providing the right diagnostic insights, comprehensive medical strategies, and new advanced treatments, suffering from pain can be dramatically reduced.

Did you know? **When asked about four common types of pain, respondents of a National Institute of Health Statistics survey indicated that low back pain was the most common (27%), followed by severe headache or migraine pain (15%), neck pain (15%) and facial ache or pain (4%).**

MUSCULOSKELETAL DISORDERS

Neck pain, low back pain, arthritis, post-traumatic (i.e., whiplash, job-related), other soft tissue problems (i.e., bursitis, tendonitis), fibromyalgia, carpal tunnel syndrome, trigger fingers, and more.

REPETITIVE MOTION INJURIES

Repetitive motion injuries are among the most common injuries in the United States. All of these disorders are made worse by the repetitive actions of daily living.

Repetitive motion injuries make up over 50% of all athletic-related injuries seen by doctors and result in huge losses in terms of cost to the workforce. Simple everyday actions, such as throwing a ball, scrubbing a floor, or jogging, can lead to this condition.

The most common types of repetitive motion injuries are tendinitis and bursitis. These 2 disorders are difficult to differentiate and many times may coexist.

1. Tendinitis - Tendinitis is inflammation or irritation of a tendon—any one of the thick fibrous cords that attach muscles to bones. The condition, which causes pain and tenderness just outside a joint, can occur in any of your body's tendons. Tendinitis is common around your shoulders, elbows, wrists and heels.

Symptoms of tendinitis that are produced near a joint aggravated by movement include pain, tenderness and mild swelling, in some cases.

2. Bursitis - Bursae are small pouches or sacs that are found over areas where friction may develop and serve to cushion or lubricate the area between tendon and bone. Bursitis is inflammation of a bursa sac. Repetitive motion disorders develop because of microscopic tears in the tissue. When the body is unable to repair the tears in the tissue as fast as they are being made, inflammation occurs, leading to the sensation of pain.

Bursitis is commonly caused by:

- Overuse and repeated movements. These can include daily activities such as using tools, gardening, cooking, cleaning, and typing at a keyboard.
- Long periods of pressure on an area. For example, carpet layers, roofers, or gardeners who work on their knees all day can develop bursitis over the kneecap.
- Aging, which can cause the bursa to break down over time.
- Sudden injury, such as a blow to the elbow.

Bursitis can also be caused by other problems, such as arthritis or infection. Common symptoms include pain, tenderness, possible swelling, and decreased range of motion over affected area.

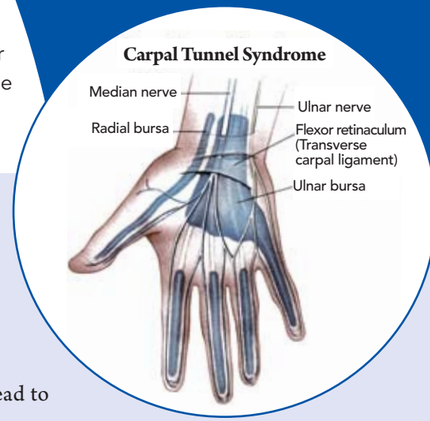
REPETITIVE STRESS AND WORK-RELATED INJURIES

Common work injuries include spine disorders – particularly in the heavy machinery industries – and cumulative trauma from repetitive motions, which causes carpal tunnel syndrome and tendinitis. The incidence of cumulative trauma continues to increase as computer usage grows.

Physiatrists have a strong understanding of ergonomics and can work with physical therapists to teach correct posture and behavior modification to prevent injuries. Early stages of patient care include medication, testing and therapy. For chronic problems, the PM&R physician may medicate to reduce pain and prescribe exercise to improve a patient's physical fitness.

Did you know?

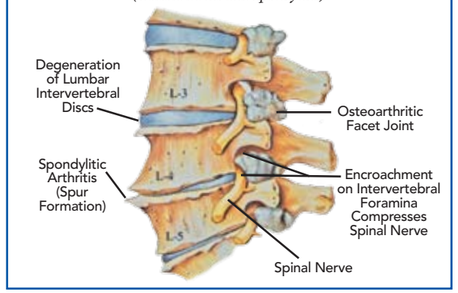
Over half (52.7%) of the workforce surveyed reported having headache, back pain, arthritis, or other musculoskeletal pain in the past two weeks, and 12.7% of all workforce lost productive time in a two-week period due to pain.



CARPAL TUNNEL SYNDROME

Carpal tunnel syndrome is a disease of the hand characterized by numbness, tingling, pain, and weakness. The disease typically affects the thumb, index, and middle fingers and is often particularly troublesome at night. A major nerve, specifically the median nerve, travels down the arm and enters the hand through the carpal tunnel, which is located in the central part of the wrist.

Many conditions can cause increased pressure within the carpal tunnel and can lead to carpal tunnel syndrome.



Osteoarthritis

Osteoarthritis occurs when the cartilage that cushions the ends of bones in your joints deteriorates over time. The smooth surface of the cartilage becomes rough, causing irritation. Eventually, if the cartilage wears down completely, you may be left with bone rubbing on bone — causing the ends of your bones to become damaged and your joints to become painful.

Osteoarthritis of the spine causes pain in the neck or low back. Bony spurs that form along the arthritic spine can irritate spinal nerves, causing severe pain, numbness, and tingling of the affected parts of the body.

Osteoarthritis symptoms often develop slowly and worsen over time. Signs and symptoms of osteoarthritis include:

- Pain in a joint during or after use, or after a period of inactivity
- Tenderness in the joint when you apply light pressure
- Stiffness in a joint, that may be most noticeable when you wake up in the morning or after a period of inactivity
- Loss of flexibility may make it difficult to use the joint
- Grating sensation when you use the joint
- Bone spurs, which appear as hard lumps, may form around the affected joint
- Swelling in some cases

MYOFASCIAL PAIN SYNDROME

Myofascial pain is a condition that affects the fascia (connective tissue that covers the muscles) and may involve either a single muscle or a muscle group. With myofascial pain, there are areas called trigger points. When you put pressure on a trigger point, you not only feel pain at the trigger point but you may also feel it in muscles in another area. For example, pressure on a trigger point in the neck may cause pain in your arm. This is called referred pain.

The main symptom of myofascial pain syndrome is ongoing or longer-lasting muscle pain, in areas such as the low back, neck, shoulders, and chest. You might feel the pain or the pain may get worse when you press on a trigger point. The muscle may be swollen or hard-you may hear it called a "taut band" of muscle or "knot" in the muscle. Symptoms of myofascial pain may include:

- **A muscle that is sensitive or tender when touched.**
- **Muscle pain that happens with pressure on a trigger point.**
- **Pain that feels like aching, burning, stinging, or stabbing.**
- **Reduced range of motion in the affected area.**
- **A feeling of weakness in the affected muscle.**

CONDITIONS

SPINAL STENOSIS

Spinal stenosis occurs when the spinal canal, which contains and protects the spinal cord and nerve roots, narrows and pinches the spinal cord and/or nerves causing pain and loss of sensation. This can happen in the neck (cervical area), thoracic, or lumbar back. This narrowing is a result of the degeneration, wearing down of the Z-joint and disc. Symptoms may include pain, numbness, or weakness, most often in the legs, feet, and buttocks. These symptoms usually get worse when you walk, stand straight, or lean backward. The pain usually gets better when you sit down or lean forward.

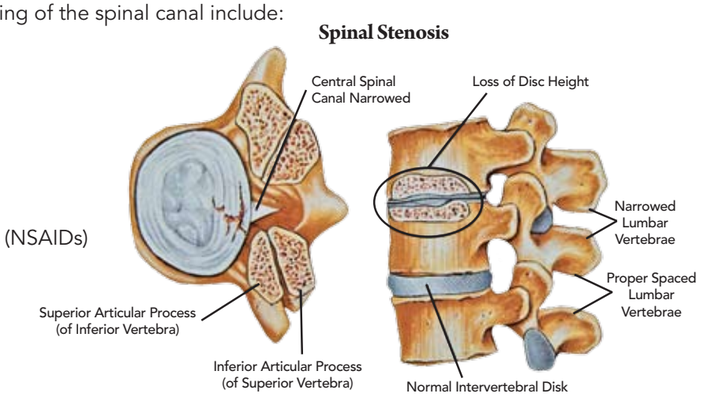
The main cause of spinal degeneration is osteoarthritis, an arthritic condition that affects the cartilage that cushions the ends of bones in your joints. With time, the cartilage begins to deteriorate and its smooth surface becomes rough. If it wears down completely, bone may rub painfully on bone. In an attempt to repair the damage, your body may produce bony growths called bone spurs. When these form on the facet joints in the spine, they narrow the spinal canal.

Other factors that can cause a narrowing of the spinal canal include:

- Herniated disk
- Ligament changes
- Spinal tumors, Injury
- Paget disease of bone

Nonsurgical treatments:

- Physical therapy,
- Nonsteroidal anti-inflammatory drugs (NSAIDs)
- Analgesics
- Rest or restricted activity
- A back brace or corset
- Epidural steroid injections



Did you know? **Repetitive motion injuries are among the most common injuries in the United States and make up over 50% of all athletic-related injuries seen by doctors**

SPORTS INJURIES

Tennis elbow, rotator cuff injury, heel injuries, low back problems, and frequent knee pain—all of these injuries impact the careers of professional athletes and cause discomfort for "Weekend Warriors" as well. Many physiatrists serve as consultants to professional and college sports teams and work with all athletes in rehabilitating injuries.

Did you know? **By most estimates, nearly 70 percent of runners will become injured. While many of their injuries will appear minor, they can become more serious over time if not properly treated.**

RUNNER'S KNEE

This is the most common running-related injury. Known as patello-femoral pain, and sometimes diagnosed as chondromalacia of the patella. Runner's knee is essentially irritation of the cartilage of the kneecap.

SHIN SPLINTS

Also called medial tibial stress syndrome, "shin splints" refers to pain occurring in either the front or inside portions of the lower leg. Those most at risk for shin splints are beginning runners who are not yet used to the stresses of running or who have not stretched or strengthened properly.

ILIOTIBIAL BAND SYNDROME

Symptoms of this syndrome include pain or aching on the outside of the knee, usually occurring in the middle or at the end of a run.

ACHILLES TENDINITIS

Is a painful and often debilitating inflammation of the Achilles tendon. The Achilles tendon facilitates the act of walking. This condition occurs with runners, athletes in sports that involve jumping, and in people who do a lot of walking.

HEEL PAIN (HEEL SPURS AND PLANTAR FASCIITIS)

The most common heel problems are caused by strain of the plantar fascia, which extends from the heel to the toes. The wrong shoe for a foot type can worsen biomechanical flaws and cause plantar fasciitis.

Strains & Sprains

A **Strain** occurs when the muscle tendon unit is stretched or torn. The most common reason is the overuse and stretching of the muscle.

The damage may occur in three areas:

- The muscle itself may tear.
- The area where the muscle and tendon blend can tear.
- The tendon may tear partially or completely (rupture).

A **Sprain** is an injury of a ligament when stretched or torn. Joints are stabilized by thick bands of tissue called ligaments which surround them. These ligaments allow the joint to move only in specific directions. Some joints move in multiple planes; therefore, they need more than one group of ligaments to hold the joint in proper alignment. The ligaments are anchored to bone on each side of the joint.

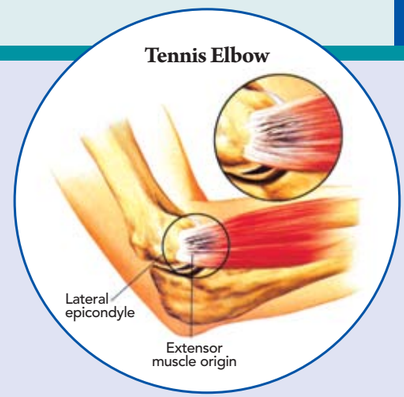
Sprains and strains occur when the body is put under stress. In these situations, muscles and joints are forced to perform movements for which they are not prepared or designed to perform. An injury can occur from a single stressful incident, or it may gradually arise after many repetitions of a motion.

SPRAINS AND STRAINS SYMPTOMS: The first symptom of a sprain or strain injury is pain. Other symptoms, such as swelling and spasm, can take time (from minutes to hours) to develop.

Tennis Elbow

The technical term for tennis elbow is lateral epicondylitis. It is an inflammation of the muscles that lift the wrist and hand. Tendon fibers that attach the wrist extensor muscles to the outside of the elbow become irritated and painful. Pain is usually more noticeable during or after strenuous activity. If tennis elbow becomes severe, pain may be felt even when lifting or grasping lightweight items.

Repetitive use of the arm or an injury may cause stress or damage to the muscle attachment, resulting in the symptoms of lateral epicondylitis. Many people who perform repetitive activities that use the palm in a downward position to lift may ultimately develop tennis elbow.



CONDITIONS

Shoulder and Neck pain causes

Most shoulder and neck pain results from injury to muscles and ligaments. Some examples include:

BROKEN COLLARBONE

Falling on your outstretched arm can cause your collarbone to break.

BURSITIS

A bursa is a sac in between the muscle and bones to allow gliding without damaging the muscle. These bursa can become swollen and painful after injuries.

BROKEN SHOULDER BLADE

An injury to the shoulder blade usually is associated with relatively forceful trauma.

ROTATOR CUFF INJURIES

The rotator cuff is a group of muscles at the shoulder. These muscles can be injured playing sports with a lot of throwing or after repetitive use over a long time.

WHIPLASH INJURY

Injury to the ligaments or joints and muscular structures of the neck and shoulder can be caused by sudden acceleration or deceleration, as in a car accident.

TENDONITIS

The tendons connect the muscles to the bones. With strain, the tendons can become swollen and cause pain.

SHOULDER OR A-C SEPARATION

The collarbone and shoulder blade are connected by joints and ligaments. With trauma to the shoulder, this ligament can be injured.

Whiplash Overview

Whiplash is a nonmedical term used to describe neck pain following an injury to the soft tissues of your neck (specifically ligaments, tendons, and muscles). It is caused by an abnormal motion or force applied to your neck that causes movement beyond the neck's normal range of motion. Often this is associated with motor vehicle accidents, sporting activities, accidental falls and assaults.

OVERVIEW OF **LOW BACK PAIN**

DEVELOPING A PROGRAM THAT'S RIGHT FOR YOU

Information is readily available on the way to stop back pain. The challenge is to tailor it to the particular patient.

WHAT KINDS OF PROBLEMS MIGHT CAUSE LOW BACK PAIN?

Treatment for any back condition is recommended to aid in minimizing symptoms and/or to decrease duration. The following is a list of only some of the conditions that may cause low back pain:

- Radiculopathy
- Myofascial Pain
- Spinal Stenosis
- Tendon, Ligament and Soft Tissue
- Non-Spinal Causes of Low Back Pain Pain imitating a back injury, but from another cause. Appendicitis, kidney disease, uterine disorders and urinary tract infections are a few examples of problems that can refer pain to the back.

TREATMENT OPTIONS

The rehabilitation of low back problems occurs in three phases. During the first phase, called the acute phase, physiatrists treat pain and inflammation. After they make a specific diagnosis and develop a treatment plan, physiatrists may offer treatment options like ultrasound, electrical stimulation, mobilization, medication, ice and even specialized injections.

In the second, or recovery, phase of treatment, flexibility and strength are developed to get the body parts into their proper positions. The goal of this phase is to get you back to your usual work, sports and leisure activities. This goal is achieved through specially designed exercises that rebuild the body.

The main goal of the third phase of treatment, the maintenance phase, is to minimize recurrence of the problem and to prevent further injury. This often consists of a total body fitness program, designed to maintain body mechanics and increase endurance after the original symptoms have resolved.

These are very broad and general approaches to the treatment of low back pain. Our physicians will develop an individual treatment plan for you.

KNEE DISORDERS

Many patients present with complaints of knee pain, knee stiffness, or instability of the knee joint. Although knee pain usually emanates from a problem in or about the knee, it may also be caused by a problem in the hip or lumbar spine. Knee disorders may involve the entire joint complex, any combination of the knee's three compartments, or surrounding muscles, tendons, or bursae (fluid-filled pouches). There may also be an injury to a ligament or meniscus, which is cartilage in the knee. Regardless of the underlying abnormality, weakness develops almost universally. The first and foremost task is to determine the specific source of the patient's problem. Treatment must include a proper balance of modalities for pain control, mobilization, strengthening, and generalized conditioning. Proper management includes addressing foot alignment, considering the hip joint, and varying the program based on the patient's lifestyle and athletic interests.

Temperomandibular Joint (TMJ)

The temperomandibular joint (TMJ) is located just in front of the ear. When functioning normally, this complex joint allows for all movements of the jaw including opening, closing, and sideglliding. The TMJ contains a meniscus, which is a specialized cartilage structure which, when injured, can lead to abnormal or restricted joint movement, clicking, and locking. The joint is also subject to inflammation either from localized wear and tear, as part of a generalized inflammatory disorder, or from bruxism (grinding) related to tension. Trigger points (myofascial pain) often develop in surrounding muscles and may then contribute to the patient's pain. This pain may be treated with trigger point injections administered by one of our providers on staff.

NEUROLOGICAL CONDITIONS

SCIATICA

Sciatica is a set of symptoms including pain that may be caused by general compression and/or irritation of one or more spinal nerve roots that give rise to the sciatic nerve, or by compression or irritation of the sciatic nerve itself. The pain may be felt in the low back, buttock, and/or various parts of the leg and foot. In addition to pain, which is sometimes severe, there may be numbness, muscular weakness, pins and needles or tingling and difficulty in moving or controlling the leg. Typically, the symptoms are felt on one side of the body.

Although sciatica is a relatively common form of low back pain and leg pain, the true meaning of the term is often misunderstood. Sciatica is a set of symptoms rather than a diagnosis for what is irritating the nerve(s), ie causing the pain. This point is important, because treatment for sciatica or sciatic symptoms will often be different, depending upon the underlying cause of the symptoms.

NEUROPATHIES

Neuropathy is a condition involving nerve damage. Neuropathy can affect movement, sensation (e.g., temperature, pain, touch), and functions, such as breathing and digestion.

Intercostal Neuralgia refers to pain in one or more intercostal spaces caused by inflammation of the intercostal nerves. It is caused mainly by pleuritis, pneumonia, costal chondritis, herpes zoster, or chest trauma. It is marked by persistent stabbing pain along the pathway of the affected intercostal nerves, radiating to the lumbar region of the affected side and aggravated by coughing or deep breathing. Localized hyperesthesia and tenderness are also present.

Ulnar Neuropathy is a condition where the ulnar nerve which runs down the length of the arm becomes trapped. The most common site for entrapment is the elbow and then the wrist. Nerve entrapment can result when the nerve becomes inflamed due to repetitive stress on the nerve such as in cyclists or typists. A broken elbow or fracture can also put pressure on the nerve. Neurological symptoms resulting from the trapped nerve include weakness, numbness, muscle wasting, pain and pins and needles sensation in portions of the lower arm controlled by the ulnar nerve (especially the little and ring fingers). Neuropathy refers to injury to the nerve. The ulnar nerve is also known as the funny bone as it passes through the elbow joint.

Complex Regional Pain Syndrome (CRPS) is a chronic pain disorder. CRPS usually begins after trauma such as an injury to the tissue, bone or nerves of your limb (arm or leg). However, the actual cause is not known. CRPS is more common in women than men and the average age affected is in the mid 30's.

WHAT ARE THE TYPES OF CRPS?

- CRPS-I: also called reflex sympathetic dystrophy (RSD), refers to cases that do not involve documented nerve injury.
- CRPS-II: also called causalgia and refers to those cases in which one or more nerves are injured.

Although the symptoms vary greatly from one person to the next, one symptom that most people with CRPS have is pain. Others include:

- Skin color and temperature changes
- Abnormal sweating
- Hyperalgesia – feeling pain in a more extreme way than normal.
- Joint problems – painful and swollen
- Muscle problems – spasms, tremors, or weakness.
- Hair and nail changes
- Swelling

You may have one or a combination of treatments including physical therapy, medication, injections, and cognitive behavioral therapy.

Fibromyalgia syndrome (FMS)
According to the American College of Rheumatology

Fibromyalgia is a clinical syndrome defined by chronic widespread muscular pain, fatigue and tenderness. Many people with fibromyalgia also experience additional symptoms such as fatigue, headaches, irritable bowel syndrome, irritable bladder, cognitive and memory problems (often called "fibro fog"), temporomandibular joint disorder, pelvic pain, restless leg syndrome, sensitivity to noise and temperature, and anxiety and depression. These symptoms can vary in intensity and, like the pain of fibromyalgia, wax and wane over time.

Pain and tenderness in the so-called "tender points" are the defining characteristics of fibromyalgia, so medical care providers focus on the features of the pain to distinguish it from other rheumatic disorders.

While men and adolescents can develop fibromyalgia, this condition is more common in women. The disorder tends to develop during early and middle adulthood or during a woman's childbearing years. Those who have a rheumatic disease such as lupus, rheumatoid arthritis, or ankylosing spondylitis also are at risk for developing fibromyalgia.

Fibromyalgia must be managed as a chronic condition, and should include both medication and non-medication treatments for symptoms.

MEDICATIONS: Drug therapy for fibromyalgia is largely symptomatic (it primarily treats the symptoms). Current studies indicate the best pharmacologic treatment for treating pain (and improving disrupted sleep patterns) is low doses of Flexeril, Cycloflex, Flexiban and Elavil, Endep. Positive results also have been shown with Cymbalta, and Ultram that work similarly. In a few cases, fibromyalgia pain may be managed with analgesics such as over-the-counter or non-steroidal anti-inflammatory drugs . fibromyalgia.

OTHER THERAPIES: Complementary and alternative therapies can be useful in pain management for people with fibromyalgia, although these treatments have generally not been well tested.

Therapeutic massage to manipulate the muscles and soft tissues of the body may alleviate pain, discomfort, muscle spasms and stress. Similarly, myofascial release therapy which works on a broader range of muscles can gently stretch, soften, lengthen and realign the connective tissue to ease discomfort.

TRIGEMINAL NEURALGIA

Perhaps the best known nerve pain disorder in the head and neck is trigeminal neuralgia (TN). It often happens suddenly as a sharp, shooting, shock-like pain that lasts a few seconds. There is usually a specific trigger area that causes the pain to occur when touched. People with TN are often unable to shave, comb their hair or touch their face for fear of causing pain. Sometimes the pain is triggered by slight movement of the affected part of the face. TN is more common after age 50 but can occur at any age.

Peripheral Neuropathy

The exact cause of nerve pain is poorly understood. Experts believe that nerve pain occurs after one or more nerves are injured or damaged. As a nerve heals, it may change and send messages about pain, touch and temperature in a different way than before the injury. Abnormal pain messages that result from peripheral nerve damage may cause a person to have chronic nerve pain in the hands, arms, feet, legs or face.

Most people acquire it or get it sometime during their life. Peripheral nerve damage can be caused by chronic alcohol use, vitamin deficiencies, exposure to certain industrial toxins, metals and medicines, autoimmune disorders and other body system diseases. About 30% of people with nerve damage do not know how or why they got it; others have nerve damage and pain as part of a broader disorder, disease or condition.

DIABETIC NERVE PAIN

Diabetic nerve pain is also called "diabetic peripheral neuropathic pain" (DPNP). It can develop in anyone who has diabetes. DPNP is a pain disorder of the feet, legs, hands and/or arms caused by nerve damage. People who have DPNP may feel various types of nerve pain including burning, stabbing and tingling. If DPNP is not treated by a health care provider, it can lead to more serious problems. However, it begins more often in those who do not or cannot control their diabetes.