

Musculoskeletal and Chronic Pain

Clinical Resource Manual

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I. Program Overview and Rationale

DEFINING THE PROBLEM: THE IMPACT OF MUSCULOSKELETAL AND CHRONIC PAIN

Health problems associated with pain are reaching epidemic proportions. Typically, pain is distinguished as a symptom rather than a condition. In fact, the category of musculoskeletal and chronic pain actually encompasses a broad group of painful conditions including migraine, carpal tunnel syndrome, back pain, neck pain, fibromyalgia / somatoform pain disorders, and complex regional pain syndrome (CRPS) among many others. These conditions are growing in prevalence, driving up costs and creating productivity implications that are straining employers.

Consider the facts:

Prevalence

- Nearly 10 percent of the US population suffers from a chronic pain condition and more than 50 million Americans are either partially or completely disabled by pain
- 80 percent of the US population will experience back pain, the single largest musculoskeletal pain disorder, at some period during their lifetime and 25 percent will be affected each year with back pain lasting more than thirty days
- Pain issues are second only to the common cold as the reason for physician office visits

Costs

- According to the National Institutes of Health, chronic pain costs society more than \$100 billion a year including medical treatment, absenteeism and productivity losses
- Pain-related health claims are an enormous healthcare burden, representing 10 percent of total healthcare claims costs

Productivity Implications

- Pain is the #1 cause of disability in America and ranks as the top reason for productivity loss
- Musculoskeletal conditions have been cited as the most costly conditions in terms of workplace productivity, overshadowing heart disease, diabetes and all other conditions as the leading concern for corporate medical directors

Avoidance of Blocks	
	Are blocks on-going or scheduled?
	If yes, have blocks been done before?
	If yes, were they 1) ineffective, 2) effective, 3) partially effective
	Does the participant understand blocks provide only temporary relief?
	Is the participant clear on the source of pain?
	Is the participant motivated to pursue more specific treatments?

Avoidance of ER	
	Why does participant go to ER?
	If pain injection, would participant prefer additional oral pain medication?
	Is patient going because he/she is running out early?
	Is patient going for migraines?
	If so, does he/she need migraine fine-tuning?

****For more condition-specific, visit the Health Information Library on www.ecorsolutions.com or HealthWise.**

Reviewed and edited by Luanne Andrews 6-05

THE GAPS IN PAIN MANAGEMENT

The pain population is large and diverse. Patients are scattered among primary care, specialist and ancillary providers, with no specialized focus on treatment. Their care, typically filled with intensive diagnostics, physical therapy and referrals to procedure-driven specialists, is not well managed. Patients can be taken on a fragmented journey through medical encounters. Poor health outcomes and high costs result from these gaps in pain care including:

- **Understanding the Source of Pain** – Until recently, many painful conditions and their specific source of pain were not well understood. Surprisingly, over 85 percent of pain conditions are of muscular origin, with nerve and joint pain and headache accounting for most of the remaining 15 percent.
 - In the absence of a proper muscle pain diagnosis, people with pain problems often receive inappropriate treatment for conditions such as disc disease or nerve impingement.
- **Diagnostic Clarification** -- Given the range of musculoskeletal and chronic pain conditions, developing a complete and proper diagnosis often presents a challenge and this confusion is the leading cause of over-utilization of healthcare resources.
 - Common misdiagnoses include ruptured discs, carpal tunnel syndrome, pinched nerves and psychological disorders
 - Back pain is regularly misdiagnosed as a disc disorder, despite the fact that 70 percent of the adult population have asymptomatic disc abnormalities.
 - Repetitive strain injuries, rapidly increasing in frequency, are commonly diagnosed as carpal tunnel syndrome, leading to unnecessary surgeries and poor results.
 - A psychological diagnosis is frequently made for patients who in fact suffer from neuropathies and fibromyalgia / somatoform pain disorders.
- **Clinical Practice Variations** – Few diagnostic and treatment guidelines exist for the broad array of conditions that encompass the pain category. Of the available recommendations, many are reasonable but not realistic based on the complexity of pain conditions.
 - Limited consensus among healthcare providers on the most effective way to treat patients is driving dissatisfaction with the medical profession and epidemic costs.
 - Inappropriate emergency room utilization is rising because of an influx of patients with debilitating tension headaches/migraines who don't understand how to use their medication.
 - More than 80 percent of spine surgeries are ineffective in relieving pain.
 - Complex Regional Pain Syndrome (CRPS), previously known as RSD, more often than not has its genesis in unsuccessful carpal tunnel surgery.
- **Health Care Seeking Behaviors** – Patients desperate for relief often find themselves over utilizing health care resources in an effort to control their pain.
 - The potential for drug tolerance issues and addiction is great if habit forming medications are not properly managed.
 - Patients seek out multiple physicians, emergency rooms and pharmacies to obtain prescriptions.
 - Forty percent of patients with CRPS have sought out 10 or more physicians in a quest for help and “doctor shopping” is common among patients with fibromyalgia / somatoform pain disorders.

	Carpal tunnel (Peripheral Compression Neuropathy of Median Nerve)
	Pain drawing received and reviewed: is it median neuropathic?
	Has EMG-NCV been done or scheduled?
	Is EMG-NCV report consistent with carpal tunnel?
	Does patient understand this?
	Has patient avoided wrist flexion activities?

	Joint/Tendon Inflammatory Disorders
	Has pain drawing been received and consistent with joint pathology?
	Has patient compared passive and isometric ranging of motion to test for joint pattern?
	Is patient avoiding aggravating activities?
	Is patient considering surgical options?
	If so, a second opinion may be appropriate.

	RSD
	Pain drawing received and reviewed: is it predominantly hand or foot?
	Does the patient also have a peripheral neuropathy?
	Is patient receiving blocks?
	Is patient mobilizing affected extremity?
	Is patient addressing fears, anxieties and psychosocial stressors?

	Pain Drawings
	Has drawing been received?
	Which pattern is most consistent with the pain drawing?
	Is additional corroborative tests or reports necessary eg MRI?
	Does the participant understand the source of pain his or her drawing suggests?
	If not, would a second opinion be appropriate?

	Diagnostic Testing, Other than MRI
	Does the patient have a test result he or she is concerned about?
	Has the test result been obtained?
	Is the test result, normal, abnormal or non-specific?
	Does further diagnostic clarification required?
	Does the patient understand the test result?

THE SOLUTION: PAIN SOLUTIONSSM

Program Overview

Pain Solutions is CorSolutions' population-based program for musculoskeletal and chronic pain management that addresses the wide gaps in quality care.

Source of pain identification drives the guidelines with rigorous criteria for 22 categories, including MRI and other diagnostic studies, specialist referrals, extended physical therapy and surgery. Guidelines address the diagnosis, treatment and management of nine musculoskeletal pain conditions: myalgia, repetitive strain, tension headache/migraine, carpal tunnel syndrome, CRPS, fibromyalgia, peripheral nerve damage, nerve root damage and narcotic pain medication dependence.

Utilizing its proven model of education and health intelligence, CorSolutions overcomes the historical barriers to the management of musculoskeletal pain disorders through:

Barrier	Pain Solutions Approach
Diagnostic confusion	Participant education and self-guided management
Wide variation in clinical practice	Pathogenesis-based utilization management and practice guidelines
Costs scattered across diverse diagnoses and providers	Advanced IT tools for prediction and management
Healthcare seeking participant behavior	Specialized demand management and case management

Program Objectives

Pain Solutions works collaboratively to:

- Help participants achieve a comprehensive understanding of their condition
- Assist participants with determining the most effective diagnostic and treatment options and direct them to appropriate care
- Promote treatment plan compliance with education, counseling and support
- Reduce utilization of inappropriate emergency room visits, unnecessary diagnostic testing and procedures
- Assist with the management of habit forming medications
- Improve quality of life

Counseling	
	Has patient expressed interest in counseling?
	Has patient acknowledged stressors, concerns
	Offer to help patient identify counseling options/benefits
	If patient reluctant, continue to make offer, and attempt to identify specific sources of stress.
	When ready offer visceral sensation awareness training

Diagnostic Clarification	
	Does patient have accurate understanding as to source of pain?
	Have we received the pain drawing?
	Is pain drawing consistent with patient's understanding?
	Have we reviewed imaging studies?
	Have we reviewed reports from consultants?
	Would a second opinion be appropriate?

Web-based Home Programs for Myalgia, FM and Joint	
	Wait until other issues resolved or stable
	Wait until patient clearly motivated
	Determine if patient has web or fax access
	Review diagnostic clarification
	Determine body part, muscle or joint
	Remind re: 'over-stretching'

MRI Review	
	Pain drawing received and reviewed: is it radicular?
	MRI report received and reviewed: does it show root compression?
	Are pain drawing and MRI report consistent with a surgical lesion?
	Does patient understand this?
	If not, is a second opinion appropriate?

Peripheral Neuropathy	
	Pain drawing received and reviewed: is it neuropathic?
	Has EMG-NCV been done or scheduled?
	Is EMG-NCV report consistent with peripheral neuropathy?
	Does patient understand this?
	Have Neurontin-type medications been tried or considered?

Program Components

Pain Solutions' program participants and their caregivers are empowered to co-manage their conditions through education about their disease, symptoms and treatment plan. The program is designed to focus on long-term behavior change, evidenced by the incorporation of social learning theories, including those pioneered by Dr. Albert Bandura and Dr. James Prochaska, to help participants realize and sustain behavioral changes that positively affect their health.

CorSolutions' clinicians work closely with each participant to set expectations and program goals and evaluate progress and confidence in his/her ability to initiate and/or sustain change. This dialogue prepares a participant for full involvement and helps CorSolutions collect relevant medical history, then determine and modify interventions most appropriate for the participant.

The program covers:

- **Diagnostic Clarification and Symptom Assessment**

The cornerstone of the program is the fundamental belief that participant compliance starts with knowledge and understanding. The source of pain is identified early in the care process by using CorSolutions' pain drawing, assessing symptoms and reviewing diagnostic test results to determine if pain is related to a nerve, joint or muscle condition. A definitive diagnosis is clearly communicated to the participant. The goal is to make the best use of specialty referrals and diagnostic work-ups. With better understanding of their pain condition, participants are coached on how to effectively communicate with their physicians.

- **Treatment Options Education**

With each contact, participants are taught about appropriate therapies and procedures including drugs, blocks, epidurals, surgeries, stretching, physical therapy, chiropractics, massage and appropriate use of the ER among many others. Patient education and coaching promotes patient-physician discussions about the appropriateness of initiating or discontinuing therapy.

- **Coordination of Care**

Education and guidance is provided to participants to promote compliance with their treatment plan and improve the appropriate use of pain relief strategies. Reduction in drug-seeking behavior and risk of dependence, addiction and depression is monitored. Follow up by CorSolutions' registered nurses and with patients' physicians is coordinated and mental and physical health assessments are administered regularly. Where indicated and appropriate, social work referrals are made and counseling is recommended.

- **Medication Management**

For chronic pain participants dependent on opiates and other habit-forming medications, CorSolutions identifies participants who are taking opiates on a daily basis and then works with the prescribing physician and the pharmacist to set up a plan for fixed interval prescriptions. This plan may include tapering if appropriate, responding to participants who request a stop of medication early and education on alternatives to opiate use.

Myalgia	
Recognizes muscular pathogenesis	
Identifies action/movement which worsens pain	
Identifies position which worsens pain	
Identifies pain referral pattern which fits best	
Understands spindle model of muscle pain	
Uses stretches without increasing pain	
Uses stretches to reduce pain	
Practices home program	
Localizes sensation of muscle tension	
Recognizes tension fluctuations	
Recognizes that tension leads to pain	
Recognizes onset of tension	
Recognizes tension triggers, physical	
Recognizes tension triggers, interpersonal	
Recognizes emotion causing tension	
Able to reduce tension	

Medication Management	
Determine prescribers and pharmacies	
Determine drugs and quantities	
Negotiate with patient a plan (one prescriber, one pharmacy, as few different drugs, and intervals)	
If patient unreachable, set up plan with principal prescriber and pharmacy and notify other prescribers and pharmacies	
Apply half-rule and shorten interval for running out early	
Extend interval for compliance	
Offer taper at regular intervals	
If taper agreed to, taper slowly and hold taper if patient having difficulty	

Drug Addiction	
Is there evidence of forgeries	
Does patient believe he/she is "addicted"	
Is patient being dishonest about multiple sources of medication	
If any of the above, patient is referred to a chemical dependency program and prescribing sources and pharmacies and ERs notified	

ER Alert	
Determine if patient is drug dependent or addicted	
Determine if patient is using ER to treat migraines	
Attempt to negotiate plan with patient to replace ER use	
Determine ER(s) being frequented	
Send ER alert letter to the ERs and treating physician	
Continue to offer to patient other programs including Med Mgt	

INTERVENTION MODALITIES

Each interaction with the participant includes teaching, and specific interventions are based on the severity of the participant's condition. Interventions and information are available through a variety of user-friendly methods including:

• Individualized Telephonic Monitoring & Education

CorSolutions' population disease management programs tailor interventions for participants, ensuring that their individual needs are met. A primary nurse is assigned to participants to provide this ongoing telephonic monitoring and support. High and moderate risk participants are actively contacted throughout the program until their conditions stabilize. Once the participant stabilizes, he/she is monitored with less frequent interventions based upon his/her stability, program progress to achieve goals and levels of confidence to continue to achieve these goals.

If a moderate acuity participant does not respond to active contact on a quarterly basis, the participant will be moved to a low acuity intervention level. We consider low acuity program participants active on an ongoing basis, regardless of the number of contacts, unless there is a reason to disenroll.

To keep the physician updated, a physician summary is produced and forwarded after the initial evaluation of each "at risk" participant and at scheduled intervals thereafter. Ongoing physician contact is made, based on participant status and nursing judgment, to discuss particular clinical situations.

An additional letter with pain drawing is sent to all PAIN SOLUTIONSSM low and moderate acuity participants that have never been in high acuity when they have been on program for six months. The purpose of this letter is to identify any low or moderate participants that may be having pain symptoms before they seek treatment. These participants are evaluated for movement to high acuity for intensive interventions.

• 24 x 7 Nurse Line

Nurse ConnectionsSM offers participants 24-hour access to registered nurses, licensed in each state in which we have program participants, who can answer questions about health related issues. Nurse Connections nurses are supported by our online, shared decision-making educational database that they navigate to answer questions regarding:

- Diseases
- Medical tests
- Medications
- Alternative therapies
- Triage for symptomatic participants

Goals and Intervention Strategies

✓	Program Goals
	Reduce emergencies
	Prevent Inappropriate Surgeries/procedures/blocks
	Reduce drug dependence

✓	Strategies
	Migraine management
	Myalgia
	Medication management
	Drug Addiction Plan
	ER Alert
	Counseling
	Diagnostic Clarification
	Web-based Home Programs
	MRI Review
	Peripheral Neuropathy
	Carpal tunnel
	Join/Tendon Inflammation
	RSD
	Pain Drawings
	Diagnostic Testing, Other
	Avoidance of Blocks
	Avoidance of ER

Goals and Intervention Steps Summary

	Migraine
	Differentiates headache types, if applicable
	Identifies onset of true migraine attacks
	Uses abortive medication effectively
	Uses follow-on vasoactive medication effectively
	Uses “rescue” meds (including narcotics) appropriately
	Uses preventative program eg. beta blockers
	Identifies and eliminates external triggers, eg. MSG
	Identifies and eliminates internal triggers, eg. anxiety

- **www.ecorsolutions.com**

Our award-winning interactive participant web site guides participants through a wealth of information. Web-based systems answer common participant questions and clarify diagnoses and treatment of chronic pain conditions.

Participants can:

- Complete a pain drawing to identify their source/s of pain
- Securely and confidentially seek answers to questions through our "Ask a CorSolutions Nurse" service
- Review educational content in the health lessons and health tips
- View streaming videos about health-related information
- Access a health and wellness educational library
- Take a mental and physical health assessment and quizzes
- Track vital health measurements, exercise and other activities using the health tools
- Complete a Health Risk Assessment that provides a detailed health status report including suggestions for health improvements in each area
- Receive an electronic newsletter
- Edit basic demographic information for program participation

- **Clinical Education Mailings**

Program participants receive easy-to-read mailed booklets throughout the program. In addition, educational material from our web site can be printed and mailed upon request to all participants. Educational materials provide detailed subject matter covering more than 1,900 health topics, a full continuum of health including information on:

- Chronic pain management
- Prevention and wellness
- Testing
- Symptom management
- Understanding about specific diseases
- Other Health-related topics
- Healthy eating
- Physical activity
- Smoking cessation
- Medication compliance
- Stress management

Myofascial Pain and Rehabilitation Therapies

There are many different reasons why patients are referred for physical, or occupational therapy, chiropractic or osteopathic manipulations or massage. They can be grouped by what they are supposed to do.

Strengthening
Functional Retraining
Joint Manipulation
Muscle relaxation

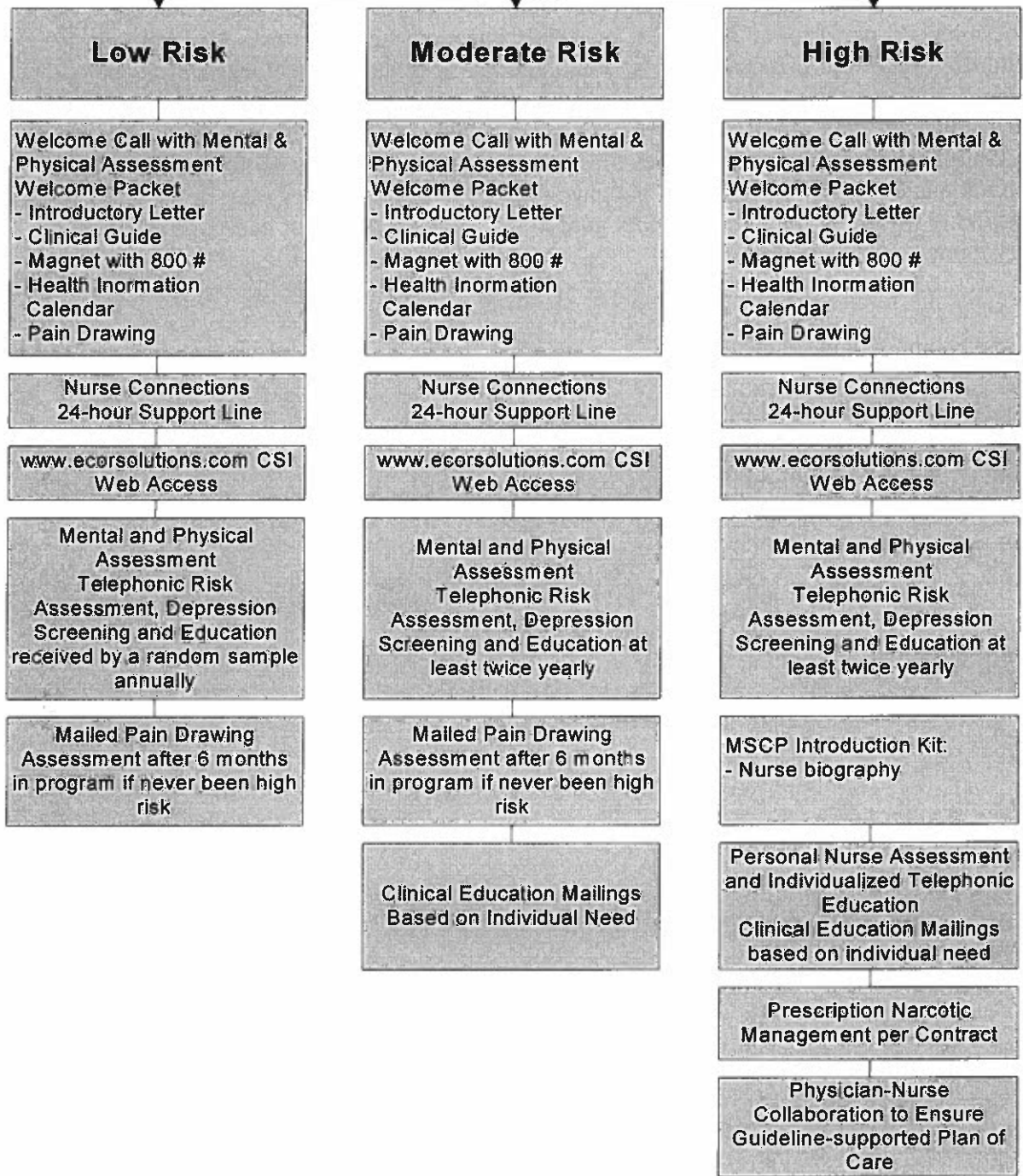
Remember, stretch exercises must be done very slowly and gently to prevent the muscle from going into spasm again.

The muscle tends to tighten up again after it has been stretched out. This is because of muscle tension. Here is some information about muscle tension, how you can know when it is happening and what you can do to prevent it.

Here are a few simple facts:

- Muscle pain is aggravated and sustained by muscle tension
- Muscle tension is aggravated and sustained by emotional tension
- Emotional tension is not just mental, it causes physical contractions (spasm) in the muscle fibers of your trigger points.
- You can stop trigger point spasming if you catch it soon enough.
- You can tell when tension is occurring by feeling it in the muscles between your shoulder blades.
- You want to learn to pay attention to the tension signal throughout your daily activities.
- We will help you learn how to do that.

**Pain Solutions
Population Management
Program Design**



Procedures

Epidural injections and other types of “blocks” contain local anesthetic medication just like the dentist uses. They provide only temporary relief, can be very expensive, and foster a co-dependence between the patient and the “block doc.” Most “pain clinics” are in fact block docs, anesthesiologists, performing these local anesthetic injections and other palliative but invasive procedures. One of our primary goals is to find alternative treatment to blocks.

Nerve decompression surgery is appropriate for those 2-3% of pain patients with true nerve compression. Unfortunately most patients who undergo these surgeries do not have true nerve compression and become chronic pain patients. The failed spine surgery rates in the U.S. are the highest in the world. It is another primary goal to reduce the numbers of nerve decompression surgery failures and complications.

The most common pain procedures:

Laminectomy, cervical	630.01
Laminectomy, lumbar	630.05
Epidural	622.89
Fusion	228.41
Trigger point injection	205.50

Practice Guidelines

Breaking Down the Barriers of Pain

David R. Hubbard, MD

Part I: Neurological perspectives: Guidelines for the 21st century

Part II: Source-of-pain physical examinations, diagnoses and treatment options

Part III: Clinical presentation, exam and treatment options for a variety of conditions

Part IV: Fibromyalgia and somatoform pain disorder tests and treatment options

Part V: Prescribing schedule II-III drugs: Practical definitions and strategies

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Discogram

A discogram is performed by inserting a needle into a disc and injecting dye while simultaneously asking the patient if doing so causes the patient's pain to become more severe.

It is a notoriously unreliable test, so unreliable in fact that orthopedic textbooks recommend that the test be done blindly, comparing one disc to another, although few doctors do this.

More importantly, this test is only done when the MRI does not show a surgically correctable lesion. The test is done to justify doing some other controversial surgery such as a fusion or an "IDEC" (intradiscal electro-coagulation).

EMG-NCV

This test is performed by a neurologist or physiatrist (rehabilitation physician). Although it has other uses, for our concern, it is used to document whether or not there is a peripheral neuropathy or radiculopathy. For the latter, it is virtually useless. For peripheral neuropathy such as diabetic neuropathy, it is generally useful diagnostically, although it cannot predict how much pain the patient experiences. It can also be useful for confirming the presence of true carpal tunnel syndrome (pinching of the median nerve at the wrist) but unfortunately, it is sometimes normal even in clear-cut true cases of CTS.

Inflammation

Rheumatoid arthritis and Systemic Lupus Erythematosus and a very few other auto-immune disease causes true, active inflammation of joints and other organs. They are readily diagnosed by a rheumatologist using readily available blood tests, in particular the RA Factor, the LE prep, the Anti-nuclear Antigen (ANA) and the sed rate (ESR). These diseases virtually never result in chronic pain syndromes associated with narcotic excess.

On the other hand, fibromyalgia is frequently misdiagnosed as an auto-immune disease and it is therefore important to clarify this issue for the patient diagnosed with this condition.

Fibromyalgia is a condition associated with fatigue, insomnia, depression and generalized tenderness. Although the cause is controversial and sleep disorder typically implicated and theories and treatment resemble that for depression.

Other

The heart of the management of chronic pain is to assist the patient to resolve unresolved and lingering doubts and worries about the cause and source of their pain. The key is to help the patient seek and find resolution.

III. Participant Interventions

If the MRI is not recent, the best decision may well be to recommend to the patient that he or she have another MRI to settle the issue. An MRI is a few hundred dollars and helps a patient gain closure on unresolved diagnostic questions. An inappropriate surgery will likely lead to a failure and chronic pain with potentially 1-2 million dollars in costs.

Yes

If yes which side?

It is a sad fact that surgery is sometimes done to decompress nerve root compression, when the patient's pain is on the opposite side.

If yes, what level?

The most common disc herniation with root compression is the L5-S1 which pinches the S1 root, which causes a ribbon of pain that runs from the back, down the back of the thigh and leg to the lateral side of the foot.

Here is a table of the most common pain patterns associated with which disc herniations. Discs are numbered by the two vertebra above and below them.

Level	Root	Pain Pattern
L5-S1	S1	Down back of leg to lateral foot
L4-5	L5	Down side of thigh then crossing over to medial foot
C5-6	C5	Down front of arm to wrist
C4-5	C6	Down side of arm to thumb

Although these "dermatomal distribution charts have been studied for decades, it is practical to consider a pain pattern one higher or lower as "close enough."

Thoracic discs are typically painless and should not be treated surgically.

If the MRI report documents root compression that is consistent with the pain drawing, this patient has a surgically correctable condition and the reason for delay in surgery must be determined.

Predictive Modeling

CorSolutions' predictive modeling strategy integrates several advanced methods of measurement to most accurately assess patient health risk. These methods include:

- A proprietary claims-based, episode-focused predictive modeling tool that uses a patient's clinical episodes of care, prior use of health care services and prescription drug profiles as markers of future risk;
- Survey-based health status assessment from one of health care's foremost providers of practical and scientifically sound measurement solutions;
- Monitoring of utilization management information from authorization and referral data;
- Provider-based measures of health risk, including profiling results.

This multi-source intelligence platform enables CorSolutions to predict total population and individual risk in future months and years using weights derived from the predictive model. Participants are stratified into three levels of intervention (Low, Moderate, and High) based on the model. Specific interventions are implemented based on the identified risk level of the participant.

Diagnostic Testing

MRI

If the patient has had an MRI , CT scan or myelogram, ask the patient to call the doctor and ask them to send us a copy of it

The MRI is the most important test in evaluating pain patients because this test determines whether or not the patient has a surgically correctable problem, specifically whether there is a disc herniation, growth, or thickened ligament that is pressing on a nerve or nerve root.

When the MRI report is received:

Date _____

Body part

Cervical

Lumbosacral

Other

Read the impression or summary. You are looking for whether or not there is a statement regarding the presence or absence of root compression. It is rare in adults for an MRI report to be normal, most adults will have disc bulges, even herniations and thickening of the bone, but only a few percent have disc herniations that actually press against the nerve root and much fewer than that have so much bone thickening that it presses on the nerve root. In addition it is important to determine where the disc herniation or bone thickening is pressing, is it pressing on the spinal cord centrally or the nerve root laterally where the nerve root passes through the opening or “foramen.”

The table shows the typical terms used in radiologists’ reports

Bone or disc term	Compression term	Nerve root term	Cord term
Disc herniation	Compressing	Root	Central
Herniated Nucleous Palposus	Impinging	Thecal sac	
Protrusion	Effacing		
Rupture	Compromising		
Free fragment			

Sometimes the MRI report will describe “scar tissue.” This is not surgically correctable and suggests that the root is permanently damaged.

Does the MRI show nerve root compression?

No

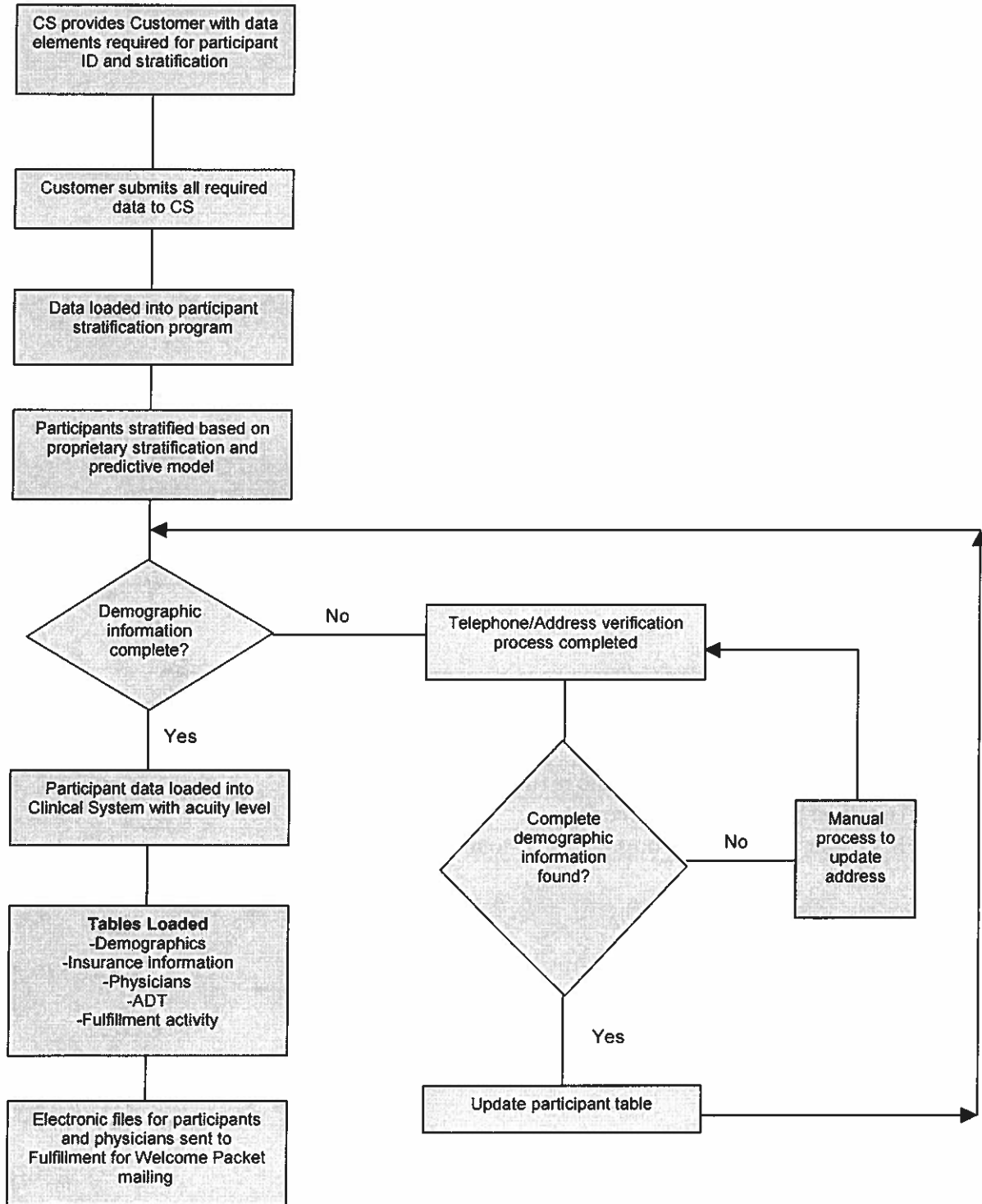
Unclear

Sometimes the radiologist’s terminology is vague or ambiguous.

If the MRI is recent and surgery is being considered, call the radiologist who wrote the report and ask him or her straight out: “Are you saying there is or is not root compression?” The report is incomplete without a clear statement on that question.

MSCP Identification and Stratification

MSCP Population Management Program Identification and Stratification



Other Activity Summaries

Pain Drawings

	Has drawing been received?
	Which pattern is most consistent with the pain drawing?
	Is additional corroborative tests or reports necessary eg MRI?
	Does the participant understand the source of pain his or her drawing suggests?
	If not, would a second opinion be appropriate?

Diagnostic Testing, Other than MRI

	Does the patient have a test result he or she is concerned about?
	Has the test result been obtained?
	Is the test result, normal, abnormal or non-specific?
	Does further diagnostic clarification required?
	Does the patient understand the test result?

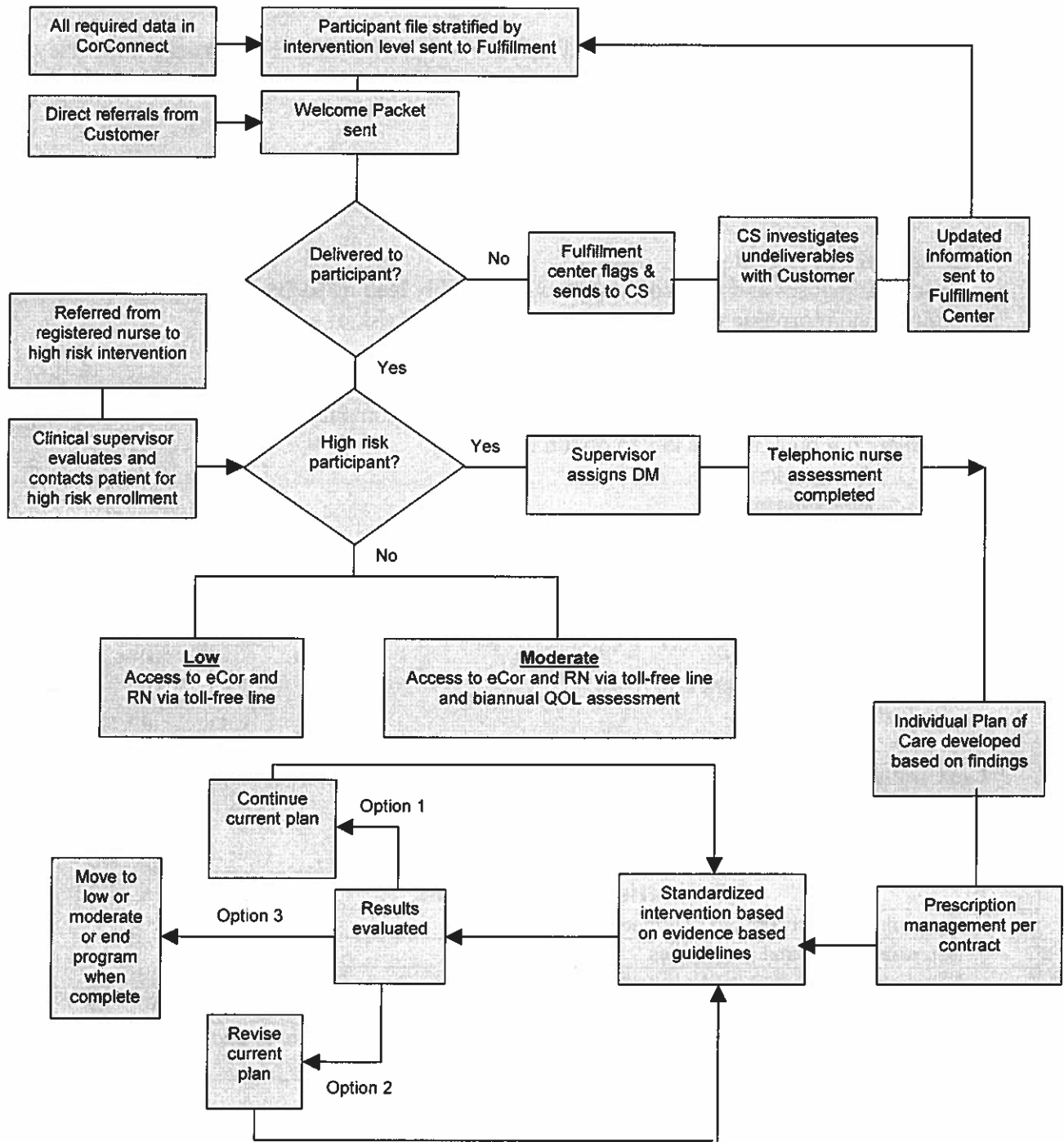
Avoidance of Blocks

	Are blocks on-going or scheduled?
	If yes, have blocks been done before?
	If yes, were they 1) ineffective, 2) effective, 3) partially effective
	Does the participant understand blocks provide only temporary relief?
	Is the participant clear on the source of pain?
	Is the participant motivated to pursue more specific treatments?

Avoidance of ER

	Why does participant go to ER?
	If pain injection, would participant prefer additional oral pain medication?
	Is patient going because he/she is running out early?
	Is patient going for migraines?
	If so, does he/she need migraine fine-tuning?

MSCP Population Management Program Participant Interventions



Narcotic Dependence

Clinical Presentation

Patient focused on pain medications, demanding more, obtaining from multiple sources and pharmacies.

Objective Findings

None. For example, urine and blood tests are not useful because we already know they will be positive.

Pathogenesis

Iatrogenic. It is easier for physicians to “cave” than to spend time addressing alternatives.

Traditional Treatment

Escalating doses and types of narcotics, inexorably leading to OxyContin, Duragesic and intrathecal morphine infusion pumps, tolerance, and risk of addiction.

CorSolutions Approach

Safe and responsible narcotic use in patients with documented medical conditions and who are not breaking the law to obtain narcotics.

- One prescriber

- One pharmacy

- Minimum # of different narcotics

- Fixed interval refills

- Taper to non-daily use if patient is tolerated

Desired Outcome

- Reduce drug dependence

- Reduce emergencies

CorConnect

Use the steps below to guide questioning and information entry

	Medication Management
	Determine prescribers and pharmacies
	Determine drugs and quantities
	Negotiate with patient a plan (one prescriber, one pharmacy, as few different drugs, and intervals)
	If patient unreachable, set up plan with principal prescriber and pharmacy and notify other prescribers and pharmacies
	Apply half-rule and shorten interval for running out early
	Extend interval for compliance
	Offer taper at regular intervals
	If taper agreed to, taper slowly and hold taper if patient having difficulty

RN Support Line

A registered nurse support line is available to all program participants. This toll-free service is staffed by experienced registered nurses ready to provide immediate education and support to participants related to their chronic pain condition. This service is provided in the event the participant begins experiencing symptoms and needs help in evaluating their severity. The nurse provides feedback to the participant to define what action is appropriate. When the participant accesses the disease management nurse for help in troubleshooting symptoms, the goal is to assure the participant receives the right medical attention in the most appropriate setting, e.g. patient home, physician office, or the emergency room.

The registered nurse has full access to the patient's clinical record to assure accurate information is provided to the caller. The participant is screened with each call to determine recent utilization indicating a change in acuity. If this occurs the participant is immediately assigned to the high acuity telephonic intervention program.

Key Elements

- 24-hour toll-free RN support line available for each participant
- Staffed by experienced registered nurse
- Full access to the participant's clinical program record
- Chronic-pain focused education, triage and support
- Callers screened for recent utilization

Speech Recognition Education

The Speech Recognition (SR) Education Program consists of several components. *General Disease* information related to asthma is provided, including a description of the condition and the various triggers affecting acute exacerbation of the disease. *Medication Management* explains the importance of medications and assists the participant with tips for managing compliance. *Signs and Symptoms* identifies the common signs and symptoms of the participant's condition and quizzes them on their ability to recognize and know what to do when these occur. *Smoking* helps the participant understand the impact of smoking and the benefits of quitting, as well as providing tips for quitting and managing relapses. *Exercise* educates the participant regarding the benefits of physical activity and how to exercise within their personal limitations. *Stress Management* strategies and tips to understand and manage stress are also provided.

This educational content is available to participants in the program with co-morbid conditions or an interest in health information. Participants can access this service via a toll-free number and are able to select a topic of interest to them. They can listen to each topic as often as they like and at their convenience. The system is available 24 hours a day, 7 days a week.

Somatization (Somatoform Pain Disorder, Somatization Disorder, Munchausen's Syndrome)

Clinical Presentation

Pain and anxiety that cannot be explained physiologically or anatomically, associated with compulsive doctor-shopping, test-taking and medically unnecessary procedures.

Objective Findings

None that explain the symptoms. Unfortunately, minor findings on tests lead to aggressive treatment due to misdiagnosis and misunderstanding of this condition.

Pathogenesis

Iatrogenic. Lack of physician training and patient fear and confusion create this disorder.

Traditional Treatment

Endless testing and treatment leading to complications and more symptoms.

CorSolutions Approach

Careful review of past testing and reports
Alerting physicians of prior history of testing
Encouraging "alternative" and "holistic" approaches (i.e., reducing dependence on medical procedures)

Desired Outcome

Reduce drug dependence
Reduce surgical and procedure complications and failures

CorConnect

Use the steps below to guide questioning and information entry

Diagnostic Clarification	
	What does the patient believe is wrong? (e.g. undiscovered cancer)
	Has the patient had any tests he or she is confused about?
	Has the patient had any consultations he or she is confused about?
	Would any additional tests or consultations help clarify his or her concerns?
	Do any physicians need to be notified that patient is doctor-shopping?
	Is drug dependence or addiction co-morbitizing?

Key Elements of Speech Recognition

- Available for inbound education calls 24/7
- Topics reinforce mailed and telephonic interventions

Participant Welcome Packet

- Program Overview Folder
- Welcome letter
- Clinical Guide
- Calendar
- Personal Letter from Disease Manager (High acuity)
- Nurse Biography Card (High acuity)
- Pain drawing and business reply envelope (All acuities)

RSD
(Reflex Sympathetic Dystrophy or Complex Regional Pain Syndrome Causalgia)

Clinical Presentation

Extreme pain and sensitivity to even light touch of the hand or less commonly, the foot, typically precipitated to local trauma, even minor trauma.

Objective Findings

Coldness, edema, or other skin changes to the affected extremity.

Pathogenesis

Disturbed blood flow to the affected extremity without specific nerve or vascular pathology.

Traditional Treatment

Blocks (stellate ganglion, Bier)

CorSolutions Approach

Reduce dependence on blocks, which give only temporary relief and foster dependency
Gentle self-directed physical therapy aimed at restoring function
Psychological counseling to deal with fears and related vascular constriction

Desired Outcome

Reduce drug dependence
Reduce surgical and block failure and complication

CorConnect

Use the steps below to guide questioning and information entry

RSD	
	Pain drawing received and reviewed: is it predominantly hand or foot?
	Does the patient also have a peripheral neuropathy?
	Is patient receiving blocks?
	Is patient mobilizing affected extremity?
	Is patient addressing fears, anxieties and psychosocial stressors?

Patient Summary/Physician Report Example



Musculoskeletal and Chronic Pain

5/30/02

Patient Summary

Physician Report

Disease Management

Nurse: Bessie Nurse, RN

Reporting Period from 1/1/02 to 4/30/02

1-800-123-4567/Fax 1-800-123-1234

Patient/ Address Physician	Member ID #	Phone#	Age	Sex	Enroll Date	Referral Diagnosis
John Doe Joe Doctor, MD 123 Main Street	00123456789	(847) 123-4567	76	M	1/2/01	Peripheral Neuropathy
PPG ID # 01020304						

Risk Factors

- Patient using more than one prescriber for habit-forming medications.
- Patient taking habit-forming medication every day.
- Patient has run out of pain meds early and needed. "1/2 rule" prescription refill 2 times in last 3 months.
- Patient not cooperating with a taper of his/her medications.
- Not on antidepressant or anticonvulsant therapy and may be eligible.
- EMG-NCV results not available

Additional Key Findings

- Last ER visit was on 12/30/01.
- Last hospitalization was on 1/3/02.
- Reports increased pain symptoms
- Patient states "not interested in beginning or resuming counseling"
- Referred to Social Service for assistance with cost of medications.
- Reports increased understanding of source of pain.
- <RN- free text field>

Relevant parameters used in the program to monitor patient progress are illustrated below:

	<u>Initial:</u>	<u>Last:</u>	<u>% Change</u>	<u>Target:</u>	<u>Description:</u>
SF-8 DynHA	1/15/01	1/15/02			The SF-8 DynHA is a validated survey tool used to assess patient quality of life as measured in terms of their mental and physical health (via the Mental Component Summary and Physical Component Summary score- MCS and PCS).
MCS	41.0	41.0	0%	> 51.15	
PCS	28.8	34.6	+20%	> 40.02	

<u>Medication</u>	<u>Initial:</u>	<u>Last:</u>	<u>Drug:</u>	<u>Amount:</u>	<u>Refill schedule:</u>	<u>Using daily:</u>	<u>Target:</u>	<u>½ Rule Used</u>
Refills	1/15/01	2/26/02	Percocet	5 mg. q4-6 hrs. prn	Monthly	Yes	< every day use	Yes
	1/15/01	2/26/02	Darvocet	1 tab q 4-6 hrs. prn	Monthly	No	< every day use	No

Considerations for Patient Treatment Plan:

- Advise patient to limit prescribers of habit-forming medications to one prescriber (PCP or designee)
- Encourage patient to prevent drug tolerance by refraining from taking habit-forming medications daily.
- Consider initiating anticonvulsant or antidepressant therapy.
- Patient is actively being trained by Medication Manager to stabilize narcotic dosage.
- Please send (fax) EMG-NCV results to facilitate patient education related to diagnostic clarification.

This report was prepared by CorSolutions to provide physicians with information regarding patient progress. Recommendations are based on the following guidelines: *Hubbard, D. Neurological perspective: Guidelines for the 21st century – Five-part series: January/February, through September/October, 2001. Practical PAIN MANAGEMENT. For more information, visit www.eCorSolutions.com.

**Joint/Tendon Inflammatory Disorders
(e.g. Arthritis, shoulder impingement syndromes)**

Clinical Presentation

Localized pain and stiffness in the affected joint, precipitated by direct trauma and aggravated by continued use of the joint.

Objective Findings

Passive ranging of motion of the affected joint reproduces the pain.

Pathogenesis

Inflammation, scar, or tear in the synovial lining of the joint or related tendons.

Traditional Treatment

Physical therapy, joint injections, surgery

CorSolutions Approach

Avoid the aggravating motion
NSAIDs

Desired Outcome

Reduce drug dependence
Reduce surgical failures and complications

CorConnect

Use the steps below to guide questioning and information entry

Joint/Tendon Inflammatory Disorders	
	Has pain drawing been received and consistent with joint pathology?
	Has patient compared passive and isometric ranging of motion to test for joint pattern?
	Is patient avoiding aggravating activities?
	Is patient considering surgical options?
	If so, a second opinion may be appropriate.



Current Habit-forming Medications

05/30/02

Reporting Period from 1/02/02 to 4/30/02

Disease Management

Name: Bessie Nurse, RN
1-800-123-4567/Fax 1-800-123-1234

Patient Name: John Doe
Member ID#: 123-45-6789
Physician: Joe Doctor, MD

Start date	Generic Name	Brand Name	Amt	Units	Freq	Route	Drug Class
7/30/00	Proxypene	Darvocet N-100	1	tab	Q4-6 hrs prn	PO	Narcotic Pain Reliever
3/1/00	Oxycodone	Percocet	5	mg	Q4-6 hrs prn	PO	Narcotic Pain Reliever

- Patient is not on habit-forming medications
- PCP declines medication management Date: XXXXXX

Please fax this completed prescription to CorSolutions @ XXX-XXX-XXXX. Thank you.

**Medication Management Program
Quarterly Prescription**

Prescribing MD: Joe Doctor, MD Fax Number: 987-654-3210

Member Name: John Doe Member ID #: 00123456789

Pharmacy Phone: 101-101-1010



Medication	Quantity / Interval	SIGNATURE
1.		
2.		

In the case of triplicate narcotics, CorSolutions/MyoPoint will contact you a few days before the patient is scheduled to pick them up.

CorSolutions/MyoPoint will continue to manage these medications according to the plan and to report to you on a quarterly basis.

Physician Signature

Date

DEA Number

State License #

This report lists all known pain medications which the patient is currently taking as of 05/17/02. Please reference any previous reports of this patient to review the history of medications. All information contained in this report is confidential between CorSolutions, the physician, and the patient identified.

Peripheral Nerve Compression (e.g. Carpal Tunnel Syndrome)

Clinical Presentation

Pain and paresthesias in the wrist, radiating to the palmar surface of the thumb and first two fingers, aggravated by wrist flexion and during sleep.

Objective Findings

EMG-NCV, often but not always, documents slowing in the median nerve across the wrist.

Pathogenesis

Compression of median nerve fibers across the wrist, by thickening of the ligaments and/or tendons.

Traditional Treatment

Surgery if conservative therapy fails.

CorSolutions Approach

Surgery often fails and/or leads to RSD. Avoidance of repetitive wrist flexion will resolve the condition if adhered to carefully.

Desired Outcome

Reduce surgical failures and complications

CorConnect

Use the steps below to guide questioning and information entry.

Carpal tunnel (Peripheral Compression Neuropathy of Median Nerve)	
	Pain drawing received and reviewed: is it median neuropathic?
	Has EMG-NCV been done or scheduled?
	Is EMG-NCV report consistent with carpal tunnel?
	Does patient understand this?
	Has patient avoided wrist flexion activities?

IV. Initial Assessment

Peripheral Nerve Damage (Neuropathy)

Clinical Presentation

Pain and paresthesias distally (stocking-glove pattern).

Objective Findings

EMG-NCV shows slowing of nerve fiber firing distally. Most common cause is diabetes.

Pathogenesis

Demyelination and axon damage to the distal nerve fibers (“dying back”).

Traditional Treatment

Anti-depressants and anti-convulsants.

CorSolutions Approach

Anti-convulsant and/or anti-depressant medication

Desired Outcome

Reduce drug dependence

CorConnect

Use the steps below to guide questioning and information entry

Peripheral Neuropathy	
	Pain drawing received and reviewed: is it neuropathic?
	Has EMG-NCV been done or scheduled?
	Is EMG-NCV report consistent with peripheral neuropathy?
	Does patient understand this?
	Have Neurontin-type medications been tried or considered?

Process for Hearing Impaired Members

Components of the CorChoices program may be delivered in a variety of methods. For those members who have been identified as hearing impaired and are unable to communicate through use of the traditional telephone, the following processes may facilitate delivery of the program:

1. Written resource materials mailed to member.
2. Further assessment of how member communicates can be undertaken. Hearing-impaired members are eligible to use the AT&T relay services that is provided through a TTY machine or home computer for the member's use. The service is free, however the TTY machine must be procured. Just dial 711 to place a call, or 800-468-4789 to get information about the equipment.
3. Member confirms availability of AT&T relay system in home. Member shares his 800# access number. All subsequent calls are then directed through the relay service. The disease manager will dial the 800# to call the member. The member may call CorSolutions at any time using the same access 800# and the TTY machine or computer in the member's home.
4. If the member does not have access to a TTY machine or home computer, the member then communicates through a caregiver or family member. Ideally this contact person resides with the member, or nearby.

If the member would like to procure a TTY machine, a social work referral is generated. The Health Plan Care Manager is also notified. In the interim, the caregiver or family member continues to assist in the communication between the member and CorSolutions.

Nerve Root Damage (Radiculopathy)

Clinical Presentation

Same as nerve root compression: A ribbon of pain and paresthesias radiating from the spine to the distal extremity, often precipitated by a sudden forceful extension of the spine.

Objective Findings

MRI shows *no* compression of the symptomatic nerve root. It may show scar tissue, which is not surgically correctable.

Pathogenesis

Demyelination of the nerve fibers as they exit the spinal foramen.

Traditional Treatment

Repeat laminectomy, fusion, "IDEC" (intra-discal electro-coagulation) and other surgeries, which have not been shown to be effective and typically aggravate the condition.

CorSolutions Approach

Patient education to explain the difference between nerve root compression and residual damage.

Anti-convulsant and/or anti-depressant medication

Desired Outcome

Reduce surgical failures and complications

Reduce drug dependence

CorConnect

Use the steps below to guide questioning and information entry

Nerve Root Damage (Radiculopathy)	
	Pain drawing received and reviewed: is it radicular?
	MRI report received and reviewed: does it show root compression?
	Are pain drawing and MRI report consistent with a surgical lesion?
	Does patient understand this?
	If not, is a second opinion appropriate?
	Have Neurontin-type medications been tried or considered?

Clinical Assessment and Module Priority Process Flow Narrative

1. Determine if participant (or caregiver) has any special needs relative to hearing or vision.
2. If special needs exist, determine if caregiver or appropriate additional support is available to assist.
3. If caregiver or appropriate support is needed and not available, discharge from program or move to low intensity as appropriate.
4. Confirm with the participant (or caregiver) the information regarding diagnosis from the most recent event.
5. Confirm the participant (or caregiver) most recent hospitalization and emergency room visit dates.
6. Confirm insurance. Discharge if no longer covered by client insurance.
7. Assess receipt of welcome packet with pain drawing. Encourage participant to return pain drawing in business reply envelope if not already done.
8. Assess symptoms, including any changes in symptoms over the last 3 months.
9. Collect information about the participant's perception of source of pain.
10. Assess history of any therapies (blocks, acupuncture, chiropractic treatments, massage therapy, physical therapy or other) or diagnostic tests or surgeries.
11. Assess for planned future therapies, diagnostic tests or surgeries.
12. Assess for comorbid HF, CAD, COPD, diabetes, asthma, HTN.
13. Confirm place of residence of participant.
14. Confirm provider demographic data.
15. Review SF QOL data and make necessary referral for depression if applicable.
16. Confirm receipt of medical record Release of Information form, if applicable.
17. Continue participant (or caregiver) in program; schedule for ongoing follow-up contact calls.

Nerve Root Compression

Clinical Presentation

A ribbon of pain and paresthesias radiating from the spine to the distal extremity, often precipitated by a sudden forceful extension of the spine.

Objective Findings

MRI shows compression of the symptomatic nerve root by disc material that has ruptured.

Pathogenesis

Compression of nerve fibers as they exit the spinal foramen.

Traditional Treatment

Surgery if conservative therapy fails.

CorSolutions Approach

If pain drawing is consistent with MRI finding, then surgery is indicated and should not be delayed for more than 4-6 weeks if patient remains symptomatic.

Desired Outcome

Reduce surgical failures and complications

CorConnect

Use the steps below to guide questioning and information entry

MRI Review	
	Pain drawing received and reviewed: is it radicular?
	MRI report received and reviewed: does it show root compression?
	Are pain drawing and MRI report consistent with a surgical lesion?
	Does patient understand this?
	If not, is a second opinion appropriate?

Enrollment

Pain participants are currently identified in one of three ways:

- Individual members are referred by healthplan case managers,
- Lists of patients meeting certain criteria, eg. Migraineurs frequenting ERs are faxed by healthplan managers.
- Claims and/or pharmacy data are sent by CD or email.
 - These can be complete data sets of all healthplan members, or extracts from the complete sets.

Once identified, the names and demographic information are provided to the Enrollment Department, who calls the patient.

Before discussing the program with the member:

Is the contact information correct?

Participant's name, phone number, address, date of birth, ID#

Data entry requirements

Case manager name, phone number and fax number (per contract)

Physician name, phone number and fax number

Medical group (line of business)

Referral diagnosis/reason

Referral from Pharmacy Claims Analysis

Approximately 80% of pain participants are identified because they are users of significant quantities of narcotics (eg OxyContin) and other habit-forming medications. With these patients the algorithm uses the claims and pharmacy data to calculate the appropriate prescription(s) and fax a prescription request to the primary prescribing physician. When the signed prescription plan is faxed back to us (with whatever reminders are required) the patient is enrolled and called.

Because we have a signed prescription, the patient does not have a choice about participating. About half the patients will raise some resistance at first, concerned that they will receive less medication.

Myalgia **(Tension Headache, Myofascial Trigger Point Pain Syndrome, Strain Injuries)**

Clinical Presentation

Pain, aching and stiffness in the muscles of the neck, shoulder, forearm, mid or low back that is precipitated by traumatic or repetitive over-stretch and sustained by tension.

Objective Findings

Discrete localized tenderness in the belly of affected muscles, with a characteristic pain referral pattern.

Pathogenesis

Sympathetically-mediated spindle muscle fiber spasm and pressure

Traditional Treatment

Massage, physical therapy, chiropractic, lidocaine injections

CorSolutions Approach

Slow gentle stretch (available on the website)
Tension awareness and control

Desired Outcome

Reduce drug dependence
Reduce surgical failures and complications

CorConnect

Use the steps below to guide questioning and information entry

Myalgia	
	Recognizes muscular pathogenesis
	Identifies action/movement which worsens pain
	Identifies position which worsens pain
	Identifies pain referral pattern which fits best
	Understands spindle model of muscle pain
	Uses stretches without increasing pain
	Uses stretches to reduce pain
	Practices home stretching program
	Localizes sensation of muscle tension
	Recognizes tension fluctuations
	Recognizes that tension leads to pain
	Recognizes onset of tension
	Recognizes tension triggers, physical
	Recognizes tension triggers, interpersonal
	Recognizes emotion causing tension
	Able to reduce tension

Script for Enrollment Center for Pharmacy Claims identified participants

“We work with your medical insurance company, *healthplan name* and your doctor, *Dr. Name* to make sure you are getting your medications at the right time and quantity called in to your pharmacy.

“Your doctor has sent us a prescription for: *medication name(s)*

“Do you want to continue using your usual pharmacy *pharmacy name*?

“Do you still have enough of the medication or do you need more called in soon?

“Your prescription is for ____ quantity every 1 (to 4) week(s), is that right?

“Ok we will call that in to your pharmacy. You will also be receiving a welcome packet in the mail.

“If you have any questions, you can call at: *call center number*.

See the Prescription Medication Management Module for additional scripting of pain medication refill issues.

Pain patients as a group make many inbound calls and it is more efficient to wait until the patient has questions or objections.

Referral without pharmacy claim extraction:

Example Enrollment Scripts

“Hello, Mr. or Mrs. _____. My name is _____ and I am calling from CorSolutions on behalf of (Name of plan), your health plan, to welcome you to the Pain Solutions program that is included in your benefits package. Are you still covered by (Name of plan)?

(If no longer covered by the above health plan stop here.)

“Your program is called the Pain Solutions Program—and it provides you with information on pain, its causes, and tests and treatments with the philosophy that patients with access to more information make better decisions. It also gives you access to an experienced nurse, 24 hours a day, 7 days a week. *For High acuity:* You’ll have your own personal nurse who will call you at a time that is convenient for you.

“ I’d like to take a few quick minutes to explain your program to you, okay?

Fibromyalgia

Clinical Presentation

Fatigue, diffuse tenderness and aching, insomnia and depression

Objective Findings

Tenderness to palpation diffusely, not limited to myofascial trigger points

Pathogenesis

Unknown, no evidence of auto-immune or infectious cause. Neurotransmitter imbalance hypothesized.

Traditional Treatment

Anti-depressants and exercise

CorSolutions Approach

Clarification of pathogenesis (not auto-immune or infectious)

Anti-depressants

Sleep-activity Regulation

Desired Outcome

Reduce drug dependence

CorConnect

Use the steps below to guide questioning and information entry

Fibromyalgia	
	What does the participant believe causes FM? Auto-immune, virus, other infection, neurochemical imbalance, stress?
	Have we received the pain drawing? Does it show total body pain?
	Are there any lab results that the participant has questions about?
	Is the participant completing an Activity/Sleep Log?
	Is the participant making changes in his or her activity/sleep pattern?
	Is the participant receptive to counseling?

“The Pain Solutions program does not review, much less deny, requests by your doctor for tests or procedures. Our job is to make sure that you understand your condition, review tests that you have to put them in simpler language, and provide you with questions that you can ask your doctors.”

“We can also help you make sure you are getting the medication you need.”

“Your welcome packet is on its way to you now. I need to ask you a few questions now to make sure this program will be helpful to you.”

“Are you presently scheduled for surgery? If so, when?”

If within three weeks, say

“Why don’t we call you again after your surgery to see how you are doing” and do not enroll member. Call again in 2 months to enroll.

“Have you been diagnosed with cancer, infection, immunological condition such as rheumatoid arthritis or lupus, or pancreatitis?”

If yes, do not enroll.

For High acuity:

“Okay, great, Mr. or Mrs. _____, would you like to speak with your nurse now?”

If yes, Quick Start

If no,

“Okay, I will pass this information on to your CorSolutions Nurse. He/she will be calling you in 3 to 5 days to introduce him/herself to you, and will call you periodically to see how you are doing. Each time your nurse calls you will be asked questions about your condition and you’ll be provided with valuable information about recognizing signs and symptoms associated with your pain condition when they first occur so you can seek appropriate medical care.”

“What is the best time of day for your Nurse to call you? Morning___ Afternoon___
Evening___ Other_____ Any specific times:_____

“Before I go, I want to make sure I have your correct insurance ID#. And
Address_____.

Condition Summaries

Migraine

Clinical Presentation

Episodic head pain

Peaks: ½ to 1 hour

Duration: 7 to 72 hours

Occurrence: 2-3 times per week to 1-2 times per year

Typically associated with nausea

Not always severe

Not always unilateral

Objective Findings

None

Pathogenesis

Arterio-venous shunting of blood flow from the brain to the dura

Genetic predisposition

Precipitated by physical and psychosocial triggers

Traditional Treatment

Triptans and prophylactic medications

CorSolutions Approach

Patients must be carefully taught to use triptans because they are short-acting and can cause a side effect of throat tightness that frightens patients.

Prophylactic medications have modest efficacy and can cause drowsiness.

Triggers, both physical and emotional must be recognized and controlled

Rescue pain medication may be necessary.

Desired Outcome

Reduce ER use

CorConnect

Use the steps below to guide questioning and information entry

	Migraine
	Differentiates headache types, if applicable
	Identifies onset of true migraine attacks
	Uses abortive medication effectively
	Uses follow-on vasoactive medication effectively
	Uses "rescue" meds (including narcotics) appropriately
	Uses preventative program eg. Beta blockers
	Identifies and eliminates external triggers, eg. MSG
	Identifies and eliminates internal triggers, eg. Anxiety

All participants:

“Mr. or Mrs. _____, do you have any questions for me? *(If yes, answer)*. If no, Great! It has been a pleasure talking with you today. I want to welcome you into the Pain Solutions program. I know you will find it beneficial!

“Do you have a pen handy? I have a number for you to write down that you can call if you have questions. *(If patient is resistant, do not insist; just let them know that the number will be in their packet)*.

“It is (NC # - 866-676-0740). Don’t hesitate to call with any questions.

“Thanks you for your time today. Good-bye.”

Enrollment Staff Documentation Only

◆ Spoke with: Patient

Patient via Interpreter Name/Relationship _____

Family member/friend Name/Relationship _____

Legal Guardian who has POA Name/Relationship _____

◆ If permission granted to speak with one of above, please note:

• Unable to speak directly to patient due to:

Language Barrier

Neurological deficit (i.e. stroke, dementia)

Hard of Hearing

Continuous mechanical ventilation

Resides in Nursing Home

Other _____

Minute Stretch

For whenever and wherever you are.

Rhomboid



Set-Up

Sit in a chair and bend forward at the waist.

Cross the arm of the side that you want to stretch over the other.

Round your back toward the rear of the chair.

Tuck your chin toward your chest.

The Stretch

Using the arm of the side that you are not stretching, grasp your arm of the side that you are stretching and gently pull down and across your thigh.

You will feel a stretch in your rhomboids.

To Increase the Stretch

Lean forward at your waist and tuck your chin closer to your chest.

To Decrease the Stretch

Lean backward at the waist and lift your chin further away from your chest.

Return from the Stretch

Release the arm of the side that you are stretching before returning to a normal sitting position.

MSCP Initial Assessment Module Summary

The Goals and Objectives

Goals

- Establish rapport and set participant expectations for their participation in the program
- Collect key medical information and relevant medical history
- Answer questions and help patient resolve any immediate concerns

Objectives

- Educate participant about program
- Set participant expectations for their participation in the program
- Collect key medical information and pertinent clinical history
- Confirm baseline data
- Enroll in Prescription Medication Management Program if appropriate
- Request pain drawing
- Request MRI report

Module Criteria

All high acuity participants complete this module. Participants will be disenrolled if in the Initial Assessment it is determined that the condition is not within the expertise of CorSolutions Pain Solutions Program. In particular, the participant is not enrolled in the program for pain that is acute or secondary to an active disease process such as cancer, infection or autoimmune disorders such as rheumatoid arthritis or lupus. In addition, the participant is not enrolled for pain of an abdominal origin such as pancreatitis.

Background

Based on the Initial Assessment, all high acuity patients are assigned to the Signs and Symptoms module for education about their condition/s, with the goals being to assess and reduce emergencies, surgical and anesthetic and implantable device complications and failures, and drug abuse as appropriate. All high acuity patients are assigned to the appropriate medication management module (MSCP or Prescription Medication Management per contract) for assessment and education related to pain medication, prescription management if appropriate, and assessment of recommended medical therapies per published guidelines.

Application of the Behavior Change Model to the Module

Pain patients as a group typically suffer from depression and resist seeking help for their depression. Pain patients also are typically taking significant amounts of controlled substances, especially narcotics. Thus the participant's readiness for change may be low. Nevertheless, change may be necessary both for quality of life and to control inappropriate utilization of medical care, esp. controlled substances, local anesthetic blocks and procedures that can be expected to worsen the condition, and use of emergency rooms for non-emergent situations. Confidence in recognizing and managing symptoms, understanding the source of pain, avoiding inappropriate use of the ER, and compliance with medications is assessed throughout participation in the program.

The Spindle Stretches - Rhomboid

Before you begin to practice these specific stretches, please make sure you have:

Identified exactly which muscle or muscles are painful;

Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Rhomboid



Set-Up

Sit in a chair and place a folded pillow in your lap.

Scoot forward in the chair so that your hands can hang down at your sides.

The Stretch

Lean forward at the waist resting on to the pillow.

Clasp your hands together under your thighs and round out your upper back.

Next, tuck your chin to your chest.

You will feel a stretch in your rhomboids.

To Increase the Stretch

Round your upper back further or tuck your chin closer to your chest.

To Decrease the Stretch

Do not round your back as far or lift your chin away from your chest.

Return from the Stretch

Unclasp your hands and round your back up slowly.

Acuity Levels/Program Segments

Low Risk Acuity:

- Identified as low risk per predictive modeling AND
- Scoring < 5.0 on risk ratio

Moderate Risk Acuity:

- Identified as moderate risk per predictive modeling AND
- Scoring < 5.0 on risk ratio

High Risk Acuity:

- Identified as high risk per predictive modeling and risk ratio score

Programs

Pain Management:

- Back, head or neck pain
- Carpal Tunnel Syndrome
- Migraine Management
- Myalgia (Fibromyalgia, RSD, somatic, other)
- Nerve Compression/Damage (peripheral and root)
- Joint/Tendon Conditions
- Drug Addiction/Dependence/Tolerance

Segments

Diagnostic Clarification/Initial Assessment (mandatory for high risk participants)

- Identify muscular, joint or nerve pain
 - Pain drawing
 - Assessment questions
 - ID prescribers/pharmacies used
 - ID current treatments

Signs and Symptoms (mandatory for high risk participants)

- Utilization Assessment (mandatory; each call)
 - Diagnostic testing (EMG, MRI, x-ray)
 - Physical therapy, chiropractic adjustment
 - Procedures (surgeries, epidurals/blocks, injections, fusions, pumps)
 - ER/urgent care assessment (more than once/3 months)
 - Physician visits
- Treatment assessment
- Assess degree of symptom control
- Education related to proper interventions
- Gentle stretch exercises
- Avoidance of contributing condition-specific behaviors

MSCP Medication Management (mandatory for high risk participants)

- Assess and educate about use of narcotic pain medications
- Assess trial of recommended condition-specific medications
- Tolerance-Dependence-Addiction assessment
- ID prescribers/pharmacies used

Minute Stretch

For whenever and wherever you are.

Splenius Capitis & Cervicis



Set-Up the Stretch

Let your chin sink forward toward your chest.

You will feel a stretch in splenius capitis.

To also stretch the splenius cervicis, slightly move the head and ear away from the side that you want to stretch.

To Increase the Stretch

Let your chin move closer to your chest or your head and ear away from the side that you want to stretch.

To Decrease the Stretch

Lift your chin slightly or bring your head and ear away from your shoulder.

Return from the Stretch

Use one hand to raise your head to an upright position.

- ID prescribing physicians

Prescription Medication Management (Pharmacy Management) (high risk participants per contract)

- Assess and educate about use of narcotic pain medications
- Assess trial of recommended condition-specific medications
- Tolerance-Dependence-Addiction assessment
- Management of prescriptions for pain medications
- ID prescribers/pharmacies used
- ID prescribing physicians

All Participants:

Notification of MD for MCS score of 42 or less

Safety and Fall Prevention (65 years of age or more)

Medication Error Prevention

Drug-to-drug Interaction Assessment

The Spindle Stretches - Splenius Capitis & Cervicis

Before you begin to practice these specific stretches, please make sure you have:
Identified exactly which muscle or muscles are painful;
Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Splenius Capitis & Cervicis



Set-Up

Sit in a chair in front of a table.
Fold a pillow and place it between your chest and the edge of the table.
Circle the arm of the side that you are not stretching around the pillow.
Place the arm of the side that you are stretching on your lap.
Make sure that this elbow is hanging off the table unsupported.

The Stretch

Turn your head about 30 degrees toward the side that you are stretching.
Try to rest your forehead on the forearm of the arm which is circling the pillow.
You will feel a stretch in your levator scapulae.

To Increase the Stretch

Bring the arm of the side you are stretching off your lap and hanging between your legs.
Remove the pillow and rest your head on your forearm.

To Decrease the Stretch

Add a second pillow or more on which to rest your head.

Return from the Stretch

Derotate your head so that your chin is toward your lap and use your arms to push yourself to an upright sitting position.

Script for RN Start of Care (SOC) Call

(Participant has already been contacted by enrollment center)

Hello, Mr./Ms. _____. My name is _____. I am a nurse at CorSolutions, calling on behalf of HealthPlan or Product Name. You spoke with an enrollment specialist from our office a few days ago regarding the CorSolutions Pain Solutions Program offered by HealthPlan/Employer. Do you have any questions?

If the participant does have questions, ask if they have received the mailed information containing the welcome packet materials. These materials provide an overview of the program and of the services that we provide. Answer any further questions.

The goal of this program is to help you understand what is the source or causes of your pain conditions, how to interpret tests that have been done or may be indicated, and options for treatment.

In addition, please visit our website which walks you step by step from where you experience pain in your body to what it means and what you can do about it.

Most Common Diagnosis

<i>Diagnosis</i>	<i>ICD-9</i>
Migraine	346.0
Other headache	784.0
Low back syndrome	724.2
Lumbar disc disease	722.1
Degenerative spine disease	715
Neck pain	723.9
Cervical strain (whiplash)	847.0
Lumbar strain	846.0
Fibromyalgia	729.1
Neuropathy	357.9
Carpal tunnel	354.0
RSD	337.29

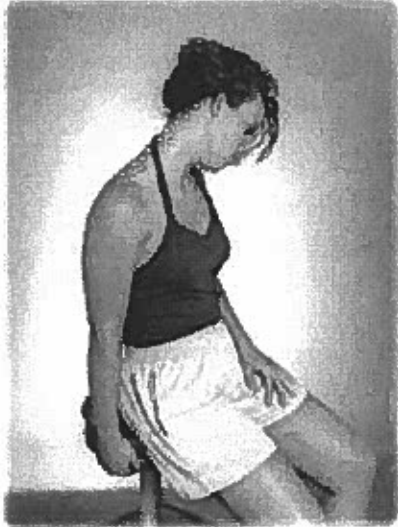
Most Common Procedures

<i>Procedure</i>	<i>CPT</i>
Laminectomy, cervical	630.01
Laminectomy, lumbar	630.05
Epidural, cervical	622.81
Epidural, lumbar	622.82
Trigger point injection	205.50
Fusion	228.41

Minute Stretch

For whenever and wherever you are.

Levator Scapulae



Set-Up

Sit in an arm less chair.

Grasp the edge of the seat with your fingers of the side that you are going to stretch.

The Stretch

Turn your chin about 30 degrees away from the side that you want to stretch.

Begin lowering your chin toward your chest.

You will feel a stretch in your levator scapulae.

To Increase the Stretch

Lean forward at the waist and/or bring your chin closer to your chest.

To Decrease the Stretch

Lift your chin up away from your chest and/or decrease the amount of rotation away from the side that you want to stretch.

Return from the Stretch

Use your free hand to help return your head to an upright position.

Intervention Summary

24-hour toll-free Support Line

Web site www.ecorsolutions.com

Participant Welcome Packet

 Welcome letter

 Clinical guide

 Release of information form

High Risk – Pain Diagram/business reply return envelope

Intervention Summary Guide

Prescribing physician declines to participate

 We will send letter and re-offer our program.

 Plan medical director is notified

Prescribing physician authorizes the prescription plan but continues to prescribe

 Additional “Chart flags” are sent to prescribing physician

 Pharmacy is notified

 Pharmacy benefits manager is notified

Member declines to participate

 If prescribing physician has signed the prescription plan and wants our help, we say
 “Your physician and also your health plan are concerned about your use of these
 medications and want our help in making sure you have them in a safe way. So we must
 continue to manage these refills according to your doctor’s prescription until he/she
 instructs us not to.”

Member is suicidal

 Registered nurse states “If you are telling me that you are considering committing
 suicide, I am obligated to call the police, is that what you are telling me?”

 If yes, 911 number for that locale is called. If no, procedure for depression is followed.

Member screens positive for risk of depression

 Participant is given phone number of behavioral health provider.

 Primary physician is notified via fax.

 Education provided.

Member obtains medications from other prescribers

 Other prescribers are notified that only the primary prescriber should be prescribing.

Member has obtained controlled substances illegally, eg. forging a prescription

 All prescribers are notified and instructed that patient should be referred to a chemical
 dependency program and given only enough medication to last until then, typically two
 week supply.

The Spindle Stretches - Levator Scapulae

Before you begin to practice these specific stretches, please make sure you have:

Identified exactly which muscle or muscles are painful;

Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Levator Scapulae



Set-Up

Sit in a chair in front of a table.

Fold a pillow and place it between your chest and the edge of the table.

Circle the arm of the side that you are not stretching around the pillow.

Place the arm of the side that you are stretching on your lap.

Make sure that this elbow is hanging off the table unsupported.

The Stretch

Turn your head about 30 degrees toward the side that you are stretching.

Try to rest your forehead on the forearm of the arm which is circling the pillow.

You will feel a stretch in your levator scapulae.

To Increase the Stretch

Bring the arm of the side you are stretching off your lap and hanging between your legs.

Remove the pillow and rest your head on your forearm.

To Decrease the Stretch

Add a second pillow or more on which to rest your head.

Return from the Stretch

Straighten your head so that your chin is toward your lap and use your arms to push yourself to an upright sitting position.

Member is scheduled for surgery within 3 weeks

Member will not be enrolled and will be re-contacted in two months.

Disenrollment reasons

Medical condition not within our area of expertise

e.g. cancer, infection, active inflammatory disease such as lupus or rheumatoid arthritis

Pain condition resolved or member is able to manage pain independently

Member deceased

Member no longer eligible

Member unreachable

After 3 calls and a certified letter

Middle & Lower Trapezius



Set-Up

Sit at the edge of a chair with armrests.

Cross your arms so that each hand rests on the opposite arm rest or your thigh.

The Stretch

Bend forward at the waist and round your upper back.

Tuck your chin to your chest.

You will feel a stretch in your middle and lower trapezius.

To Increase the Stretch

Rotate away from the side that you want to stretch.

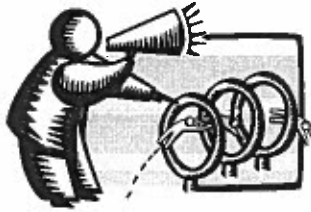
To Decrease the Stretch

Decrease the amount you tuck your chin or round your back.

Return from the Stretch

Put your hands on the same side armrests and lift your head up before pushing to an upright sitting position.

Preparing for the Chronic Pain Participant Call



1. Check the **Demographic** screen to verify all necessary information such as DOB, work status and primary language.
2. Click on **Critical Comments**.
3. Click on **Communications** to review anything recent that might affect what you may need to remind or instruct your participant.
4. Click on the **ICD9** and **CPT** to remind you of any recent procedures and diagnoses.
5. Check **Medication** list to see what medications we are managing. Make sure the correct pharmacy is listed.
6. Check **Physician Assignments** to verify correct physician is selected.
7. Check the previous **S/S APIE** to see what was discussed previous call.
8. Check the **diagnostics screen** so that you may review the results with the participant.
10. Check the paper chart for the **pain drawing** to see if it is comparable to diagnostic results.
11. Check the paper chart for any **ER or Pharmacy claims** that may have been sent from the payor.

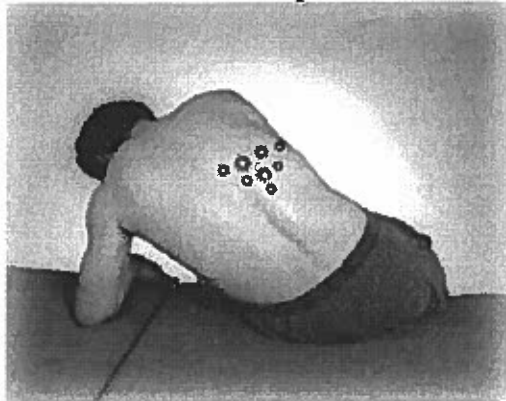
The Spindle Stretches - Middle Lower Trapezius

Before you begin to practice these specific stretches, please make sure you have:
Identified exactly which muscle or muscles are painful;
Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Middle & Lower Trapezius



Set-Up

Sit on a couch or bed.

Turn slightly so that you can lean on the forearm of the side that you are not stretching.

The Stretch

Turn your head to look at the hand, which is supporting you.

Cross the arm of the side that you are stretching toward the thigh of the side that is supporting your weight.

You will feel a stretch in your lower and middle trapezius.

To Increase the Stretch

Let your chin sink toward your chest.

To Decrease the Stretch

Decrease the distance that you are reaching across your body and/or lift your chin slightly.

Return from the Stretch

Face your body forward and use your elbows to push you into an upright sitting position.

Minute Stretch

For whenever and wherever you are.

Patient Response Types

Response Types

Responsive
Vague/passive
Resistant

Introduction

Pain patients can be extremely challenging for many reasons and therefore communicating with them requires additional training and frankly, stamina.

As was discussed in the Program Overview, there are several reasons why pain patients are so challenging. Most obviously they are in pain and pain is not like high blood pressure or the risk of a heart attack. It is in one's consciousness demanding that something be done. Just imagine the last time your bladder was full and no service station in site! Perhaps not so obviously, pain is hidden, there is no test that measures pain. There is not even a test that can tell the doctor whether this patient's condition, eg. peripheral neuropathy measured by nerve conduction velocity (EMG-NCV testing by a neurologist or physiatrist), will be mildly or severely painful. Next, there is no penicillin for chronic pain. Chronic pain conditions like chronic back pain, neck pain or even migraine have no cures in the traditional sense that penicillin can cure an infection. Next the most common chronic pain conditions, such as muscle pain syndromes have a psychophysiological component. Unrecognized or unacceptable emotions can actually aggravate and sometimes cause increased muscle tension and resultant pain. Finally a small percentage of patients take advantage of the lack of objective tests for pain to obtain controlled substances for medically unjustified needs.

Thus the doctor, nurse, case manager or disease manager must be skillful in recognizing and responding to more than just the factual content of the communication.

Patient Response Types

We have found it helpful to distinguish between three very different qualities of response to our questions.

Responsive

The patient/member/enrollees response may be responsive, meaning they have actually answered the question.

Vague/passive

The response may be vague or passive, meaning that he or she did not give a useful answer. An example of this sort of response would be "I don't know. I'm not a doctor" "I'll look into it." It's not a yes and it's not a no. It's neither an agreement nor a refusal. (It's probably the most common response by pain patients and perhaps people everywhere).

Resistant

The response may be resistant. Resistant may be as mild-mannered as "I do not wish to give you that information" to overtly threatening and even frightening. We will discuss each in detail.

For the upper portion, sit upright and lean your head back slightly.

Return from the Stretch

Turn your head so that it is facing forward before lifting your head to an upright position.

Examples of Patient Responses

Note that at the moment of the question, whether or not the response is true or false is a separate issue. Let's spend a moment more on this. Let's examine the response to a typical telephonic intervention question:

May we obtain a copy of your MRI report and go over it with you?

Examples of *responsive* responses:

That would really help. I'll call my doctor and ask for it.
That makes sense, can you arrange it?

Examples of *vague/passive* responses:

I'm really busy.
Why do you want to know?

Example of *resistant* responses:

I don't want you calling again.
You have no right to interfere.
I'll sue if you call me again.

As you can see, it is easy to imagine responses that fall in between. And it will most surely happen that the same question asked at another time may yield a different response. For example try this example.

I haven't received the MRI report yet? Anything I can do to help?

Examples of *responsive* responses:

I called the office, maybe you could call too?
I forgot, I'll call tomorrow.
That makes sense, can you arrange it?

Examples of *vague/passive* responses:

I don't remember which doctor ordered it.
I'm in too much pain.

Examples of *resistant* responses:

I changed my mind, I don't want you interfering.
This is harassment.
I'll sue if you call me again.
I am going to find out where you work and make you very sorry

Note that resistant and vague/passive are quite different. Although we in the helping professions have difficulty accepting this: refusing to take our advice is not necessarily pathologic!

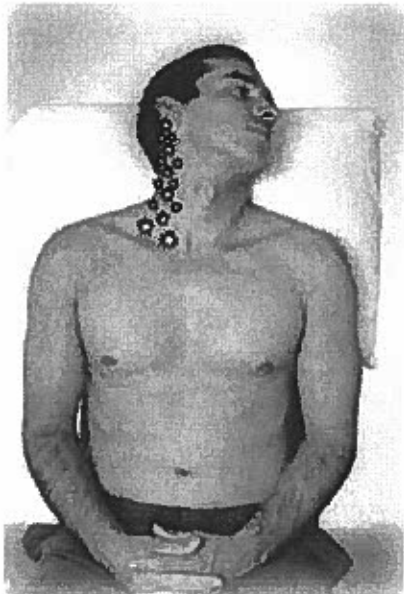
Return from the Stretch

Roll onto your stomach and rise up onto your forearms.

Minute Stretch

For whenever and wherever you are.

Sternocleidomastoid



Set-Up

Sit in a chair and place its back against the wall.

Put a pillow behind your neck and shoulders so that your head will rest against the wall.

Scoot your hips forward in the chair so that you feel the weight of your head begin to lean backward.

The Stretch

Rotate your head away from the side that you want to stretch while looking slightly upward.

You will feel a stretch in the lower portion of your sternocleidomastoid.

To stretch the upper portion of the sternocleidomastoid, allow your chin to move downward, toward your chest, while keeping your head turned away from the side you are stretching.

To Increase the Stretch

For the lower portion, slide your hips forward allowing your head to tilt backward.

For the upper portion, sit up straighter in the chair keep your head turned away from the side you are stretching with your chin coming forward.

To Decrease the Stretch

For the lower portion, keep your hips back and bring your head more upright.

Sample RN Responses to Patient Responses

So now, how do we respond to each of these response-types?

Obviously, if the response is *responsive*, we proceed with the next question.

If the response is resistant, we need to handle this appropriately.

Our responses to “resistant”

The challenge here is our own emotions. Frankly, we humans don't like being resisted. We feel it as rejection, retaliation, or worse. So it is worth spending some time giving you a set of response options to choose from:

I've been instructed to call the police when statements like this are made, but perhaps I'm misunderstanding.

Your response is making me very uncomfortable. I will make a note of it and you will be contacted by a supervisor. For now, I am discontinuing this conversation. Goodbye.

I am sorry you are upset with us. Why don't I call again at a later date?

I understand that you don't agree with this plan. Are there other solutions we should explore?

I can see how you are frustrated by not getting the medical attention/medication you think you need. May I try to help somehow?

Our responses to Vague/Passive

The problem this response creates is that we didn't get a useful/usable response. We have only a few response options:

I'm sorry I didn't understand that, could you say more?

Why don't I ask you again at our next call?

Would you prefer to have me get this information from your doctor or health plan?

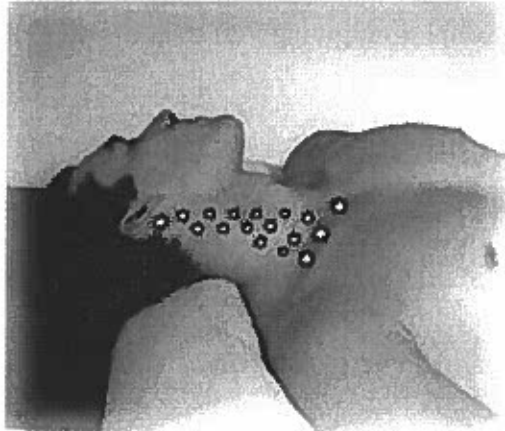
The Spindle Stretches - Sternocleidomastoid

Before you begin to practice these specific stretches, please make sure you have:
Identified exactly which muscle or muscles are painful;
Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Sternocleidomastoid



Set-Up

Lie down on your back with a rolled pillow placed between your shoulder blades and neck.
Bend your knees and move your body up towards the pillow so it will allow your head to dangle off the pillow.

The Stretch

Turn your head away from the side that you want to stretch.
Lift your chin toward the ceiling.

You will feel a stretch in the lower portion of your sternocleidomastoid.

To stretch the upper portion of the muscle, roll onto the side opposite to the one that you want to stretch, move the pillow so that it is underneath your bottom arm and allow your ear to rest on your shoulder.

Let your chin drop toward your chest until you feel the stretch in your upper sternocleidomastoid.

To Increase the Stretch

For the lower portion of the muscle, allow your head to hang further off of the pillow.

For the upper portion of the muscle, allow your chin to drop further toward your chest.

To Decrease the Stretch

Scoot your body down so that your head is more supported by the pillow.

Throughout the telephonic interventions scripts and modules, it is assumed that the patient's answer is *responsive*. In fact you will quite frequently receive answers that are either *vague/passive* or *resistant*. Receiving such responses constitutes the most challenging and fatiguing component of trying to help chronic pain patients. It helps dramatically to note when you are not receiving a *responsive* response and to stop the flow of questions and address directly the response type as we have discussed above. Not only will you not get useful information if you continue, but you will likely make the patient even less cooperative.

For whenever and wherever you are.

Upper Trapezius



Set-Up

Sit or stand with your head looking forward.

Lean your head toward the shoulder of the side opposite to the side you want to stretch.

The Stretch

Slowly look downward, sinking your chin to your chest.

You will feel a stretch in your upper trapezius.

To Increase the Stretch

Lean your head further toward the shoulder of the side you are not stretching and tuck your chin closer to your chest.

To Decrease the Stretch

Keep your head upright and decrease the amount you are tucking your chin.

Return from the Stretch

Return your head to a forward position and lift your chin before lifting your ear away from your shoulder.

Follow-up Call

Script for Introduction to DM Follow-up Call

Script Tips:

- Identify yourself at the beginning of each call.
- State you are calling on behalf of the healthplan or employer.
- Ask participant if he/she has a few minutes to speak with you.
- Help the participant develop a frame of reference by restating when you last spoke and any key issues that were then discussed and/or that need follow-up on this call.

Example:

“Hello, Mr. Jones. This is Sandy Smith calling from CorSolutions on behalf of [health plan/employer]. Is this a good time to talk? We last spoke a few weeks ago about your Pain Solutions program”

Call closure:

- Provide positive reinforcement for any participant accomplishments.
- Establish goals for the next call.
- Remind the participant about any materials or pain drawing or MRI report we are waiting for.
- Confirm the toll-free number.
- Mutually agree on a time and date for the next nurse telephonic encounter.
- Thank the participant for their time.

Neck and Upper Back

The Spindle Stretches - Upper Trapezius

Before you begin to practice these specific stretches, please make sure you have:

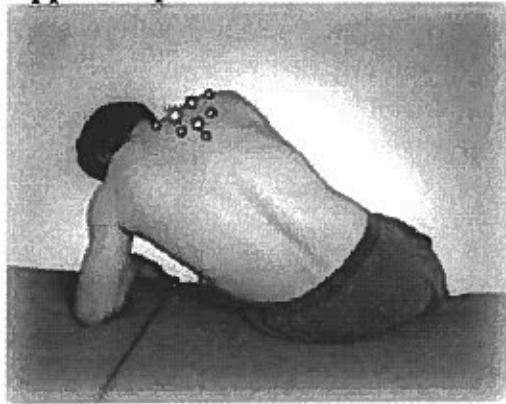
Identified exactly which muscle or muscles are painful;

Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Upper Trapezius



Set-Up

Sit on a couch or bed.

Turn slightly so that you can lean on the forearm of the side that you are not stretching.

The Stretch

Turn your head to look at the hand, which is supporting you.

Drop your chin to your chest.

You will feel a stretch in your upper trapezius.

To Increase the Stretch

Cross arm of the side that you are stretching toward the thigh of the side that is supporting your weight.

To Decrease the Stretch

Lift your head up slightly and decrease the amount of head rotation toward the side that you are not stretching.

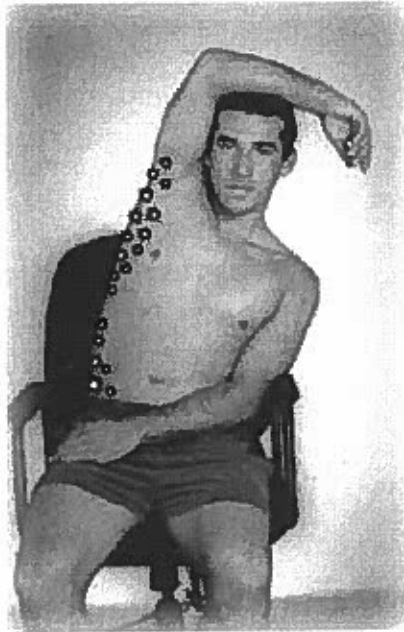
Return from the Stretch

Rotate your shoulders back to the middle and place both hands on your thighs to push your body up to a sitting position.

Minute Stretch

V. Medication Management

Latissimus Dorsi



Set-Up

While you sit or stand, lift the arm on the side you want to stretch above your head.

Rotate your wrist until your thumb points down your upper arm should be against your ear.

The Stretch

Let your arm relax completely so that your hand is hanging down slightly behind your head and your thumb is pointing straight down.

You can place your other hand on a table or armrest for support.

Next, bend at your waist so that the shoulder on the side you are stretching dips down toward the hip on the same side.

You will feel a stretch in your latissimus dorsi.

To Increase the Stretch

Increase this bend at the waist.

To Decrease the Stretch

Straighten up slightly.

Return from the Stretch

Return to normal sitting using the arm that is supporting your body to help push up before bringing your arm down from over your head.

MSCP Medication Management Module Summary

The Goals and Objectives

Goals

- Optimal control of pain
- Reduce hospitalizations and ER visits
- Reduce “doctor shopping” and “polypharmacy”

Objectives

- Identify participants who have not been prescribed medication/s that could have a therapeutic effect on symptom control.
- Provide education to participants to prevent drug tolerance and addiction and promote safe use of pain medications.
- Assist with the management of habit-forming medications.
- Establish participant confidence and compliance with prescribed medications.

Module Criteria

All high risk participants complete the MSCP Medication Management Module. High risk participants (per contract) requiring management of prescriptions for habit-forming pain medications complete the Prescription Medication Management Module.

In addition, participants with a history of HF, CAD, COPD, diabetes, HTN or asthma will be evaluated and educated for appropriate medication use related to these conditions.

Background

There is widespread recognition that musculoskeletal and chronic pain conditions are poorly diagnosed and treated, leading to chronic disability, risk for drug dependence and depression. Pain patients typically take significant amounts of controlled substances, especially narcotics. The MSCP Medication Management module combines education about appropriate condition-specific therapies with management of pain medications to promote control of the pain caused by chronic pain conditions. Participants are assessed and educated to promote compliance with prescribed medication regimens and to prevent or control drug addiction and tolerance. Additionally, participants are assessed for appropriate introduction of medical therapies recommended in the guidelines and published research studies to reduce the pain and symptoms related to chronic pain conditions when applicable.

Application of the Behavior Change Model to the Module

Throughout the medication module, participants are assessed for their confidence levels as related to medication compliance. Participants who report lower confidence levels are given specific education, counseling and support to help increase their confidence levels, compliance and self-management ability. Participants may successfully complete this module when they report confidence of 70% or greater in their ability to comply with their medication regimens.

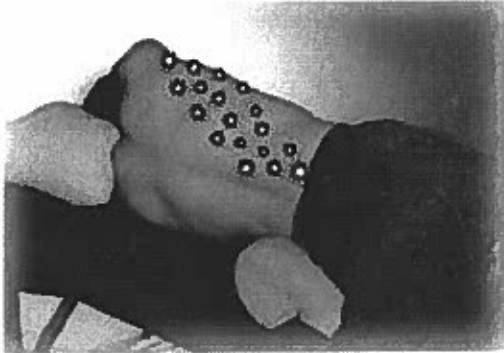
The Spindle Stretches - Latissimus Dorsi

Before you begin to practice these specific stretches, please make sure you have:
Identified exactly which muscle or muscles are painful;
Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Latissimus Dorsi



Set-Up

Lie on the side that you are not stretching, facing the edge of the bed with a rolled up pillow under your hip.

Bend your hips and knees and tuck your chin toward your chest.

Lift the arm that you are stretching over your head and let the upper arm rest against your ear.

The Stretch

Bend your elbow and let the upper arm slide behind your ear.

Allow your hand to hang down behind your head.

You will feel a stretch in your latissimus dorsi.

To Increase the Stretch

Roll your shoulders back toward the middle of the bed.

To Decrease the Stretch

Bring your shoulders forward toward the edge of the bed.

Return from the Stretch

Roll onto your back before returning your arm to its normal position.

Minute Stretch

For whenever and wherever you are.

MSCP Prescription Medication Management Program Summary

Rationale:

- One of the most serious problems in modern medicine is the undertreatment of patients in chronic pain.¹
- More than 30 million patients suffer from chronic pain, and seven million of them cannot relieve their pain without opioids (narcotics)¹
- Studies show about 5-15% of chronic pain patients using narcotic pain medications develop dependence.¹
- Approximately 1% of the adult population in the United States abuses narcotics.²
- Narcotic users often develop serious physical, social, and mental health problems that compromise well-being and affect family and friends.²
- Narcotic abuse costs the nation \$10 billion a year in treatment, care, and lost productivity.²

Program Goals:

- Optimal control of chronic pain
- Reduce “doctor shopping” and “polypharmacy”
- Reduce hospitalizations and ER visits
- Improved quality of life

Program Objectives:

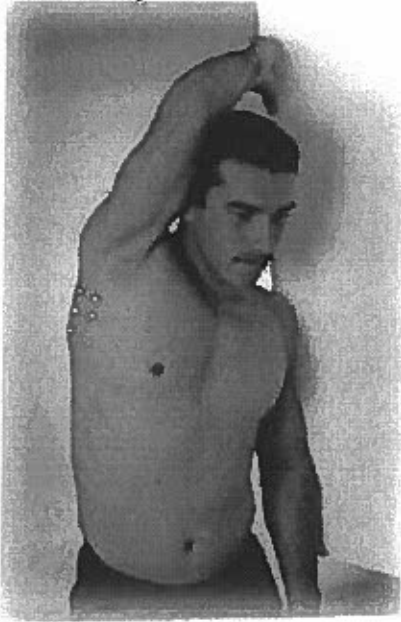
- Assist with management of habit-forming medications to promote safe and appropriate use of pain medications
- Reduce risk of narcotic tolerance, dependence and addiction
- Establish participant confidence and compliance with prescribed pain medications

Interventions:

All participants requiring prescription medication management complete the Musculoskeletal and Chronic Pain (MSCP) Prescription Medication Management Program. The MSCP Prescription Management program identifies participants who are taking opiates on a daily basis. Working with the prescribing physician and the pharmacist, the team plans fixed interval prescriptions, tapering if appropriate, education on alternatives to opiate use and support for participants who run out of medication early so they are not without the benefit of pain medication. The goal of this program is optimal pain control while promoting the use of one prescribing physician, one pharmacy, and one pain medication tapered to non-daily use as appropriate.³

The MSCP Prescription Medication Management Program provides outbound education and monitoring by a registered nurse. Narcotic use is evaluated and participants are assessed for development of tolerance, dependence or addiction to pain medication. Education is provided telephonically, through the www.ecorsolutions.com website, and via mailed material and includes safe medication usage and management, comprehensive information on narcotic use, and appropriate urgent or emergent intervention. Additionally, participants have access to 24-hour telephonic support by a registered nurse. Participants' confidence levels that they are taking medications as recommended by their physicians are assessed during each contact.

Teres Major



Set-Up

Stand with the arm and shoulder that you are not stretching at the edge of an open doorway.

Reach the arm that you are going to stretch up over your head, bend your elbow, and rest your fingers perpendicular to the door frame.

This palm is facing the same direction that you are looking.

The heel of the foot on the affected side is even with the doorway with your other foot behind you.

The Stretch

Transfer some of your weight onto the leg of the side you are not stretching and begin to lean forward.

Maintain your finger grip on the doorway edge and you will feel a stretch your teres major.

To Increase the Stretch

Shift more of your weight forward.

To Decrease the Stretch

Shift more of your weight backward.

Return from the Stretch

Transfer your weight onto the leg of the side that you are not stretching and bring both feet even so that you are standing up straight before releasing your grasp and returning your arm to your side.

Emergency room visits, and number of prescribers, pharmacies and narcotics are monitored and reported.

References:

1. Drug Reform Coordination Network. (2003). Available online: <http://www.drcnet.org/>
2. Mental Health Channel. (2003). Available online: <http://www.mentalhealthchannel.net/narcotic/index.shtml>
3. Hubbard, D. Neurological perspective: Guidelines for the 21st century – five-part series: January/February through September/October, 2001. Practical PAIN MANAGEMENT.

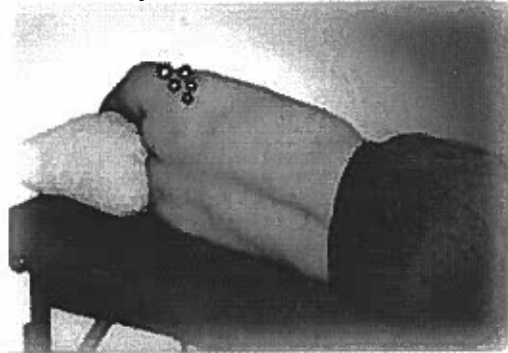
The Spindle Stretches - Teres Major

Before you begin to practice these specific stretches, please make sure you have:
Identified exactly which muscle or muscles are painful;
Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Teres Major



Set-Up

Lie on the side that you are not stretching so that your head is at the edge of the bed.
Bend your knees and slightly tuck your chin toward your chest.
Let your bottom arm lie across your stomach.

The Stretch

Drape the arm that you are stretching over your head so that your biceps is resting slightly behind your ear.
Let your hand hang down with the palm facing away from the bed.
You will feel the stretch in your teres major.

To Increase the Stretch

Roll your top shoulder forward toward the surface of the bed.

To Decrease the Stretch

Roll your top shoulder backward toward the surface of the bed.

Return from the Stretch

Roll onto your back or stomach and return your arm to your side before getting up off the bed.

Minute Stretch

For whenever and wherever you are.

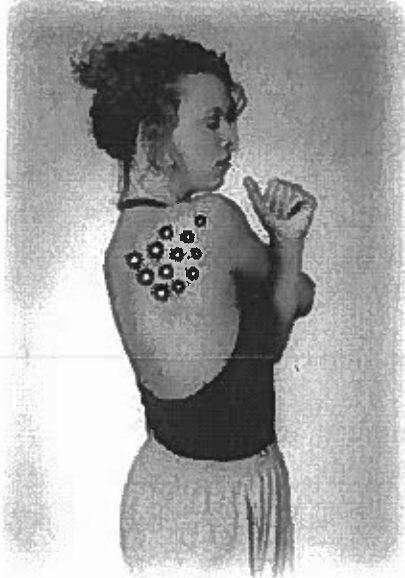
MSCP Medication Management Process Flow Narrative

1. Collect information regarding all prescribed and non-prescribed medications that participant is currently taking
2. Determine participant baseline confidence with taking medications as prescribed.
3. Determine if participant is taking medication as prescribed.
4. Determine number of prescribing physicians participant uses.
5. Determine number of pharmacies used to fill prescriptions.
6. Determine average number of pills taken per week and whether or not participant takes pain medications daily.
7. Determine if current dose of pain medication is effective in controlling pain.
8. Provide education and training. Schedule follow-up calls as appropriate for teaching.
9. Determine if participant is on appropriate medications for each co-morbid condition addressed, including CAD, CHF, COPD, Diabetes, Asthma and Hypertension.
10. For each medication that the participant is NOT on for the co-morbid condition, determine if there are contraindications.
11. If there are no contraindications, instruct participant to follow-up with physician.
12. End monitoring for that medication.

Minute Stretch

For whenever and wherever you are.

Infraspinatus



Set-Up

Sit or stand and place the arm that you are not stretching across your chest. This elbow is about 90 degrees, the thumb points away from you with the palm up. Your fingers can be closed but relaxed.

Next, place the arm that you are stretching and rest it over the curve made by the wrist and thumb of the arm across your chest.

Make sure that the elbow lies below the wrist and that it is comfortable.

Let the arm that you are stretching hang and relax.

The Stretch

Bend the elbow of the arm that you are not stretching across your chest up toward the shoulder on the same side.

The arm that you are stretching will be lifted and pulled across your chest.

You will feel a stretch in the infraspinatus of your shoulder.

To Increase the Stretch

Increase the pull on the arm that you are stretching is pulled further across your chest.

To Decrease the Stretch

Decrease the pull on the arm that you are stretching.

Return from the Stretch

Allow both arms to come downward and relax at your sides.

Commonly Prescribed Pain Medications

Chemical name	Brand Names
Propoxyphene	Darvocet, Darvon
Codeine	Tylenol with codeine, No. 2,3,4, Fiorinal, Fiorecet
Hydrocodone	Vicodin, Lortab, Lorcet, Norco
Oxycodone	OxyContin, Percoset, Percodan
Morphine	MS Contin, morphine sulfate
Fentanyl	Duragesic patch
Hydromorphone	Dilaudid
Fentanyl	
Tramadol	Ultram
Methadone	Methadone
Pentazocine	Talwin, Talacen
	Stadol Nasal Spray

The Spindle Stretches - Infraspinatus

Before you begin to practice these specific stretches, please make sure you have:

Identified exactly which muscle or muscles are painful;

Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Infraspinatus



Set-Up

Lie on your side with the arm that you are going to stretch on top.

Face the edge of the bed with your hips and knees bent.

Place your bottom arm across your stomach with this thumb pointing toward your head.

Roll your top shoulder forward so that the arm that you want to stretch hangs down off the bed with the palm toward the bed.

The Stretch

The weight of the arm will begin to stretch the back of the shoulder.

Place the curve made by the thumb and wrist of your bottom arm, just above the elbow of the arm hanging off the bed.

Bend the elbow of your bottom arm so that the thumb and wrist pull against the arm that is hanging. You will begin to feel a stretch in your infraspinatus.

To Increase the Stretch

Continue to bend the elbow of the bottom arm until the thumb points toward the floor.

To Decrease the Stretch

Decrease the bend of elbow and lessen the pull of the thumb and wrist against the arm hanging off the bed.

Return from the Stretch

Let the hand of the bottom arm rest against the bed and roll onto your back before you come to upright sitting.

Dosage Table

HYDROCODONE

Trade Name	Hydrocodone Bitartrate	Acetaminophen	Aspirin	Ibuprofen	Guiafenesin	Pseudoephedrine HCL	AND	Used for
Anexsia	5mg	500mg						Analgesic
Anexsia	7.5mg	650mg						Analgesic
Anexsia	10mg	660mg						Analgesic
Bancap HC	5mg	500mg						Analgesic
Damason P	5mg		500mg					
Deconamine CX per 5mL	5mg				200mg	60mg		Decongestant Expectorant
DuratussHD per 5mL	2.5mg				100mg	30mg		Decongestant Expectorant
Hycodan	5mg						homatropine methylbromide	Anitussive
Hycomine	5mg						Phenylpropano-lamine HCL	Anitussive Decongestant
Hycomine Compound	5mg	250mg					Phenylphrine, caffeine, etc	Decongestant Analgesic
Hycomine Expectorant	5mg				100mg			Anitussive Expectorant
Hydrocet	5mg	500mg						Analgesic
Lorcet HD	5mg	650mg						Analgesic
Lorcet Plus	7.5mg	650mg						Analgesic
Lorcet 10	10mg	650mg						Analgesic
Lortab Elixir per 5mL	2.5mg	120mg						Analgesic
Lortab 2.5	2.5mg	500mg						Analgesic
Lortab 5	5mg	500mg						Analgesic
Lortab 7.5	7.5mg	500mg						Analgesic
Lortab 10	10mg	500mg						Analgesic
Lortab ASA	5mg		500mg					Analgesic

Minute Stretch

For whenever and wherever you are.

Brachioradialis



Set-Up

Sit in a chair and place the arm that you are not stretching across your stomach. If the chair has armrests, you can grasp it.

Rest the elbow of the arm that you want to stretch on your opposite wrist that is across your stomach.

The Stretch

Bend the wrist of the arm that you are stretching so that your thumb is pointing away from you.

Let the elbow straighten and the arm hang down to feel the stretch in the brachioradialis.

To Increase the Stretch

Point your thumb further toward the floor.

To Decrease the Stretch

Let your thumb come up toward the ceiling.

Return from the Stretch

Point your thumb up before returning your arm to its normal position.

Triaminic Expectorant DH	1.67mg					100mg			Expectorant Decongestant Antitussive
Tussend per 5mL	2.5mg					100mg	30mg		Decongestant Expectorant
Vicodin	5mg	500mg							
Vicodin ES	7.5mg	750mg							
Vicodin HP	10mg	660mg							Analgesic
Vicodin Tuss per 5mL	5mg					100mg			Analgesic
Vicoprofen	7.5mg				200mg				Analgesic
Zydone	5mg	500mg							Analgesic

OXYCODONE

Trade Name	Dose 1	Dose 2	Dose 3	Dose 4	Solution 1	Solution 2	Acetaminophen	Aspirin
Roxicodone	5mg				5mg/mL	20mg/mL		
Oxycontin	10mg	20mg	40mg	80mg				
Percocet	5mg						325mg	
Percodan	2.25mg	4.5mg						325mg
Roxicet	5mg						500mg	
Roxilox	5mg						500mg	
Roxiprin	4.5mg							325mg
Tylox	5mg						500mg	

HYDROMORPHONE

Trade Name	Dose 1	Dose 2	Dose 3	Dose 4	Dose 5
Dilaudid	1mg	2mg	3mg	4mg	8mg
Dilaudid oral	5mg/mL	10mg/mL (HP)			
Dilaudid suppos	3mg				
Dilaudid inject	1mg/mL	2mg/mL	4mg/mL		

Arm and Shoulder

The Spindle Stretches - Brachioradialis

Before you begin to practice these specific stretches, please make sure you have:

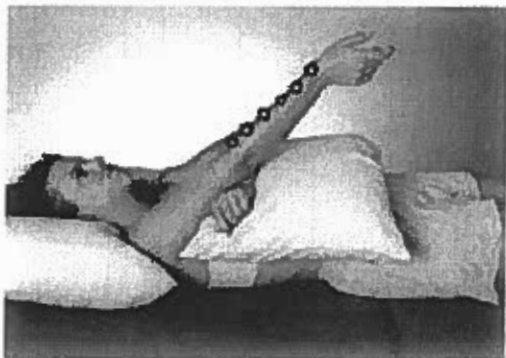
Identified exactly which muscle or muscles are painful;

Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Brachioradialis



Set-Up

Lie down on your back with a pillow under your head and another across your chest.

Place the arm that you are not stretching across the pillow with the elbow bent to 90 degrees and the palm of your hand relaxed.

Next, rest the elbow of the arm that you are stretching onto the curve made by the wrist and forearm of the other arm.

The Stretch

Allow the elbow of the arm that you are stretching to relax and straighten with your thumb pointing up.

Then, bend your wrist so that your thumb is pointing away from you.

You should feel a stretch in your brachioradialis.

To Increase the Stretch

Add a second pillow to your chest.

To Decrease the Stretch

Bring your thumb up to point toward the ceiling.

Return from the Stretch

Relax your hand so that your palm faces down before returning your arm to its normal position.

MORPHINE SULFATE

<i>Trade Name</i>	<i>Dose 1</i>	<i>Dose 2</i>	<i>Dose 3</i>	<i>Dose 4</i>	<i>Dose 5</i>	<i>Dose 6</i>
Kadian (SR)	20mg	50mg	100mg			
MS Contin	15mg	30mg	60mg	100mg	200mg	
Oramorph (SR)	15mg	30mg	60mg	100mg		
MSIR	15mg	30mg				
MSIR (solution)	10mg/5mL	20mg/5mL	20mg/mL			
RMS (suppos)	5mg	10mg	20mg	30mg		
Roxanol (solution)	20mg/mL	100mg/5ml				

TRAMADOL HCL

<i>Trade Name</i>	<i>Tramadol HCL</i>	<i>Acetaminophen</i>	<i>Used For</i>
Ultram	50mg		Analgesic
Ultracet	37.5mg	325mg	Analgesic

PROPOXYPHENE

<i>Trade Name</i>	<i>Propoxyphene napsylate</i>	<i>Propoxyphene HCL</i>	<i>Aspirin</i>	<i>Acetaminophen</i>	<i>Caffeine</i>	<i>Used For</i>
Darvocet N50	50mg			325mg		Analgesic
Darvocet N100	100mg			650mg		Analgesic
Darvon		65mg				Analgesic
Darvon Compound		65mg	389mg		32.4mg	Analgesic
Wygesic		65mg		650mg		Analgesic

CODEINE

<i>Trade Name</i>	<i>Codeine Phosphate</i>	<i>Codeine Sulfate</i>	<i>Aspirin</i>	<i>Acetaminophen</i>	<i>And</i>	<i>Used For</i>
Codeine inj	30mg, 60mg					Analgesic
Codeine sulfate	15mg, 30mg, 60mg					Analgesic
Brontex	10mg				Guaiifenesin	Antitussive

Gluteus Medius



Set-Up

Sit in a chair sideways with the leg that you want to stretch hanging off the edge of the chair.

Drape the closest arm across the back of the chair.

The other hand can grasp the back or armrest.

The Stretch

Slowly slide both hips away from the back of the chair until the side that the buttock you are stretching is hanging off the edge of the chair.

Move the foot on this side behind you until the heel is off the ground and only the toes support the weight of the leg.

Allow gravity to pull the leg and buttock downward until you feel the stretch in your gluteus medius.

To Increase the Stretch

Lean toward the back of the chair.

To Decrease the Stretch

Push yourself away from the back of the chair until you are sitting more upright.

Return from the Stretch

Sit upright and slide your foot forward until it is flat on the floor and return to normal sitting.

Empirin w/Codeine #3	30mg			325mg		300mg	Expectorant Analgesic
Empirin w/Codeine #4	60mg				325mg		Analgesic
Fioricet w/Codeine	30mg				325mg	Butalbital and Caffeine	Analgesic
Fiorinal w/Codeine	30mg			325mg		Butalbital and Caffeine	Analgesic
Nucofed	20mg					Pseudoephedrine	Decongestant Antitussive
Nucofed Expectorant & Pediatric Expectorant	20mg 10mg					Pseudoephedrine Guaiifenesin	Decongestant Antitussive Expectorant
Soma Compound w/Codeine	16mg			325mg		Carasoprodol	Muscle relaxant Analgesic
Tylenol w/Codeine #2	15mg				300mg		Analgesic
Tylenol w/Codeine #3	30mg				300mg		Analgesic
Tylenol w/Codeine #4	60mg				300mg		Analgesic

PENTAZOCINE HCL

<i>Trade Name</i>	<i>Aspirin</i>	<i>Acetaminophen</i>	<i>Pentazocine HCL</i>	<i>Naloxone HCL</i>	<i>Used For</i>
Talacen		650mg	25mg		Analgesic
Talwin Compound	325mg		12.5mg		Analgesic
Talwin NX			50mg	.5mg	Analgesic

BENZODIAZEPINES

<i>Trade Name</i>	<i>Generic Name</i>	<i>Dose 1</i>	<i>Dose 2</i>	<i>Dose 3</i>	<i>Dose 4</i>

The Spindle Stretches - Gluteus Medius

Before you begin to practice these specific stretches, please make sure you have:

Identified exactly which muscle or muscles are painful;

Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Gluteus Medius



Set-Up

Lie on your side with the leg that you want to stretch facing up with your back to the edge of the bed.

You can place a pillow underneath your hip if it is more comfortable.

Slightly bend your hips and knees so that one leg rests on top of the other.

The Stretch

Extend your top leg behind you and lower it gently off the edge of the bed.

You will feel a stretch in the gluteus medius.

For balance, you can reach out toward the center of the bed.

To Increase the Stretch

Roll your top shoulder toward the center of the bed.

To Decrease the Stretch

Roll your top shoulder back toward the edge of the bed.

Return from the Stretch

Bring your top leg back to rest on the bottom leg and roll onto your stomach before getting up.

Minute Stretch

For whenever and wherever you are.

Valium	Diazepam	2mg	5mg	10mg	
Xanax	Alprazolam	.25mg	.50mg	1mg	2mg
Ativan	Lorazepam	.5mg	1mg	2mg	
Klonopin	Clonazepam	.5mg	1mg	2mg	
Restoril	Temazepam	7.5mg	15mg	30mg	
Tranxene	Clorazepate dipotassium	3.75mg	7.5mg	15mg	
Tranxene-SD	Clorazepate dipotassium	22mg			
Tranxene-SD 1/2 strength	Clorazepate dipotassium	11.25mg			

MUSCLE RELAXANTS (mildly habit forming)

<i>Trade Name</i>	<i>Carisoprodol</i>	<i>Aspirin</i>	<i>Chlorzoxazone</i>	<i>Methocarbamol</i>
Soma	350mg			
Soma Compound	200mg	325mg		
Parafon Forte			500mg	
Robaxin 500mg / 750mg				500mg / 750mg

BARBITUATES

<i>Trade Name</i>	<i>Butalbital</i>	<i>Acetaminophen</i>	<i>Caffeine</i>	<i>Aspirin</i>	<i>Codeine Phosphate</i>
Fioricet	50mg	325mg	40mg		
Fiorinal	50mg		40mg	325mg	
Esgic	50mg	325mg	40mg		
Esgic Plus	50mg	500mg	40mg		
Fioricet w/Codeine	50mg	325mg	40mg		30mg
Fiorinal w/Codeine	50mg		40mg	325mg	30mg

Quadratus Lumborum



Set-Up

Stand with all of your body weight on the leg of the side that you are not stretching.

Slightly bend the hip and knee on the side that you want to stretch so that your heel lifts off the ground and only the toes are resting on the ground.

Support your body with the hand of the opposite side that you are stretching on a sturdy object.

The Stretch

Lean forward at the waist and rotate the shoulders away from the side that you are stretching, until you feel the stretch in your quadratus lumborum.

To Increase the Stretch

Lean further forward at the waist and rotate your shoulders further away from the side that you are stretching.

To Decrease the Stretch

Lessen the rotation of your shoulders and straighten slightly at the waist.

Return from the Stretch

Turn your shoulders so that they are not rotated and use the hand that is supporting your body to help you return to standing.

Neuropathic Pain Medications

Although there is no medication that cures pain, there are several medications that can reduce the overactivity in damaged nerve cells. These medications are not painkillers, they are not opium derivatives like OxyContin and Vicodin. They work by making the damaged nerve cells less irritable. Examples of these medications are Neurontin and Elavil.

Nerve damage can be thought of as broken wires in an electric cable which causes misfiring and static on the line. There is unfortunately no cure for this. Fortunately there are some medications which can reduce the severity of the 'static.' These medications fall into one of two categories: anti-convulsants and anti-depressants. Anti-convulsants are primarily used to treat epilepsy and anti-depressants are primarily used to treat depression, but because both these classes of medication exert their action on nerves, they can also be helpful in treating nerve damage.

The most common side effect with all of them is fatigue and sedation. For this reason it is important to start slowly with a very low dose. Each may have other side effects that should be discussed with the participant's doctor and pharmacist.

These medications take days to weeks to start working. For this reason it is necessary to give each a trial of at least several weeks.

Below shows a table with a suggested regimen for each:

Choice	Medication	Starting dose At bedtime	Interval increase	Maximum Daily dose
1 st	Neurontin (gabapentin)	300mg (one tablet)	300mg every 3 days	600 three times per day
2 nd	Topomax (topiramate)	50mg (two tablets)	50mg per week	200mg twice daily
3 rd	Elavil (amitriptyline)	10mg (one tablet)	10mg every 3 days	75mg at bedtime
4 th	Depakote (divalproex)	250mg (one tablet) 3 times per day	500mg three times per day after one week	1000mg three times per day

The Spindle Stretches -Quadratus Lumborum



Set-Up

Sit at a table with space between you and the table.

Rest your elbows and forearms on the table.

The Stretch

Lean forward at the waist and slide both arms out away from you.

As you lean forward, slide both hands away from the side that you are stretching.

You will begin to feel the stretch in your quadratus lumborum.

Once you have reached the desired stretch, rest your head comfortably.

To Increase the Stretch

Slide your arms further away from the side that you are stretching.

To Decrease the Stretch

Slide both hands back in front of you and bring your elbows slightly toward your body.

Return from the Stretch

Reposition both arms in front of you before pushing off the table with your hands to return to sitting.

Minute Stretch

For whenever and wherever you are.

First Data Bank Antidepressant Table

CorSolutions Drug Group	Therapeutic Drug Group	First Databank Group FDB Class ID and Name	Inclusion	Exclusion (GCN Seq No)	Comment
Antidepressant	Tricyclic Antidepressants	8877 = Tricyclic Antidepressants & Rel. Non. Selective Re-Inhibitors	All	None	Medications Included are: Amitriptyline Amitriptyline+Chlordiazepoxide Amitriptyline+Perphenazine Amoxapine Clomipramine Desipramine Doxepin Imipramine Maprotiline Nortriptyline Protriptyline Trimipramine
		8879 = Tricyclic Antidepressants and Phenothiazine Combination	All	None	
		8881 = Tricyclic Antidepressants and Benzodiazepine Combination	All	None	
	Tetracyclic Antidepressants	8887 = Alpha-2 Receptor Antagonist Antidepressant	All	None	Mirtazapine
	SARIS	8893 = Serotonin-2 Antagonist/Reuptake Inhibitor (SARIS)	All	None	Nefazodone (Serzone) Trazodone (Desyrel)
	NDRIS	8891 = Norepinephrine and Dopamine Reuptake Inhibitor (NDRIS)	All	None	Bupropion (Wellbutrin)
	SNRIS	8889 = Serotonin-Norepinephrine Reuptake-Inhibitor (SNRIS)	All	None	Venlafaxine (Effexor)
	SSRIS	8875 = Serotonin Specific Reuptake Inhibitor (SSRIS)	All	None	Citalopram (Celexa) Fluoxetine (Prozac) Fluvoxamine (Luvox) Paroxetine (Paxil) Sertraline (Zoloft) St. Johns Wort
	MAO Inhibitors	8903 = MAOIS - Non-Selective & Irreversible	All	None	Isocarboxazid (Marplan) Phenelzine (Nardil) Tranylcypromine (Parnate)

Return from the Stretch

Walk your hands up each leg until you can push off from each thigh with your forearms and then hands, until you are sitting upright.

Minute Stretch

For whenever and wherever you are.

Erector Spinae



Set-Up

Sit at a table and push the chair away until your arms are partly outstretched.

Slide your hips out toward the edge of the chair.

Grasp the tabletop so that your thumbs are on top and your fingers are underneath with your elbows pointing toward the floor.

The Stretch

While sitting erect, let your chin sink to the chest and your shoulders round forward.

Allow your back to round toward the back of the chair.

You will feel the stretch in your erector spinae.

To Increase the Stretch

Push the chair away from the table until your arms are fully extended.

To Decrease the Stretch

Move the chair closer to the table, increasing the bend in your elbows.

Return from the Stretch

Use your hands and arms to pull yourself to a normal sitting position as you lift your head.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

MSCP Program Medication List

Antidepressants

Inclusions:

1. Tricyclic Antidepressants - literature mentioned that no differences in the effectiveness of different tricyclic antidepressants, and the appropriate choice of tricyclics depends on each agent's adverse-effect profile, therefore, all the tricyclic antidepressants are included:

Amitriptyline (Elavil)
Amoxapine (Asendin)
Clomipramine (Anafranil)
Desipramine (Norpramin)
Doxepin (Adapin)
Imipramine (Tofranil)
Nortriptyline (Pamelor)
Protriptyline (Vivactil)
Trimipramine (Surmontil)

2. Tricyclic Antidepressant Containing Products

Amitriptyline and Chlordiazepoxide
Amitriptyline and Perphenazine

Anticonvulsants

Inclusions: From mechanism-of-action standpoint, many anticonvulsants can be included, however, from evidence stand point, only 3-4 medications can be included.

1. Strongest evidence: Carbamazepine (Tegretol), Gabapentin (Neurontin), Lamotrigine (Lamictal - has good potential)
2. Weak to modest evidence: Phenytoin (Dilantin)
3. Has potential based on animal studies: Phenobarbital, clonazepam (Klonopin), valproic acid (Depakote), topiramate (Topamax), tiagabine (Gabitril), felbamate (Felbatol), oxcarbazepine (Trileptal), and zonisamide (Zonegran)

Exclusions (since can't find any evidence or unlabeled use for neuropathic pain): Ethosuximide (Zarontin), Levetiracetam (Keppra), Mephobarbital (Peganone), Mephentyoin (Mesantoin), Primidone (Mysoline), Paramethadione (Paradione), and Ethotoin (Peganone).

Muscle Relaxants

Inclusions: All the oral muscle relaxants are included:

1. Muscle Relaxants

Baclofen (Lioresal)
Carisoprodol (Soma)
Chlorzoxazone (Parafon Forte DSC)
Cyclobenzaprine (Flexeril)
Dantrolene (Dantrium)
Metaxalone (Skelaxin)
Methocarbamol (Robaxin)

The Spindle Stretches - Erector Spinae

Before you begin to practice these specific stretches, please make sure you have:

Identified exactly which muscle or muscles are painful;

Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Erector Spinae



Set-Up

Sit in a chair with your knees comfortably apart, your heels together and the toes pointed out.

Lean forward at the waist and rest each forearm on a thigh.

Cross one wrist over the other and grasp the inside of each calf just below the knee with the opposite hand.

Your fingers will be on your shins with your thumbs behind the knees of each leg.

The Stretch

Lean forward so that your forearms support your weight.

Continue leaning forward, walking your hands down the inside of each leg until you feel the stretch in your erector spinae.

You can control the stretch and the downward movement by applying pressure from your hands and elbows onto your legs.

To Increase the Stretch

Lean forward and walk your hands down the legs until they are resting on the tops of your feet.

To Decrease the Stretch

Walk your hands up the leg and bring your elbows to rest on each thigh.

Orphenadrine (Norflex)
Tizanidine (Zanaflex)

2. Muscle Relaxant Containing Products

Carisoprodol and Aspirin
Carisoprodol, Aspirin, and Codeine
Methocarbamol and Aspirin
Orphenadrine, Aspirin, and Caffeine

Triptans and Ergotamine

Inclusions:

Dihydroergotamine
Ergotamine (Cafergot)
Naratriptan (Naratriptan)
Rizatriptan (Maxalt)
Sumatriptan (Imitrex)
Zolmitriptan (Zomig)

Narcotics

Inclusions: Schedule II – V's are included

1. Single Component

Codeine
Fentanyl (Duragesic)
Hydromorphone (Dilaudid)
Levorphanol (Levo-Dromoran)
Meperidine (Demerol)
Morphine
Pentazocin
Propoxyphene (Darvon N)
Opium Oral Tincture (Paregoric)
Oxycodone

2. Narcotic Containing Products

Acetaminophen and Codeine
Acetaminophen and Hydrocodone
Acetaminophen and Pentazocin
Acetaminophen and Propoxyphene
Acetaminophen and Phenyltoloxamine
Acetaminophen and Oxycodone
Aspirin and Codeine
Aspirin and Oxycodone
Carisoprodol, Aspirin, and Codeine
Fioricet and Codeine
Fiorinal and Codeine
Hydrocodone and Ibuprofen

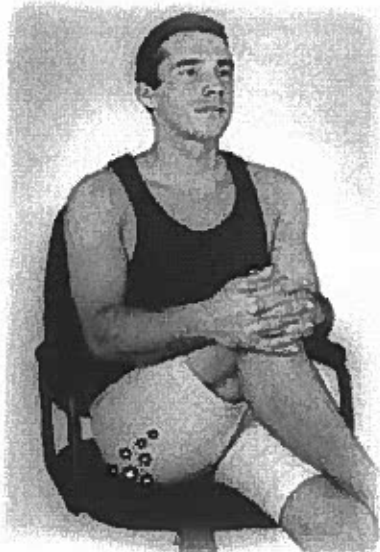
Return from the Stretch

Guide the top leg back to its initial resting position on the bottom leg.

Minute Stretch

For whenever and wherever you are.

Piriformis



Set-Up

Sit comfortably in a chair with a back.

Cross the leg that you want to stretch over your other leg.

The Stretch

Keep your hips from moving by resting against the back of the chair.

Using both hands pull this knee toward your chest and the opposite side.

You will feel a stretch in your piriformis.

To Increase the Stretch

Pull the knee close

To Decrease the Stretch

Relax the pull on your knee and let it move away from you.

Return from the Stretch

Slowly lower the leg that you were stretching down to the floor.

Tolerance-Dependence-Addiction

Tolerance

If a patient has developed a tolerance the only solution to this problem is to taper to non-daily use of this class of medication. Increasing doses or switching to another “stronger” narcotic will not be effective. Eventually the motivated patient will understand this and agree to a taper to non-daily use but not until they are clear on their diagnosis and treatment options.

Do you think you are ready to slowly taper down on this medication?

No.

Ok we don't have to do anything about this now, but you will continue to have the tolerance problem as long as you are taking this on a daily basis.

Yes,

The taper must be slow. This is not like an inpatient rapid detox of a street addict. In general the taper should be no more than 5-10% per week.

Addiction

If a patient is addicted, they must be detox'd and any additional controlled substances must be prescribed under the most stringent protocol, preferably a chemical dependency program. It is in fact illegal in most states for a physician to prescribe controlled substances to a known addict. In most states the legal definition of an addict is a person who is obtaining controlled substances illegally or deceptively.

If a patient states that he or she is “addicted” we have no choice but to accept this, even if he or she is not addicted in the legal sense, because we will be vulnerable to criticism if we continue to provide medication to a patient who has told us they are addicted.

“I will give you the name and phone number of the local chemical dependency program. You must call them yourself for an appointment. They will not accept calls from third parties. We will also call your physician to make sure you have enough medication to last until you have this appointment, usually about two weeks worth of medication.”

Too low starting doses

In the first week or two of enrollment, it is best to give the patient the benefit of the doubt and start with the higher amount. This is especially true if there is some confusion amongst more than one provider or which mg. dose had been prescribed in the past. But after that, we should stick with what was agreed upon.

Dependence

Dependence on pain medications is driven by one of two causes: the patient does not believe there is any alternative treatment options or the patient has developed a tolerance, dependence or addiction.

Dependence is a more ambiguous term. A dependent patient has developed tolerance but is not acting illegally or dishonestly. Nevertheless the dependent patient is more focused on their pain

Back and Buttocks

The Spindle Stretches - Piriformis

Before you begin to practice these specific stretches, please make sure you have:

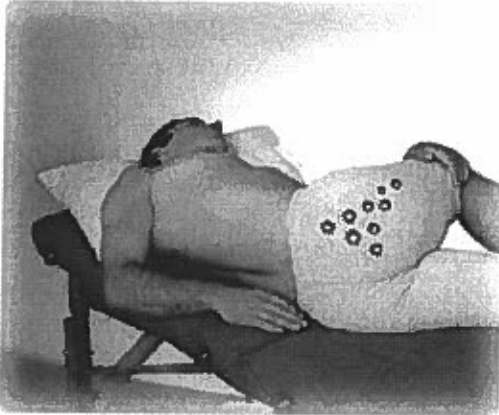
Identified exactly which muscle or muscles are painful;

Understood the concept of spindle stretch and how to do it.

Home Stretch

For when you have the time and the necessary props (such as a table or bed).

Piriformis



Set-Up

Lie down on your side with the side that you want to stretch toward the ceiling.

Face the edge of a bed with a pillow under your head.

Bend both knees so that your heels are behind you.

Rest the forearm and hand of your bottom arm across your stomach.

Allow your top shoulder to roll back and place this palm on the bed.

The Stretch

Lift your top leg slightly and bring this knee toward your chest.

Grasp this leg just above your knee with the hand that was resting across your stomach.

Allow gravity to pull the top leg down off the edge of the bed.

Use your hand to guide the knee slightly toward the chest and downward until you feel the stretch in your piriformis.

To Increase the Stretch

Guide your knee closer to your chest and toward the floor.

To Decrease the Stretch

Guide your knee away from your chest.

medication than at looking for alternatives and is not motivated to recognize the dangers of dependence.

In general we never increase the patient's total quantity of pain medications over the long run and in general we want to taper over time.

Summarized Instructions

General Stretching Instructions

Do your home program 3 to 4 times per day, morning, noon, and evening. Not repetitively.

If there is anything, which keeps you from doing a gentle, relaxed stretch, choose another time to do it.

Only stretch in a gentle range or one that does not increase your current level of pain.

Make sure that you are not holding your breath.

If you have increased pain, discomfort, or are feeling a strong stretch, return to a position of less stretch.

Once you find a position of stretch that you feel as a slight pulling sensation, but with no increase in your current level of pain, stay at that position until you feel the pulling sensation lessen.

Make sure that you follow the return from stretch instructions so that you do not re-tighten the muscle that you just stretched.

If you have increased pain in the area that you stretched a few hours later, you have over stretched. Therefore, decrease the stretch the next time that you do it.

Now you are ready to learn the specific stretches for the painful muscles you have identified.

If there is more than one identified muscle (and there usually are) start with the one you have discovered is LESS painful so you can practice the method before tackling the muscle or muscles that are more painful. Don't guess! You can aggravate your pain if you don't choose wisely!

Stretch Exercises

Identifying Which Muscles Have Spasming Spindles

First determine which muscles are affected. It is not always obvious because muscle pain "refers" (sends pain) to other parts of your body. For example pain arising in the **trapezius** muscle in your mid and upper back sends the pain to the back and side of your head. Pain arising in the **piriformis** muscle in your back and buttock sends the pain down the back of your thigh.

Next look at the trigger point patterns for that muscle. The trigger points are where the swollen, spasming spindles are, deep in the muscle. Ask a family member or friend to push on these locations. If you have trigger points, you will find that those spots are very tender when pushed on, while surrounding areas are much less tender. (If you are tender everywhere, no matter where you are pushed on, you may have a related, but different condition, fibromyalgia.

Next, study the section of isometric contraction of that muscle. Isometric contraction means trying to forcefully use the muscle without actually moving anything. (It's like arm wrestling when no one's winning!) With the help of a family member or friend, try to perform the isometric contraction. If that muscle has trigger points, you should feel increased pain either immediately or a few minutes later.

By performing these three steps you will be able to determine whether or not you have muscle pain and which muscle or muscles have spasming spindles.

Stretching the Spindles

The most difficult concept for patients to grasp is that spindle stretch requires a VERY subtle, almost imperceptible, motion of the muscle, while in a completely relaxed state. At first you will be moving the muscle only tenths of an inch. If you find you are having more pain during and/or after attempting these exercises, or are not beginning to sense the "release of stretch" you may want to get professional help from a therapist trained in our therapy. The good news is you will definitely know it if you overdo it. You will have MORE pain within a few hours. If this happens learn from it - the stretching motions can't break bones or herniate discs or rip nerves, the stretching motions can only affect the muscles, so if you do experience more pain after a stretch, that tells you that your pain is coming from muscle - and that you stretched too far! If you have stretched too far, wait a day before doing any further stretches and apply heat, such as a warm shower, bath, hot tub or hot pack, to the painful muscle. This will reduce the acute spasm.

The spindle stretches you will be doing are completely different from other types of "physical therapy" or exercises such as strengthening, joint stretches, or cardiovascular work-out, and so you should not combine the spindle stretch method with other methods.

VI. Signs and Symptoms

Source of Pain Treatment Protocols

The Source-of-Pain Diagnoses strategy converts directly to an inter-related Source-of-Pain Treatment strategy. A focus on the source of pain - the pathophysiology that drives the pain condition - leads to a more rational treatment strategy.

Pathogeneses	Diagnoses
Myalgias	Myofascial pain, cervical strain (whiplash), lumbar strain, repetitive strain, tension headache, "mechanical" back syndrome, piriformis syndrome, thoracic outlet syndrome
Nerve Compression - Nerve Root	Disc herniation with root compression
Nerve Compression - Peripheral Nerve	Carpal tunnel syndrome, ulnar nerve compression
Nerve Damage - Nerve Root and Peripheral Nerve	Residual radiculopathy, Peripheral neuropathy, metabolic (eg. diabetes), toxic (eg. chemotherapy-related)
Joint & Tendon Inflammation	Epicondylitis, DeQuervain's, Shoulder Impingement Syndromes, Vertebral Facet Arthropathy, osteoarthritis
Migraine	Migraine
"RSD"	Complex Regional Pain Syndrome, Reflex Sympathetic Dystrophy, Causalgia, Sudek's Dystrophy
Somatization	Somatoform Pain Disorder
Fibromyalgia	Fibromyalgia, Chronic Fatigue Syndrome
Drug Addiction	Opiates, benzodiazepines
Drug Dependence	Opiates, benzodiazepines

Next steps

are based on the pain pattern as follows:

Pattern	General Comments on Modules for these Patterns
Radiculopathy	Obtain the MRI report for comparison
Peripheral Neuropathy	Obtain a neurology consultation
Joint	Ask patient to passively move the joint to see if this reproduces the pain.
Muscle	Wait until patient is clearly motivated to learn more about this option, then work with patient on diagnostic provocative maneuvers, then offer stretches then offer tension awareness and control strategies
Fibromyalgia	Help patient resolve inflammation/injection/auto-immune issues
Diffuse-non-specific	Diagnostic clarification must be based on Patient's understanding as to Source of Pain.

Signs and Symptoms Module Summary

Goals

- Provide participants with the knowledge to recognize symptoms and when to seek appropriate medical intervention
- Promote appropriate testing and therapies for specific conditions
- Reduce ER visits and other urgent care visits
- Reduce unnecessary or inappropriate procedures, surgeries

Objectives

- Determine source of pain and provide education accordingly
- Educate participant about monitoring symptoms for changes and appropriately managing them
- Educate participants about appropriate therapies, testing and treatments for specific conditions
- Assessment for risk of depression with physician notification when MCS score 42 or less

Module Criteria

All high acuity participants complete this module.

Background

The MSCP Program assists participants in identifying their source-of-pain early in the care process. A definitive source-of-pain identification, clearly communicated to the participant, is key to eliminating inappropriate specialty referrals and costly diagnostic work-ups. The participant's ability to monitor changes in symptoms and respond appropriately is vitally important in controlling chronic pain conditions and preventing inappropriate diagnostics, treatments and failed surgeries. This module provides education to participants about their condition/s, with the goals being to assess and reduce emergencies, surgical and anesthetic and implantable device complications and failures, and drug abuse as appropriate. Participants are provided information and materials about their conditions – peripheral and nerve root conditions, RSD, carpal tunnel, fibromyalgia, joint-tendon conditions, migraines, and myalgias – and educated about appropriate management for best controlling related pain and discomfort.

Application of the behavior change model to the module

Confidence in recognizing and managing symptoms, understanding the source of pain and avoiding inappropriate use of the ER is assessed throughout this module. Participants do not complete this module until they report 70% or higher confidence in recognizing and appropriately managing their symptoms on the current call and have had no utilization in the past two months. All participants are provided education, counseling and support, but those demonstrating a low confidence score are specifically educated and counseled on individual symptoms which cause the participant to feel s/he is unable to manage their symptoms appropriately. As participants learn to manage their conditions, increased confidence levels are anticipated.

Making Sense of Pain

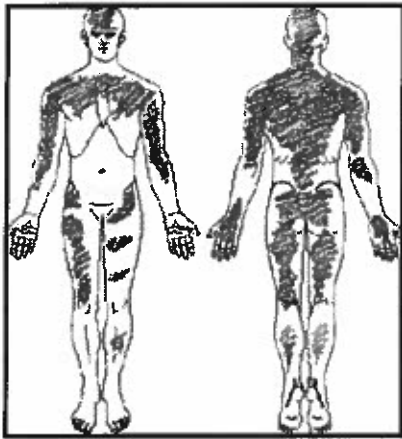
When we were kids with a sore throat our pediatricians cured us with ten days of penicillin. Those were the days! It's not so easy with musculoskeletal and chronic pain disorders. There's no 10-day medications, no quick-fix surgeries. The causes of pain are often confusing. The treatments often don't help, or even make you worse.

So it is vital that we be educated consumers, that we obtain as much information as possible about the causes, the tests and the treatments for these frustrating and complex disorders:

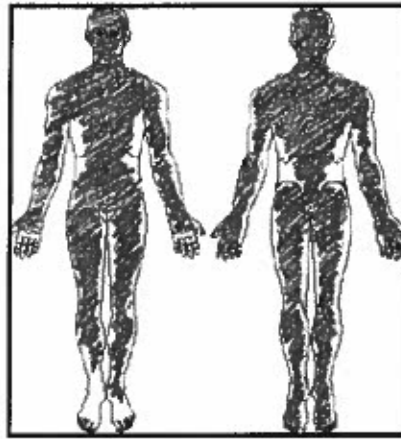
Diffuse Pain Pattern

An aching pain and fatigue which is experienced all over, but especially in the neck, back and thighs is typical of fibromyalgia.

Fibromyalgia



Somatization



Associated Symptoms

Difficulty sleeping and depressed mood. Tenderness to palpation. Ask a friend or family member to help you. Ask him or her to press on your muscles and joints to determine if you are tender. With fibromyalgia the tenderness is all over. The tenderness is not limited to small spots. This is one of the factors that distinguishes fibromyalgia from muscle pain syndromes. With muscle pain syndromes such as whiplash or repetitive strain injuries or myofascial pain, the tenderness is localized to specific spots called Trigger Points which are tender to deep palpation (pressure with a thumb or finger) but the surrounding areas are not tender. With fibromyalgia, the tenderness is not only in such spots, but is all over, and not only in muscles, but even the joints and over bone is tender.

Other Conditions Which are Commonly Confused with this Condition

Myofascial pain, other muscle pain syndromes and Arthritis

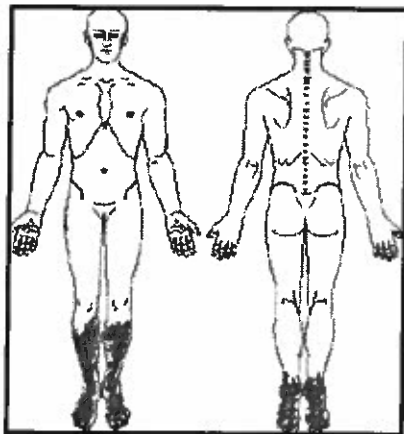
Signs and Symptoms Process Flow Narrative

1. Determine participant confidence with management of symptoms.
2. Determine participant knowledge of source of pain and educate him/her to recognize acute symptoms/exacerbations of the condition.
3. Educate participant to distinguish worsening of symptoms of his/her condition.
4. Educate participant regarding usual chronic symptoms of condition to assist in the development of an individual management program.
5. Provide appropriate education for management of new and ongoing symptoms.
6. Assist participant determining when to seek medical intervention for changing symptoms.
7. Educate participant about inappropriate use of ER for symptom management
8. Educate participant about inappropriate therapies, diagnostic tests, and surgeries
9. Collect co-morbid (CHF, CAD, diabetes, asthma, COPD, HTN) symptom information and provide appropriate intervention.
10. Determine participant confidence with recognizing and managing symptoms.
11. Provide appropriate support based on confidence level.
12. Follow up with ongoing monitoring.
13. Follow-up regarding utilization and biannual SF QOL survey administration

Peripheral Nerve Pain Pattern

Patients with a peripheral neuropathy most typically experience burning pain on the bottom of their feet and pain, numbness and tingling which is worst in the toes and soles of the feet and gradually fades away in the calves.

In severe cases it can also affect the hands in the so-called "stocking-glove" pattern.



Peripheral neuropathies are typically caused by either a metabolic disorder, the most common of which is diabetes or by a "toxic" exposure such as from chronic alcoholism or working with various metals and chemicals.

Pain Drawing

On receipt of the participant's pain drawing, review it with them.

“Thank you for your pain drawing. Let me begin by making sure, the areas you've shaded in, is that everywhere you have pain or only the worst areas?”

If necessary, add to the pain drawing to clarify.

“OK, so then this is pretty accurate picture, right?”

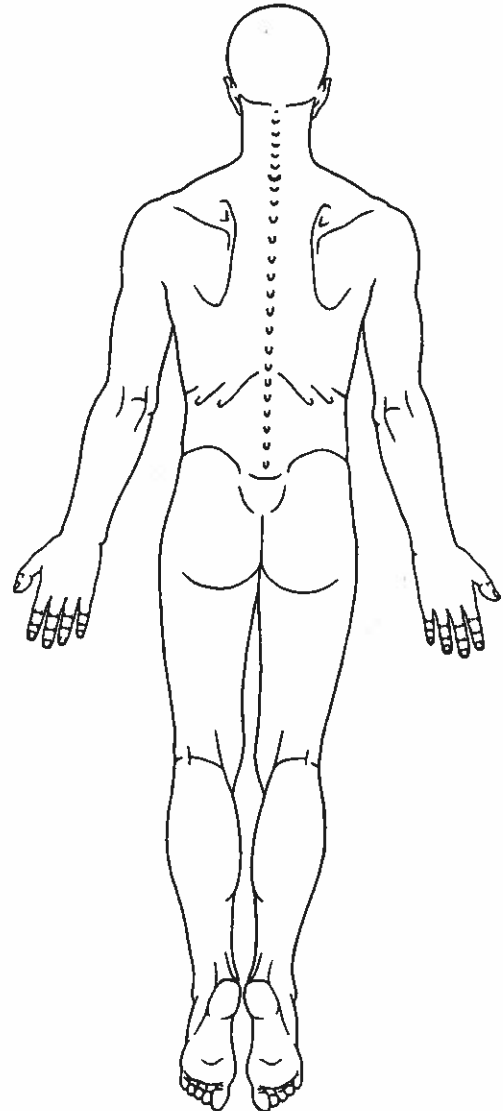
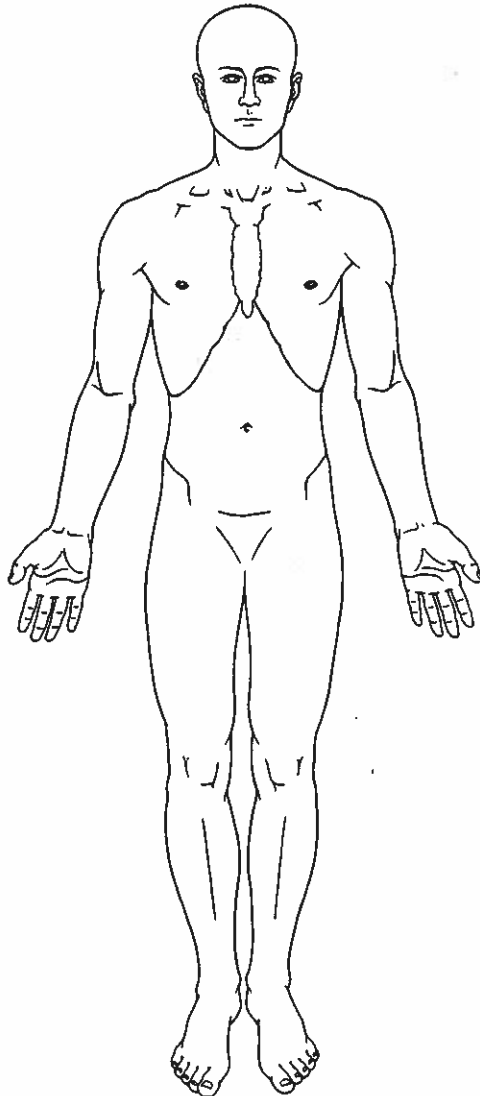
DIRECTIONS: SHADE IN with a pencil where you have pain. If you have areas of numbness or tingling, use small x's to show where.

RIGHT

LEFT

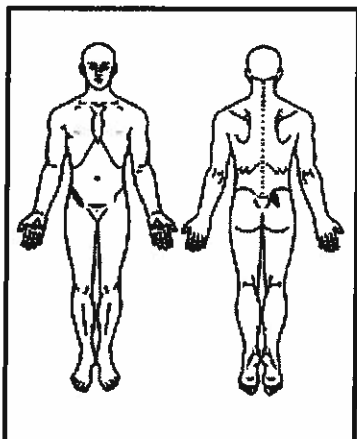
LEFT

RIGHT



Sacro-iliac Joint Pain Pattern

The SI Joint is formed by the sacrum and ilium bones. It is considered the "shock absorber" of the spine. Symptoms of SI dysfunction may be low back pain, groin pain and posterior leg and buttock pain. The pain may worsen with prolonged sitting, repetitive bending, rising from a seated position, crossing the legs and rolling over in bed.



Sources of Confusion

Most low back, groin and buttock pain are caused by muscle trigger points. Check out the following muscles for trigger points. These often mimic SI joint pain: Quadratus Lumborum, Gluteus Medius, Erector Spinae, Piriformis.

Causes

There are several ways in which the SI joint may become dysfunctional: a fall onto the buttocks, motor vehicle accident, childbirth, shoveling snow, golfing, frequent or prolonged bending or sitting, bending and reaching to pick an object off the floor.

Examination Tests

There is no radiologic or other test that can reliably diagnose SI joint dysfunction. One must rely on provocative tests performed during the examination as follows:

Gaenslen's - Lie your back on either a bed or examination table. One leg is pulled up against the abdomen. The unsupported leg gently drops over the edge of the bed. The assistant adds gentle pressure to the flexed leg while slowly hyper extending the opposite leg.

Patrick's - Lie on a bed and slide one leg up until that foot is beside the knee on the opposite leg. The assistant presses down on the bent leg close to the knee.

Yeoman's - Lie on a bed, face down. The assistant stabilizes the low back on the painful side and simultaneously lifts and hyper extends the same leg.

Source of Pain Drawings, Muscle Locations, Trigger Point Locations, Isometric Contraction Testing

Now compare the participant's drawing to the Standard Patterns. There are 5 basic patterns:

Pattern	Description
Radiculopathy	A ribbon of pain that runs down the extremity
Peripheral Neuropathy	Pain in both feet and lower calves
Joint	A "ball" of pain, typically 2-4cm in size, right around the joint. In the case of a spinal facet joint, the ball is usually over the spine or just lateral to it. This pattern is also seen post-spine surgery. In the low back, the "ball" is sometimes a lateral stripe across the low back.
Muscle	Each muscle has a distinctive pattern. As a general rule, nevertheless, muscle pain is typically off the midline and radiates outward toward the head, shoulder or buttocks.
Fibromyalgia	Diffuse pain involving the shoulders and back, spreading into the head, arms, and legs, typically sparing the abdomen
Diffuse-non-specific	Sometimes the pain drawing is a hodge-podge of patches of pain all over. This pattern is not particularly useful as it can mean either that the participant is not an accurate observer of his or her own body, or that there are more than one type of pain.

The pain drawing is one of the essential components of the Source-of-Pain system that we use. If you are unsure which pattern to choose, make sure you ask for another opinion.

Next steps are based on the pain pattern as follows:

Pattern	General Comments on Modules for these Patterns
Radiculopathy	Obtain the MRI report for comparison
Peripheral Neuropathy	Obtain a neurology consultation
Joint	Ask patient to passively move the joint to see if this reproduces the pain.
Muscle	Wait until patient is clearly motivated to learn more about this option, then work with patient on diagnostic provocative maneuvers, then offer stretches then offer tension awareness and control strategies
Fibromyalgia	Help patient resolve inflammation/injection/auto-immune issues
Diffuse-non-specific	Diagnostic clarification must be based on Patient's understanding as to Source of Pain.

What You Can Do Yourself to See if You Have a Shoulder Joint Problem

A joint problem can be distinguished from a muscle problem quite simply. If the problem is with the joint then passive movement of the shoulder will aggravate the pain. If the problem is with the muscles around the joint then isometric contraction will aggravate the pain.

Move your arm in different directions, upward, outward, backward and forward until you determine which direction of movement makes the pain worse.

Next, ask a friend or family member to hold your arm and slowly move it in the aggravating direction while you do your best to relax your muscles as much as possible. Your assistant must move your arm very slowly and to stop if the maneuver causes pain. This is called passive range of motion.

Now ask your friend to hold your arm steady in a painless position while you try to move it in the aggravating position. If your friend has a firm grip your arm should not actually move. This is isometric contraction.

If your pain is coming from the joint, passive range of motion will hurt more than isometric contraction. If your pain is coming from the shoulder girdle muscles, isometric contraction will hurt more than passive range of motion.

Tests

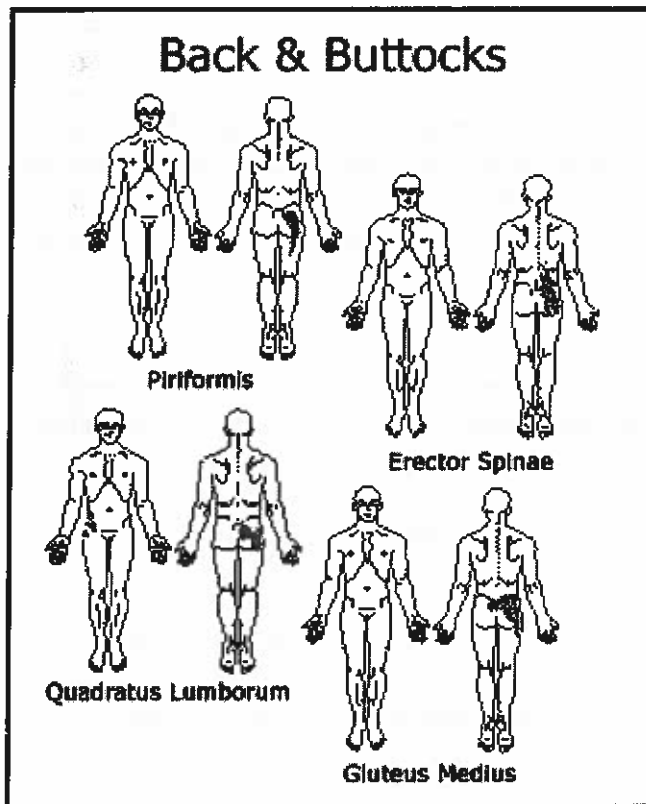
Plain x-rays are not useful. They will show wear & tear changes, called osteoarthritis or degenerative joint disease, in anyone who's older than about 30, whether or not there is a problem there. These changes are part of normal aging and are not painful in themselves.

Sometimes an MRI will be ordered to see if a tear can be seen.

Where is my pain coming from?

Only a few types of organs and tissues of our bodies cause pain. Liver, kidneys and even brain, for example, are not pain-sensitive. Muscles are by far the biggest pain-sensitive tissues in our bodies. Nerves, joints and tendons are also sources of pain, and there are a few special categories, like migraine that you should know about. Each type is different and treatments for one will not be effective for another. So the best place to start is knowing which type of pain you have. You can do this because each type of pain has a different pain pattern. The different pain patterns, more than twenty in all, are shown to you here so that you can arrive at an understanding of the specific source and type of pain you experience. The pain drawing is one of the essential components of the Source-of-Pain system that we use. If you are unsure which pattern to choose, make sure you ask for another opinion.

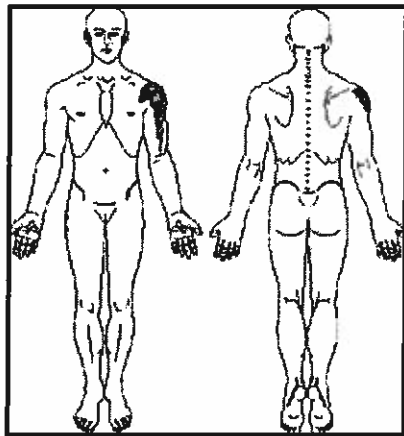
Back and Buttocks Pain Patterns



There is a common belief that most back pain is caused by "pinched nerves." In fact this accounts for less than 2%, and four muscles, shown at the left, are by far the most likely causes.

Shoulder Joint Pain Pattern

It is possible to tear or inflame the tendons, ligaments, and joint linings of the shoulder. This usually occurs with a traumatic injury, such as falling off a bike, but rarely can be caused by doing a certain movement with your shoulder over and over again.



Sources of Confusion

Most cases of shoulder pain are actually caused by the shoulder girdle musculature, the muscles around the shoulder joint that are used to move the arm. So it is very important to distinguish the two because the treatment is entirely different. In this section we will help you determine if the problem is in the joint, but you will want to also study the Arm and Shoulder section to see what shoulder muscle pain is like.

Causes and Types of Shoulder Joint Conditions

The anatomy of the shoulder joint is complicated. Three bones join at the shoulder, the humerus (bone of the upper arm), the clavicle (that attaches the shoulder to the sternum (breast plate) and the scapula (the shoulder blade). Joining of these three bones create two joints: the acromioclavicular joint and the true shoulder joint. They are held together by no less than seven ligaments. Movement of the shoulder is accomplished by more than fifteen muscles whose tendons attached to one or more of the three bones.

Either of the two joint spaces can become irritated or inflamed, any of the ligaments or tendons can become torn in an injury, or irritated from cumulative unnatural motions. Nevertheless the most common are listed below. In general there can be considerable overlap between the syndromes and it requires an experienced clinician to distinguish between them.

Rotator Cuff Syndrome

Supraspinatus Tendonitis

Biceps Tendonitis

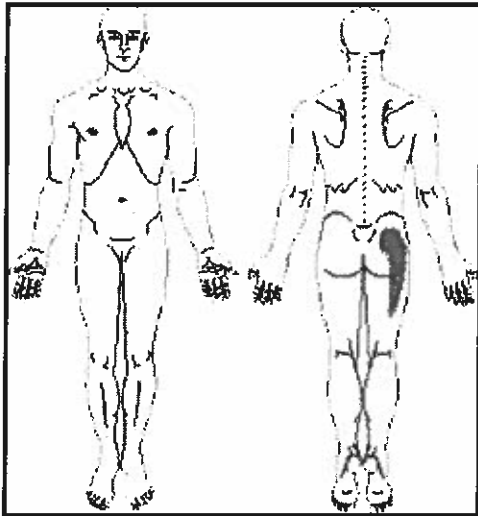
Acromioclavicular Joint Sprain

Bursitis

Adhesive Capsulitis (Frozen Shoulder)

Pain Referral Pattern - Piriformis

Shown below is the pain pattern for the piriformis muscle. Pain may be "referred" to the pelvis and hips. The referred pain is primarily to the sacroiliac region, the buttock, over the posterior hip and sometimes over the proximal two-thirds of the posterior thigh.



Activities Which Aggravate the Pain.

Prolonged sitting with the legs in external rotation allows the piriformis muscles to shorten. Foot slips, OB-GYN procedures and twisting sideways while trying to lift heavy objects also contribute to this injury.

Positions that Aggravate the Pain.

Sitting in one position for prolonged periods. Crossing the injured (painful) thigh over the opposite knee. This may cause pain to run down the back of the leg. Bowel movements may be painful. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

is called Mixed Migraine. It is important to distinguish the two patterns because the treatment for muscular headaches and for migraine is different.

Myofascial (muscle tension) Headache

Muscle pain syndromes, whether involving the head and face muscles, or the neck, shoulders or back muscles, has a characteristic time pattern. The pain is typically present on awakening in the morning, gets a little better as you get up and begin to move about, then gradually worsens during the day, especially with over-exertion or stress, or immobilization (being in one position for prolonged periods).

Cluster

Cluster is typically viewed as a variant of migraine, but its time course is different. The pain comes on very quickly, within a few minutes, often centered behind one eye, and associated with tearing of that eye. The attacks typically last less than an hour. Cluster is much more common in men, than women.

Trigeminal Neuralgia

The pain of trigeminal neuralgia is brief electric shocks, typically in one cheek. The shocks are precipitated by contact to the skin of the cheek, even a pulse of air can do it, and activities such as brushing the teeth can bring on a cascade of shock attacks.

Tests

Interestingly, there are no specific tests for chronic headache syndromes. An MRI will be recommended if one of the acute, life-threatening causes is suspected.

Anatomy Facts - Piriformis



Muscle Action

For external rotation and also hip abduction when hip flexed to 90 degrees.

Muscle Origin

Arises from the anterior surface of the sacrum.

Muscle Insertion

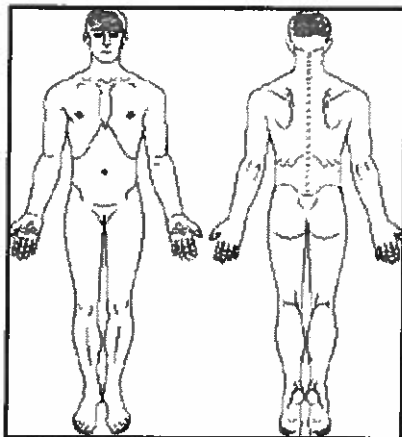
Inserts on the greater trochanter by means of a rounded tendon.

Muscle Innervation

The first and second sacral nerves. The painful muscle has spots of tenderness called trigger points. These are shown in the next figure.

Head Pain Pattern

Head pains have historically been called "headaches" so we will use these terms interchangeable, although, as you well know, it is often a lot more of a pain, than just an ache!



There are a few uncommon causes of acute headache such as meningitis, intracranial bleeding, or intracranial pressure, which are very serious and life-threatening within days to weeks. Our focus is on chronic pain, meaning more than 6 months. Although we will discuss the location of pain as we always do, in the case of head pain, it is often the time pattern rather than the location pattern that yields the key to the correct diagnosis. Each type of head pain has a very different time pattern.

Time Pattern	Head Pain Type
Comes on in less than an hour, lasts up to three days	Migraine
Daily fluctuating pain, with superimposed attacks	Mixed Migraine
Daily fluctuating pain	Myofascial ("tension") Headaches
Comes on in minutes, lasts less than 2 hours	Cluster
Brief electric shocks, that can occur many times per day	Trigeminal Neuralgia

Migraine

Although the term migraine is used widely to refer to any severe headache, in fact migraines can be mild or severe. The key to the diagnosis of true migraine is its time course. True migraine comes on typically in less than an hour, usually associated with nausea, and can last up to 72 hours. In a minority of cases, the attack begins with a change in vision, or some other neurological symptom, called the "aura." This pattern is so classic for migraine that no other type of headache should be confused with it. But if the attacks become more frequent, a few episodes per month or more, it is typical to develop a daily fluctuating muscular pain between attacks, this

Trigger Point Locations - Piriformis



You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

By pressing firmly on the trigger point, and holding that pressure for several seconds, you will discover the pain lessens dramatically. In fact there are devices that can help you do this. We recommend a device called a "TheraCane" that can be purchased at many stores such as Sammons Preston Medical Equipment that has a mail order catalogue that can be contacted at 1 800 323-5547. The TheraCane is their item # 5244. The TheraCane can use be purchased at many local pharmacies.

Unfortunately this technique, known as acupressure, or shiatsu, provides only temporary relief. Some physicians inject drugs like Novocaine into trigger points, but these offer only temporary relief as well, and can cause scar tissue in the muscle.

braced posture and can develop muscular pain in the arm, shoulder or neck secondary to the bracing.

Causes

True carpal tunnel syndrome is caused by crowding of the median nerve as it passes through the wrist. One cause of that crowding is thickening and swelling of the wrist tendons from continuous flexing and extending of the wrist such as is done by supermarket workers at the checkout stand. The crowding can also be caused by swelling from water-retention such as can occur with pregnancy or even thyroid disease.

Tests

Test you can do yourself - tapping over the median nerve where it runs through the wrist often produces increased pain and tingling in the palm of the hand. This is called the Tinel's Sign.

EMG-NCV - This test is often performed by a neurologist or physical medicine doctor to measure the speed of nerve impulses through the wrist.

MRI - A MRI of the wrist is sometimes done so measure the size of the carpal tunnel and whether or not the median nerve is compressed within the tunnel.

Ulnar Nerve Compression

The ulnar nerve runs under the elbow to the outside of the hand, on the side of the baby finger. The ulnar nerve can also become irritated, and it is this nerve we call the "funny bone" because it can cause a shock of pain and tingling if we bump our elbow. Ulnar nerve irritation is much less common than median nerve compression.

Epicondylitis (tennis elbow)

The pain of epicondylitis is localized primarily to the elbow but refers down the back of the forearm to the back of the middle finger. The pain is aggravated by sustained wrist extension, such as using a keyboard.

DeQuervain's Tendonitis

DeQuervain's tendonitis involves the tendons that attach to the thumb. The pain is localized primarily to the back of the wrist and thumb. The pain is aggravated by repetitive use of the thumb.

"RSD"

RSD involves hand (or foot) pain and severe sensitivity to even light touch of the hand (or foot).

Isometric Contraction Testing - Piriformis



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

Sit on an armless chair while your assistant places his or her hands on the outside of each of your knees. Attempt to spread your legs apart while your assistant prevents you from doing so.

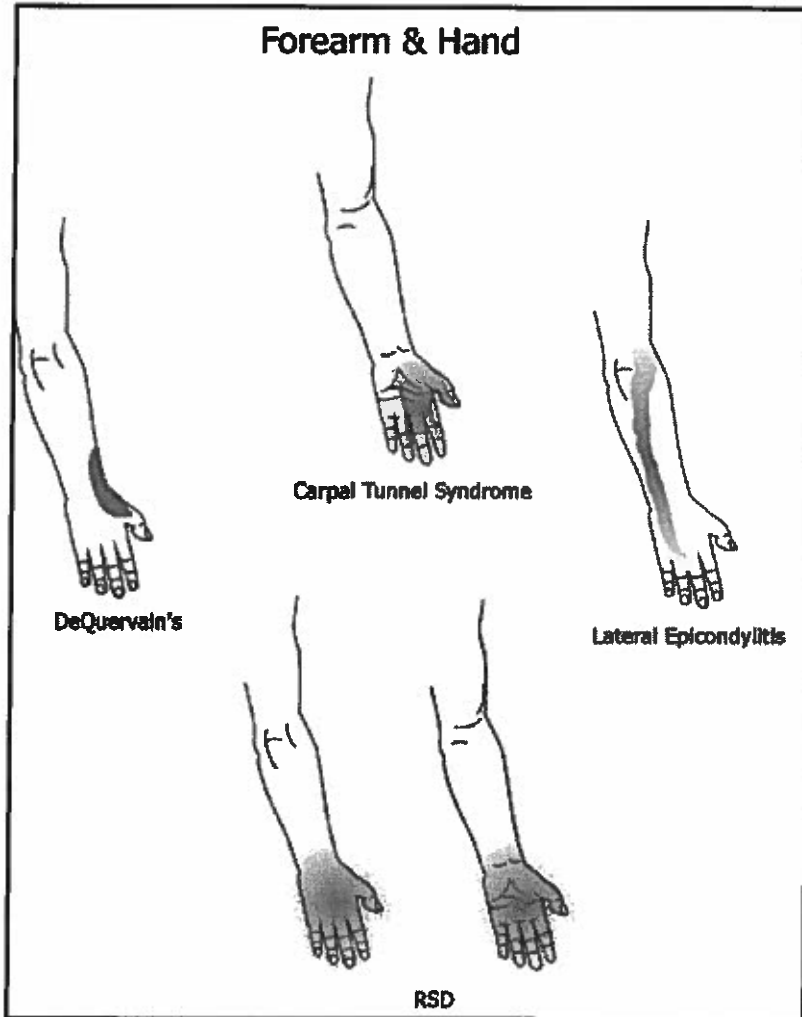
Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Forearm and Hand Pain Conditions

The most common type of arm pain is muscular pain such as occurs with repetitive overuse of the forearm muscles. Usually the most common muscle affected is the Brachioradialis.

Nevertheless, there are several other pain syndromes that occur in the arm that you can investigate.



Carpal Tunnel Syndrome

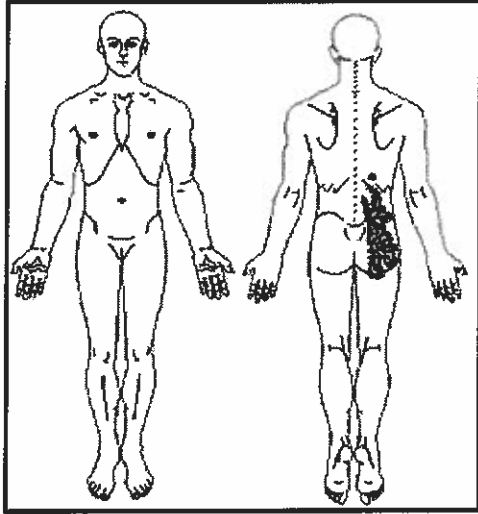
True carpal tunnel syndrome causes pain in the wrist which "radiates" into the palm-side of the thumb and first two fingers, usually with some numbness or tingling. True carpal tunnel syndrome does not cause pain or stiffness in the forearm, upper arm, shoulder or neck.

Sources of Confusion

Carpal tunnel is widely misdiagnosed and has become an overused term. By far the most common cause of forearm and hand pain is repetitive strain injury caused by straining of the muscles of the forearm, not compression of the median nerve in the wrist (true CTS). Nevertheless many patients with true carpal tunnel tend to hold their hand and arm in a

Pain Referral Pattern - Erector Spinae

Shown below is the pain pattern for this muscle. Since the erector spinae muscle runs the full length of the vertebra, pain may refer from between the shoulder blades upwards into the shoulder and chest, or downwards into the buttocks.



Activities Which Aggravate the Pain.

Straining to lift objects, and movements that combine bending and twisting of the trunk.

Positions that Aggravate the Pain.

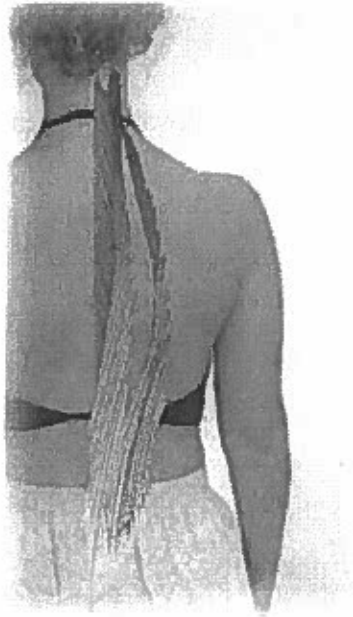
Prolonged sitting and standing without relaxation. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Press down on the facet joint using deep pressure and quickly release. The pain will be reproduced if it is facet.

Remember, when the facet joint is compressed the pain increases. Sit comfortably in a chair with a back. Turn your head completely to the right or left. Bring your head backwards. If holding your head right and back causes pain, then there is right facet involvement. If holding your head left and back causes pain, there is left facet involvement.

While seated, take a rolled up towel and place it around the back of your neck. Pull the towel forward to apply pressure to the middle of your neck. Gently bend your head backwards as you simultaneously pull forward on the towel. If your neck pain feels better with the towel you probably have facet inflammation.

Anatomy Facts - Erector Spinae



Muscle Action

Unilaterally they produce lateral flexion and rotation to the opposite side. Bilateral they help to extend the spine. They may also be used as accessory muscles for respiration.

Muscle Origin

They arise from the transverse processes of the vertebrae. They are also found deep to this medial and above the base of each vertebrae.

Muscle Insertion

Inserts onto each rib in one or two rib segments. They also merge deep into the quadratus lumborum.

Muscle Innervation

From the branches of the dorsal divisions of the spinal nerves.

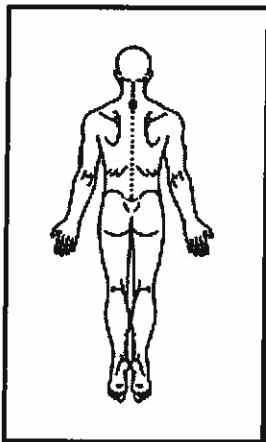
Facet (Vertebral Joint) Pain Pattern

Facets are the joints which link the bones of the spine together, posteriorly. They help control flexion, extension and twisting movements.

Facet pain occurs when the joints are compressed as when bending your head backwards. When you bend your head forwards the pressure is taken off the joints.

The pain is usually localized over the joint or slightly over to one side or both sides.

The pain or tenderness will increase with extension and prolonged positions such as when performing extensive computer work or reading.



Sources of Confusion

Most neck pain is caused by muscle trigger points. Check out neck and upper back to see what neck and back muscle pain is like.

It is important to distinguish between facet joint and muscle pain.

Causes

Injury to the facet joints are often caused by motor vehicle accidents, slip and fall injuries or wear and tear over time, maintaining one position for an extended period of time may worsen the discomfort.

Diagnostic Testing

There is no radiologic or other test that can reliably diagnose facet joint inflammation. Facet joint blocks cannot with certainty place the local anesthetic solely in the facet joint and therefore pain relief from the block will not reliably distinguish pain arising from facet, nerve or muscle.

Examination Tests

There are a few ways to determine if pain is due to facet involvement.

Trigger Point Locations - Erector Spinae



You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

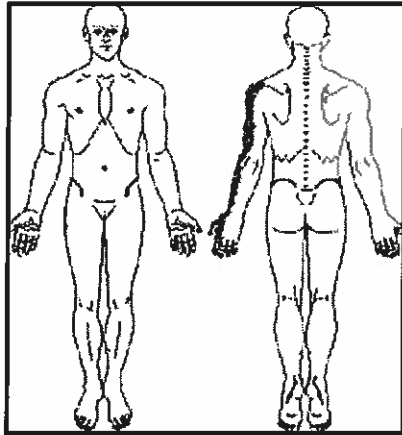
By pressing firmly on the trigger point, and holding that pressure for several seconds, you will discover the pain lessens dramatically. In fact there are devices that can help you do this. We recommend a device called a "TheraCane" that can be purchased at many stores such as Sammons Preston Medical Equipment that has a mail order catalogue that can be contacted at 1 800 323-5547. The TheraCane is their item # 5244. The TheraCane can use be purchased at many local pharmacies.

Unfortunately this technique, known as acupuncture, or shiatsu, provides only temporary relief. Some physicians inject drugs like Novocaine into trigger points, but these offer only temporary relief as well, and can cause scar tissue in the muscle.

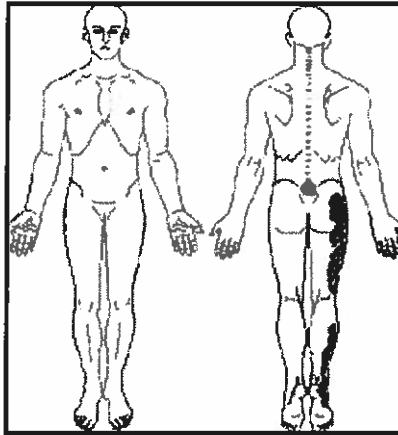
Nerve Root Pain Pattern

Compression or damage of the nerve root where it passes from the spinal cord through the vertebra causes pain which "radiates" outward and downward from the spine (neck or back) into the limb (arm or leg), toward the hand or foot, often (but not always) accompanied by numbness and tingling. This pattern of pain and tingling is known as "radicular" (Greek for "root") or "dermatomal."

C6 Radiculopathy



S1 Radiculopathy



Sources of Confusion

The most common cause of pain in the neck and back is pain arising in muscle, not nerve. Muscular pain can also radiate outwards from the neck to the shoulders or from the back into the buttocks. So it is important to check the sections on muscle pain as well.

Causes

A nerve root can be pinched or damaged. The symptoms will be the same and therefore it is important to know which. An MRI will show clearly if the nerve root is pinched.

Tests

An MRI of the neck or back will clearly show if there is something pinching the nerve root. The most common source of pinching (compression) is a disc which has herniated or ruptured and is pushing out against the nerve. In rare cases, the bone itself can become thickened and pinch the nerve. If surgery has been performed, scar tissue can surround the nerve root damaging it.

Isometric Contraction Testing - Erector Spinae



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

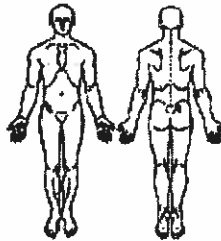
Sit in a chair leaning forward at the waist while your assistant places his or her hands against your shoulder blades. Attempt to sit up while your assistant prevents you from doing so.

Summary

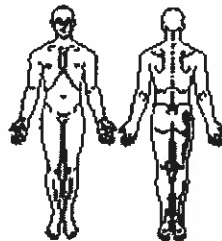
If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Non-muscular Pain Patterns

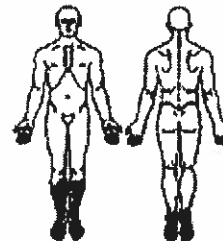
Lower Body



Sacroiliac Joint



S1 Radiculopathy



Diabetic Neuropathy

Sacroiliac Joint - Pain in the buttock and hip.

S1 Radiculopathy - A ribbon of pain, often with numbness or tingling that runs from your back down your thigh toward your foot, or from your neck down your arm toward your hand.

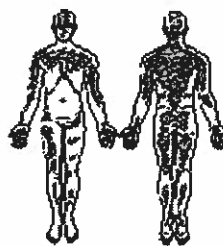
Diabetic Neuropathy - Pain and burning in the feet that spreads up into the ankles and calves.

Non-muscular Pain Patterns

Full Body



Somatization

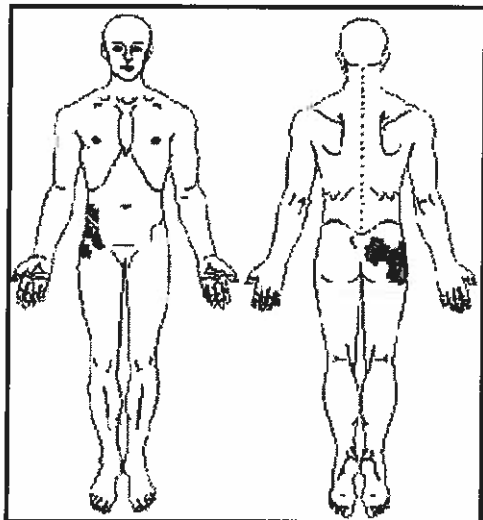


Fibromyalgia

Somatization or Fibromyalgia - Aching, fatigue and tenderness all over your body, especially the neck, shoulders, back and thighs.

Pain Referral Pattern - Quadratus Lumborum

Pain can be referred to the lower buttock and tailbone. Less commonly it is referred to the front of the body along the top pubic bone and to the groin and side of the hip.



Activities Which Aggravate the Pain.

Coughing, sneezing, sitting or standing in an unsupported upright position. Forward bending, turning or leaning to the opposite side from the pain, rolling onto either side from a supine position, climbing stairs, gardening, bending over to pick up items off the floor.

Holding packages in front of your body while maintaining an upright posture. Awkward lifting of heavy objects with quick forward flexed movements, especially with the waist rotated.

Positions that Aggravate the Pain.

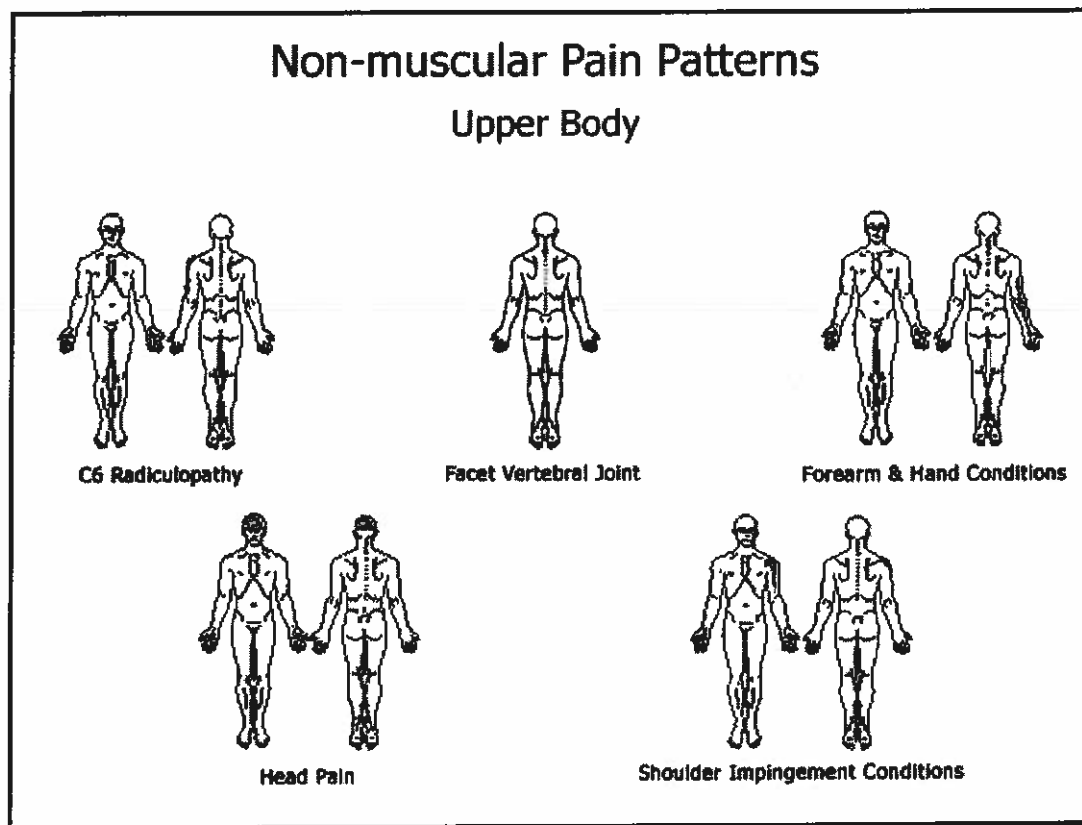
Sitting or standing without support. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Quadratus Lumborum



Non-muscular Pain Patterns

You may be concerned that your pain comes from a pinched or damaged nerve, or from the joints of the spine, shoulder, elbow or wrist etc. Although these causes are much less common than muscle, you can learn a lot more about them, the tests for them and the treatment options. The key is starting with the correct source of pain.



C6 Radiculopathy - A ribbon of pain, often with numbness or tingling that runs from your back down your thigh toward your foot, or from your neck down your arm toward your hand.

Facet Vertebral Joint - Pain on your facet vertebral joint.

Forearm & Hand Conditions - Forearm and hand pain.

Head Pain - Pain on your head.

Shoulder Joint - Pain and aching in your shoulder that is worse when you raise or use your arm.

Muscle Action

Unilaterally, it acts to raise the hip for lower extremity advancement. Acting bilaterally, they extend the lumbar spine and assist in forced exhalation. Also, provides lumbar spine stabilization and assists with lateral flexion of the spine.

Muscle Origin

Arises from the iliolumbar ligament and fibers off the adjacent iliac crest.

Muscle Insertion

Inserts onto the medial half of inferior border of the twelfth rib and the transverse processes of the first four lumbar vertebrae.

Muscle Innervation

Adjacent thoracolumbar spinal nerves.

Trigger Point Locations - Quadratus Lumborum

You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

By pressing firmly on the trigger point, and holding that pressure for several seconds, you will discover the pain lessens dramatically. In fact there are devices that can help you do this. We recommend a device called a "TheraCane" that can be purchased at many stores such as Sammons Preston Medical Equipment that has a mail order catalogue that can be contacted at 1 800 323-5547. The TheraCane is their item # 5244. The TheraCane can use be purchased at many local pharmacies.

Unfortunately this technique, known as acupressure, or shiatsu, provides only temporary relief. Some physicians inject drugs like Novocaine into trigger points, but these offer only temporary relief as well, and can cause scar tissue in the muscle.

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Isometric Contraction Testing - Rhomboid



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

Sit in an armless chair with the painful side forearm against the small of your back, palm out, while your assistant places on one hand on your painful-side shoulder and the other hand along your spine. Attempt to squeeze your shoulder blades together, while your assistant prevents you from doing so.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Isometric Contraction Testing - Quadratus Lumborum



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

Place the foot of your painful side on a step about 4 inches high. Then lift your hip on the painful side as if you were shrugging your shoulders, while your assistant holds your leg down so your foot maintains contact with the step. Hold this lifted position for one minute. You should feel increased pain either right away or a few minutes later.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Muscle Action

The downward rotation and adduction of the scapula.

Muscle Origin

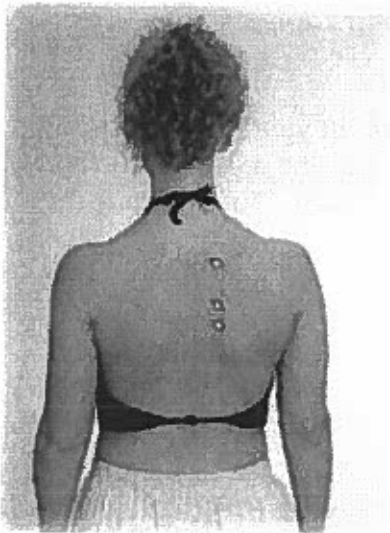
The Rhomboid Minor arises from the nuchae ligament and the spinous processes of the 7th cervical and 1st thoracic vertebrae. The Rhomboid Major arises from the spinous processes of the 2nd, 3rd, 4th and 5th thoracic vertebrae.

Muscle Insertion

Both muscles insert along a tendinous arch on the scapula, from root of the spine to the inferior angle.

Muscle Innervation

Dorsal scapular nerve.

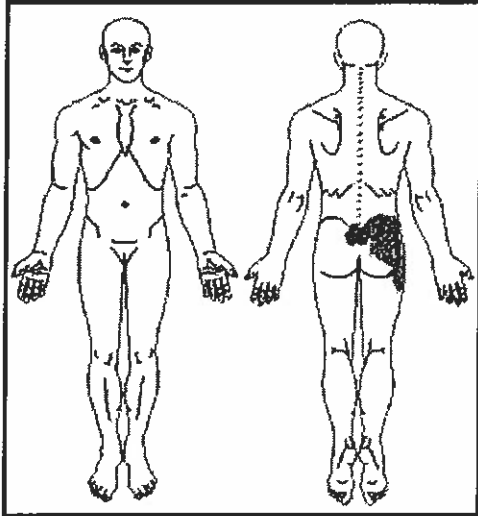
Trigger Point Locations - Rhomboid

You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

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Pain Referral Pattern - Gluteus Medius

Shown below is the pain pattern for this muscle. Pain is referred from the tailbone across the buttock to the hip and top of the thigh.



Activities Which Aggravate the Pain.

Carrying heavy objects on one side of the body, reaching for objects above and to the side.

Positions that Aggravate the Pain.

Sitting in a chair that is too low. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Gluteus Medius

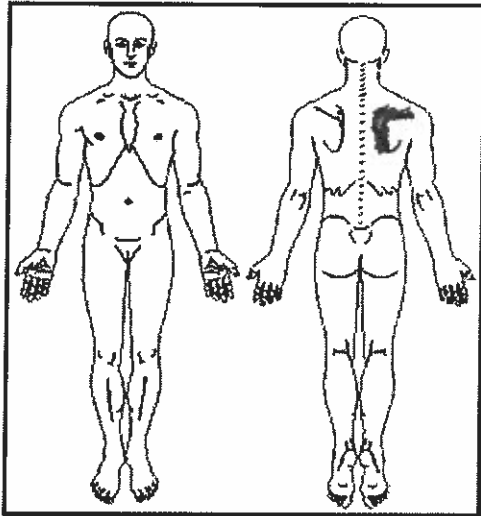


Muscle Action

Hip abduction and assists the leg with internal rotation. The gluteus medius also acts as a pelvic stabilizer when the opposite limb is lifted off the ground.

Pain Referral Pattern - Rhomboid

Shown below is the pain pattern for this muscle. Pain is referred from the inside edge of the shoulder blade toward the top of the shoulder blade.



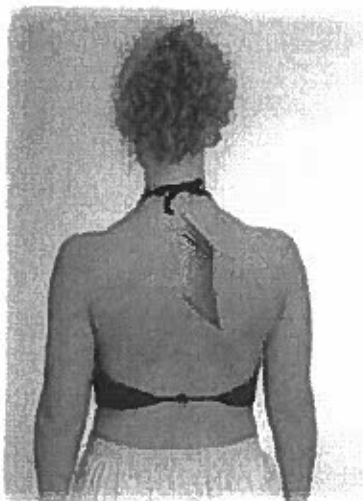
Activities Which Aggravate the Pain.

Writing, reading and sewing with the back unsupported and the shoulders rounded forward, sitting on the floor and playing with children.

Positions that Aggravate the Pain.

Sitting with the back unsupported and the shoulders rounded forward. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Rhomboid



Muscle Origin

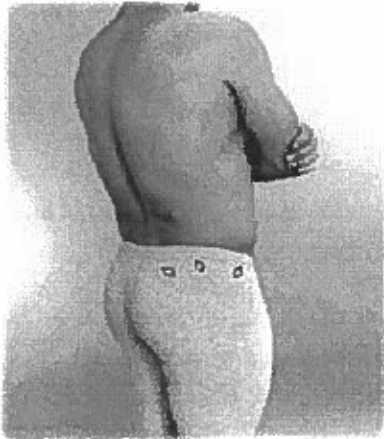
Outer surface of ilium between iliac crest and posterior gluteal line dorsally and anterior gluteal line ventrally.

Muscle Insertion

The oblique ridge on lateral surface of greater trochanter.

Muscle Innervation

Superior gluteal nerve.

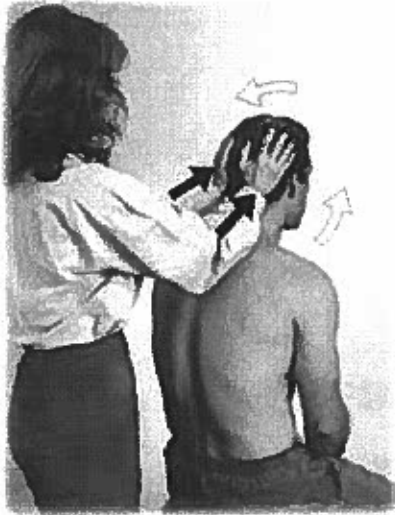
Trigger Point Locations - Gluteus Medius

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Isometric Contraction Testing - Splenius Capitis and Cervicis



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

Sit facing forward, while your assistant stands behind you and places the heels of his or her palms at the base of your skull with his or her thumbs making an inverted V and the fingers of each hand pointing upward and outward above your ears in a "baseball mitt position." Attempt to push your head straight backward while your assistant prevents you from doing so. For the Splenius Cervicis, attempt to push your head backwards while also turning your head toward the painful side.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Isometric Contraction Testing - Gluteus Medius



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

Stand on your non-painful leg while supporting your balance with your hands on a counter or tabletop. Attempt to lift your painful leg outwards and slightly backward while your assistant prevents your movement by holding his or her hand against your leg above the knee.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Muscle Origin

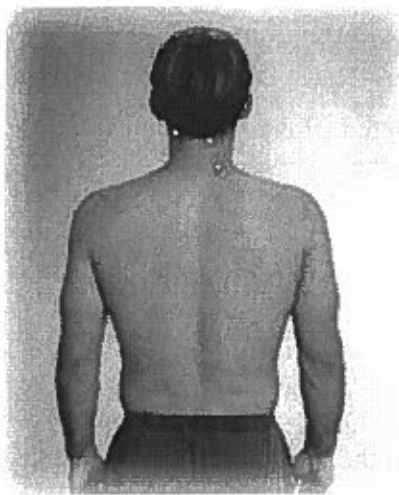
The splenius capitis arises from the spinous processes of C3-T3. The splenius cervicis arises from the spinous processes of T3-T6.

Muscle Insertion

The splenius capitis inserts on the mastoid process and the lateral occiput. The splenius cervicis inserts on the posterior tubercles of the transverse process of C1-C3.

Muscle Innervation

Lateral branches of the dorsal division of spinal nerves C2-C4.

Trigger Point Locations - Splenius Capitis and Cervicis

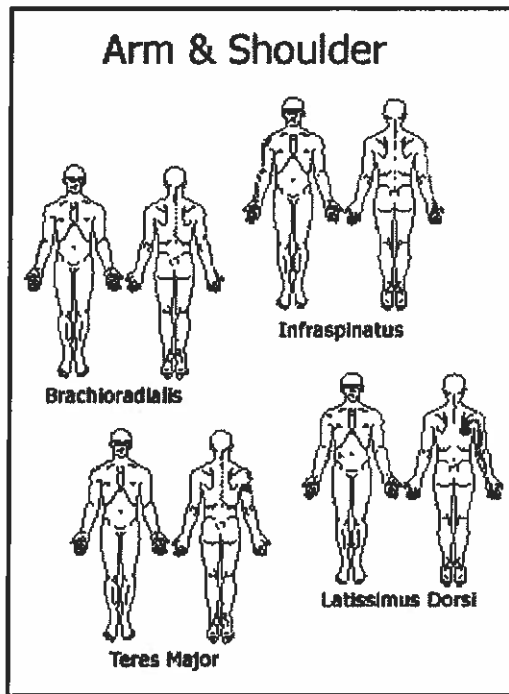
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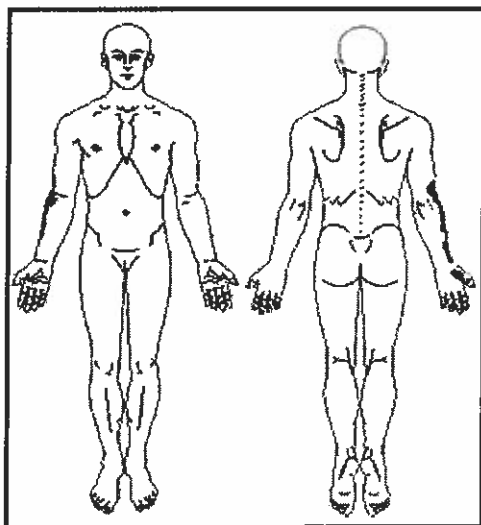
Arm and Shoulder Pain Patterns

The four muscles, shown below, are by far the most likely causes of arm and shoulder pain.



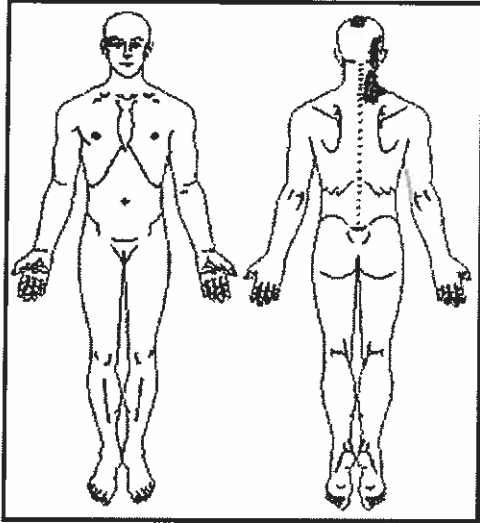
Pain Referral Pattern - Brachioradialis

Shown below is the pain pattern for the brachioradialis muscle. The pain typically begins in the thumb side of the elbow and spreads to the wrist and hand.



Pain Referral Pattern - Splenius Capitis and Cervicis

Shown below is the pain pattern for this muscle. Pain refers from the base of the neck upward to the back of the head, top of the head and behind the eye.



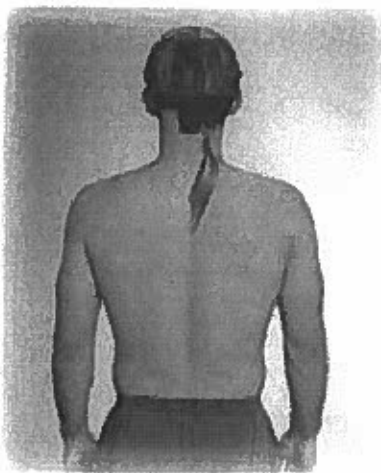
Activities Which Aggravate the Pain.

Falling asleep with the head and neck in a crooked position. Reading a book with your head bent downwards, watching television for long periods of time.

Positions that Aggravate the Pain.

Sleep on a couch or chair armrest. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Splenius Capitis and Cervicis



Muscle Action

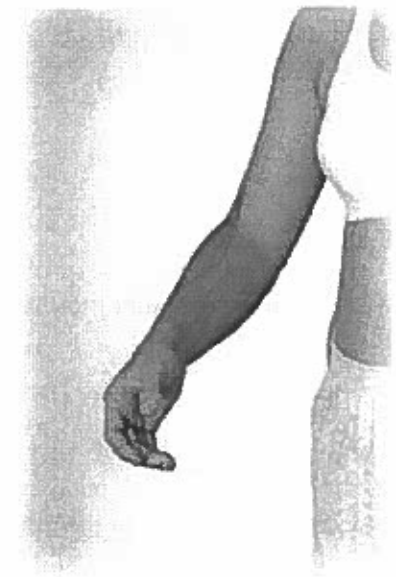
Both of these muscles work to extend and assist with rotation of the head.

Activities Which Aggravate the Pain.

Opening jars, using a screwdriver, hammering, tennis, racquetball, holding a coffee cup, turning doorknobs, pouring from a container, shaking hands. Positions that aggravate pain from this muscle.

Positions that Aggravate the Pain.

Holding a coffee cup or container. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Brachioradialis**Muscle Action**

Elbow flexion in mid-position between pronation and supination.

Muscle Origin

The brachioradialis arises from the humerus above the elbow.

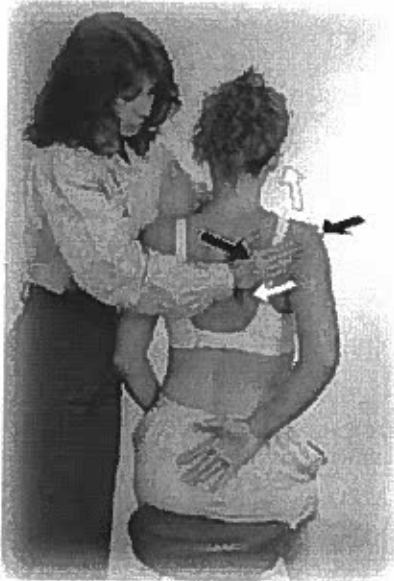
Muscle Insertion

This muscle inserts on the lateral side of the base of styloid process.

Muscle Innervation

The radial nerve.

Isometric Contraction Testing - Levator Scapulae



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

Place the forearm of your painful side against the small of your back with your palm facing out while your assistant places one hand against the side of your head and the other on top of your shoulder. Attempt to shrug your shoulder bringing the tip of your shoulder toward your eye while your assistant prevents you from doing so.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Trigger Point Locations - Brachioradialis



You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

By pressing firmly on the trigger point, and holding that pressure for several seconds, you will discover the pain lessens dramatically. In fact there are devices that can help you do this. We recommend a device called a "TheraCane" that can be purchased at many stores such as Sammons Preston Medical Equipment that has a mail order catalogue that can be contacted at 1 800 323-5547. The TheraCane is their item # 5244. The TheraCane can use be purchased at many local pharmacies.

Unfortunately this technique, known as acupressure, or shiatsu, provides only temporary relief. Some physicians inject drugs like Novocaine into trigger points, but these offer only temporary relief as well, and can cause scar tissue in the muscle.

Trigger Point Locations - Levator Scapulae



You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

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Isometric Contraction Testing - Brachioradialis



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

Sit with a pillow on your lap. Place your painful forearm on the top of the pillow with your thumb facing upwards. Place your opposite hand on top of the painful forearm. Try to lift the thumb toward your face by bending at the elbow while resisting this movement with your other hand on the forearm.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Anatomy Facts - Levator Scapulae



Muscle Action

Together both muscles are used to control neck flexion. Alone, the muscle rotates the glenoid fossa downward and elevates the scapula. Also, one muscle helps to complete neck rotation to the same side. The levator works together, with the upper trapezius and the upper portion of the serratus anterior, to elevate the scapula. The levator, rhomboids, and latissimus together rotate the glenoid fossa of the scapula downward.

Muscle Origin

The fibers originate from the transverse process of the first four cervical vertebrae.

Muscle Insertion

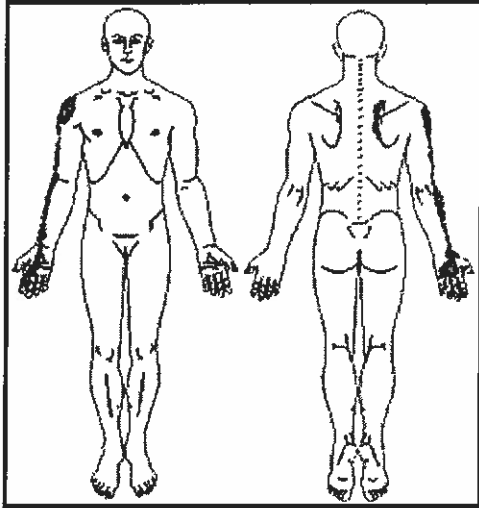
The fibers insert on the ventral and superior aspect of the scapula.

Muscle Innervation

Branches from the third and fourth cervical nerves.

Pain Referral Pattern - Infraspinatus

Shown below is the pain pattern for this muscle. Pain refers from the front side of the shoulder downwards along the outside of the arm and upwards toward the back of the head.



Activities Which Aggravate the Pain.

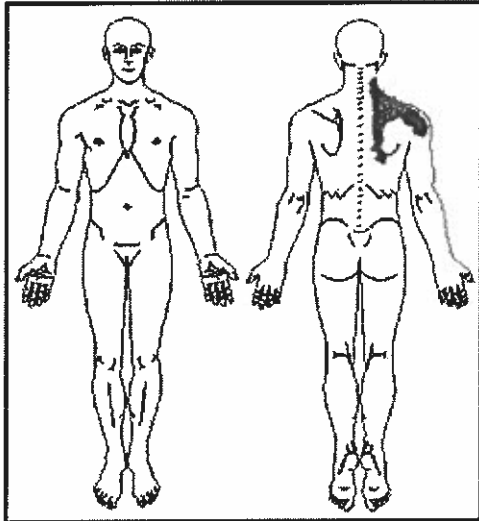
Zippering a back zipper, reaching backwards to put your arm in a shirt or jacket, washing your hair, sports activities that involve shoulder motions, shaking hands, placing luggage on the airline weighing platform.

Positions that Aggravate the Pain.

Sitting for long periods in narrow seats such as with air travel. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Pain Referral Pattern - Levator Scapulae

Shown below is the pain pattern for this muscle. The pain in the angle of the neck and along the inside of the shoulder blade that refers to the back of the shoulder and the bottom tip of the shoulder blade.



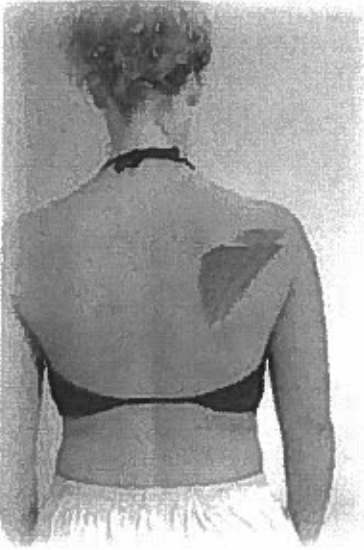
Activities Which Aggravate the Pain.

Occupational activities such as typing, with the head and neck turned to look toward one side of the typewriter, making long telephone calls, and talking at length, with the head turned toward someone sitting at one side; vigorous exercise that involves increased head turning such as playing tennis, or swimming when out of shape; repetitive rotation of the head as in "spectator neck," using a cane or crutches that are too long.

Positions that Aggravate the Pain.

Watching a stage or movie screen, sleeping with the neck in a tilted position without adequate head support. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Infraspinatus



Muscle Action

Shoulder external rotation.

Muscle Origin

Arises from the medial two-thirds of infraspinatus fossa.

Muscle Insertion

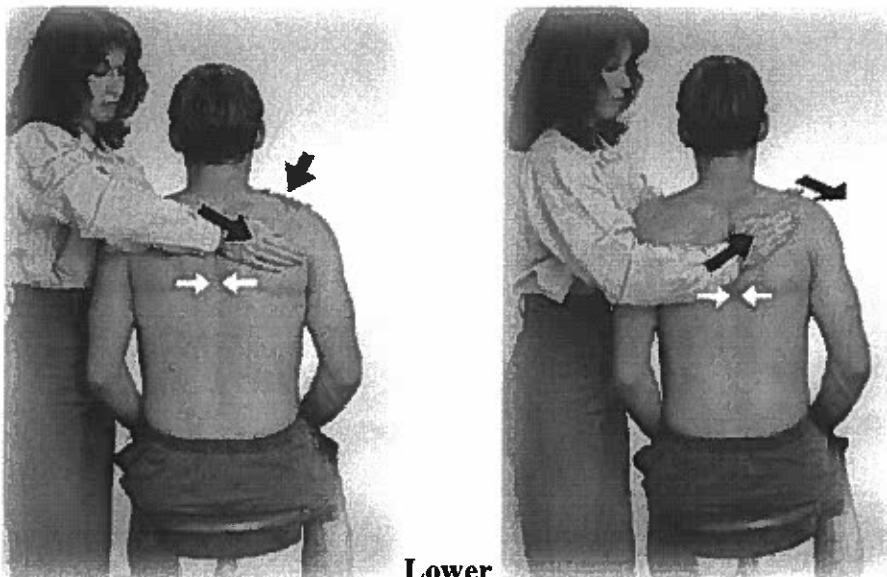
Inserts onto the middle impression on the greater tubercle of the humerus.

Muscle Innervation

From the suprascapular nerve.

Isometric Contraction Testing - Middle and Lower Trapezius

A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the help of a friend or family member.



Middle

Lower

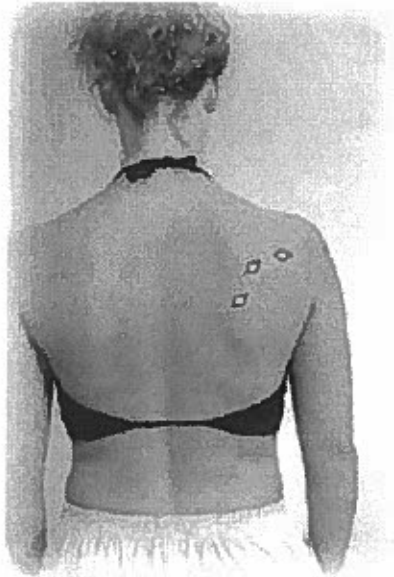
Follow these Directions

Sit with your hands in your lap and your head upright while your assistant stands behind you to one side and places the heel of his/her hand along the inside of the painful-side shoulder blade and the other hand on the front side of the same shoulder. To test the Middle Trapezius, attempt to bring your shoulder blades together while your assistant resists this movement. To test the Lower Trapezius, bend forward at the waist with your hands hanging down and attempt to bring your shoulder blades together and downward while your assistant resists this movement.

Summary

If your pain is in the areas described here, and you have trigger points in the locations shown and isometric contraction makes the pain worse, then you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles too.

Trigger Point Locations - Infraspinatus



You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

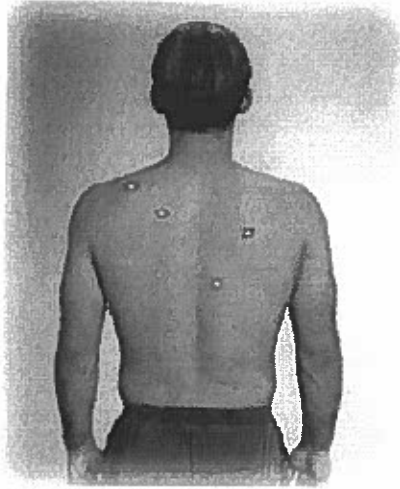
By pressing firmly on the trigger point, and holding that pressure for several seconds, you will discover the pain lessens dramatically. In fact there are devices that can help you do this. We recommend a device called a "TheraCane" that can be purchased at many stores such as Sammons Preston Medical Equipment that has a mail order catalogue that can be contacted at 1 800 323-5547. The TheraCane is their item # 5244. The TheraCane can use be purchased at many local pharmacies.

Unfortunately this technique, known as acupressure, or shiatsu, provides only temporary relief. Some physicians inject drugs like Novocaine into trigger points, but these offer only temporary relief as well, and can cause scar tissue in the muscle.

Isometric Contraction Testing - Infraspinatus



Trigger Point Locations - Middle and Lower Trapezius



You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

By pressing firmly on the trigger point, and holding that pressure for several seconds, you will discover the pain lessens dramatically. In fact there are devices that can help you do this. We recommend a device called a "TheraCane" that can be purchased at many stores such as Sammons Preston Medical Equipment that has a mail order catalogue that can be contacted at 1 800 323-5547. The TheraCane is their item # 5244. The TheraCane can use be purchased at many local pharmacies.

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A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

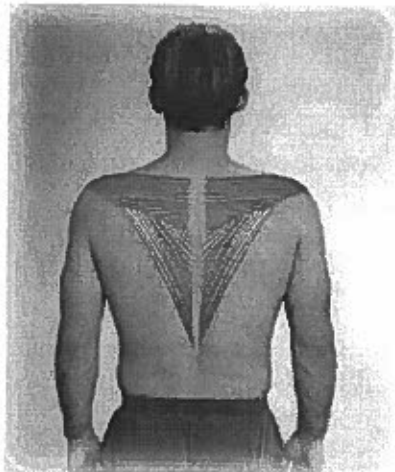
Follow these Directions

Sit with the painful-side elbow raised out to the side at shoulder height and your hand dangling down in a "scarecrow" position, while your assistant places one hand under your elbow and the other against the back of your wrist and forearm. Attempt to swing your forearm frontward and upward toward the "under-arrest" position while your assistant prevents this movement.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Anatomy Facts - Middle and Lower Trapezius



Muscle Action

The entire trapezius helps with upper spine extension, scapular elevation and retraction. It also helps with head and neck extension while rotating the chin to the opposite side. Acting unilaterally, the muscle elevates the shoulder, helps to perform shoulder flexion, arm abduction and bends the head toward the same side.

Muscle Origin

These fibers originate from the occipital bone, ligamentum nuchae and the spinal processes of C7 and T1-T12.

Muscle Insertion

The upper trapezius inserts onto the outer third of the posterior portion of the clavicle. The middle trapezius inserts onto the inner portion of the acromion process and along the spine of the scapulae.

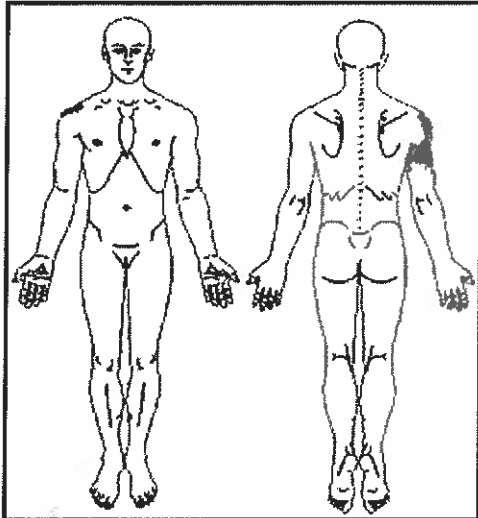
The lower trapezius converges and inserts onto the lower portion of the scapular spine.

Muscle Innervation

The entire trapezius is innervated by the spinal accessory nerve and by branches from the 3rd and 4th cervical nerves.

Pain Referral Pattern - Teres Major

Shown below is the pain pattern for this muscle. Pain refers to the back of the shoulder and arm and less typically to the back of the forearm.



Activities Which Aggravate the Pain.

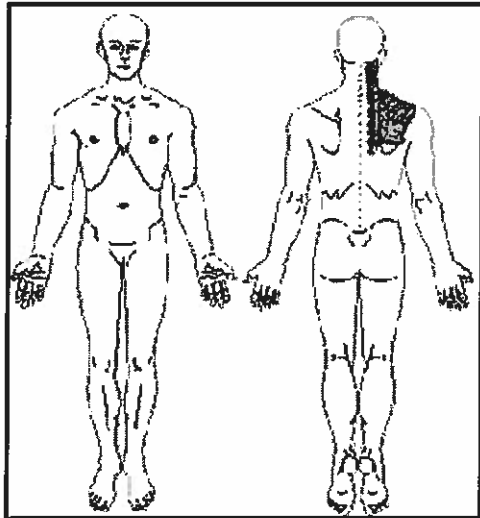
Rowing, using overhead pulleys, reaching above the head and across the body such as to take objects from a shelf, driving a non-power-steering automobile, throwing a baseball, tennis serving, reaching behind the waist and pulling up your pants.

Positions that Aggravate the Pain.

Hand on the steering wheel of a car, holding the arm in a forward or above the head position. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Pain Referral Pattern: Middle and Lower Trapezius

Shown below is the pain pattern for the Middle and Lower Trapezius muscle. The pain radiates from between the shoulder blades upwards toward the shoulder and into the back of the neck.



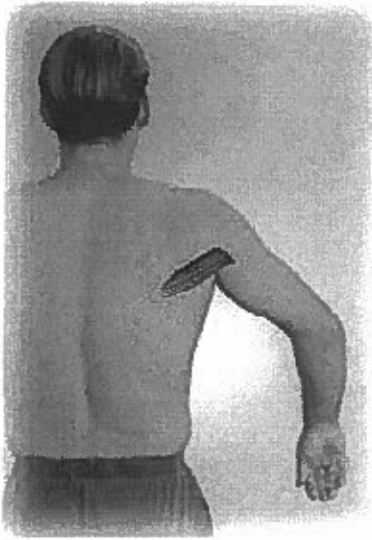
Activities Which Aggravate the Pain.

The Middle Trapezius is affected by holding the arms up and forward, such as placing them on top of the steering wheel while driving, or placing or taking objects from a shelf. The Lower Trapezius is affected by sitting and reaching down below the seat of the chair, resting the chin on one hand for long periods, and resting the elbows on a table or armrests that are too low.

Positions that Aggravate the Pain.

Sitting for prolonged periods with the shoulders rounded and hunched. This figure below where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Teres Major



Muscle Action

Internal rotation and assists with adduction.

Muscle Origin

Dorsal surface of inferior angle of scapula.

Muscle Insertion

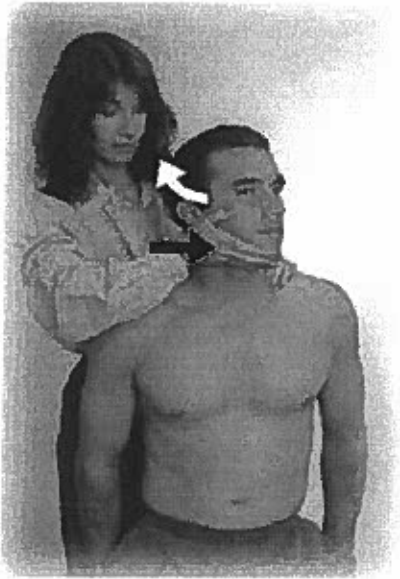
Crest below lesser tuberosity of humerus (posterior to Latissimus dorsi).

Muscle Innervation

Lower subscapular nerve.

Unfortunately this technique, known as acupuncture, or shiatsu, provides only temporary relief. Some physicians inject drugs like Novocaine into trigger points, but these offer only temporary relief as well, and can cause scar tissue in the muscle.

Isometric Contraction Testing - Sternocleidomastoid



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the help of a friend or family member.

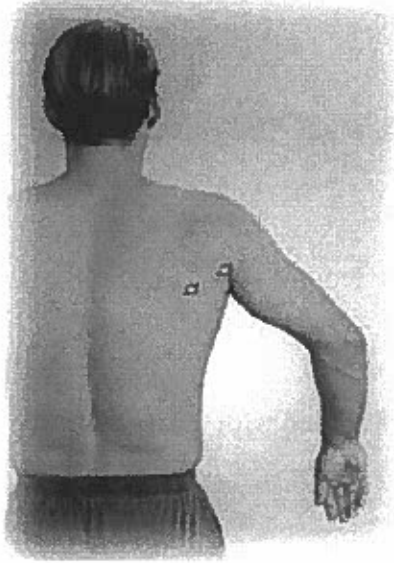
Follow these Directions

While sitting in a chair, have your assistant stand behind you and rest one hand on your non-painful shoulder and the other hand along side your chin and jawbone on the painful side. Attempt to turn your head to the painful side while your assistant prevents your head from turning.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles too.

Trigger Point Locations - Teres Major



You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

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Muscle Action

One muscle alone, rotates the face to the opposite side, and lifts the head upwards. Both muscles are involved in neck flexion and are accessory muscles of inspiration.

Muscle Origin

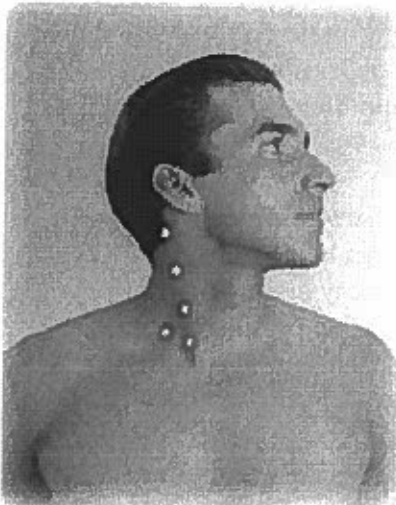
The sternal head arises from the superior and lateral portion of the sternum. The clavicular head arises from the medial one third of the clavicle.

Muscle Insertion

Both heads insert onto the lateral surface of the mastoid region of the temporal bone, overlaying the levator scapulae insertion.

Muscle Innervation

From a branch of the ventral ramus of the 2nd and 3rd cervical nerves along with the spinal accessory nerve.

Trigger Point Locations - Sternocleidomastoid

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Isometric Contraction Testing - Teres Major



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Follow these Directions

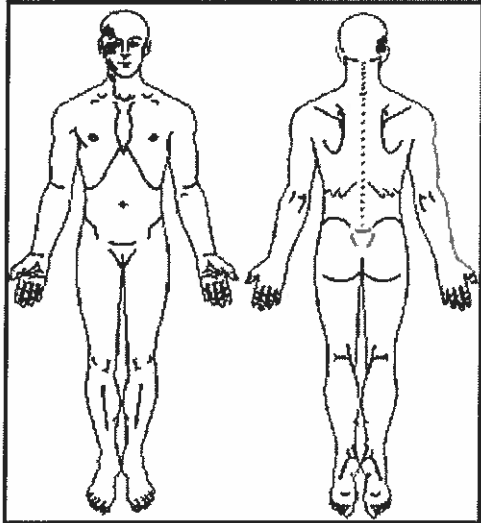
Sit in an armless chair with both arms in the "under arrest" position. Have your assistant place one hand on the back of the forearm and the other on the front of the biceps. Then try to rotate your forearm forward and downward while your assistant prevents that movement.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Pain Referral Pattern: Sternocleidomastoid

Shown below is the pain pattern for this muscle. Pain arises in the upper rib cage and chest and refers to the jaw and cheek and upwards behind the ear and behind and above the eye.



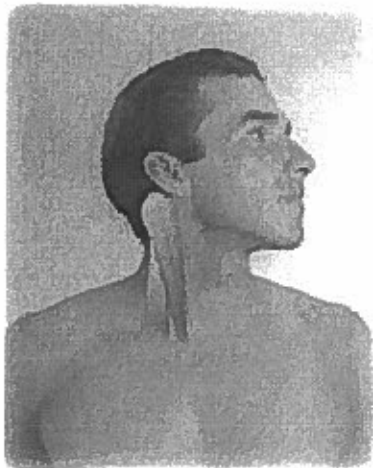
Activities Which Aggravate the Pain.

Repetitive looking side to side, looking up and down or turning the head to one side and looking up.

Positions that Aggravate the Pain.

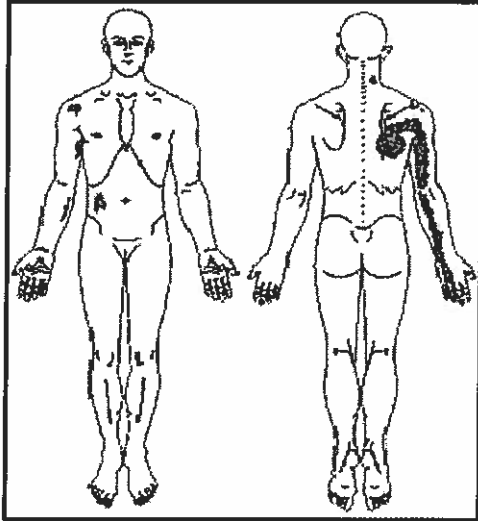
Holding the head fixed to one side, moving with a "stiff neck." This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Sternocleidomastoid



Pain Referral Pattern - Latissimus Dorsi

Shown below is the pain pattern for this muscle. Pain refers from the bottom of the shoulder blade to the shoulder and inside of the arm, as far down as the 4th and 5th fingers.



Activities Which Aggravate the Pain.

Picking up children, groceries or bulky objects and pulling them close to your chest. Pulling weeds, "lat pulls" at the gym.

Positions that Aggravate the Pain.

Holding heavy objects close to the chest. This figure shows where the muscle is located in the body and how it is attached to the bones of the body.

Anatomy Facts - Latissimus Dorsi



Isometric Contraction Testing - Upper Trapezius



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the help of a friend or family member.

Follow these Directions

Sit in a chair with your hands in your lap while your assistant stands behind you and places one hand on the top of your painful shoulder and the other hand across the top of your head. Try to shrug your painful shoulder, as if you are trying to touch your ear with your shoulder, while your assistant prevents you from doing so.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Muscle Action

As the latissimus contracts with shoulder adduction and extension it also acts to downwardly rotate the scapula.

Muscle Origin

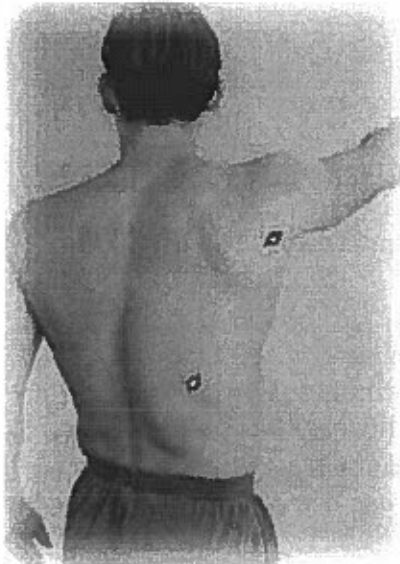
This muscle arises from the spinous processes of the lower six thoracic vertebrae (T6-T12), the lower 3-4 ribs, all of the lumbar vertebrae (L1-L5) and the sacrum.

Muscle Insertion

The latissimus dorsi inserts on the superior region of the humerus and fuses with the tendon of the teres major as it does so.

Muscle Innervation

From the thoracodorsal nerve and branches from C6, C7, and C8.

Trigger Point Locations - Latissimus Dorsi

You can find your own trigger points by using your thumb or finger to press on the spots shown in the picture. They are not difficult to find. Or you can ask a friend or family member to help you. Press firmly in a step-by-step manner until you find the exact spot that is tender. That is the trigger point.

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Trigger Point Locations - Upper Trapezius



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Isometric Contraction Testing - Latissimus Dorsi



A painful muscle will become more painful if it is forcefully contracted (flexed). Use this picture to test this for yourself with the assistance of a friend or family member.

Follow these Directions

Sit in an armless chair with your painful-side arm bent at the elbow across your chest, while your assistant sits in front of you with one hand cupping your elbow and the other against your forearm. Attempt to push your elbow down and backwards while your assistant prevents this movement.

Summary

If your pain is in the areas described here, you have trigger points in the locations shown and isometric contraction makes the pain worse, you have muscle pain in this muscle. You may also have other muscles affected and you should go through this process for those muscles to.

Anatomy Facts - Upper Trapezius



Muscle Action

The entire trapezius helps with upper spine extension, scapular elevation and retraction. It also helps with head and neck extension while rotating the chin to the opposite side. Acting unilaterally, the muscle elevates the shoulder, helps to perform shoulder flexion, arm abduction and bends the head toward the same side.

Muscle Origin

These fibers originate from the occipital bone, ligamentum nuchae and the spinal processes of C7 and T1-T12.

Muscle Insertion

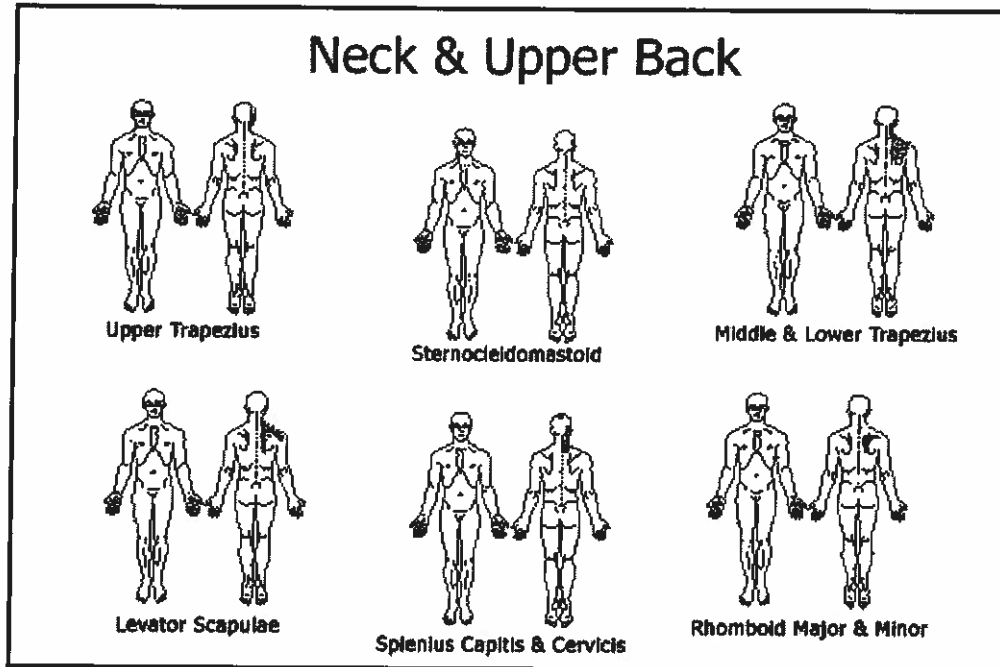
The upper trapezius inserts onto the outer third of the posterior portion of the clavicle. The middle trapezius inserts onto the inner portion of the acromion process and along the spine of the scapulae. The lower trapezius converges and inserts onto the lower portion of the scapular spine.

Muscle Innervation

The entire trapezius is innervated by the spinal accessory nerve and by branches from the 3rd and 4th cervical nerves.

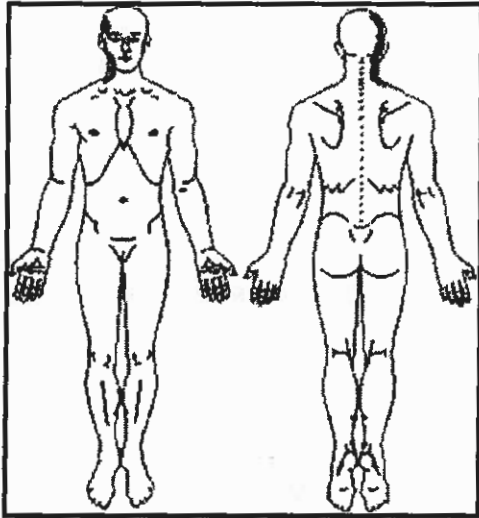
Neck & Upper Back Pain Patterns

There is a common belief that most neck and upper back pain is caused by disc problems. In fact six muscles, shown below, are by far the most likely causes.



Pain Referral Pattern: Upper Trapezius

Shown below is the pain pattern for the Upper Trapezius muscle. Pain is referred from the upper back and side of the neck to the back of the ear, the temple and the back of the eye. This is the typical pattern for "tension headache".



Activities Which Aggravate the Pain.

Using the telephone, working at a desk or on a computer, especially without arm support, armrest that are too high, holding the forearms and hands in front of the body without support, tossing your head, stress and tension.

Positions that Aggravate Pain from this Muscle.

Holding the head in a fixed position. This figure below where the muscle is located in the body and how it is attached to the bones of the body.