

1000 DEPARTMENT OF LABOR
1300 Division of Industrial Affairs
1340 The Office of Workers' Compensation

1342 Health Care Practice Guidelines

PART B Chronic Pain Treatment Guidelines

1.0 Introduction

Pursuant to 19 **Del.C.** §2322C, health care practice guidelines have been adopted and recommended by the Health Care Advisory Panel to guide utilization of health care treatments in workers' compensation including, but not limited to, care provided for the treatment of employees by or under the supervision of a licensed health care provider, prescription drug utilization, inpatient hospitalization and length of stay, diagnostic testing, physical therapy, chiropractic care and palliative care. The health care practice guidelines apply to all treatments provided after the effective date of the regulation adopted by the Department of Labor, May 23, 2008, and regardless of the date of injury.

The guidelines are, to the extent permitted by the most current medical science or applicable science, based on well-documented scientific research concerning efficacious treatment for injuries and occupational disease. To the extent that well-documented scientific research regarding the above is not available at the time of adoption of the guidelines, or is not available at the time of any revision to the guidelines, the guidelines have been and will be based upon the best available information concerning national consensus regarding best health care practices in the relevant health care community.

The guidelines, to the extent practical and consistent with the Act, address treatment of those physical conditions which occur with the greatest frequency, or which require the most expensive treatments, for work-related injuries based upon currently available Delaware data.

Services rendered by any health care provider certified pursuant to 19 **Del.C.** §2322D(a) to provide treatment or services for injured employees shall be presumed, in the absence of contrary evidence, to be reasonable and necessary if such treatment and/or services conform to the most current version of the Delaware health care practice guidelines.

Services rendered outside the Guidelines and/or variation in treatment recommendations from the Guidelines may represent acceptable medical care, be considered reasonable and necessary treatment and, therefore, determined to be compensable, absent evidence to the contrary, and may be payable in accordance with the Fee Schedule and Statute, accordingly.

Services provided by any health care provider that is not certified pursuant to 19 **Del.C.** §2322D(a) shall not be presumed reasonable and necessary unless such services are pre-authorized by the employer or insurance carrier, subject to the exception set forth in 19 **Del.C.** §2322D(b).

Treatment of conditions unrelated to the injuries sustained in an industrial accident may be denied as unauthorized if the treatment is directed toward the non-industrial condition, unless the treatment of the unrelated injury is rendered necessary as a result of the industrial accident.

The Health Care Advisory Panel and Department of Labor recognized that acceptable medical practice may include deviations from these Guidelines, as individual cases dictate. Therefore, these Guidelines are not relevant as evidence of a provider's legal standard of professional care.

In accordance with the requirements of the Act, the development of the health care guidelines has been directed by a predominantly medical or other health professional panel, with recommendations then made to the Health Care Advisory Panel.

2.0 General Guideline Principles

The principles summarized in this section are key to the intended implementation of all Office of Workers' Compensation guidelines and critical to the reader's application of the guidelines in this document.

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- 2.1 **TREATMENT PARAMETER DURATION** Time frames for specific interventions commence once treatments have been initiated, not on the date of injury. Obviously, duration will be impacted by patient compliance, as well as availability of services. Clinical judgment may substantiate the need to accelerate or decelerate the time frames discussed in this document.
- 2.2 **ACTIVE INTERVENTIONS** emphasizing patient responsibility, such as therapeutic exercise and/or functional treatment, are generally emphasized over passive modalities, especially as treatment progresses. Generally, passive interventions are viewed as a means to facilitate progress in an active rehabilitation program with concomitant attainment of objective functional gains.
- 2.3 **ACTIVE THERAPEUTIC EXERCISE PROGRAM** Exercise program goals should incorporate patient strength, endurance, flexibility, coordination, and education. This includes functional application in vocational or community settings.
- 2.4 **POSITIVE PATIENT RESPONSE** Positive results are defined primarily as functional gains that can be objectively measured. Objective functional gains include, but are not limited to, positional tolerances, range of motion (ROM), strength, endurance activities of daily living cognition, psychological behavior, and efficiency/velocity measures that can be quantified. Subjective reports of pain and function should be considered and given relative weight when the pain has anatomic and physiologic correlation.
- 2.5 **RE-EVALUATION OF TREATMENT EVERY 3 TO 4 WEEKS** With respect to Therapy (Active or Passive), if a given treatment or modality is not producing positive results within 3 to 4 weeks, the treatment should be either modified or discontinued. Reconsideration of diagnosis should also occur in the event of poor response to a seemingly rational intervention.
- 2.6 **SURGICAL INTERVENTIONS** Surgery should be contemplated within the context of expected functional outcome and not purely for the purpose of pain relief. The concept of “cure” with respect to surgical treatment by itself is generally a misnomer. All operative interventions must be based upon positive correlation of clinical findings, clinical course, and diagnostic tests. A comprehensive assimilation of these factors must lead to a specific diagnosis with identification of pathologic conditions.
- 2.7 **RETURN-TO-WORK** is therapeutic, assuming the work is not likely to aggravate the basic problem or increase long-term pain. The practitioner must provide specific written physical limitations and the patient should never be released to “sedentary” or “light duty.” The following physical limitations should be considered and modified as recommended: lifting, pushing, pulling, crouching, walking, using stairs, overhead work, bending at the waist, awkward and/or sustained postures, tolerance for sitting or standing, hot and cold environments, data entry and other repetitive motion tasks, sustained grip, tool usage and vibration factors. Even if there is residual chronic pain, return-to-work is not necessarily contraindicated.
- The practitioner should understand all of the physical demands of the patient's job position before returning the patient to full duty and should request clarification of the patient's job duties.
- 2.8 **DELAYED RECOVERY** Strongly consider a psychological evaluation, if not previously provided, as well as initiating interdisciplinary rehabilitation treatment and vocational goal setting, for those patients who are failing to make expected progress 6 to 12 weeks after an injury. The Office of Workers' Compensation recognizes that 3 to 10% of all industrially injured patients will not recover within the time lines outlined in this document despite optimal care. Such individuals may require treatments beyond the limits discussed within this document, but such treatment will require clear documentation by the authorized treating practitioner focusing on objective functional gains afforded by further treatment and impact upon prognosis.
- 2.9 **GUIDELINE RECOMMENDATIONS AND INCLUSION OF MEDICAL EVIDENCE** recommendations are based on available evidence and/or consensus recommendations of the standard of care within Delaware. Those procedures considered inappropriate, unreasonable, or unnecessary are designated in the guideline as being “not recommended.”
- 2.10 **TREATMENT OF PRE-EXISTING CONDITIONS** that preexisted the work injury/disease will need to be managed under two circumstances: (a) A pre-existing condition exacerbated by a work injury/disease should be treated until the patient has returned to their prior level of functioning; and (b) A pre-existing condition not directly caused by a work injury/disease but which may prevent recovery from that injury should be treated until its negative impact has been controlled. The focus of treatment should remain on the work injury/disease.

17 DE Reg. 322 (09/01/13)

3.0 Introduction to Chronic Pain

The International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and emotional experience with actual or potential tissue damage.” Pain is a complex experience embracing physical, mental, social, and behavioral processes that often compromises the quality of life of many individuals. Pain is an unpleasant subjective perception usually in the context of tissue damage. Pain is subjective and cannot be measured or indicated objectively. Pain evokes negative emotional reactions such as fear, anxiety, anger, and depression. People usually regard pain as an indicator of physical harm, despite the fact that pain can exist without tissue damage and tissue damage can exist without pain. Many people report pain in the absence of tissue damage or any likely pathophysiologic cause. There is no way to distinguish their experience from that due to actual tissue damage. If they regard their experience as pain and they report it the same way as pain caused by tissue damage, it should be accepted as pain. Pain can generally be classified as:

Nociceptive which includes pain from visceral origins or damage to other tissues. Myofascial pain is a nociceptive type of pain characterized by myofascial trigger points limited to a specific muscle or muscles. Neuropathic including that originating from brain, peripheral nerves or both; and Psychogenic that originates in mood, characterological, social, or psychophysiological processes.

Recent advances in the neurosciences reveal additional mechanisms involved in chronic pain. In the past, pain was seen as a sensation arising from the stimulation of pain receptors by damaged tissue, initiating a sequence of nerve signals ending in the brain and there recognized as pain. A consequence of this model was that ongoing pain following resolution of tissue damage was seen as less physiological and more psychological than acute pain with identifiable tissue injury. Current research indicates that chronic pain involves additional mechanisms that cause: 1) neural remodeling at the level of the spinal cord and higher levels of the central nervous system; 2) changes in membrane responsiveness and connectivity leading to activation of larger pain pathways; and 3) recruitment of distinct neurotransmitters. Changes in gene function and expression may occur, with lasting functional consequences. These physiologic functional changes cause chronic pain to be experienced in body regions beyond the original injury and to be exacerbated by little or no stimulation. The chronic pain experience clearly represents both psychologic and complex physiologic mechanisms, many of which are just beginning to be understood. Chronic Pain is defined as "pain that persists for at least 30 days beyond the usual course of an acute disease or a reasonable time for an injury to heal or that is associated with a chronic pathological process that causes continuous pain (e.g., reflex sympathetic dystrophy)." The very definition of chronic pain describes a delay or outright failure to relieve pain associated with some specific illness or accident. Delayed recovery should prompt a clinical review of the case and a psychological evaluation by the health care provider. Referral to a recognized pain specialist for further evaluation is recommended. Consideration may be given to new diagnostic testing or a change in treatment plan.

Chronic pain is a phenomenon not specifically relegated to anatomical or physiologic parameters. The prevailing biomedical model (which focuses on identified disease pathology as the sole cause of pain) cannot capture all of the important variables in pain behavior. While diagnostic labels may pinpoint contributory physical and/or psychological factors and lead to specific treatment interventions that are helpful, a large number of patients defy precise taxonomic classification. Furthermore, such diagnostic labeling often overlooks important social contributions to the chronic pain experience. Failure to address these operational parameters of the chronic pain experience may lead to incomplete or faulty treatment plans. The term "pain disorder" is perhaps the most useful term in the medical literature today, in that it captures the multi-factorial nature of the chronic pain experience.

It is recognized that some health care practitioners, by virtue of their experience, additional training, and/or accreditation by pain specialty organizations, have much greater expertise in the area of chronic pain evaluation and treatment than others. Referrals for the treatment of chronic pain should be to such recognized specialists. Chronic pain treatment plans should be monitored and coordinated by pain medicine physicians with such specialty training, in conjunction with other health care specialists.

Most acute and some chronic pain problems are adequately addressed in other Office of Workers' Compensation treatment guidelines, and are generally beyond the scope of these guidelines. However,

because chronic pain is more often than not multi-factorial, involving more than one pathophysiologic or mental disorder, some overlap with other guidelines is inevitable. These guidelines are meant to apply to any patient who fits the operational definition of chronic pain discussed at the beginning of this section.

17 DE Reg. 322 (09/01/13)

4.0 Definitions

After-sensation Refers to the abnormal persistence of a sensory perception, provoked by a stimulus even though the stimulus has ceased.

Allodynia Pain due to a non-noxious stimulus that does not normally provoke pain.

Dynamic Mechanical Allodynia – Obtained by moving the stimulus such as a brush or cotton tip across the abnormal hypersensitive area.

Mechanical Allodynia – Refers to the abnormal perception of pain from usually non-painful mechanical stimulation.

Static Mechanical Allodynia – Refers to pain obtained by applying a single stimulus such as light pressure to a defined area.

Thermal Allodynia – Refers to the abnormal sensation of pain from usually non-painful thermal stimulation such as cold or warmth.

Analgesia Absence of pain in response to stimulation that would normally be painful.

Biopsychosocial A term that reflects the multiple facets of any clinical situation; namely, the biological, psychological, and social situation of the patient.

Central Pain Pain initiated or caused by a primary lesion or dysfunction in the central nervous system.

Central Sensitization The experience of pain evoked by the excitation of non-nociceptive neurons or of nerve fibers that normally relay non-painful sensations to the spinal cord. This results when non-nociceptive afferent neurons act on a sensitized central nervous system (CNS).

Dysesthesia An abnormal sensation described by the patient as unpleasant. As with paresthesia, dysesthesia may be spontaneous or evoked by maneuvers on physical examination.

Hyperalgesia Refers to an exaggerated pain response from a usually painful stimulation.

Hyperesthesia (Positive Sensory Phenomena) Includes allodynia, hyperalgesia, and hyperpathia. Elicited by light touch, pin prick, cold, warm, vibration, joint position sensation or two-point discrimination, which is perceived as increased or more.

Hyperpathia Refers to an abnormally painful and exaggerated reaction to stimulus, especially to a repetitive stimulus.

Hypoalgesia Diminished pain perception in response to a normally painful stimulus.

Hypoesthesia (Negative Sensory Phenomena) Refers to a stimulus such as light touch, pin prick, cold, point position sensation, two-point discrimination, or sensory neglect which is perceived as decreased.

Malingering Intentional feigning of illness or disability in order to escape work or gain compensation.

Myofascial Pain A regional pain characterized by tender points in taut bands of muscle that produce pain in a characteristic reference zone.

Myofascial Trigger Point A physical sign in a muscle which includes a) exquisite tenderness in a taut muscle band; and b) referred pain elicited by mechanical stimulation of the trigger point. The following findings may be associated with myofascial trigger points: 1) Local twitch or contraction of the taut band when the trigger point is mechanically stimulated; 2) Reproduction of the patient's spontaneous pain pattern when the trigger point is mechanically stimulated; 3) Weakness without muscle atrophy; 4) Restricted range of motion of the affected muscle; and 5) Autonomic dysfunction associated with the trigger point such as changes in skin or limb temperature.

Neuralgia Pain in the distribution of a nerve or nerves.

Neuritis Inflammation of a nerve or nerves.

Neurogenic Pain Pain initiated or caused by a primary lesion, dysfunction, or transitory perturbation in the peripheral or central nervous system.

Neuropathic Pain Pain due to an injured or dysfunctional central or peripheral nervous system.

Neuropathy A disturbance of function or pathological change in a nerve: in one nerve, mononeuropathy; in several nerves, mononeuropathy multiplex; if diffuse and bilateral, polyneuropathy.

Nociceptor A receptor preferentially sensitive to a noxious stimulus or to a stimulus which would become noxious if prolonged.

Pain Behavior The non-verbal actions (such as grimacing, groaning, limping, using visible pain relieving or support devices and requisition of pain medications, among others) that are outward manifestations of pain, and through which a person may communicate that pain is being experienced.

Pain Threshold The smallest stimulus perceived by a subject as painful.

Paresthesia An abnormal sensation that is not described as pain. It can be either a spontaneous sensation (such as pins and needles) or a sensation evoked from non-painful or painful stimulation, such as light touch, thermal, or pinprick stimulus on physical examination.

Peripheral Neurogenic Pain Pain initiated or caused by a primary lesion or dysfunction or transitory perturbation in the peripheral nervous system.

Peripheral Neuropathic Pain Pain initiated or caused by a primary lesion or dysfunction in the peripheral nervous system.

Summation Refers to abnormally painful sensation to a repeated stimulus although the actual stimulus remains constant. The patient describes the pain as growing and growing as the same intensity stimulus continues.

Sympathetically Maintained Pain (SMP) A pain that is maintained by sympathetic efferent innervations or by circulating catecholamines.

Tender Points Tenderness on palpation at a tendon insertion, muscle belly or over bone. Palpation should be done with the thumb or forefinger, applying pressure approximately equal to a force of 4 kilograms (blanching of the entire nail bed).

5.0 Initial Evaluation and Diagnostic Procedures

The Department recommends the following diagnostic procedures be considered, at least initially, the responsibility of the workers' compensation carrier to ensure that an accurate diagnosis and treatment plan can be established. Standard procedures that should be utilized when initially diagnosing a work-related chronic pain complaint are listed below.

5.1 HISTORY AND PHYSICAL EXAMINATION (HX & PE)

5.1.1 **Medical History:** As in other fields of medicine, a thorough patient history is an important part of the evaluation of chronic pain. In taking such a history, factors influencing a patient's current status can be made clear and taken into account when planning diagnostic evaluation and treatment. One efficient manner in which to obtain historical information is by using a questionnaire. The questionnaire may be sent to the patient prior to the initial visit or administered at the time of the office visit.

5.1.2 **Pain History:** Characterization of the patient's pain and of the patient's response to pain is one of the key elements in treatment.

5.1.3 **Medical Management History**

5.1.4 **Substance Use/Abuse**

5.1.5 **Other Factors Affecting Treatment Outcome**

5.1.6 **Physical Examination**

5.2 **DIAGNOSTIC STUDIES** Imaging of the spine and/or extremities is a generally accepted, well-established, and widely used diagnostic procedure when specific indications, based on history and physical examination, are present.

5.2.1 **Radiographic Imaging, MRI, CT, bone scan, radiography, and other special imaging studies** may provide useful information for many musculoskeletal disorders causing chronic pain.

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- 5.2.2 Electrodiagnostic studies may be useful in the evaluation of patients with suspected myopathic or neuropathic disease and may include Nerve Conduction Studies (NCS), Standard Needle Electromyography, or Somatosensory Evoked Potential (SSEP). The evaluation of electrical studies is difficult and should be relegated to specialists who are well trained in the use of this diagnostic procedure.
- 5.2.3 Special Testing Procedures may be considered when attempting to confirm the current diagnosis or reveal alternative diagnosis. In doing so, other special tests may be performed at the discretion of the physician.
- 5.3 **LABORATORY TESTING** is generally accepted well-established and widely used procedures and can provide useful diagnostic and monitoring information. They may be used when there is suspicion of systemic illness, infection, neoplasia, or underlying rheumatologic disorder, connective tissue disorder, or based on history and/or physical examination. Tests include, but are not limited to:
- 5.3.1 Complete Blood Count (CBC) with differential can detect infection, blood dyscrasias, and medication side effects;
- 5.3.2 Erythrocyte sedimentation rate, rheumatoid factor, antinuclear antigen (ANA), human leukocyte antigen (HLA), and C-reactive protein can be used to detect evidence of a rheumatologic, infection, or connective tissue disorder;
- 5.3.3 Thyroid, glucose and other tests to detect endocrine disorders;
- 5.3.4 Serum calcium, phosphorous, uric acid, alkaline phosphatase, and acid phosphatase can detect metabolic bone disease;
- 5.3.5 Urinalysis to detect bacteria (usually with culture and sensitivity), calcium, phosphorus, hydroxyproline, or hematuria;
- 5.3.6 Liver and kidney function may be performed for baseline testing and monitoring of medications; and
- 5.3.7 Toxicology Screen and/or Blood Alcohol Level if suspected drug or alcohol abuse.

5.4 **INJECTIONS–DIAGNOSTIC**

5.4.1 **Spinal Diagnostic Injections:**

Description — generally accepted, well-established procedures. These injections may be useful for localizing the source of pain, and may have added therapeutic value when combined with injection of therapeutic medication(s). Selection of patients, choice of procedure, and localization of the level for injection should be determined by clinical information indicating strong suspicion for pathologic condition(s) and the source of pain symptoms.

The interpretation of the test results are primarily based on functional change, symptom report, and pain response (via a recognized pain scale before and at an appropriate time after the injection). The diagnostic significance of the test result should be evaluated in conjunction with clinical information and the results of other diagnostic procedures. Injections with local anesthetics of differing duration may be used to support a diagnosis. In some cases, injections at multiple levels may be required to accurately diagnose conditions. Regarding diagnostic injections, it is obligatory that sufficient data be accumulated by the examiner performing this procedure such that the diagnostic value of the procedure is evident to other reviewers. A log must be recorded as part of the medical record which documents response, if any, on an hourly basis for, at a minimum, the expected duration of the local anesthetic phase of the procedure. Responses should be identified as to specific body part (e.g., low back, neck, leg, or arm pain).

Special Requirements for Diagnostic Injections - Since multi-planar, fluoroscopy during procedures is required to document technique and needle placement, an experienced physician should perform the procedure. Permanent images are required to verify needle placement for all spinal procedures. The subspecialty disciplines of the physicians performing injections may be varied, including, but not limited to: anesthesiology, radiology, surgery, or physiatry. The practitioner who performs spinal injections should document hands-on training through workshops of the type offered by organizations such as the International Spine Intervention Society (ISIS) and/or completed fellowship training with interventional training. Practitioners performing spinal injections for low back and cervical pain must also be knowledgeable in radiation safety.

Specific Diagnostic Injections - In general, relief should last for at least the duration of the local anesthetic used and/or should significantly relieve pain and result in functional improvement. The following injections are used primarily for diagnosis:

5.4.1.1 Medial Branch Blocks:

Medial Branch Blocks are primarily diagnostic injections, used to determine whether a patient is a candidate for radiofrequency medial branch neurotomy (also known as facet rhizotomy). To be a positive diagnostic block, the patient should report a reduction of pain of 50% or greater relief from baseline for the length of time appropriate for the local anesthetic used. It is suggested that this be reported on a form.

A separate block on a different date should be performed to confirm the level of involvement. Frequency and Maximum Duration: May be repeated once for comparative blocks. Limited to 4 levels.

5.4.1.2 Transforaminal Injections are useful in identifying spinal pathology. When performed for diagnosis, small amounts of local anesthetic up to a total volume of 1.0 cc should be used to determine the level of nerve root irritation. A positive diagnostic block should result in a 50% reduction in nerve-root generated pain appropriate for the anesthetic used as measured by accepted pain scales (such as a VAS).

Frequency and Maximum Duration: Once per suspected level. Limited to three levels, may be repeated for confirmation.

5.4.1.3 Zygapophyseal (facet) blocks: Facet blocks are generally.

They may be used diagnostically to direct functional rehabilitation programs. A positive diagnostic block should result in a positive diagnostic functional benefit and/or a 50% reduction in pain appropriate for the anesthetic used as measured by accepted pain scales (such as a Visual Analog Scale). They then may be repeated per the therapeutic guidelines

Frequency and Maximum Duration: Once per suspected level, limited to three levels, may be repeated for confirmation.

5.4.1.4 Atlanto-Axial and Atlanto-Occipital Injections: are generally accepted for diagnosis and treatment but do not lend themselves to denervation techniques owing to variable neuroanatomy.

Frequency and Maximum Duration: Once per side

5.4.1.5 Sacroiliac Joint Injection:

Description - a generally accepted injection of local anesthetic in an intra-articular fashion into the sacroiliac joint under fluoroscopic guidance.

Indications - Primarily diagnostic to rule out sacroiliac joint dysfunction versus other pain generators. Intra-articular injection can be of value in diagnosing the pain generator. There should be at least 50% pain relief.

Frequency and Maximum Duration: 1 may be repeated for confirmation.

6.0 Therapeutic Procedures – Non-Operative

Non-operative therapeutic rehabilitation is applied to patients with chronic and complex problems of de-conditioning and functional disability. Treatment modalities may be utilized sequentially or concomitantly depending on chronicity and complexity of the problem, and treatment plans should always be based on a diagnosis utilizing appropriate diagnostic procedures.

Before initiation of any therapeutic procedure, the authorized treating physician, employer, and insurer must consider these important issues in the care of the injured worker:

6.1 Patients undergoing therapeutic procedure(s) should be released or returned to modified or restricted duty during their rehabilitation at the earliest appropriate time. Refer to Return-to-Work in this section for detailed information.

6.2 Reassessment of the patient's status in terms of functional improvement should be documented after each treatment. If patients are not responding within the recommended time periods, alternative treatment interventions, further diagnostic studies or consultations should be pursued. Continued treatment should be monitored using objective measures such as:

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Return-to-work or maintaining work status Fewer restrictions at work or performing activities of daily living. Decrease in usage of medications Measurable functional gains, such as increased range of motion or documented increase in strength.

6.3 Clinicians should provide and document education to the patient. No treatment plan is complete without addressing issues of individual and/or group patient education as a means of facilitating self-management of symptoms.

6.4 Psychological or psychosocial screening should be performed on all chronic pain patients.

The following procedures are listed in alphabetical order.

6.4.1 **ACUPUNCTURE** is an accepted and widely used procedure for the relief of pain and inflammation, and there is some scientific evidence to support its use. The exact mode of action is only partially understood. Western medicine studies suggest that acupuncture stimulates the nervous system at the level of the brain, promotes deep relaxation, and affects the release of neurotransmitters. Acupuncture is commonly used as an alternative or in addition to traditional Western pharmaceuticals. While it is commonly used when pain medication is reduced or not tolerated, it may be used as an adjunct to physical rehabilitation and/or surgical intervention to hasten the return of functional activity. Acupuncture should be performed by MD, DO, DC with appropriate training; or a licensed acupuncturist.

6.4.1.1 **Acupuncture:** is the insertion and removal of filiform needles to stimulate acupoints (acupuncture points). Needles may be inserted, manipulated, and retained for a period of time. Acupuncture can be used to reduce pain, reduce inflammation, increase blood flow, increase range of motion, decrease the side effect of medication-induced nausea, promote relaxation in an anxious patient, and reduce muscle spasm.

Indications include joint pain, joint stiffness, soft tissue pain and inflammation, paresthesia, post-surgical pain relief, muscle spasm, and scar tissue pain.

6.4.1.2 **Acupuncture with Electrical Stimulation:** is the use of electrical current (micro-amperage or milli-amperage) on the needles at the acupuncture site. It is used to increase effectiveness of the needles by continuous stimulation of the acupoint. Physiological effects (depending on location and settings) can include endorphin release for pain relief, reduction of inflammation, increased blood circulation, analgesia through interruption of pain stimulus, and muscle relaxation.

It is indicated to treat chronic pain conditions, radiating pain along a nerve pathway, muscle spasm, inflammation, scar tissue pain, and pain located in multiple sites.

6.4.1.3 **Total Time Frames For Acupuncture and Acupuncture with Electrical Stimulation:** Time frames are not meant to be applied to each of the above sections separately. The time frames are to be applied to all acupuncture treatments regardless of the type or combination of therapies being provided.

Time to produce effect: 3 to 6 treatments

Frequency: 1 to 3 times per week

Maximum course duration: 14 treatments (one course)

Any of the above acupuncture treatments may extend longer if objective functional gains can be documented or when symptomatic benefits facilitate progression in the patient's treatment program. An additional course of treatment beyond 14 treatments may be documented with respect to need and ability to facilitate positive symptomatic or functional gains. Such care should be re-evaluated and documented with each series of treatments.

6.4.1.4 **Other Acupuncture Modalities:** Acupuncture treatment is based on individual patient needs and therefore treatment may include a combination of procedures to enhance treatment effect. Other procedures may include the use of heat, soft tissue manipulation/massage, and exercise. Refer to Active Therapy (Therapeutic Exercise) and Passive Therapy sections (Massage and Superficial Heat and Cold Therapy) for a description of these adjunctive acupuncture modalities and time frames.

6.4.2 **BIOFEEDBACK** is a generally well-accepted form of behavioral medicine that helps patients learn self-awareness and self-regulation skills for the purpose of gaining greater control of their physiology. Stress-related psycho physiological reactions may arise as a reaction to organic pain and in some cases may

cause pain. Electronic instrumentation is used to monitor the targeted physiology and then displayed or fed back to the patient visually, auditorially, or tactilely with coaching by a biofeedback specialist.

Indications for biofeedback include individuals who are suffering from musculoskeletal injury where muscle dysfunction or other physiological indicators of excessive or prolonged stress response affects and/or delays recovery. Other applications include training to improve self-management of pain, anxiety, panic, anger or emotional distress, narcotic withdrawal, insomnia/ sleep disturbance, and other central and autonomic nervous system imbalances. Biofeedback is often utilized for relaxation training. Mental health professionals may also utilize it as a component of psychotherapy, where biofeedback and other behavioral techniques are integrated with psychotherapeutic interventions. Biofeedback is often used in conjunction with physical therapy or medical treatment. Recognized types of biofeedback include the following:

- 6.4.2.1 **Electromyogram (EMG):** Used for self-management of pain and stress reactions involving muscle tension.
- 6.4.2.2 **Skin Temperature:** Used for self-management of pain and stress reactions, especially vascular headaches.
- 6.4.2.3 **Respiration Feedback (RFB):** Used for self-management of pain and stress reactions via breathing control.
- 6.4.2.4 **Respiratory Sinus Arrhythmia (RSA):** Used for self-management of pain and stress reactions via synchronous control of heart rate and respiration. Respiratory sinus arrhythmia is a benign phenomena which consists of a small rise in heart rate during inhalation, and a corresponding decrease during exhalation. This phenomenon has been observed in meditators and athletes, and is thought to be a psycho physiological indicator of health.
- 6.4.2.5 **Heart Rate Variability (HRV):** Used for self-management of stress via managing cardiac reactivity.
- 6.4.2.6 **Electrodermal Response (EDR):** Used for self-management of stress involving palmar sweating or galvanic skin response.
- 6.4.2.7 **Electroencephalograph (EEG, QEEG):** Used for self-management of various psychological states by controlling brainwaves.

The goal in biofeedback treatment is normalizing the physiology to the pre-injury status to the extent possible and involves transfer of learned skills to the workplace and daily life. Candidates for biofeedback therapy or training must be motivated to learn and practice biofeedback and self-regulation techniques. In the course of biofeedback treatment, patient stressors are discussed and self-management strategies are devised. If the patient has not been previously evaluated, a psychological evaluation should be performed prior to beginning biofeedback treatment for chronic pain. The psychological evaluation may reveal cognitive difficulties, belief system conflicts, somatic delusions, secondary gain issues, hypochondriasis, and possible biases in patient self-reports, which can affect biofeedback. Home practice of skills is often helpful for mastery and may be facilitated by the use of home training tapes. Psychologists or psychiatrists, who provide psychophysiological therapy which integrates biofeedback with psychotherapy, should be either Biofeedback Certification Institute of America (BCIA) certified or practicing within the scope of their training. All other providers of Biofeedback for chronic pain patients must be BCIA certified and shall have their biofeedback treatment plan approved by the authorized treating psychologist or psychiatrist. Biofeedback treatment must be done in conjunction with the patient's psychosocial intervention. Biofeedback may also be provided by unlicensed health care providers, who follow a set treatment and educational protocol. Such treatment may utilize standardized material or relaxation tapes.

Time to produce effect: 3 to 4 sessions

Frequency: 1 to 2 times per week

Optimum duration: 6 to 8 sessions

Maximum duration: 10 to 12 sessions.

Treatment beyond 12 sessions must be documented with respect to need, expectation, and ability to facilitate positive symptomatic or functional gains.

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6.4.3 **COMPLEMENTARY ALTERNATIVE MEDICINE (CAM)** is a term used to describe a broad range of treatment modalities, a number of which are generally accepted and supported by some scientific evidence, and others which still remain outside the generally accepted practice of conventional Western Medicine. In many of these approaches, there is attention given to the relationship between physical, emotional, and spiritual well-being. While CAM may be performed by a myriad of both licensed and non-licensed health practitioners with training in one or more forms of therapy, credentialed practitioners should be used when available or applicable.

Although CAM practices are diverse and too numerous to list, they can be generally classified into five domains:

6.4.3.1 **Alternative Medical Systems:** These are defined as medical practices that have developed their own systems of theory, diagnosis and treatment and have evolved independent of and usually prior to conventional Western Medicine. Some examples are Traditional Chinese Medicine, Ayurvedic Medicine, Homeopathy, and Naturopathy.

6.4.3.2 **Mind-Body Interventions:** These include practices such as hypnosis, meditation, bioenergetics, and prayer.

6.4.3.3 **Biological-based Practices:** These include herbal and dietary therapy as well as the use of nutritional supplements. To avoid potential drug interactions, supplements should be used in consultation with the authorized treating physician.

6.4.3.4 **Body-Based Therapy:** Included in this category are the practices of Yoga and Rolfing bodywork.

6.4.3.5 **Energy-Based Practices:** Energy-based practices include a wide range of modalities that support physical as well as spiritual and/or emotional healing. Some of the more well-known energy practices include Qi Gong, Tai Chi, Healing Touch and Reiki. Practices such as Qi Gong and Tai Chi are taught to the patient and are based on exercises the patient can practice independently at home. Other energy-based practices such as Healing Touch and Reiki involve a practitioner/patient relationship.

6.4.3.6 Methods used to evaluate chronic pain patients for participation in CAM will differ with various approaches and with the training and experience of individual practitioners. A patient may be referred for CAM therapy when the patient's cultural background, religious beliefs, or personal concepts of health suggest that an unconventional medical approach might assist in the patient's recovery or when the physician's experience and clinical judgment support a CAM approach. The patient must demonstrate a high degree of motivation to return to work and improve their functional activity level while participating in therapy. Other more traditional conservative treatments should generally be attempted before referral to CAM. Treatment with CAM requires prior authorization.

Frequency: Per CAM therapy selected

Optimum duration: Should be based upon the physician's clinical judgment and demonstration by the patient of positive symptomatic and functional gains. Practitioner provided CAM therapy is generally not recommended on a maintenance basis.

6.4.4 **DISTURBANCES OF SLEEP** are common in chronic pain. Although primary insomnia may accompany pain as an independent co-morbid condition, it more commonly occurs secondary to the pain condition itself. Exacerbations of pain often are accompanied by exacerbations of insomnia; the reverse can also occur. Sleep laboratory studies have shown disturbances of sleep architecture in pain patients. Loss of deep slow-wave sleep and increase in light sleep occur and sleep efficiency, the proportion of time in bed spent asleep, is decreased. These changes are associated with patient reports of non-restorative sleep.

Many chronic pain patients develop behavioral habits that exacerbate and maintain sleep disturbances. Excessive time in bed, irregular sleep routine, napping, low activity, and worrying in bed are all maladaptive responses that can arise in the absence of any psychopathology. There is some evidence that behavioral modification, such as patient education and group or individual counseling, can be effective in reversing the effects of insomnia. Behavioral modifications are easily implemented and can include:

6.4.4.1 Maintaining a regular sleep schedule, retiring and rising at approximately the same time on weekdays and weekends.

6.4.4.2 Avoiding daytime napping.

- 6.4.4.3 Avoiding caffeinated beverages after lunchtime
- 6.4.4.4 Making the bedroom quiet and comfortable, eliminating disruptive lights, sounds, television sets, and keeping a bedroom temperature of about 65°F.
- 6.4.4.5 Avoiding alcohol or nicotine within two hours of bedtime.
- 6.4.4.6 Avoiding large meals within two hours of bedtime.
- 6.4.4.7 Exercising vigorously during the day, but not within two hours of bedtime, since this may raise core temperature and activate the nervous system.
- 6.4.4.8 Associating the bed with sleep and sexual activity only, using other parts of the home for television, reading and talking on the telephone.
- 6.4.4.9 Leaving the bedroom when unable to sleep for more than 20 minutes, retuning to the bedroom when ready to sleep again.

These modifications should be undertaken before sleeping medication is prescribed for long term use.

6.4.5 **INJECTIONS—THERAPEUTIC**

When considering the use of injections in chronic pain management, the treating physician must carefully consider the inherent risks and benefits. Any continued use of injections should be monitored using objective measures such as:

- Return-to-work or maintaining work status.
- Fewer restrictions at work or performing activities of daily living
- Decrease in usage of medications

Measurable functional gains, such as increased range of motion for documented increase in strength.
Reduction of reported pain scores

6.4.5.1 **Spinal Therapeutic Injections**

General Description – The following injections are considered to be reasonable treatment for patients with chronic pain. Other injections not listed may be beneficial. Therapeutic spinal injections typically may be used after initial conservative treatments, such as physical and occupational therapy, medication, manual therapy, exercise, acupuncture, etc., have been undertaken.

Special Considerations – For all spinal injections (excluding trigger point, botox and occipital or peripheral nerve blocks) multi-planar fluoroscopy, during procedures is required to document technique and needle placement, and should be performed by a physician experienced in the procedure. Permanent images are required to verify needle placement. The subspecialty disciplines of the physicians may be varied, including, but not limited to: anesthesiology, radiology, surgery, or physiatry. The practitioner who performs injections for low back pain should document hands on training through workshops of the type offered by organizations such as the International Spine Intervention Society (ISIS) and/or completed fellowship training with interventional training. Practitioners who perform spinal injections must also be knowledgeable of radiation safety.

6.4.5.1.1 **Epidural Steroid Spinal Injections:**

Description – Epidural steroid injections (ESI) deliver corticosteroid into the epidural space. The purpose of ESI is to reduce pain and inflammation, restoring range of motion and thereby facilitating progress in more active treatment programs. ESI uses three approaches: transforaminal, translaminar (midline), and caudal. For ESI in the low back, the transforaminal approach is the preferred method for unilateral, single-level pathology and for post-surgical patients. Also for the low back, there is good evidence that the transforaminal approach can deliver medication to the target tissue with few complications and can be used to identify the specific site of pathology.

Needle Placement – Multi-planar fluoroscopic imaging is required for all transforaminal epidural steroid injections. Contrast epidurograms allow one to verify the flow of medication into the epidural space. Permanent images are required to verify needle placement. Indications – There is some evidence that epidural steroid injections are effective for patients with radicular pain or radiculopathy (sensory or motor loss in a specific dermatome or myotome). Although

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there is no evidence regarding the effectiveness of ESI for non-radicular pain, it is a generally accepted intervention.

Frequency: Up to 3 treatments (a treatment may be a one or two level injection) over a period of six months, depending upon each patient's response.

Maximum: Two sessions (consisting of up to three injections each) may be done in one year based upon the patient's response.

6.4.5.1.2 **Zygapophyseal (Facet) Injection:**

Description – A generally accepted intra-articular or pericapsular injection of local anesthetic and corticosteroid. There is conflicting evidence to support a long-term therapeutic effect using facet injections. Indications patients with pain suspected to be of facet origin – Patients with recurrent pain should be evaluated, to determine the need for a rhizotomy.

Facet injections may be repeated if they result in documented functional benefit and/or at least an 50% initial improvement in pain as measured by accepted pain scales (such as VAS).
Maximum Duration: 4 per level per year. Prior authorization must be obtained for injections beyond three levels.

6.4.5.1.3 **Sacro-iliac Joint Injection:**

Description – A generally accepted injection of local anesthetic in an intra-articular fashion into the sacro-iliac joint under radiographic guidance. May include the use of corticosteroids. Long-term therapeutic effect has not yet been established.

Indications – Primarily diagnostic to rule out sacroiliac joint dysfunction vs. other pain generators. Intra-articular injection can be of value in diagnosing the pain generator. These injections may be repeated if they result in increased documented functional benefit and/or at least an 50% initial improvement in pain scales as measured by accepted pain scales (such as VAS).

Maximum Duration: 3 injections per year.

6.4.5.2 **Trigger Point Injections:**

Description – Trigger point injection consists of dry needling or injection of local anesthetic with or without corticosteroid into highly localized, extremely sensitive bands of skeletal muscle fibers that produce local and referred pain when activated. Medication is injected in the area of maximum tenderness. Injection efficacy can be enhanced if injections are immediately followed by myofascial therapeutic interventions, such as vapo-coolant spray and stretch, ischemic pressure massage (myotherapy), specific soft tissue mobilization and physical modalities.

The effectiveness of trigger point injection is uncertain, in part due to the difficulty of demonstrating advantages of active medication over injection of saline. Needling alone may be responsible for some of the therapeutic response.

Indications – Trigger point injections may be used to relieve myofascial pain and facilitate active therapy and stretching of the affected areas. They are to be used as an adjunctive treatment in combination with other active treatment modalities. Trigger point injections should be utilized primarily for the purpose of facilitating functional progress. Trigger point injections are indicated in those patients where well-circumscribed trigger points have been consistently observed. Generally, these injections are not necessary unless consistently observed trigger points are not responding to specific, noninvasive, myofascial interventions within approximately a 4-week time frame.

Frequency: Weekly. Suggest no more than 4 injection sites per session per week to avoid significant post-injection soreness.

Optimum duration: 4 sessions.

Maximum duration: 8 weeks. Some patients may require 2 to 4 repetitions of trigger point injection series over a 1 to 2 year period.

6.4.5.3 **Botulinum Toxin (Botox) Injection:**

Description – Used to temporarily weaken or paralyze muscles. May reduce muscle pain in conditions associated with spasticity, dystonia, or other types of painful muscle spasm.

Neutralizing antibodies develop in at least 4% of patients treated with botulinum toxin type A, rendering it ineffective. Several antigenic types of botulinum toxin have been described. Botulinum toxin type B, first approved by the Food and Drug Administration (FDA) in 2001, is similar pharmacologically to botulinum toxin type A, and there is good evidence of its efficacy in improving function in cervical dystonia (torticollis). It appears to be effective in patients who have become resistant to the type A toxin. The immune responses to botulinum toxins type A and B are not cross-reactive, allowing type B toxin to be used when type A action is blocked by antibody. Experimental work with healthy human volunteers suggests that muscle paralysis from type B toxin is not as complete or as long lasting as that resulting from type A. The duration of treatment effect of botulinum toxin type B for cervical dystonia has been estimated to be 12 to 16 weeks. EMG needle guidance may permit more precise delivery of botulinum toxin to the target area.

Indications – To improve range of motion and reduce painful muscle spasm. May be useful in musculoskeletal conditions associated with muscle spasm or headaches. There should be evidence of limited range of motion prior to the injection. May be useful in central neurologic conditions that produce spasticity or dystonia (e.g., brain injury, spinal cord injury, or stroke). Use is recommended according to current FDA guidelines.

Frequency: No less than 3 months between re-administration.

Optimum duration: 3 to 4 months.

Maximum duration: Currently unknown. Repeat injections should be based upon functional improvement and therefore used sparingly in order to avoid development of antibodies that might render future injections ineffective.

6.4.6 **MEDICATIONS**

There is no single formula for pharmacological treatment of patients with chronic nonmalignant pain.

Control of chronic non-malignant pain is expected to involve the use of medication. Strategies for pharmacological control of pain cannot be precisely specified in advance. Rather, drug treatment requires close monitoring of the patient's response to therapy, flexibility on the part of the prescriber and a willingness to change treatment when circumstances change. Many of the drugs discussed in the medication section were licensed for indications other than analgesia, but are effective in the control of many types of chronic pain. Consensus regarding the use of opioids has generally been reached in the field of cancer pain, where nociceptive mechanisms are generally identifiable, expected survival may be short, and symptomatic relief is emphasized more than functional outcomes. In injured workers, by contrast, central and neuropathic mechanisms frequently overshadow nociceptive processes, expected survival is relatively long, and return to a high level of function is a major goal of treatment. Approaches to pain, which were developed in the context of malignant pain, therefore may not be transferable to chronic non-malignant pain.

All medications should be given an appropriate trial in order to test for therapeutic effect. Trials of medication requiring specific therapeutic drug levels may take several months to achieve, depending upon the half-life of the drug. It is recommended that patients with chronic nonmalignant pain be maintained on drugs that have the least serious side effects. For the clinician to interpret the following material, it should be noted that: (1) drug profiles listed are not complete; (2) dosing of drugs will depend upon the specific drug, especially for off-label use; and (3) not all drugs within each class are listed, and other drugs within the class may be appropriate. Clinicians should refer to informational texts or consult a pharmacist before prescribing unfamiliar medications or when there is a concern for drug interactions. The following drug classes are listed in alphabetical order, not in order of suggested use. The following list is not all inclusive. It is acknowledged that medications not on this list may be appropriate choices for the care of injured workers.

- 6.4.6.1 **Alpha-Acting Agents:** Noradrenergic pain-modulating systems are present in the central nervous system, and the alpha-2 adrenergic receptor may be involved in the functioning of these pathways. Alpha-2 agonists may act by stimulating receptors in the substantia gelatinosa of the dorsal horn of the spinal cord, inhibiting the transmission of nociceptive signals. Spasticity may be reduced by presynaptic inhibition of motor neurons. Given limited experience with their use, they cannot be considered first-line analgesics, but a trial of their use may be warranted in many cases of refractory pain.

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- 6.4.6.1.1 Clonidine (Catapres)
 - 6.4.6.1.1.1 Description – Central alpha 2 agonist
 - 6.4.6.1.1.2 Indications – Sympathetically mediated pain, treatment of withdrawal from opioids.
 - 6.4.6.1.1.3 Dosing and Time to Therapeutic Effect – Increase dosage weekly to therapeutic effect.
 - 6.4.6.1.1.4 Recommended Laboratory Monitoring – Renal function.
- 6.4.6.1.2 Tizanidine (Zanaflex)
 - 6.4.6.1.2.1 Description – Alpha 2 adrenergic agonist.
 - 6.4.6.1.2.2 Indications – Spasticity, musculoskeletal disorders.
 - 6.4.6.1.2.3 Dosing and Time to Therapeutic Effect – As needed (PRN) or titrate to effective dose.
 - 6.4.6.1.2.4 Recommended Laboratory Monitoring – Hepatic and renal function.
- 6.4.6.2 **Anticonvulsants:** Although the mechanism of action of anticonvulsant drugs in neuropathic pain states remains to be fully defined, they appear to act as nonselective sodium channel blocking agents. A large variety of sodium channels are present in nervous tissue, and some of these are important mediators of nociception, as they are found primarily in unmyelinated fibers and their density increases following nerve injury. While the pharmacodynamic effects of the various anticonvulsant drugs are similar, the pharmacokinetic effects differ significantly. Carbamazepine has important effects as an inducer of hepatic enzymes and may influence the metabolism of other drugs enough to present problems in patients taking more than one drug. Gabapentin and oxcarbazepine, by contrast, are relatively non-significant enzyme inducers, creating fewer drug interactions.
 - 6.4.6.2.1 Gabapentin (Neurontin)
 - 6.4.6.2.1.1 Description – Structurally related to gamma-aminobutyric acid (GABA) but does not interact with GABA receptors.
 - 6.4.6.2.1.2 Indications – Neuropathic pain.
 - 6.4.6.2.1.3 Dosing and Time to Therapeutic Effect – Dosage may be increased over several days.
 - 6.4.6.2.1.4 Recommended Laboratory Monitoring – Renal function.
 - 6.4.6.2.2 Oxcarbazepine (Trileptal)
 - 6.4.6.2.2.1 Description – The mechanism of action resembles that of carbamazepine, but has an advantage in being a less potent inducer of hepatic enzymes.
Controlled trials of its effectiveness in chronic pain are lacking.
 - 6.4.6.2.2.2 Indications – Neuropathic pain.
 - 6.4.6.2.2.3 Dosing and Time to Therapeutic Effect – Dosage may be increased weekly.
 - 6.4.6.2.2.4 Recommended Laboratory Monitoring – Drug levels, renal and hepatic function.
 - 6.4.6.2.3 Carbamazepine (Tegretol)
 - 6.4.6.2.3.1 Description – Anticonvulsant structurally related to tricyclic antidepressants.
 - 6.4.6.2.3.2 Indications – Trigeminal neuralgia and other neuropathic pain.
 - 6.4.6.2.3.3 Dosing and Time to Therapeutic Effect – Dosage levels typically exceed those utilized for seizure prophylaxis. Titrate to desired effect.
 - 6.4.6.2.3.4 Recommended Laboratory Monitoring – Drug levels, renal and hepatic function, complete blood count.
- 6.4.6.3 **Antidepressants:** are classified into a number of categories based on their chemical structure and their effects on neurotransmitter systems. Their effects on depression are attributed to their actions on disposition of norepinephrine and serotonin at the level of the synapse; although these synaptic actions are immediate, the symptomatic response in depression is delayed by several weeks. When used for chronic pain, the effects may in part arise from treatment of underlying depression, but may also involve additional neuromodulatory effects on endogenous opioid systems, raising pain thresholds at the level of the spinal cord.

Pain responses may occur at lower drug doses with shorter times to symptomatic response than are observed when the same compounds are used in the treatment of mood disorders. Neuropathic pain, diabetic neuropathy, post-herpetic neuralgia, and cancer-related pain may respond to antidepressant doses low enough to avoid adverse effects that often complicate the treatment of depression.

- 6.4.6.3.1 Tricyclics (e.g., amitriptyline [Elavil], nortriptyline [Pamelor, Aventyl], doxepin [Sinequan, Adapin])
 - 6.4.6.3.1.1 Description – Serotonergics, typically tricyclic antidepressants (TCAs), are utilized for their serotonergic properties as increasing CNS serotonergic tone can help decrease pain perception in non-antidepressant dosages. Amitriptyline is known for its ability to repair Stage 4 sleep architecture, a frequent problem found in chronic pain patients and to treat depression, frequently associated with chronic pain.
 - 6.4.6.3.1.2 Indications – Chronic musculoskeletal and/or neuropathic pain, insomnia. Second line drug treatment for depression.
 - 6.4.6.3.1.3 Dosing and Time to Therapeutic Effect – Varies by specific tricyclic. Low dosages are commonly used for chronic pain and/or insomnia.
 - 6.4.6.3.1.4 Recommended Laboratory Monitoring – Renal and hepatic function. EKG for those on high dosages or with cardiac risk.
- 6.4.6.3.2 Selective serotonin reuptake inhibitors (SSRIs) (e.g., citalopram [Celexa], fluoxetine [Prozac], paroxetine [Paxil], sertraline [Zoloft]).
 - 6.4.6.3.2.1 Description – SSRIs are characterized by the predominance of inhibition of serotonin reuptake at the pre-synaptic nerve terminal.
 - 6.4.6.3.2.2 Indications – Depression, chronic pain with depression and/or anxiety.
 - 6.4.6.3.2.3 Time to Produce Therapeutic Effect – 3 to 4 weeks.
 - 6.4.6.3.2.4 Recommended Laboratory Monitoring – Renal and hepatic function.
- 6.4.6.3.3 Atypical Antidepressants/Other Agents
 - 6.4.6.3.3.1 Description – Venlafaxine, (Effexor), nefazadone (Serzone), trazodone (Deseryl), and mirtazapine (Remeron) share adjuvant analgesic effects with tricyclic antidepressants. They differ in their side effect and drug interaction profiles.
 - 6.4.6.3.3.2 Indications – Venlafaxine is approved for generalized anxiety disorder, bupropion for smoking cessation.
 - 6.4.6.3.3.3 Recommended Laboratory Monitoring – Drug specific.
- 6.4.6.4 **Hypnotics and Sedatives:** Sedative and hypnotic drugs decrease activity, induce drowsiness, and moderate agitation. Many drugs produce these effects incidental to their usual intended effects, similar to the side effects of many antihistamines and antidepressants.
 - 6.4.6.4.1 Zaleplon (Sonata)
 - 6.4.6.4.1.1 Description – A nonbenzodiazepine hypnotic.
 - 6.4.6.4.1.2 Indications – Insomnia.
 - 6.4.6.4.1.3 Dosing and Time to Therapeutic Effect – Time of onset is 30 to 60 minutes. Due to rapid elimination, may be taken as little as 4 hours before awakening.
 - 6.4.6.4.1.4 Recommended Laboratory Monitoring – Hepatic function.
 - 6.4.6.4.2 Zolpidem (Ambien)
 - 6.4.6.4.2.1 Description – A nonbenzodiazepine hypnotic, which does not appear to cause rebound insomnia. It has little respiratory depression and insignificant anxiolytic or muscle relaxant activity.
 - 6.4.6.4.2.2 Indications – Short-term use for insomnia
 - 6.4.6.4.2.3 Time to Therapeutic Effect – Onset of action is 30 to 60 minutes
 - 6.4.6.4.2.4 Recommended Laboratory Monitoring – Hepatic function.

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- 6.4.6.5 **Skeletal Muscle Relaxants:** are most useful for acute musculoskeletal injury or exacerbation of injury.
- 6.4.6.5.1 Cyclobenzaprine (Flexeril)
 - 6.4.6.5.1.1 Description – Structurally related to tricyclics.
 - 6.4.6.5.1.2 Indications – Chronic pain associated with muscle spasm.
 - 6.4.6.5.1.3 Dosing and Time to Therapeutic Effect – Variable, onset of action is 1 hour.
 - 6.4.6.5.1.4 Recommended Laboratory Monitoring – Hepatic and renal function.
 - 6.4.6.5.2 Carisoprodol (Soma)
 - 6.4.6.5.2.1 Description – Mode of action may be central; meprobamate is an active metabolite.
 - 6.4.6.5.2.2 Indications – Chronic pain associated with muscle spasm.
 - 6.4.6.5.2.3 Recommended Laboratory Monitoring – Renal and hepatic function.
 - 6.4.6.5.3 Metaxalone (Skelaxin)
 - 6.4.6.5.3.1 Description – Central acting muscle relaxant.
 - 6.4.6.5.3.2 Indications – Muscle spasm.
 - 6.4.6.5.3.3 Dosing and Time to Therapeutic Effect – Onset of action 1 hour.
 - 6.4.6.5.3.4 Recommended Laboratory Monitoring – Hepatic function.
- 6.4.6.6 **Opioids:** are the most powerful analgesics.
- Opioids include some of the oldest and most effective drugs used in the control of severe pain. The discovery of opioids receptors and their endogenous peptide ligands has led to an understanding of effects at the binding sites of these naturally occurring substances. Most of their analgesic effects have been attributed to their modification of activity in pain pathways within the central nervous system; however, it has become evident that they also are active in the peripheral nervous system. Activation of receptors on the peripheral terminals of primary afferent nerves can mediate antinociceptive effects, including inhibition of neuronal excitability and release of inflammatory peptides. Some of their undesirable effects on inhibiting gastrointestinal motility are peripherally mediated by receptors in the bowel wall. The central nervous system actions of these drugs account for much of their analgesic effect. Consultation or referral to a pain specialist should be considered when the pain persists but the underlying tissue pathology is minimal or absent and correlation between the original injury and the severity of impairment is not clear. Consider consultation if suffering and pain behaviors are present and the patient continues to request medication, or when standard treatment measures have not been successful or are not indicated.
- 6.4.6.6.1 On-Going, Long-Term Management – Actions may include:
 - 6.4.6.6.1.1 Prescriptions from a single practitioner,
 - 6.4.6.6.1.2 Ongoing review and documentation of pain relief, functional status, appropriate medication use, and side effects,
 - 6.4.6.6.1.3 Ongoing effort to gain improvement of social and physical function as a result of pain relief,
 - 6.4.6.6.1.4 Contract detailing reasons for termination of supply, with appropriate tapering of dose,
 - 6.4.6.6.1.5 Use of random drug screening as deemed appropriate by the prescribing physician,
 - 6.4.6.6.1.6 Use of more than two opioids: a long acting opioid for maintenance of pain relief and a short acting opioid for limited rescue use when pain exceeds the routine level. If more than two opioids are prescribed for long-term use, a second opinion from specialist who is Board Certified in Neurology, Physical Medicine and Rehabilitation, or Anesthesiology with recognized training and/or certification in pharmacological pain management is strongly recommended.
 - 6.4.6.6.1.7 Use of acetaminophen-containing medications in patients with liver disease should be limited; and
 - 6.4.6.6.1.8 Continuing review of overall situation with regard to nonopioid means of pain control.
- 6.4.6.7 **Nonsteroidal Anti-Inflammatory Drugs:**

Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) are useful for pain and inflammation. In mild cases, they may be the only drugs required for analgesia. There are several classes of NSAIDs and the response of the individual injured worker to a specific medication is unpredictable. For this reason a range of NSAIDs may be tried in each case with the most effective preparation being continued.

6.4.6.7.1 Non-selective Nonsteroidal Anti-Inflammatory Drugs

6.4.6.7.2 Selective Cyclo-oxygenase-2 (COX-2) Inhibitors

COX-2 inhibitors are more recent NSAIDs and differ in adverse side effect profiles from the traditional NSAIDs. The major advantages of selective COX-2 inhibitors over traditional NSAIDs are that they have less gastrointestinal toxicity and no platelet effects. COX-2 inhibitors can worsen renal function in patients with renal insufficiency; thus, renal function may need monitoring.

6.4.6.8 **Topical Drug Delivery:**

6.4.6.8.1 Description – Topical medications may be an alternative treatment for localized musculoskeletal disorders and is an acceptable form of treatment in selected.

6.4.6.8.2 Indications – Generalized musculoskeletal or joint pain. Patient selection must be rigorous to select those patients with the highest probability of compliance.

6.4.6.8.3 Dosing and Time to Therapeutic Effect – It is necessary that all topical agents be used with strict instructions for application as well as maximum number of applications per day to obtain the desired benefit and avoid potential toxicity.

6.4.6.9 **Other Agents:**

6.4.6.9.1 Tramadol (Ultram)

6.4.6.9.1.1 Description – An opioid partial agonist that is generally well tolerated, does not cause GI ulceration, or exacerbate hypertension or congestive heart failure.

6.4.6.9.1.2 Indications – Mild to moderate pain relief. This drug has been shown to provide pain relief equivalent to that of commonly prescribed NSAIDs.

6.4.6.9.2 Baclofen (Lioresal)

6.4.6.9.2.1 Description – May be effective due to stimulation of Gamma Aminobutyric Acid (GABA) receptors.

6.4.6.9.2.2 Indications – Pain from muscle rigidity.

6.4.6.9.2.3 Recommended Laboratory Monitoring – Renal function.

6.4.6.9.3 Mexilitene (Mexitil)

6.4.6.9.3.1 Description – An antiarrhythmic drug, which, like some anticonvulsive agents, may act on ion channels in neuronal tissue and reduce its pathological activity to a more stable level. Low concentrations may suffice to abolish impulses in damaged nerves, and mexilitene has been used successfully to treat neuropathic pain.

6.4.6.9.3.2 Indications – Neuropathic pain.

6.4.6.9.3.3 Recommended Laboratory Monitoring – Hepatic function, CBC. Plasma levels may also be necessary.

6.4.7 **ORTHOTICS/PROSTHETICS/EQUIPMENT** Devices and adaptive equipment may be necessary in order to reduce impairment and disability, to facilitate medical recovery, to avoid re-aggravation of the injury, and to maintain maximum medical improvement. Indications would be to provide relief of the industrial injury or prevent further injury and include the need to control neurological and orthopedic injuries for reduced stress during functional activities. In addition, they may be used to modify tasks through instruction in the use of a device or physical modification of a device. Equipment needs may need to be reassessed periodically.

Equipment may include high and low technology assistive devices, computer interface or seating, crutch or walker training, and self-care aids. It should improve safety and reduce risk of re-injury. Standard equipment to alleviate the effects of the injury on the performance of activities of daily living may vary from

simple to complex adaptive devices to enhance independence and safety. Certain equipment related to cognitive impairments may also be required.

Ergonomic modifications may be necessary to facilitate medical recovery, to avoid re-aggravation of the injury, and to maintain maximum medical improvement. Ergonomic evaluations with subsequent recommendations may assist with the patients' return-to-work.

For chronic pain disorders, equipment such as foot orthoses or lumbar support devices may be helpful. The injured worker should be educated as to the potential harm from using a lumbar support for a period of time greater than which is prescribed. Special cervical orthosis and/or equipment may have a role in the rehabilitation of a cervical injury such as those injuries to a cervical nerve root resulting in upper extremity weakness or a spinal cord injury with some degree of paraparesis or tetraparesis. Fabrication/modification of orthotics, including splints, would be used when there is need to normalize weight-bearing, facilitate better motion response, stabilize a joint with insufficient muscle or proprioceptive/reflex competencies, to protect subacute conditions as needed during movement, and correct biomechanical problems.

Orthotic/prosthetic training is the skilled instruction (preferably by qualified providers) in the proper use of orthotic devices and/or prosthetic limbs.

For information regarding specific types of orthotics/prosthetics/equipment, refer to individual medical treatment guidelines.

- 6.4.8 **PERSONALITY/PSYCHOLOGICAL/PSYCHOSOCIAL INTERVENTION** Psychosocial treatment is a generally accepted, well-established therapeutic and diagnostic procedure with selected use in acute pain problems, but with more widespread use in sub-acute and chronic pain populations. Psychosocial treatment may be important component in the total management of a patient with chronic pain and should be implemented as soon as the problem is identified.

Once a diagnosis consistent with the standards of the American Psychiatric Association Diagnostic Statistical Manual of Mental Disorders has been determined, the patient should be evaluated for the potential need for psychiatric medications. Use of any medication to treat a diagnosed condition may be ordered by the authorized treating physician or by the consulting psychiatrist. Visits for management of psychiatric medications are medical in nature and are not a component of psychosocial treatment. Therefore, separate visits for medication management may be necessary, depending upon the patient and medications selected.

The screening or diagnostic workup should have clarified and distinguished between pre-existing, aggravated, and/or purely causative psychological conditions. Therapeutic and diagnostic modalities include, but are not limited to, individual counseling, and group therapy. Treatment can occur within an individualized model, a multi-disciplinary model, or within a structured pain management program.

A psychologist with a Ph.D., PsyD, EdD credentials, or a Psychiatric MD/DO may perform psychosocial treatments. Other licensed mental health providers working in consultation with a Ph.D., PsyD, EdD, or Psychiatric MD/DO, and with experience in treating chronic pain disorders in injured workers may also perform treatment.

Frequency: 1 to 5 times weekly for the first 4 weeks (excluding hospitalization, if required), decreasing to 1 to 2 times per week for the second month. Thereafter, 2 to 4 times monthly with the exception of exacerbations which may require increased frequency of visits. Not to include visits for medication management.

Maximum duration: 6 to 12 months, not to include visits for medication management. For select patients, longer supervised treatment may be required.

- 6.4.9 **RESTRICTION OF ACTIVITIES** Continuation of normal daily activities is the goal for chronic pain patients since immobility will negatively affect rehabilitation. Prolonged immobility results in a wide range of deleterious effects, such as a reduction in aerobic capacity and conditioning, loss of muscle strength and flexibility, increased segmental stiffness, promotion of bone demineralization, impaired disc nutrition, and the facilitation of the illness role.

- 6.4.10 **RETURN-TO-WORK** is one of the major components in chronic pain management.

REHABILITATION – It is understood Individuals with Chronic Pain may require additional visits due to acute exacerbations. The practitioner is required to document the rationale for care and may be subject to Utilization Review. All visit limits pertain to an annual amount. It is also understood that practitioners should only provide treatment that is consistent with impairments and dysfunctions identified by a comprehensive physical assessment.

6.4.11 **THERAPY–ACTIVE** therapies are based on the philosophy that therapeutic exercise and/or activity are beneficial for restoring flexibility, strength, endurance, function, range of motion, and alleviating discomfort. Active therapy requires an internal effort by the individual to complete a specific exercise or task, and thus assists in developing skills promoting independence to allow self-care after discharge. This form of therapy requires supervision from a therapist or medical provider such as verbal, visual, and/or tactile instructions. At times a provider may help stabilize the patient or guide the movement pattern but the energy required to complete the task is predominately executed by the patient.

Patients should be instructed to continue active therapies at home as an extension of the treatment process in order to maintain improvement levels. Home exercise can include exercise with or without mechanical assistance or resistance and functional activities with assistive devices. Interventions are selected based on the complexity of the presenting dysfunction with ongoing examination, evaluation and modification of the plan of care as improvement or lack thereof occurs. Change and/or discontinuation of an intervention should occur if there is attainment of expected goals/outcome, lack of progress, lack of tolerance and/or lack of motivation. Passive interventions/modalities may only be used as adjuncts to the active program.

6.4.11.1 **Activities of Daily Living:** Supervised instruction, active-assisted training, and/or adaptation of activities or equipment to improve a person's capacity in normal daily living activities such as self-care, work re-integration training, homemaking, and driving.

6.4.11.2 **Functional Activities:** are the use of therapeutic activity to enhance mobility, body mechanics, employability, coordination, and sensory motor integration.

6.4.11.3 **Nerve Gliding:** exercises consist of a series of flexion and extension movements of the hand, wrist, elbow, shoulder, and neck that produce tension and longitudinal movement along the length of the median and other nerves of the upper extremity. These exercises are based on the principle that the tissues of the peripheral nervous system are designed for movement, and that tension and glide (excursion) of nerves may have an effect on neurophysiology through alterations in vascular and axoplasmic flow. Biomechanical principles have been more thoroughly studied than clinical outcomes.

6.4.11.4 **Neuromuscular Re-education:** is the skilled application of exercise with manual, mechanical, or electrical facilitation to enhance strength, movement patterns, neuromuscular response, proprioception, kinesthetic sense, coordination education of movement, balance, and posture. Indications include the need to promote neuromuscular responses through carefully timed proprioceptive stimuli, to elicit and improve motor activity in patterns similar to normal neurologically developed sequences, and improve neuromotor response with independent control. Maximum number of visits 24

6.4.11.5 **Proper Work Techniques:** Please refer to the “Job Site Evaluation” and “Job Site Alteration” sections of these guidelines.

6.4.11.6 **Therapeutic Exercise:** with or without mechanical assistance or resistance may include isoinertial, isotonic, isometric and isokinetic types of exercises. Indications include the need for cardiovascular fitness, reduced edema, improved muscle strength, improved connective tissue strength and integrity, increased bone density, promotion of circulation to enhance soft tissue healing, improvement of muscle recruitment, increased range of motion, and are used to promote normal movement patterns. Can also include complementary/alternative exercise movement therapy.

Time to produce effect: 2 to 6 treatments

Frequency: 3 to 5 times per week

Optimum duration: 4 to 8 weeks

Maximum duration: 24 visits, and maximum of 24 in combination with functional activities

6.4.12 **THERAPY — PASSIVE** Most of the following passive therapies and modalities are generally accepted methods of care for a variety of work-related injuries. Passive therapy includes those treatment modalities that do not require energy expenditure on the part of the patient. They are principally effective during the early phases of treatment and are directed at controlling symptoms such as pain, inflammation and swelling and to improve the rate of healing soft tissue injuries. They should be used adjunctively with active therapies such as postural stabilization and exercise programs to help control swelling, pain, and inflammation during the active rehabilitation process. Please refer to Section B. 4. General Guideline Principles, Active Interventions. Passive therapies may be used intermittently as a provider deems appropriate or regularly if there are specific goals with objectively measured functional improvements during treatment.

On occasion, specific diagnoses and post-surgical conditions may warrant durations of treatment beyond those listed as "maximum." factors such as exacerbation of symptoms, re-injury, interrupted continuity of care, and comorbidities may also extend durations of care. Specific goals with objectively measured functional improvement during treatment must be cited to justify extended durations of care. It is recommended that, if no functional gain is observed after the number of treatments under "time to produce effect" have been completed, alternative treatment interventions, further diagnostic studies, or further consultations should be pursued.

The following passive therapies are listed below:

6.4.12.1 **Electrical Stimulation (Unattended and Attended):** is an accepted treatment. Once applied, unattended electrical stimulation requires minimal on-site supervision by the provider. Indications include pain, inflammation, muscle spasm, atrophy, decreased circulation, and the need for osteogenic stimulation. A home unit should be purchased if treatment is effective and frequent use is recommended.

Time to produce effect: 2 to 4 treatments Maximum duration: 14 visits

6.4.12.2 **Iontophoresis:** is an accepted treatment which consists of the transfer of medication, including, but not limited to, steroidal anti-inflammatories and anesthetics, through the use of electrical stimulation. Indications include pain (Lidocaine), inflammation (hydrocortisone, salicylate), edema (mecholy, hyaluronidase, salicylate), ischemia (magnesium, mecholy, iodine), muscle spasm (magnesium, calcium), calcific deposits (acetate), scars, and keloids (sodium chloride, iodine, acetate). There is no proven benefit for this therapy in the low back

Time to produce effect: 1 to 4 treatments Frequency: 3 times per week with at least 48 hours between treatments

Maximum duration: 8 visits per body region

6.4.12.3 **Manipulation:** is generally accepted, well-established and widely used therapeutic intervention for low back pain. Manipulative Treatment (not therapy) is defined as the therapeutic application of manually guided forces by an operator to improve physiologic function and/or support homeostasis that has been altered by the injury or occupational disease, and has associated clinical significance.

High velocity, low amplitude (HVLA) technique, chiropractic manipulation, osteopathic manipulation, muscle energy techniques, counter strain, and non-force techniques are all types of manipulative treatment. This may be applied by osteopathic physicians (D.O.), chiropractors (D.C.), properly trained physical therapists (P.T.), or properly trained medical physicians. Under these different types of manipulation exist many subsets of different techniques that can be described as a) direct- a forceful engagement of a restrictive/pathologic barrier, b) indirect- a gentle/non-forceful disengagement of a restrictive/pathologic barrier, c) the patient actively assists in the treatment and d) the patient relaxing, allowing the practitioner to move the body tissues. When the proper diagnosis is made and coupled with the appropriate technique, manipulation has no contraindications and can be applied to all tissues of the body. Pre-treatment assessment should be performed as part of each manipulative treatment visit to ensure that the correct diagnosis and correct treatment is employed.

High velocity, low amplitude (HVLA) manipulation is performed by taking a joint to its end range of motion and moving the articulation into the zone of accessory joint movement, well within the limits of anatomical integrity. There is good scientific evidence to suggest that HVLA manipulation can

be helpful for patients with acute low back pain problems without radiculopathy when used within the first 4 to 6 weeks of symptoms. Although the evidence for sub-acute and chronic low back pain and low back pain with radiculopathy is less convincing, it is a generally accepted and well-established intervention for these conditions. Indications for manipulation include joint pain, decreased joint motion, and joint adhesions. Contraindications to HVLA manipulation include joint instability, fractures, severe osteoporosis, infection, metastatic cancer, active inflammatory arthritides, aortic aneurysm, and signs of progressive neurologic deficits.

Time to produce effect for all types of manipulative treatment: 1 to 6 treatments.

Frequency: Up to 3 times per week for the first 4 weeks as indicated by the severity of involvement and the desired effect, then up to 2 treatments per week for the next 4 weeks. For further treatments, twice per week or less to maintain function.

Maximum duration: 26 visits.

The combination of 97140 plus either CMT or OMT code is equal to one visit when performed on the same day. Any combination of manual therapeutic intervention exceeding 26 visits (not units) need to go to UR.

6.4.12.4 **Massage — Manual or Mechanical:** Massage is manipulation of soft tissue with broad ranging relaxation and circulatory benefits. This may include techniques that include pressing, lifting, rubbing, pinching of soft tissues by, or with, the practitioner's hands. Indications include edema (peripheral or hard and non-pliable edema), muscle spasm, adhesions, the need to improve peripheral circulation and range of motion, or to increase muscle relaxation and flexibility prior to exercise.

In sub-acute low back pain populations there is good evidence that massage can increase function when combined with exercise and patient education. Some studies have demonstrated a decrease in provider visits and pain medication use with combined therapy. One study indicated improved results with acupressure massage. It is recommended that all massage be performed by trained, experienced therapists and be accompanied by an active exercise program and patient education. In contrast to the sub-acute population, massage is a generally accepted treatment for the acute low back pain population, although no studies have demonstrated its efficacy for this set of patients.

Time to produce effect: Immediate

Frequency: 1 to 3 times per week

Maximum duration: 12 visits (CPT codes 97124 and 97140 can not exceed 26 visits in combination).

6.4.12.5 **Mobilization (Joint):** is a generally well-accepted treatment. Mobilization is passive movement involving oscillatory motions to the vertebral segment(s). The passive mobility is performed in a graded manner (I, II, III, IV, or V), which depicts the speed and depth of joint motion during the maneuver. For further discussion on Level V joint mobilization please see section on HVLA manipulation [Refer to section 12. d.]. It may include skilled manual joint tissue stretching. Indications include the need to improve joint play, segmental alignment, improve intracapsular arthrokinematics, or reduce pain associated with tissue impingement. Mobilization should be accompanied by active therapy. For Level V mobilization contraindications include joint instability, fractures, severe osteoporosis, infection, metastatic cancer, active inflammatory arthritides, aortic aneurysm, and signs of progressive neurologic deficits.

Time to produce effect for all types of manipulative treatment: 1 to 6 treatments.

Frequency: Up to 3 times per week for the first 4 weeks as indicated by the severity of involvement and the desired effect, then up to 2 treatments per week for the next 4 weeks. For further treatments, twice per week or less to maintain function.

Maximum duration: 26 visits. CPT codes 97124 and 97140 can not exceed 48 visits in combination

6.4.12.6 **Mobilization (Soft Tissue):** is a generally well-accepted treatment. Mobilization of soft tissue is the skilled application of muscle energy, strain/counter strain, myofascial release, manual trigger point release, and manual therapy techniques designed to improve or normalize movement patterns through the reduction of soft tissue pain and restrictions. These can be interactive with the patient participating or can be with the patient relaxing and letting the practitioner move the body

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tissues. Indications include muscle spasm around a joint, trigger points, adhesions, and neural compression. Mobilization should be accompanied by active therapy.

Maximum duration: 26 visits CPT codes 97124 and 97140 can not exceed 48 visits in combination.

6.4.12.7 **Short-Wave Diathermy:** is an accepted treatment which involves the use of equipment that exposes soft tissue to a magnetic or electrical field. Indications include enhanced collagen extensibility before stretching, reduced muscle guarding, reduced inflammatory response, and enhanced re-absorption of hemorrhage/hematoma or edema. It is an accepted modality as an adjunct to acupuncture or situation where other forms of contact superficial heat is contraindicated.

6.4.12.8 **Superficial Heat and Cold Therapy (excluding Infrared Therapy):** is a generally accepted treatment. Superficial heat and cold are thermal agents applied in various manners that lower or raise the body tissue temperature for the reduction of pain, inflammation, and/or effusion resulting from injury or induced by exercise. Includes application of heat just above the surface of the skin at acupuncture points. Indications include acute pain, edema and hemorrhage, need to increase pain threshold, reduce muscle spasm, and promote stretching/flexibility. Cold and heat packs can be used at home as an extension of therapy in the clinic setting.

Time to produce effect: Immediate

Frequency: 2 to 5 times per week

Maximum duration: 12 visits, with a maximum of 1 unit per day

6.4.12.9 **Traction—Mechanical:** Traction modalities are contraindicated in patients with tumor, infections, fracture, or fracture dislocation. Non-oscillating inversion traction methods are contraindicated in patients with glaucoma or hypertension. Motorized traction devices are included (i.e. VAX-D, DRX9000, etc.)

Time to produce effect: 1 to 3 sessions up to 30 minutes. If response is negative after 3 treatments, discontinue this modality.

Frequency: 2 to 3 times per week. A home traction unit can be purchased if therapy proves effective. Maximum duration: 16 visits

6.4.12.10 **Transcutaneous Electrical Nerve Stimulation (TENS):** is a generally accepted treatment. TENS should include at least one instructional session for proper application and use. Indications include muscle spasm, atrophy, and decreased circulation and pain control. Minimal TENS unit parameters should include pulse rate, pulse width and amplitude modulation. Consistent, measurable functional improvement should be documented prior to the purchase of a home unit.

Time to produce effect: Immediate Frequency: Variable Duration: 3 visits

6.4.12.11 **Ultrasound (Including Phonophoresis):** is an accepted treatment. Ultrasound uses sonic generators to deliver acoustic energy for therapeutic thermal and/or non-thermal soft tissue effects. Indications include scar tissue, adhesions, collagen fiber and muscle spasm, and the need to extend muscle tissue or accelerate the soft tissue healing. Ultrasound with electrical stimulation is concurrent delivery of electrical energy that involves dispersive electrode placement. Indications include muscle spasm, scar tissue, pain modulation, and muscle facilitation.

Phonophoresis is the transfer of medication to the target tissue to control inflammation and pain through the use of sonic generators. These topical medications include, but are not limited to, steroidal anti-inflammatory and anesthetics. Phonophoresis is not recommended for Low Back Pain.

Time to produce effect: 6 to 15 treatments

Frequency: 3 times per week

Maximum duration: 18 visits

6.4.13 **THERAPY—ACTIVE** The following active therapies are widely used and accepted methods of care for a variety of work-related injuries. They are based on the philosophy that therapeutic exercise and/or activity are beneficial for restoring flexibility, strength, endurance, function, range of motion, and can alleviate discomfort. Active therapy requires an internal effort by the individual to complete a specific exercise or task. This form of therapy requires supervision from a provider such as verbal, visual, and/or tactile instruction(s). At times, the provider may help stabilize the patient or guide the movement pattern but the energy required to complete the task is predominately executed by the patient.

Patients should be instructed to continue active therapies at home as an extension of the treatment process in order to maintain improvement levels. Follow-up visits to reinforce and monitor progress and proper technique are recommended. Home exercise can include exercise with or without mechanical assistance or resistance and functional activities with assistive devices. The following active therapies are listed in alphabetical order:

- 6.4.13.1 **Activities of Daily Living (ADL)** are well-established interventions which involve instruction, active-assisted training, and/or adaptation of activities or equipment to improve a person's capacity in normal daily activities such as self-care, work re-integration training, homemaking, and driving.

Time to produce effect: 4 to 5 treatments Maximum duration: 10 visits

- 6.4.13.2 **Aquatic Therapy:** is a well-accepted treatment which consists of the therapeutic use of aquatic immersion for therapeutic exercise to promote strengthening, core stabilization, endurance, range of motion, flexibility, body mechanics, and pain management. Aquatic therapy includes the implementation of active therapeutic procedures in a swimming or therapeutic pool. The water provides a buoyancy force that lessens the amount of force gravity applies to the body. The decreased gravity effect allows the patient to have a mechanical advantage and more likely have a successful trial of therapeutic exercise. The therapy may be indicated for individuals who:

Cannot tolerate active land-based or full-weight bearing therapeutic procedures require increased support in the presence of proprioceptive deficit;

Are at risk of compression fracture due to decreased bone density; have symptoms that are exacerbated in a dry environment;

Would have a higher probability of meeting active therapeutic goals than in a land-based environment.

The pool should be large enough to allow full extremity range of motion and fully erect posture. Aquatic vests, belts and other devices can be used to provide stability, balance, buoyancy, and resistance.

Time to produce effect: 4 to 5 treatments Frequency: 3 to 5 times per week Maximum duration: 16 visits

A self-directed program is recommended after the supervised aquatics program has been established, or, alternatively a transition to a land-based environment exercise program.

- 6.4.13.3 **Functional Activities:** are well-established interventions which involve the use of therapeutic activity to enhance mobility, body mechanics, employability, coordination, balance, and sensory motor integration.

Time to produce effect: 4 to 5 treatments

Frequency: 3 to 5 times per week

Maximum duration: 26 visits

Total number of visit 97110 and 97530 should not exceed 40 visits without pre-authorization.

- 6.4.13.4 **Functional Electrical Stimulation:** is an accepted treatment in which the application of electrical current to elicit involuntary or assisted contractions of atrophied and/or impaired muscles. It may be indicated for impaired muscle function to radiculopathy. (Foot drop)

Time to produce effect: 2 to 6 treatments

Frequency: 3 times per week

Maximum duration: 14 visits inclusive of electrical stimulation codes. If beneficial, provide with home unit.

- 6.4.13.5 **Neuromuscular Re-education:** is a generally accepted treatment. It is the skilled application of exercise with manual, mechanical, or electrical facilitation to enhance strength; movement patterns; neuromuscular response; proprioception, kinesthetic sense, coordination; education of movement, balance, and posture. Indications include the need to promote neuromuscular responses through carefully timed proprioceptive stimuli, to elicit and improve motor activity in patterns similar to normal neurologically developed sequences, and improve neuromotor response with independent control.

Time to produce effect: 2 to 6 treatments

Frequency: 3-5 times per week

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Maximum duration: 24 visits

6.4.13.6 Therapeutic Exercise: is a generally well-accepted treatment. Therapeutic exercise, with or without mechanical assistance or resistance, may include isoinertial, isotonic, isometric and isokinetic types of exercises. Indications include the need for cardiovascular fitness, reduced edema, improved muscle strength, improved connective tissue strength and integrity, increased bone density, promotion of circulation to enhance soft tissue healing, improvement of muscle recruitment, improved proprioception, and coordination, increased range of motion. Therapeutic exercises are used to promote normal movement patterns, and can also include complementary/alternative exercise movement therapy (with oversight of a physician or appropriate healthcare professional).

6.4.13.7 Spinal Stabilization: is a generally well-accepted treatment. The goal of this therapeutic program is to strengthen the spine in its neural and anatomic position. The stabilization is dynamic which allows whole body movements while maintaining a stabilized spine. It is the ability to move and function normally through postures and activities without creating undue vertebral stress

Time to produce effect: 2 to 6 treatments

Frequency: 3 to 5 times per week

Maximum duration: 26 visits

Total number of visits of 97110 & 97530 may not exceed 40 visits without pre-authorization.

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7.0 Therapeutic Procedures - Operative

When considering operative intervention in chronic pain management, the treating physician must carefully consider the inherent risk and benefit of the procedure. All operative intervention should be based on a positive correlation with clinical findings, the clinical course, and diagnostic tests. A comprehensive assessment of these factors should have led to a specific diagnosis with positive identification of the pathologic condition. Surgical procedures are seldom meant to be curative and would be employed in conjunction with other treatment modalities for maximum functional benefit. Functional benefit should be objectively measured and includes the following:

- Return-to-work or maintaining work status.
- Fewer restrictions at work or performing activities of daily living.
- Decrease in usage of medications.
- Measurable functional gains, such as increased range of motion or documented increase in strength.
- Education of the patient should include the proposed goals of the surgery, expected gains, risks or complications, and alternative treatment.

7.1 NEUROSTIMULATION

7.1.1 Description — Neurostimulation is the delivery of low-voltage electrical stimulation to the spinal cord or peripheral nerves to inhibit or block the sensation of pain. This is a generally accepted procedure that has limited use. May be most effective in patients with chronic, intractable limb pain who have not achieved relief with oral medications, rehabilitation therapy, or therapeutic nerve blocks, and in whom the pain has persisted for longer than 6 months.

Particular technical expertise is required to perform this procedure and is available in some neurosurgical, rehabilitation, and anesthesiology training programs and fellowships. Physicians performing this procedure must be experienced in neurostimulation implantation and participate in ongoing injection training workshops, such as those sponsored by the Internal Society for Injection Studies or as sponsored by implant manufacturers.

7.1.2 Indications — Failure of conservative therapy including active and/or passive therapy, medication management, or therapeutic injections. Habituation to narcotic analgesics in the absence of a history of addictive behavior does not preclude the use of neurostimulation. Only patients who meet the following criteria should be considered candidates for neurostimulation:

7.1.2.1 A diagnosis of a specific physical condition known to be chronically painful has been made on the basis of objective findings; and

- 7.1.2.2 All reasonable non-surgical treatment has been exhausted; and
- 7.1.2.3 Pre-surgical psychiatric or psychological evaluation has been performed and has demonstrated motivation and long-term commitment without issues of secondary gain; and
- 7.1.2.4 There is no evidence of addictive behavior. (Tolerance and dependence to narcotic analgesics are not addictive behaviors and do not preclude implantation.); and
- 7.1.2.5 The topography of pain and its underlying pathophysiology are amenable to stimulation coverage; and
- 7.1.2.6 A successful neurostimulation screening test of 2-3 days. A screening test is considered successful if the patient (a) experiences a 50% decrease in pain, which may be confirmed by visual analogue scale (VAS).
- 7.1.2.7 For spinal cord stimulation, a temporary lead is implanted and attached to an external source to validate therapy effectiveness.

7.1.3 Operative Treatment – Implantation of stimulating leads connected by extensions to either an implanted neurostimulator or an implanted receiver powered by an external transmitter. The procedure may be performed either as an open or a percutaneous procedure, depending on the presence of epidural fibrosis and the anatomical placement required for optimal efficacy.

7.1.4 Post-Operative Considerations – MRI is contraindicated after placement of neurostimulator.

7.1.5 A mandatory second opinion is required to confirm the rationale for the procedure for non malignant pain.

7.2 INTRATHECAL DRUG DELIVERY

7.2.1 Description - This mode of therapy delivers small doses of medications directly into the cerebrospinal fluid. Clinical studies are conflicting regarding long-term, effective pain relief in patients with non-malignant pain. As with other routes of drug administration, escalation of dose may be required. Typically, pump refills are needed every 2-3 months.

7.2.2 General Indications – It may be considered only in rare cases where all other commonly used methods to control pain have failed and must be based on the recommendation of at least one physician experienced in chronic pain management in consultation with the primary treating physician. Patients should only be selected for intrathecal drug delivery if they have opioid-responsive pain but cannot tolerate the effects of systemic administration. The patient must have good to excellent pain relief with a test dose prior to pump implantation. The patient must be motivated for the procedure, and must understand the potential for complications and requirements of treatment maintenance.

7.2.3 Surgical Indications – Failure of conservative therapy including active and/or passive therapy, medication management, or therapeutic injections. Only patients who meet the following criteria should be considered candidates for intraspinal analgesic infusions:

- 7.2.3.1 A diagnosis of a specific physical condition known to be chronically painful has been made on the basis of objective findings; and
- 7.2.3.2 All reasonable non-surgical treatment has been exhausted; and
- 7.2.3.3 Pre-surgical psychiatric or psychological evaluation has been performed and has demonstrated motivation and long-term commitment without issues of secondary gain;
- 7.2.3.4 There is no evidence of addictive behavior. (Tolerance and dependence to narcotic analgesics are not addictive behaviors and do not preclude implantation.); and
- 7.2.3.5 A successful trial. A screening test is considered successful if the patient (a) experiences a 50% decrease in pain, which may be confirmed by VAS.
- 7.2.3.6 A mandatory second opinion is required to confirm the rationale for the procedure in non malignant pain.

7.3 FACET RHIZOTOMY

7.3.1 Description – A procedure designed to denervate the facet joint by ablating the periarticular facet nerve branches. There is good evidence to support this procedure for the cervical spine and some evidence in lumbar spine.

- 7.3.2 Indications – Pain of facet origin, unresponsive to active and/or passive therapy. All patients must have a successful response to diagnostic medial nerve branch blocks. A successful response is considered to be a 50% or greater relief of pain for the length of time appropriate to the local anesthetic.
- 7.3.3 Operative Treatment – Percutaneous radio-frequency rhizotomy is the procedure of choice over alcohol, phenol, or cryoablation. Position of the probe using fluoroscopic guidance is required.

8.0 Maintenance Management

Successful management of chronic pain conditions results in fewer relapses requiring intense medical care. Failure to address long-term management as part of the overall treatment program may lead to higher costs and greater dependence on the health care system.

Maintenance care in CRPS and CPD requires a close working relationship between the carrier, the providers, and the patient. Providers and patients have an obligation to design a cost-effective, medically appropriate program that is predictable and allows the carrier to set aside appropriate reserves. Carriers and adjusters have an obligation to assure that medical providers can design medically appropriate programs. A designated primary physician for maintenance team management is recommended.

Maintenance care will be based on principles of patient self-management. When developing a maintenance plan of care, the patient, physician and insurer should attempt to meet the following goals:

- 8.1 Maximal independence will be achieved through the use of home exercise programs or exercise programs requiring special facilities (e.g., pool, health club) and educational programs; b. modalities will emphasize self-management and self-applied treatment;
- 8.2 Management of pain or injury exacerbations will emphasize initiation of active therapy techniques and may require anesthetic injection blocks.
- 8.3 Dependence on treatment provided by practitioners other than the authorized treating physician will be minimized;
- 8.4 Periodic reassessment of the patient's condition will occur as appropriate.
- 8.5 Patients will understand that failure to comply with the elements of the self-management program or therapeutic plan of care may affect consideration of other interventions.

The following are Specific Maintenance Interventions and Parameters:

- 8.5.1 **HOME EXERCISE PROGRAMS AND EXERCISE EQUIPMENT** Most patients have the ability to participate in a home exercise program after completion of a supervised exercise rehabilitation program. Programs should incorporate an exercise prescription including the continuation of an age-adjusted and diagnosis-specific program for aerobic conditioning, flexibility, stabilization, and strength. Some patients may benefit from the purchase or rental of equipment to maintain a home exercise program. Determination for the need of home equipment should be based on medical necessity, compliance with an independent exercise program, and reasonable cost. Before the purchase or long-term rental of equipment, the patient should be able to demonstrate the proper use and effectiveness of the equipment. Effectiveness of equipment should be evaluated on its ability to improve or maintain functional areas related to activities of daily living or work activity. Occasionally, compliance evaluations may be made through a 4-week membership at a facility offering similar equipment. Home exercise programs are most effective when done 3 to 5 times a week.
- 8.5.2 **EXERCISE PROGRAMS REQUIRING SPECIAL FACILITIES** Some patients may have higher compliance with an independent exercise program at a health club versus participation in a home program. All exercise programs completed through a health club facility should focus on the same parameters of an age-adjusted and diagnosis-specific program for aerobic conditioning, flexibility, stabilization, and strength. Selection of health club facilities should be limited to those able to track attendance and utilization, and provide records available for physician and insurer review. Prior to purchasing a membership, a therapist and/or exercise specialist who has treated the patient may visit the facility with the patient to assure proper use of the equipment.
- Frequency: 2 to 3 times per week.

Optimal duration: 1 to 3 months.

Maximum maintenance duration: 3 months.

Continuation beyond 3 months should be based on functional benefit and patient compliance.

Health club membership should not extend beyond 3 months if attendance drops below 2 times per week on a regular basis.

- 8.5.3 **PATIENT EDUCATION MANAGEMENT** Educational classes, sessions, or programs may be necessary to reinforce self-management techniques. This may be performed as formal or informal programs, either group or individual.

Maintenance duration: 2 to 6 educational sessions during one 12-month period.

- 8.5.4 **PSYCHOLOGICAL MANAGEMENT** An ideal maintenance program will emphasize management options implemented in the following order: (a) individual self-management (pain control, relaxation and stress management, etc.), (b) group counseling, (c) individual counseling, by a psychologist or psychiatrist, and (d) in-patient treatment. Aggravation of the injury may require psychological treatment to restore the patient to baseline.

Maintenance duration: 6 to 10 visits during one 12-month period.

- 8.5.5 **NON-NARCOTIC MEDICATION MANAGEMENT** In some cases, self-management of pain and injury exacerbations can be handled with medications, such as those listed in the Medication section. Physicians must follow patients who are on any chronic medication or prescription regimen for efficacy and side effects. Laboratory or other testing may be appropriate to monitor medication effects on organ function.

Maintenance duration: Usually, four medication reviews within a 12-month period.

Frequency depends on the medications prescribed. Laboratory and other monitoring as appropriate.

- 8.5.6 **NARCOTIC MEDICATION MANAGEMENT** As compared with other pain syndromes, there may be a role for chronic augmentation of the maintenance program with narcotic medications. In selected cases, scheduled medications may prove to be the most cost effective means of insuring the highest function and quality of life. A patient should have met the criteria in the opioids section of these guidelines before beginning maintenance narcotics. Laboratory or other testing may be appropriate to monitor medication effects on organ function. The following management is suggested for maintenance narcotics:

- 8.5.6.1 A narcotic medication regimen should be defined, which may increase or decrease over time. Dosages will need to be adjusted based on side effects of the medication and objective function of the patient. A patient may frequently be maintained on additional non-narcotic medications to control side effects, treat mood disorders, or control neuropathic pain; however, only one long-acting narcotic and one short acting narcotic for rescue use should be prescribed in most cases.

- 8.5.6.2 All patients on chronic narcotic medication dosages need to sign an appropriate narcotic contract with their physician for prescribing the narcotics.

- 8.5.6.3 The patient must understand that continuation of the medication is contingent on their cooperation with the maintenance program. Use of non-prescribed drugs may result in tapering of the medication. The clinician may order random drug testing when deemed appropriate to monitor medication compliance.

- 8.5.6.4 Patients on chronic narcotic medication dosages must receive them through one prescribing physician or physician group.

Maintenance: Up to 12 visits within a 12-month period to review the narcotic plan. Laboratory and other monitoring as appropriate.

- 8.5.7 **THERAPY MANAGEMENT** Some treatment may be helpful on a continued basis during maintenance care if the therapy maintains objective function and decreases medication use. Aggravation the injury may require intensive treatment to get the patient back to baseline. In those cases, treatments and time frame parameters listed in the Active and Passive Therapy sections apply.

Active Therapy, Acupuncture, and Manipulation maintenance duration: 10 visits in a 12-month period.

- 8.5.8 **INJECTION THERAPY**

- 8.5.8.1 Sympathetic Blocks - These injections are considered appropriate if they maintain or increase function. Maintenance blocks are usually combined with and enhanced by the appropriate

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neuropharmacological medication(s) and other care. It is anticipated that the frequency of the maintenance blocks may increase in the cold winter months or with stress.

Maintenance duration: Not to exceed 6 to 8 blocks in a 12-month period for a single. Increased frequency may need to be considered for multiple extremity involvement or for acute recurrences of pain and symptoms. For treatment of acute exacerbations, consider 2 to 6 blocks with a short time interval between blocks.

- 8.5.8.2 Trigger Point Injections - These injections may occasionally be necessary to maintain function in those with myofascial problems.

Maintenance duration: Not more than 4 injections per session not to exceed 6 sessions per 12-month period.

- 8.5.8.3 Epidural and Selective Nerve Root Injections - Patients who have experienced functional benefits from these injections in the past may require injection for exacerbations of the condition.

Maintenance duration: 6 treatments per 12-month period (a treatment may involve injection at one or two levels.)

- 8.5.9 **PURCHASE OR RENTAL OF DURABLE MEDICAL EQUIPMENT** It is recognized that some patients may require ongoing use of self-directed modalities for the purpose of maintaining function and/or analgesic effect. Purchase or rental of modality based equipment should be done only if the assessment by the physician and/or therapist has determined the effectiveness, compliance, and improved or maintained function by its application. It is generally felt that large expense purchases such as spas, whirlpools, and special mattresses are not necessary to maintain function beyond the areas listed above.

Maintenance duration: Not to exceed 3 months for rental equipment. Purchase if effective.

12 DE Reg. 67 (7/01/08)

17 DE Reg. 322 (09/01/13)