



National Imaging Associates, Inc.	
Clinical Guidelines ACTIVE PROCEDURES IN PHYSICAL MEDICINE	Original Date: November 2015
Physical Medicine – Clinical Decision Making	Last Revised Date: January 2020
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Policy Statement

Active care services have sufficient evidence to support superior outcomes when used alone or in combination with manual-based treatments and/or passive care services (Searle 2015, Cohen 2015).

Purpose

These guidelines will assist the evidence based physical medicine provider to properly choose the correct service(s) when indicated for proper overall case management.

Scope

This policy will apply to all physical medicine participating network practitioners who provide active procedures, data/claims processing, and peer reviewers. Physical medicine practitioners include chiropractors, physical therapists, occupational therapists, and speech language pathologists.

Clinical Reasoning

The current valid literature indicates the necessity of incorporating active care measures into treatment programs. Interventions chosen to treat the patient’s symptoms or conditions should be selected based on the most effective and efficient means of achieving the patient’s functional goals (Paungmali 2017).

Timing of Introduction

Acute care cases- The literature supports the introduction and management of active care procedures as soon as clinically possible once the patient has sufficient range of motion/functional ability. For the care to be considered beneficial and effective, active care services should generally be provided within the first two weeks of intervention. For the purpose of these guidelines, an acute care case is when a patient is seen for treatment within seven days of the onset of the illness, injury, and/or medical intervention (Foster 2018).

Subacute care cases- Similar to acute care cases, the literature supports the introduction and management of active care procedures as soon as clinically possible once the patient has sufficient range of motion/functional ability. For the care to be considered beneficial and effective, active care services should generally be provided within the first two weeks of intervention. For the purpose of these guidelines, a subacute care case is when a patient is seen for treatment between 7 and 21 days after the onset of an illness, injury, and/or medical intervention.

Chronic care cases- The literature supports the introduction and management of active care procedures at the onset of intervention, either the first or second visit. For the purpose of these guidelines, a chronic care case is when a patient is seen for treatment beyond 21 days after the onset of an illness, injury, and/or medical intervention. Chronic conditions that have intermittent episodes will also be considered chronic in nature for purpose of these guidelines (Foster 2018).

Documentation Requirements

Documentation must support the medical necessity for the services requested and why the skills of a licensed professional are needed to render the service. The provider must outline the patient-specific rationale/need for care intervention as it relates to the patient's condition and resultant functional limitations in activities of daily living, as well as mobility and safety, as identified in a comprehensive evaluation. Based on these findings, a plan of care is developed that includes specific and measurable goals that support the need for the identified interventions.

Documentation must include a timeframe for initiating, progressing and discharging the patient from skilled services. Documentation must also include specific treatment parameters to support the intervention, in addition to applicable precautions. This includes the specific type of procedure, instruction and/or exercise performed, area of body and muscle groups treated, and time component.

Billing Units

This organization follows Medicare rules for reporting timed units. Billing units are based on 15 minutes per unit for time based codes and the Medicare minimum time requirement for a service to be justifiably billed.

- 1 unit - 8 minutes to 22 minutes
- 2 units - 23 minutes to 37 minutes
- 3 units - 38 minutes to 52 minutes
- 4 units - 53 minutes to 67 minutes
- 5 units - 68 minutes to 82 minutes
- 6 units - 83 minutes to 98 minutes

NOTE: Individual states may have varying statutory guidelines for reporting timed units that supersede this organization's requirements.

CPT Code Definitions, Examples, and Requirements

97110 - Therapeutic Exercise

Definition:

Although not exclusive by definition, therapeutic exercise is any exercise planned and performed to attain a specific goal. Goals would be to increase strength, endurance, range of motion, and flexibility. Therapeutic procedures/exercise could be applied to one or more areas and billed in units as noted above.

Parameters for Use:

The following requirements must be documented in the medical record to support and justify the use of all therapeutic procedures/exercises:

- Evidence to support medical necessity
- Plan of care with specific and measurable goals and timeframe for initiating, progressing, and discharging the patient from skilled medical services to an independent home program.
- Detailed description of active care services including:
 - What exercise(s) were provided
 - What area and muscle groups the exercise(s) were provided to
 - Amount and type of resistance, repetitions, sets and time component.
- Evidence to support the need for skilled services by a licensed professional in direct contact with one patient.

Medical research supports the initiation of appropriate therapeutic procedures/exercise as soon as the patient is reasonably able to engage in the planned activity. Therefore, the expectation is for a patient to perform therapeutic exercises and receive a home exercise program within a reasonable timeframe (Akhtar 2017, Ammar 2017, Bronfort 2011, Gordan 2017, Gross 2015, Haufe 2017, Hidalgo 2017, Lee 2016, Lin 2011, Macedo 2016, Miller 2010, Saragiotto 2016). Based on the definition and guidelines for services that are medically necessary, the expectation is for the provision of the therapeutic procedures/exercises that are not for the convenience of the patient or health care provider or more costly than an alternative form of treatment. Guidelines regarding the use of fitness machines (MedX Extension Machine, Isostation B-220 Lumbar Dynamometer, Cybex Back System, etc).

There is insufficient evidence that they are more efficacious than standard exercise equipment or that their use improves clinical outcomes to a greater extent than standard programs.

Thus documentation must support the following:

- It must be clear that the intervention is medically necessary.
- Evidence to support number of visits that are often in excess of community standards for treatment of musculoskeletal conditions
- Evidence of functional improvement as a result of the increased muscle strength
- It must be clear skilled service is being provided
- Evidence for why the skills of a therapist are needed beyond progressing weights and repetitions
- Evidence for why the skills of a therapist are needed beyond a few visits to establish a program

- Their use should be part of a comprehensive rehab program
- Plan of care is driven by impairments, not the intervention itself
- It must be clear that increasing muscle strength is the treatment of choice (e.g. strength building may be detrimental in an individual with movement restrictions).

Examples

Strengthening of select muscle groups (beginning in gravity-eliminated plane, if needed) progressing to anti-gravity plane utilizing body weight with progressive resistive exercises utilizing thera-tubing, exercise ball, free weights, etc; close chain exercises are often preferable to open chain exercises in preventing shearing forces and simulating functional activities); monitored graded exercise following cardiac or pulmonary surgery or heart attack; selective stretching to increase joint range of motion (ROM).

Support for this service

- Indications must be documented for loss or restriction of joint motion, reduced strength, and functional capacity or mobility concerns. The clinical records must show objective (quantitative if possible) loss of ROM, strength, flexibility or mobility. The code is generally not reimbursable for increasing a patient’s endurance without deficits, promotion of overall fitness, weight loss, return to sports, and/or sports and aerobic conditioning.
- Documentation must include evidence of the skilled services required to support the use of therapeutic exercise. It is considered a skilled service that would require proper licensure/credentials of the clinician. Without evidence in the documentation to support the need for skilled services, the records would suggest the patient is “working out” in the clinical setting, which is generally not medically necessary and not eligible for reimbursement.
- Most programs should only entail up to one to three units at any time to ensure competency and compliance with instructions. The clinical rationale for more than three units would need to be clearly supported by the documentation. As this service should be seen in the acute phase, the patient should not then require more than three units at any time. If more than three units are seen, this might suggest the patient is “working out” in the clinical setting, which is generally not medically necessary as the service can be performed in a less costly arena (home or health club setting).
- Patient non-compliance with active home instructions will not result in further in-office instruction being considered medically necessary. The patient should instead be discharged for non-compliance/acting against medical advice. One to three sessions of in-office exercise should be sufficient, for the non-surgical patient, to ensure competency and compliance with a home exercise program. If in-office repetitive exercise continues after 3 sessions, the record must clearly document why the patient is not able to participate in a home exercise program. Any active care program may include periodic review of the program as part of case management in regard to monitoring continued therapeutic benefit and progression in specific exercises/instructions. This ongoing case management should outline patient compliance, necessary alterations to any active home care program, progression in specific active home care program, and anticipated term date for the need for skilled in-office services.

97112 - Neuromuscular reeducation

Definition:

Neuromuscular re-education of movement, balance, coordination, kinesthetic sense, posture, and proprioception (defined as the three modalities of joint position: sense, sense of movement and sense of force). Injuries can be seen after stroke, closed head injury, spinal cord injury, tumor, congenital disorders such as cerebral palsy or secondary to degenerative joint disease, musculoskeletal injury such as ankle sprain, post orthopedic surgery, or prolonged immobilization. Neuromuscular re-education may be considered medically necessary if at least one of the following conditions is present and documented:

- The patient has the loss of deep tendon reflexes and vibration sense accompanied by paresthesia, burning, or diffuse pain of the feet, lower legs, and/or fingers;
- The patient has nerve palsy, such as peroneal nerve injury causing foot drop; or
- The patient has muscular weakness or flaccidity as a result of a cerebral dysfunction, a nerve injury or disease, or has had a spinal cord disease or trauma.
- Muscle compensations requiring targeted exercise to produce stable, coordinated movements during functional tasks (Judd, 2017).

Examples

Treatment involves the stimulation of reflexes, sensation, posture, proprioception and motor activity through rocker/BAPS board, mini-trampolines, targeted exercises to spastic or rigid muscles, balance training, proprioceptive neuromuscular facilitation (PNF), Feldenkreis, Bobath, neurodevelopmental treatment (NDT), and desensitization techniques.

Support for this service

Documentation must support the need for skilled services by a licensed professional in direct contact with one patient.

An indication of the lesion of the neuromusculoskeletal system needs to be documented and the exact procedure must be noted. Instructions for home care should be seen within a reasonable timeframe and the service discontinued with proper education and instruction given to the patient.

97113 - Aquatic Therapy

Definition

A therapy program utilizing therapeutic exercise techniques with the properties of water, designed and carried out in a suitably heated hydrotherapy pool by a qualified clinician specifically for an individual to improve function. Examples: Tai Chi, Aquatic PNF, the Bad Ragaz Ring Method, Fluid Moves, the Halliwick Concept, Swim Stroke Training and Modification, Task Type Training Approach and Watsu. Treatment to address improved circulation and decreased venous pooling, increased endurance facilitated through the availability of cardiovascular training with less stress on weight-bearing joints or working with enhancement of balance and coordination as a result of the buoyancy obtained from an aquatic environment.

Support for this Service

Documentation must support the need for skilled services by a licensed professional in direct contact with one patient. The patient would need to be immersed in a pool of water for this code to apply.

The provider must also indicate the medical necessity for the buoyancy, hydrostatic pressure, and heat properties that are present in a pool setting versus standard therapeutic exercise or activities. This is often used to transition the patient to a land based program.

97116 - Gait Training

Definition

Training the patient in specific activities that will facilitate ambulation on varied surfaces and stair climbing with or without an assistive device. This includes training in rhythm, speed, sequencing and safety instructions.

Examples

Gait training can be useful for people with any condition needing to re-learn proper ambulation. Common conditions include: amputation, osteoarthritis, muscular dystrophy, cerebral palsy, stroke, parkinson's disease, multiple sclerosis, brain/spinal cord injuries, post-surgical, sports injury, low back pain.

Support for this Service

Documentation must support the need for skilled services by a licensed professional in direct contact with one patient as opposed to just "walking the patient."

Deficits in gait parameters including walking speed, cadence, stride length and balance, and functional ambulation category scores must be documented. The provider would need to document if body-weight support (BWS) systems, unweighting devices, or assistive devices are used. The record must denote the assessment of the phases of gait to include stance phase, stride length, balance issues and what the ankle, knee, hip and low back are doing during the phases of gait cycle.

97760 - Orthotics Management and Training

Definition

Orthotic(s) management and training, including assessment and fitting when not otherwise reported as a separate L HCPCS code (L-code), fitting and training, upper extremity or extremities, lower extremity or extremities, and/or trunk, each 15 minutes.

Explanation

This code applies to custom-fabricated orthotics and for adjustments to over-the-counter orthotics. The orthotics management portion of this code refers to time spent assessing the need for the orthotic and the type of orthotic as well as the fitting and the fabrication if the fabrication is done in the presence of the patient. The training portion of this code includes training in the care and use of the orthotic device.

This code cannot be used if the orthotic is fabricated/formed without the patient being present. Supplies and time for the actual orthotic fabrication is typically reported under L-codes. If an L-code is NOT used to report the orthotic, then the time assessing and fitting/fabricating would be reported under code 97760.

Support for this Service

The need for an orthotic requires documented support. This would include a proper examination (not just a vendor specific evaluation) along with the outline of the causal nexus to justify inclusion for any complaints other than foot based. Foot based complaints need a detailed notation as to the fault/deficit present that requires custom orthotics, versus usage of a heel lift or over-the-counter orthotic. This service should typically not be seen more than once per calendar year for one set of orthotics. Orthotic use is based on plan benefit. Code 97760 cannot be reported with gait training (97116).

Documentation must also support why the skills of a licensed professional are needed for the training in care and use of the orthotic.

97761 - Prosthetic Training

Definition

Functional mobility and activities of daily living (ADL) assessment, training with prosthesis, upper and/or lower extremity. This would include instruction and practice in use of prosthesis.

Support for this Service

The patient would need to be the recipient of a recent prosthetic device. Surgical records would need to be supplied in support.

97763 - Checkout for Orthotic/Prosthetic Use, Established Patient

Definition

Orthotic(s)/prosthetic(s) management and/or training, upper extremity or extremities, lower extremity or extremities, and/or trunk, subsequent orthotic(s)/prosthetic(s) encounter.

Support for this Service

Documentation must clearly support the skilled need of a licensed professional for the adjustments.

97530 - Therapeutic Activities

Definition

This code includes the use of dynamic activities in teaching and training the patient to improve functional performance in a progressive manner.

Examples

Activities that address quantifiable deficits (e.g. loss of ROM, strength or functional capacity) resulting in a deficit in functional mobility. Functional mobility may include bending, reaching, lifting, carrying, pushing, pulling, bed mobility and transfers.

Support for this Service

Documentation must support the need for skilled services by a licensed professional in direct contact with one patient.

In order for therapeutic activities to be covered, the following requirements must be met:

- The patient has a condition for which therapeutic activities can reasonably be expected to restore or improve functioning;
- The patient's condition is such that he/she is unable to perform therapeutic activities except under the direct supervision of a physician, optometrist or physical therapist; and
- There is a clear correlation between the type of exercise performed and the patient's underlying medical condition for which the therapeutic activities were prescribed.

The code is generally not reimbursable for increasing a patient's endurance without deficits, promotion of overall fitness, weight loss, return to sports, and/or sports and aerobic conditioning.

97127 - Cognitive Skills Development

Definition

Therapeutic interventions that focus on cognitive function (e.g., attention, memory, reasoning, executive function, problem solving, and/or pragmatic functioning) and compensatory strategies to manage the performance of an activity (e.g., managing time or schedules, initiating, organizing and sequencing tasks), direct (one-on-one) patient contact.

Examples

Individuals with inherited learning disabilities, individuals who have lost cognitive skills as a result of illness or brain injury

Support for this Service

Cognitive deficits would need to be present and quantifiably documented. Documentation must support the need for skilled services by a licensed professional in direct contact with one patient

97533 - Sensory Integration

Definition

Treatment techniques designed to enhance sensory processing and adaptive responses to environmental demands.

The goal of sensory integration therapy is to improve the way the brain processes and adapts to sensory information as a foundation for later, more complex learning behavior.

Examples

Sensory integration (SI) therapy has been proposed as a treatment of developmental disorders in patients with established dysfunction of sensory processing (e.g., children with autism, attention deficit hyperactivity disorder (ADHD), fetal alcohol syndrome, and neurotransmitter disease). Sensory integration disorders may also be a result of illness or brain injury.

Therapy usually involves activities that provide vestibular, proprioceptive, and tactile, visual and auditory stimuli, which are selected to match specific sensory processing deficits of the child. For example, swings are commonly used to incorporate vestibular input, while trapeze bars and large foam pillows or mats may be used to stimulate somatosensory pathways of proprioception and deep touch. Tactile reception may be addressed through a variety of activities and surface textures involving light touch.

Sensory integration differs from 97112 as 97112 focuses on training to restore the ability to perform the particular activities.

Support for this Service

Sensory integration therapy is usually provided by occupational and physical therapists who are certified in sensory integration therapy.

Documentation must support the need for skilled services by a licensed professional in direct contact with one patient.

97535 -Self-care/Home Management Training

Definition

Instructing and training the patient in self-care and home management activities (ADL). This includes compensatory training, safety procedures and instruction in the use of assistive technology devices/adaptive equipment.

Examples

Activities that address quantifiable deficits resulting in functional limitations in ADLs. ADLs include toileting, continence, bathing, dressing, personal hygiene, housecleaning, eating and meal preparation.

Support for this Service

Documentation must support the need for skilled services by a licensed professional in direct contact with one patient. Documentation should relate the ADL instruction to the patient's expected functional goals and indicate that it is part of an active treatment plan directed at a specific goal.

97537 -Community Work Reintegration – typically not a covered service

Definition

Services are instructing and training the patient in community and/or work re-integration activities. These activities could include shopping, safely accessing transportation sources, money management, avocational activities and/or work environment/modification analysis (Van Eerd D et al 2016), work task analysis, and use of assistive technology devices and/or/adaptive equipment.

Example

Community reintegration is often performed in conjunction with other therapeutic procedures such as gait training and self-care/home management training. The payment for community reintegration training is often bundled into the payment for those other services. Therefore, those other services are not usually separately reimbursable.

Services provided to issue, modify, adjust, and/or educate the patient on assistive technology devices and/or adaptive equipment typically will not be covered if the adaptive equipment and/or assistive technology device(s) are not covered by the third-party payer.

Generally, services which are related solely to specific employment opportunities, work skills, or work settings are not reasonable and necessary for the diagnosis and treatment of an illness or injury and are excluded from coverage by Section 1862(a)(1) of the Social Security Act.

Support for this Service

Documentation would need to provide evidence to support the medical necessity and the need for skilled services provided to the patient.

97542 -Wheelchair Management and Training

Definition

Includes assessment, fitting and adjustment of the wheelchair and seating; instructing the patient and/or caregiver on how to propel and safely operate the wheelchair (97001 and 97002 cannot be billed with this code).

Support for this Service

Documentation should include the recent event that prompted the need for a skilled wheelchair assessment; the result of any previous wheelchair assessments; most recent prior functional level; the interventions that were tried by nursing staff, caregivers or the patient to address poor seating or

positioning; and any functional deficits or applicable impairments such as ROM, strength, sitting balance, skin integrity, sensation and tone.

The documentation must correlate the training provided to the expected functional goals that are attainable by the patient and/or caregiver, along with the response of the patient to the instruction or fitting.

The documentation must clearly support that the services rendered required the skills and expertise of a licensed therapist.

97545 -Work Hardening/Conditioning – initial 2 hours, use 97546 for each additional hour and use in conjunction with 97545 – typically not a covered service

Definition

Work hardening includes job simulation tasks and educational activities related to a safe return to work for the patient. Often, work hardening programs incorporate an interdisciplinary approach to restore physical, behavioral, and/or vocational functions. Work conditioning includes exercises directed towards safely returning the patient to work related activities or to commence with vocational rehabilitation services. In general, work conditioning programs are designed to address neuromuscular functions such as flexibility, strength, endurance, and/or range of motion as well as cardiopulmonary functions.

Example

A work induced injury and/or impairment was present that resulted in the need for therapeutic exercises/procedures. Once the patient has completed acute medical care including chiropractic or rehabilitation treatment, the patient may require a comprehensive, intensive, and individualized program for safely returning to work activities. Subsequently, the patient may begin a work hardening and/or work conditioning program. Typically, the patient will participate in a program for at least two hours a day, three days a week to as much as eight hours a day, five days a week. The activities performed by the patient in the program may include and exercise regimen, simulation of specific or general work requirements, training and/or modifications of activities of daily living, injury prevention training, cognitive-behavioral pain management training, and/or occupational/educational training aspects.

Support for this Service

The documentation would need to support that the patient had an injury and/or impairment within the last 12 months, has received acute rehabilitation services, and is expected to return to his/her previous employment. Furthermore, the documentation should clearly report the patient's limitations for returning to work; the patient's willingness to participate in the program; a highly structured, goal oriented plan of care including reference to return to work and discharge from skilled services; identified systemic neuromusculoskeletal deficits that interfere with work; documentation to support that care is at the point of resolution for the initial or principal injury so that participation in the conditioning process would not be prohibited; and, if applicable, the identification of psychosocial and/or vocation problems and evidence of a referral to the appropriate professional.

Background

A qualified health care provider is an individual who by education, training, and licensure/regulation performs a professional service within his/her scope of practice and reports a professional service. These providers are distinct from ‘clinical staff’ (e.g., physical therapy aide or speech language assistant). A clinical staff member is a person who works under the supervision of a qualified health care provider and who is allowed by law or regulation to perform or assist in the performance of a specified professional service. Examples of qualified health care providers for the purpose of this policy include chiropractors, physical therapists, occupational therapists, physician assistants, speech therapists, physical therapy assistants, and occupational therapy assistants.

Skilled care services are not required to effect improvement or restoration of function when a patient suffers a transient and easily reversible loss or reduction of function, which could reasonably be expected to improve spontaneously as the patient gradually resumes normal activities. Skilled care services furnished in such situations are not considered reasonable and necessary for the treatment of the individual’s illness or injury.

Definition

The following services are considered “active” meaning the patients themselves take part in the completion of the service. This is opposed to “passive”, where the patient passively receives health care services without any physical input or effort.

All services outlined in this section require the provision of skilled services and direct (one on one) provider-patient contact.

While an individual’s particular medical condition is a valid factor in making decisions about health care, the diagnosis or prognosis cannot be the sole basis in deciding that skilled care services are reasonable and necessary. The key judgment is whether the skills of a qualified health care provider are needed to treat the illness or injury or whether the services can be carried out by unskilled personnel.

Regardless of the expectation of improvement, reasonable and necessary skilled care services must be provided by a qualified health care provider and require a high level of complexity and sophistication or the condition of the patient is such that the services can be safely and effectively performed only by a qualified health care provider. Services that do not require the performance or supervision of a qualified health care provider are not skilled and are not considered reasonable or necessary services, even if they are performed or supervised by a qualified professional. Therefore, if a service can be self-administered or safely and effectively furnished by an unskilled person or caregiver, without the direct or general supervision of a qualified health care provider, the service cannot be regarded as skilled even if a qualified professional actually furnishes the service. Further, the unavailability of a competent person to provide a non-skilled service, despite the importance of the service to the patient, does not make it a skilled service when a qualified health care provider furnishes the service. A clinician may not merely supervise, but must apply the skills of a professional by actively participating in the treatment of the patient. In addition, a provider’s skills may be documented, for example, by the clinician’s descriptions of their skilled treatment, the changes made to the treatment due to a clinician’s assessment of the patient’s needs on a particular treatment day, or changes due to progress the clinician judged sufficient to modify the treatment toward the next more complex or difficult task.

Services related to activities for the general good and welfare of patients (e.g., general exercises to promote overall fitness and flexibility and activities to provide diversion or general motivation) do not constitute skilled care services. Services provided by practitioners/staff who are not qualified health care providers are not skilled intervention services. Unskilled services are palliative procedures that are repetitive or reinforce previously learned skills or services performed to maintain function.

Objective Evidence: Consists of serial standardized assessment tools/instruments, outcome measurements, and or measurable assessments of functional outcome used to quantify patient progress and support justification for continued treatment. Examples of objective evidence include:

- Functional assessment from standardized and validated outcomes instruments; or
- Functional assessment scores from tests and measurements that are validated in the professional literature, which are appropriate for the condition/function being measured.

Physical measures (e.g., range of motion or manual muscle strength testing) are generally not considered to be 'objective evidence' of functional assessment.

Rehabilitative (Restorative) Services: Are services designed to address recovery or improvement in function and, when possible, restoration to a previous level of health and well-being. Improvement is evidenced by successive objective measurements whenever possible (e.g. impairments, pain, functional status, etc.). If an individual's expected rehabilitation potential is insignificant in relation to the extent and duration of therapy services required to achieve such potential, rehabilitative therapy is not reasonable and necessary. Rehabilitative care must require the skills and level of sophistication of a qualified health care provider. Services that can be safely and effectively furnished by non-skilled personnel or caregivers are not rehabilitative care services.

Skilled rehabilitative care services must be part of a documented treatment plan provided to improve or restore lost or impaired physical function resulting from illness, injury, neurologic disorder, congenital defect or surgery. These skilled care services are intended to enhance rehabilitation and recovery by clarifying a patient's impairments and functional limitations as well as by identifying interventions, treatment goals, and precautions.

Reasonable and Necessary: The services shall be of such a level of complexity and sophistication or the condition of the patient shall be such that the services required can only be performed safely and effectively by a qualified health care provider. Services that do not require the performance of a qualified health care provider are not skilled and are not considered reasonable or necessary.

POLICY HISTORY:

Review Date: July 31, 2019

Review Summary:

- Updated references (pulled any older than 10 years and provided updated reference if necessary).
- Provided further definition for use of neuromuscular re-education.

Review Date: December 31, 2019

Review Summary: Minor editorial edits only

REFERENCES

- Aboodarda SJ, Shariff, MAH, Muhamed, AMC, et al. Electromyographic activity and applied load during high intensity elastic resistance and nautilus machine exercises. *J Hum Kinet.* 2011; 30: 5–12.
- Akhtar MW, Karimi H, Gilani SA. Effectiveness of core stabilization exercises and routine exercise therapy in management of pain in chronic non-specific low back pain: A randomized controlled clinical trial. *Pak J Med Sci.* 2017; 33(4): 1002–1006.
- American Occupational Therapy Association (AOTA). Standards of practice for occupational therapy. 2005; revised 2010. Available at www.aota.org Retrieved January 11, 2018.
- American Physical Therapy Association (APTA). Criteria for standards of practice for physical therapy. BOD S03-06-16-38. 2006; revised 2012. Available at www.apta.org. Retrieved April 4, 2018.
- American Physical Therapy Association (APTA). Essential health benefits recommendations (BOD position); revised June 14, 2013. Available at www.apta.org. Retrieved April 04, 2018.
- American Physical Therapy Association (APTA). Criteria for standards of practice for physical therapy. BOD S03-06-16-38. 2006; revised 2012. Available at www.apta.org. Retrieved April 04, 2018.
- Ammar T. A randomized comparison of supervised clinical exercise versus a home exercise program in patients with chronic low back pain. *Phys Ther Rehabil.* 2017; 4:7.
- Australian Acute Musculoskeletal Pain Guidelines Group. Evidence-based management of acute musculoskeletal pain: a guide for clinicians. Bowen Hills, Australia: Australian Academic Press, 2004. Retrieved January 11, 2018.
- Beer A, Treleaven J, Jull G. Can a functional postural exercise improve performance in the cranio-cervical flexion test?--a preliminary study. *Man Ther.* 2012;17(3):219-24.
- Bell J, Burnett A. Exercise for the primary, secondary and tertiary prevention of low back pain in the workplace: a systematic review. *J Occ Rehab.* 2009; 19(1);8-24.
- Boudreau SN, Dwyer MK, Mattacola CG, et al. Hip-Muscle activation during the lunge, single-leg squat, and step-up-and-over exercises. *J Sport Rehabil.* 2009;18(1):91-103.
- Bronfort G, Maiers MJ, Evans RL, et al. Supervised exercise, spinal manipulation, and home exercise for chronic low back pain: A randomized clinical trial. *Spine J.* 2011;11(7):585-98.
- Bussièrès AE, Stewart G, Al-Zoubi F, et al. The treatment of neck pain–associated disorders and whiplash-associated disorders: A Clinical Practice Guideline. *Manipulative Physiol Ther.* 2016;39(8):523-564.
- Cameron MH. Physical gents in Rehabilitation: An Evidence-Based Approach to Practice, 5th Edition. St. Louis, 2018, Saunders Elsevier.

Centers for Medicare and Medicaid Services. Medicare benefit policy manual chapter 15: Covered medical and other health. Revised July 11, 2017. Available at <http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/bp102c15.pdf>. Retrieved: January 11, 2018.

Cohen S. Epidemiology, diagnosis, and treatment of neck pain. *Mayo Clinic Proceedings*. 2015;90(2):284–299.

Consensus Statement on Clinical Judgment in Health Care Settings AOTA, APTA, ASHA. Available at: <http://www.aota.org/-/media/Corporate/Files/Practice/Ethics/APTA-AOTA-ASHA-Concensus-Statement-10-14-14.pdf>. Retrieved September 1, 2016.

Dahm KT, Brurberg KG, Jamtvedt G, et al. Advice to rest in bed versus advice to stay active for acute low-back pain and sciatica. *Cochrane Database Syst Rev*. 2010;6:CD007612.

Debusse D, Birch O, St Clair Gibson A, et al. Low impact weight-bearing exercise in an upright posture increases the activation of two key local muscles of the lumbo-pelvic region. *Physiother Theory Pract*. 2013;29(1):51-60.

Foster NE, Anema JR, Cherkin D, et al. Prevent and treatment of low back pain: evidence, challenges, and promising directions. *Lancet*. 2018;391(10137):2368-2383.

Freburger J, Carey T, Holmes G, et al. Exercise prescription for chronic back or neck pain: Who prescribes it? Who gets it? What is prescribed? *Arthritis & Rheumatism (Arthritis Care & Research)*. 2009;61(2):201–208.

Gomes-Neto M, Lopes JM, Conceição CS, et al. Stabilization exercise compared to general exercises or manual therapy for the management of low back pain: A systematic review and meta-analysis. *Phys Ther Sport*. 2017;23:136-142.

Gordon R, Bloxham, S. A systematic review of the effects of exercise and physical activity on non-Specific Chronic Low Back Pain. *Healthcare (Basel)*. 2016;4(2):e22.

Gottschall JS, Mills J, Hastings B. Integration Core Exercises Elicit Greater Muscle Activation Than Isolation Exercises. *J Strength Cond Res*. 2013;27(3):590-6.

Gross A, Kay TM, Paquin J, et al. Exercises for mechanical neck disorders. *Cochrane Database of Systematic Reviews* 2015, Issue 1. Art. No.: CD004250.

Gross AR, Paquin JP, Dupont G, et al. Exercises for mechanical neck disorders: A Cochrane review update. *Man Ther*. 2016;24:25-45.

Haufe S, Wiechmann K, Stein L, et al. Low-dose, non-supervised, health insurance initiated exercise for the treatment and prevention of chronic low back pain in employees. Results from a randomized controlled trial. *PLoS One*. 2017;12(6).

Hidalgo B, Hall, T, Bossert, J, et al. The efficacy of manual therapy and exercise for treating non-specific neck pain: A systematic review. *Journal of Back and Musculoskeletal Rehabilitation*, 2017;30(6):1149-1169.

Javadian Y, Behtash H, Akbari M, et al. The effects of stabilizing exercises on pain and disability of patients with lumbar segmental instability. *J Back Musculoskeletal Rehabil*. 2012;25(3):149-55.

Jordan JL, Holden MA, Mason EE, et al. Interventions to improve adherence to exercise for chronic musculoskeletal pain in adults. *Cochrane Database of Systematic Reviews*. CD005956, 2010.

Judd DL, Winters JD, Stevens-Lapsley JE, et al. Effects of neuromuscular reeducation on hip mechanics and functional performance in patients after total hip arthroplasty: a case series. *Clin Biomech*. 2016; 32:49-55.

Koes BW, van Tulder M, Lin CWC, et al. An updated overview of clinical guidelines for the management of nonspecific low back pain in primary care. *Eur Spine J*. 2010; 19(12): 2075–2094.

Kröner-Herwig B. Chronic pain syndromes and their treatment by psychological interventions. *Curr Opin Psychiatry*. 2009;22(2):200-4.

Larsson ME, Kreuter M, Nordholm L. Is patient responsibility for managing musculoskeletal disorders related to self-reported better outcome of physiotherapy treatment? *Physiother Theory Pract*. 2010;26(5):308-17.

Lee JS, Kang SJ. The effects of strength exercise and walking on lumbar function, pain level, and body composition in chronic back pain patients. *J Exerc Rehabil*. 2016;12(5):463–470.

Leininger B, McDonough C, Evans R, et al. Cost-effectiveness of spinal manipulative therapy, supervised exercise, and home exercise for older adults with chronic neck pain. *Spine J*. 2016; 16(11): 1292–1304.

Lin CW, McAuley JH, Macedo L, et al. Relationship between physical activity and disability in low back pain: A systematic review and meta-analysis. *Pain*. 2011;152(3):607-13.

Macedo L, Maher C, Latimer J, et al. Motor control exercise for persistent, nonspecific low back pain: A systematic review. *Physical Therapy*. 2009; 89(10):9-25.

Macedo LG, Saragiotto BT, Yamato TP, et al. Motor control exercise for acute non-specific low back pain. *Cochrane Database of Systematic Reviews*. 2016, Issue 2. Art. No.: CD012085.

Miller J, Gross A, D'Sylva J, et al. Manual therapy and exercise for neck pain: A systematic review. *Man Ther*, 2010;15:334-354.

Paungmali A, Joseph LH, Silitertpisan P, et al. Lumbopelvic core stabilization exercise and pain modulation amount individuals with chronic nonspecific low back pain. *Pain Practice*. 2017; 17(8): 1008-1014.

Rasmussen-Barr E, Arvidsson A, Nilsson-Wikmar L. Graded exercise for recurrent low-back pain: a randomized controlled trial with 6-, 12-, and 36-month follow-ups.

Spine. 2009; 34(3):221-228.

Sachs, B L, Ahmad S S, LaCroix M, et al: Objective assessment for exercise treatment on the B-200 Isostation as part of work tolerance rehabilitation: A random prospective blind evaluation with comparison control population. *Spine*. 1994;19:49-52.

Saragiotto BT, Maher C, Yamato TP, et al. Motor control exercise for chronic non-specific low-back pain. *Cochrane Database of Systematic Reviews* 2016, Issue 1. Art. No.: CD012004.

Searle A, Spink M, Ho A. Exercise interventions for the treatment of chronic low back pain: a systematic review and meta-analysis of randomized controlled trials. *Clin Rehabil*. 2015;29(12):1155-67.

Sertpoyraz F, Eyigor S, Karapolat H, et al. Comparison of isokinetic exercise versus standard exercise training in patients with chronic low back pain: A randomized controlled study. *Clin Rehabil*. 2009;23(3):238-47.

Sherman KJ, Cherkin DC, Wellman RD, et al. A randomized trial comparing yoga, stretching, and a self-care book for chronic low back pain. *Arch Intern Med*. 2011;171(22):2019-26.

Slade S, Keating J. Effects of preferred-exercise prescription compared to usual exercise prescription on outcomes for people with non-specific low back pain: a randomized controlled trial. *BMC Musculoskeletal Disorders*. 2009;10:14.

Sundstrup E, Jakobsen MD, Andersen CH, et al. Swiss ball abdominal crunch with added elastic resistance is an effective alternative to training machines. *Int J Sports Phys Ther*. 2012;7(4):372-80.

Teasell RW, Harth, M. Functional restoration: Returning patients with chronic low back pain to work. *Spine*. 1996; 21:844-7.

Tsertsvadze A, Clar C, Court R, et al. Cost-effectiveness of manual therapy for the management of musculoskeletal conditions: A systematic review and narrative synthesis of evidence from randomized controlled trials. *J Manipulative Physiol Ther*. 2014;37(6):343-62.

Van Eerd D, Munhall C, Irvin E, et al. Effectiveness of workplace interventions in the prevention of upper extremity musculoskeletal disorders and symptoms: an update of the evidence. *Occup Environ Med*. 2016;73(1):62-70.

Vogel S. NICE Clinical Guidelines: Low back pain: The early management of persistent non-specific back pain. *International Journal of Osteopathic Medicine*. 2009;12 (4): 113-114.

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