

Cigna Medical Coverage Policy- Therapy Services

Physical Therapy

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INSTRUCTIONS FOR USE

Cigna / ASH Medical Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document may differ significantly from the standard benefit plans upon which these Cigna / ASH Medical Coverage Policies are based. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Cigna / ASH Medical Coverage Policy. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Determinations in each specific instance may require consideration of:

- 1) the terms of the applicable benefit plan document in effect on the date of service*
- 2) any applicable laws/regulations*
- 3) any relevant collateral source materials including Cigna-ASH Medical Coverage Policies and*
- 4) the specific facts of the particular situation*

Cigna / ASH Medical Coverage Policies relate exclusively to the administration of health benefit plans.

Cigna / ASH Medical Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines.

Some information in these Coverage Policies may not apply to all benefit plans administered by Cigna. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make benefit determinations. References to standard benefit plan language and benefit determinations do not apply to those clients.

Under many benefit plans, coverage for outpatient physical therapy programs and physical therapy provided in the home is subject to the terms, conditions and limitations of the applicable benefit plan's Short-Term Rehabilitative Therapy benefit and schedule of copayments. Under many plans, coverage of inpatient physical therapy is subject to the terms, conditions and limitations of the Other Participating Health Care Facility/Other Health Care Facility benefit as described in the applicable plan's schedule of copayments.

Outpatient physical therapy is the most medically appropriate setting for these services unless the individual independently meets coverage criteria for a different level of care.

If covered, massage therapy is generally subject to the terms, conditions and limitations of the Short-Term Rehabilitation Therapy or Chiropractic Care Services benefits as described in the applicable plan's schedule of copayments. Many benefit plans include a maximum allowable benefit for duration of treatment or number of visits. Please refer to the applicable benefit plan document to determine benefit availability and the terms and conditions of coverage.

Coverage for physical therapy varies across plans. Refer to the customer's benefit plan document for coverage details.

If coverage is available for physical therapy, the following conditions of coverage apply.

GUIDELINES

Medically Necessary

- I. **A physical therapy evaluation is considered medically necessary for the assessment of a physical impairment.**
- II. **Physical therapy services are considered medically necessary to improve, adapt or restore functions which have been impaired or permanently lost and/or to reduce pain as a result of illness, injury, loss of a body part, or congenital abnormality when ALL the following criteria are met:**
 - The individual's condition has the potential to improve or is improving in response to therapy, maximum improvement is yet to be attained; and there is an expectation that the anticipated improvement is attainable in a reasonable and generally predictable period of time.
 - The program is individualized, and there is documentation outlining quantifiable, attainable treatment goals.
 - Improvement is evidenced by successive objective measurements.
 - The services are delivered by a qualified provider of physical therapy services (i.e., appropriately trained and licensed by the state to perform physical therapy services).
 - Physical therapy occurs when the judgment, knowledge, and skills of a qualified provider of physical therapy services (as defined by the scope of practice for therapists in each state) are necessary to safely and effectively furnish a recognized therapy service due to the complexity and sophistication of the plan of care and the medical condition of the individual, with the goal of improvement of an impairment or functional limitation.

Not Medically Necessary

- I. **PT services are considered not medically necessary if any of the following is determined:**
 - The individual's condition does not have the potential to improve or is not improving in response to therapy; or would be insignificant relative to the extent and duration of therapy required; and there is an expectation that further improvement is NOT attainable.
 - Improvement or restoration of function could reasonably be expected as the individual gradually resumes normal activities without the provision of skilled therapy services. For example:
 - An individual suffers a transient and easily reversible loss or reduction in function which could reasonably be expected to improve spontaneously as the patient gradually resumes normal activities;
 - A fully functional individual who develops temporary weakness from a brief period of bed rest following abdominal surgery.
 - Therapy services that do not require the skills of a qualified provider of PT services. Examples include but not limited to:
 - Activities for the general good and welfare of patients
 - General exercises (basic aerobic, strength, flexibility or aquatic programs) to promote overall fitness/conditioning
 - Services/programs for the primary purpose of enhancing or returning to athletic or recreational sports.
 - Massages and whirlpools for relaxation
 - General public education/instruction sessions
 - Repetitive gait or other activities and services that an individual can practice independently and can be self-administered safely and effectively.
 - Activities that require only routine supervision and NOT the skilled services of a physical therapy provider

- When a home exercise program is sufficient and can be utilized to continue therapy (examples of exceptions include but would not be limited to the following: if patient has poor exercise technique that requires cueing and feedback, lack of support at home if necessary for exercise program completion, and/or cognitive impairment that doesn't allow the patient to complete the exercise program)
- Documentation fails to objectively verify subjective, objective and functional progress over a reasonable and predictable period of time.
- The physical modalities are not preparatory to other skilled treatment procedures.
- Modalities that have been deemed to provide minimal to no clinical value independently or within a comprehensive treatment for any condition and/or not considered the current standard of care within a treatment program
 - Infrared light therapy
 - Vasopneumatic device
- Treatments are not supported in peer-reviewed literature.

II. The following treatments are considered not medically necessary because they are nonmedical, educational or training in nature. In addition, these treatments/programs are specifically excluded under many benefit plans:

- back school
- vocational rehabilitation programs and any program with the primary goal of returning an individual to work
- work hardening programs

III. Duplicative or redundant services expected to achieve the same therapeutic goal are considered not medically necessary. For example:

- Multiple modalities procedures that have similar or overlapping physiologic effects (e.g., multiple forms of superficial or deep heating modalities)
- Same or similar rehabilitative services provided as part of an authorized therapy program through another therapy discipline.
 - When individuals receive physical, occupational, or speech therapy, the therapists should provide different treatments that reflect each therapy discipline's unique perspective on the individual's impairments and functional deficits and not duplicate the same treatment. They must also have separate evaluations, treatment plans, and goals. When individuals receive manual therapy services from a physical therapist and chiropractic or osteopathic manipulation, the services must be documented as separate and distinct, performed on different body parts, and must be justified and non-duplicative.

Experimental, Investigational, Unproven

I. Physical therapy for the treatment of ANY of the following conditions is considered experimental, investigational or unproven:

- sexual dysfunction unrelated to a musculoskeletal or orthopedic condition
- scoliosis curvature correction (e.g., Schroth Method)

II. Use of any of the following treatments is considered experimental, investigational or unproven:

- Intensive Model of constraint-induced movement therapy(CIMT)
- Intensive Model of Therapy (IMOT) programs
- Dry hydrotherapy/aquamassage/hydromassage

- Non-invasive Interactive Neurostimulation (e.g., InterX®)
- Microcurrent Electrical Nerve Stimulation (MENS)
- H-WAVE®
- Spinal manipulation for the treatment of non-musculoskeletal conditions and related disorders
- Equestrian therapy (e.g., hippotherapy)
- MEDEK Therapy
- The Interactive Metronome Program
- Dry needling
- Elastic therapeutic tape/taping (e.g., Kinesio™ tape, KT TAPE/KT TAPE PRO™, Spidertech™ tape)
- Low-level laser therapy (LLLT) and high-power Class IV therapeutic laser light therapy
- Vertebral axial decompression therapy and devices (e.g., VAX-D, DRX, DRX2000, DRX3000, DRX5000, DRX9000, DRS, Dynapro™ DX2, Accu-SPINA™ System, IDD Therapy® [Intervertebral Differential Dynamics Therapy], Tru Tac 401, Lordex Power Traction device, Spinerx LDM)

Massage Therapy

Massage therapy is considered not medically necessary when provided in the absence of covered physical therapy, occupational therapy or chiropractic modalities.

Note: Massage therapy may be provided by several types of providers. To qualify for coverage, the provider must meet the definition of provider contained in the benefit plan. Please refer to the applicable plan language to determine benefit coverage for the rendering provider.

Hand Orthotic

A custom fitted (L3807, L3915, L3917, L3923, L3929, L3931) or custom fabricated (L3763-L3766, L3806, L3808, L3891, L3900, L3901, L3905, L3906, L3913, L3919, L3921, L3933, L3935, L3956, L4205) hand orthotic is medically necessary for a patient requiring stabilization or support to the hand and/or wrist and who is expected to have improved function with the use of the device and when the patient's clinical findings are severe and dysfunctional such that an off-the-shelf orthotic is insufficient for the patient's needs when ALL of the following criteria are met:

- The orthosis is prescribed to support, align, prevent or correct a deformity
- Evidence of a physical examination within the prior six months, for a condition that supports the use of the item prescribed, is documented in the individual's medical record.
- One or more of the following criteria are met:
 - to substitute for weak muscles (e.g., following cervical spine injury, brachial plexus injury, peripheral nerve injury [e.g., median, ulnar or radial nerves], sprain, strain)
 - to support or immobilize a structure (e.g., rheumatoid arthritis, osteoarthritis, overuse syndromes [e.g., lateral epicondylitis, cubital tunnel syndrome, carpal tunnel syndrome, de Quervain tenosynovitis, trigger finger], trauma, following surgical repairs, fractures [e.g., acromioclavicular dislocation, clavicle fracture])
 - prevent contracture or deformity from neurological injury (e.g., brain injury, stroke [i.e., spasticity], spinal cord injury, brachial plexus injury, peripheral nerve injury)
 - correct joint contractures resulting from disease or immobilization (e.g., post fracture, burns)
 - when necessary to carry out ADLs (e.g., spinal cord injured individuals)
- One of more of the following additional criteria are met:
 - post-surgical intervention
 - orthotic requires unique components (e.g., pulleys, rubber bands)
 - neurologic co-morbidities (e.g., sensory deficit, spasticity)
 - swelling/lymphedema comorbidity
 - multiple-joint involvement
 - plan of care for serial splinting
 - orthotic will need frequent modification
 - skin impairment co-morbidity

- The clinical documentation supports the medical necessity of a custom fitted or custom fabricated orthotic beyond what is necessary for an off-the-self orthotic.
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Physical therapy (PT) services are skilled services which may be delivered by a physical therapist or other health care professional acting within the scope of a professional license. A service is not considered a skilled therapy service merely because it is furnished by a therapist or by a therapist/therapy assistant under the direct or general supervision, as applicable, of a therapist. If a service can be self-administered or safely and effectively furnished by an unskilled person, without the direct or general supervision, as applicable, of a therapist, the service cannot be regarded as a skilled therapy service even though a therapist actually furnishes the service. Similarly, the unavailability of a competent person to provide a non-skilled service, notwithstanding the importance of the service to the patient, does not make it a skilled service when a therapist furnishes the service. Services that do not require the professional skills of a therapist to perform or supervise are not medically necessary, even if they are performed or supervised by a therapist, physician or NPP. Therefore, if a patient's therapy can proceed safely and effectively through a home exercise program, self-management program, restorative nursing program or caregiver assisted program, physical therapy services are not indicated or medically necessary.

PT services are intended to improve, adapt or restore functions which have been impaired or permanently lost as a result of illness, injury, loss of a body part, or congenital abnormality involving goals an individual can reach in a reasonable period of time. If no improvement is documented after two weeks of treatment, an alternative treatment plan should be attempted. If no significant improvement is documented after a total of four weeks, re-evaluation by the referring provider may be indicated. Treatment is no longer medically necessary when the individual stops progressing toward established goals.

The Guide to Physical Therapist Practice, published by the APTA (2014), supports this guideline in all areas of physical therapy practice.

GENERAL BACKGROUND

Physical therapists provide services to patients who have impairments, functional limitations, disabilities, or changes in physical function and health status resulting from injury, disease, or other causes. Medically necessary physical therapy services must relate to a written treatment plan of care and be of a level of complexity that requires the judgment, knowledge and skills of a physical therapist to perform and/or supervise the services. The plan of care for medically necessary physical therapy services is established by a licensed physical therapist. The amount, frequency and duration of the physical therapy services must be reasonable (within regional norms and commonly accepted practice patterns); the services must be considered appropriate and needed for the treatment of the condition and must not be palliative in nature. Thus, once therapeutic benefit has been achieved, or a home exercise program could be used for further gains without the need for skilled physical therapy, continuing supervised physical therapy is not considered medically necessary. If measurable improvement is made, then the progress towards identified goals should be clearly documented and the treatment plan updated accordingly. Physical therapists should document in clinical records the objective findings and subjective complaints that support the necessity for treatment. A treatment plan should be developed with planned procedures/modalities (frequency and duration), measurable and attainable short- and long-term goals, and anticipated duration of care. At a minimum, documentation is required for every treatment day and for each intervention performed. Each daily record should include: the date of service, the total treatment time for each date of service, and the identity of the person(s) providing the services; and specific interventions used; the name of each modality and/or procedure performed, the parameters for each modality (e.g., amperage/voltage, location of pads/electrodes), area of treatment, and total treatment time spent for each intervention (mandatory for timed services). Failure to properly identify and sufficiently document the parameters for each intervention on a daily progress note may result in an adverse determination (partial approval or denial). There should be a reasonable expectation that the identified goals will be met.

Duplicated / Insufficient Information

(1) Entries in the medical record should be contemporaneous, individualized, appropriately comprehensive, and made in a chronological, systematic, and organized manner. Duplicated/nearly duplicated medical records (a.k.a. cloned records) are not acceptable. It is not clinically reasonable or physiologically feasible that a patient's condition will be identical on multiple encounters. (Should the findings be identical for multiple

encounters, it would be expected that treatment would end because the patient is not making progress toward current goals.)

This includes, but not limited to:

- duplication of information from one treatment session to another (for the same or different patient[s]);
- duplication of information from one evaluation to another (for the same or different patient[s]).

Duplicated medical records do not meet professional standards of medical record keeping and may result in an adverse determination (partial approval or denial) of those services.

(2) The use of a system of record keeping that does not provide sufficient information (e.g., checking boxes, circling items from lists, arrows, travel cards with only dates of visit and listings) should not be submitted. These types of medical record keeping may result in an adverse determination (partial approval or denial) of those services.

Effective and appropriate documentation that meets professional standards of medical record keeping that adequately detail a proper assessment of the patient's status, the nature and severity of patient complaint(s) or condition(s), and/or other relevant clinical information (e.g., history, parameters of each therapy performed, objective findings, progress towards treatment goals, response to care, prognosis.) is expected.

PHYSICAL THERAPY TREATMENT SESSIONS

A physical therapy intervention is the purposeful interaction of the physical therapist with the patient and, when appropriate, with other individuals involved in patient care, using various physical therapy procedures and techniques to produce changes in the condition that are consistent with the diagnosis and prognosis. Physical therapy interventions consist of coordination, communication, and documentation; patient-related and family/caregiver instruction; and procedural interventions. Physical therapists aim to alleviate impairment and functional limitation by designing, implementing, and modifying therapeutic interventions. A physical therapy session can vary from fifteen minutes to four hours per day; however, treatment sessions lasting more than one hour per day are infrequent in outpatient settings. Treatment sessions for more than one hour per day may be medically appropriate for inpatient acute settings, day treatment programs, and select outpatient situations, but must be supported in the plan of care and based on a patient's medical condition. Physical therapy can also be performed in a group setting. Patients with total joint replacement, low back pain, and urinary incontinence present with favorable outcomes in a group setting.

A physical therapy session may include:

- Evaluation or reevaluation;
- Therapeutic exercise, including neuromuscular reeducation, strengthening, coordination, and balance;
- Functional training in self-care and home management including activities of daily living (ADL) and instrumental activities of daily living (IADL);
- Functional training in and modification of environments (home, work, school, or community), including body mechanics and ergonomics;
- Manual therapy techniques, including soft tissue mobilization, joint mobilization, and manual lymphatic drainage;
- Assessment, design, fabrication, application, fitting, and training in assistive technology, adaptive devices, and orthotic devices;
- Training in the use of prosthetic devices;
- Integumentary and wound care and protection techniques;
- Electrotherapeutic modalities;
- Physical agents and mechanical modalities;
- Community functional reintegration;
- Training of the patient, caregivers, and family/parents in home exercise and activity programs;
- Skilled reassessment of the individual's problems, plan, and goals as part of the treatment session

MODALITIES AND PROCEDURES

The American Medical Association (AMA) Current Procedural Terminology (CPT) manual defines a modality as "any physical agent applied to produce therapeutic changes to biologic tissue; includes but is not limited to

thermal, acoustic, light, mechanical, or electric energy" (AMA, 2018). Modalities may be supervised, which means that the application of the modality doesn't require direct one-on-one patient contact by the practitioner. This means that set-up and application of the modality needs to be supervised by a physical therapist, but they do not need to perform the modality. Modalities may also involve constant attendance, which indicates that the modality requires direct one-on-one patient contact by the practitioner.

Examples of supervised modalities include application of:

- Hot or cold packs
- Mechanical traction
- Unattended electrical stimulation (i.e., for pain relief)
- Vasopneumatic devices
- Whirlpool
- Paraffin bath
- Diathermy

Examples of modalities that require constant attendance include:

- Contrast baths
- Ultrasound
- Attended electrical stimulation (i.e., NMES)
- Iontophoresis

Passive modalities are most effective during the acute phase of treatment, since they are typically directed at reducing pain, inflammation, and swelling. They may also be utilized during the acute phase of the exacerbation of a chronic condition. Passive modalities are rarely beneficial alone and are most effective when performed as part of a comprehensive treatment approach. Some improvement with the use of passive modalities should be seen within three visits. If passive therapy is not contributing to improvement, passive therapy should be discontinued and other evidence supported interventions implemented. The utilization of more than two passive modalities per office visit is typically considered excessive and is not supported as medically necessary. Use of more than two modalities on each visit date should be justified in the documentation. After one or two weeks, the clinical effectiveness of passive modalities begins to decline significantly. In some situations, passive modalities may be indicated for up to one or two months as part of comprehensive physical therapy program. The need for passive modalities beyond two weeks should be objectively documented in the clinical record.

The AMA CPT manual defines therapeutic procedures as "A manner of effecting change through the application of clinical skills and/or services that attempt to improve function" (AMA, 2018). Examples of therapeutic procedures include therapeutic exercise to develop strength and endurance, range of motion and flexibility; neuromuscular re-education of movement, balance, coordination, kinesthetic sense, posture, and/or proprioception for sitting and/or standing activities; aquatic therapy with therapeutic exercises; gait training (including stairs); and manual therapy techniques (e.g., mobilization/manipulation, manual lymphatic drainage, manual traction); or therapeutic activities using dynamic activities to improve functional performance (direct one-on-one patient contact by the practitioner).

Transition from passive physiotherapy modalities to active treatment procedures should be timely and evidenced in the medical record, including instructions on self/home care. And in most cases, active treatment should be initiated in addition to modality use at a level that is appropriate for the patient.

Active therapeutic procedures are typically started as swelling, pain, and inflammation are reduced. The need for stabilization and support is replaced by the need for increased range of motion and restoration of function. Active care elements include increasing range of motion, strengthening primary and secondary stabilizers of a given region, and increasing the endurance capability of the muscles. Care focuses on active participation of the patient in their exercise program. Gait training, muscle strengthening, and progressive resistive exercises are considered active procedures. Many active procedures may be performed independently and safely by the patient in a non-medically supervised setting. In general, patients should progress from active procedures to a home exercise program that is progressed throughout treatment.

Below is a description and medical necessity criteria, as applicable, for different treatment interventions, including specific modalities and therapeutic procedures associated with physical therapy. This material is for informational purposes only and is not indicative of coverage, nor is it an exhaustive list of services provided.

Hydrotherapy/Whirlpool/Hubbard Tank

These modalities involve supervised use of agitated water in order to relieve muscle spasm, improve circulation, or cleanse wounds e.g., ulcers, skin conditions. More specifically, Hubbard tank involves a full-body immersion tank for treating severely burned, debilitated and/or neurologically impaired individuals. Hydrotherapy is considered medically necessary for pain relief, muscle relaxation and improvement of movement for persons with musculoskeletal conditions. It is also considered medically necessary for wound care (cleansing and debridement). It is not appropriate to utilize more than one hydrotherapy modality on the same day.

Fluidotherapy®

This modality is used specifically for acute and subacute conditions of the extremities. Fluidotherapy® is a dry superficial thermal modality that transfers heat to soft tissues by agitation of heated air and Cellux particles. The indications for this modality are similar to paraffin baths and whirlpool and it is an acceptable alternative to other heat modalities for reducing pain, edema, and muscle spasm from acute or subacute traumatic or non-traumatic musculoskeletal disorders of the extremities, including complex regional pain syndrome (CRPS). A benefit of Fluidotherapy® is that patients can perform active range of motion (AROM) while undergoing treatment.

Vasopneumatic Devices

These special devices apply pressure for swelling/edema reduction, either after an acute injury, following a surgical procedure, due to lymphedema, or due to pathology such as venous insufficiency. Units that provide cold therapy with compression are not examples of vasopneumatic devices. Vasopneumatic devices are considered not medically necessary for any condition given the state of evidence relative to lymphedema. Standard of care for lymphedema is complex lymphedema therapy, which includes skin and nail care, manual drainage techniques, compression bandaging, and therapeutic exercise.

Hot/Cold Packs

Hot packs increase blood flow, relieve pain and increase movement; cold packs decrease blood flow to an area for pain and swelling reduction and are typically used in the acute phase of injury or in the acute phase of an exacerbation. They are considered medically necessary for painful musculoskeletal conditions and acute injury.

Paraffin Bath

This modality uses hot wax for application of heat. It is indicated for use to relieve pain and increase range of motion of extremities (typically wrists and hands) due to chronic joint problems or post-surgical scenarios.

Mechanical Traction

This device provides a mechanical pull on the spine (cervical or lumbar) to relieve pain, spasm, and nerve root compression.

Infrared Light Therapy

Infrared light therapy is a form of heat therapy used to increase circulation to relieve muscle spasm. Other heating modalities are considered superior to infrared lamps and should be considered unless there is a contraindication to those other forms of heat. Utilization of the Infrared light therapy CPT code is not appropriate for low level laser treatment This also does not refer to Anodyne® Therapy System.

Electrical Stimulation

Electrical stimulation is used in different variations to relieve pain, reduce swelling, heal wounds, and improve muscle function. Functional electric stimulation is considered medically necessary for muscle re-education (to improve muscle contraction) in the earlier phases of rehabilitation.

Iontophoresis

Electric current used to transfer certain chemicals (medications) into body tissues. Use to treat inflammatory conditions, such as plantar fasciitis and lateral epicondylitis.

Contrast Baths

This modality is the application of alternative hot and cold baths and is typically used to treat extremities with subacute swelling or CRPS. Contrast baths assist with hypersensitivity reduction and swelling reduction.

Ultrasound

This modality provides deep heating through high frequency sound wave application. Non-thermal applications are also possible using the pulsed option. Ultrasound is commonly used to treat many soft tissue conditions that require deep heating or micromassage to a localized area to relieve pain and improve healing.

Diathermy (i.e., shortwave)

This modality utilizes high frequency magnetic and electrical current to provide deep heating to larger joints and soft tissue structures for pain relief, increased healing, and muscle spasm reduction. Microwave diathermy presents a negative benefit:risk ratio and is not recommended.

Therapeutic Exercises

This procedure includes instruction, feedback, and supervision of a person in an exercise program for their condition. The purpose is to increase/maintain flexibility and muscle strength. Therapeutic exercise is performed with a patient either actively, active-assisted, or passively. It is considered medically necessary for loss or restriction of joint motion, strength, functional capacity or mobility which has resulted from disease or injury. Note: Exercising done subsequently by the member without a physician or therapist present and supervising would not be covered.

Neuromuscular Reeducation

This therapeutic procedure is provided to improve balance, coordination, kinesthetic sense, posture, and proprioception to a person who has reduced balance, strength, functional capacity or mobility which has resulted from disease, injury, or surgery. The goal is to develop conscious control of individual muscles and awareness of position of extremities. The procedure may be considered medically necessary for impairments which affect the body's neuromuscular system (e.g., poor static or dynamic sitting/standing balance, loss of gross and fine motor coordination) that may result from musculoskeletal or neuromuscular disease or injury such as severe trauma to nervous system, post orthopedic surgery, cerebral vascular accident and systemic neurological disease.

Aquatic Therapy

Pool therapy (aquatic therapy) is provided individually, in a pool, to debilitated or neurologically impaired individuals. (The term is not intended to refer to relatively normal functioning individuals who exercise, swim laps or relax in a hot tub or Jacuzzi.) The goal is to develop and/or maintain muscle strength and range of motion by reducing forces of gravity through total or partial body immersion (except for head).

Gait Training

This procedure involves teaching individuals with neurological or musculoskeletal disorders how to ambulate given their disability or to ambulate with an assistive device. Assessment of muscle function and joint position during ambulation is considered a necessary component of this procedure, including direct visual observation and may include video, various measurements, and progressive training in ambulation and stairs. Gait training is considered medically necessary for training individuals whose walking abilities have been impaired by neurological, integumentary, muscular or skeletal abnormalities, surgery, or trauma. This also includes crutch/cane ambulation training and re-education.

Massage Therapy

Massage involves manual techniques that include applying fixed or movable pressure, holding and/or causing movement of or to the body, using primarily the hands. These techniques affect the musculoskeletal, circulatory-lymphatic, nervous, and other systems of the body with the intent of improving a person's well-being or health. The most widely used forms of basic massage therapy include Swedish massage, deep-tissue massage, sports massage, neuromuscular massage, and manual lymph drainage. Massage therapy may be considered medically necessary when designed to restore muscle function, reduce edema, improve joint motion, or for relief of muscle spasm, and determined not duplicative to other modalities/procedures.

Soft Tissue Mobilization

Soft tissue mobilization techniques are more specific in nature and include, but are not limited to, myofascial release techniques, friction massage, and trigger point techniques. Specifically, myofascial release is a soft

tissue manual technique that involves manipulation of the muscle, fascia, and skin. Skilled manual techniques (active and/or passive) are applied to soft tissue to effect changes in the soft tissues, articular structures, neural or vascular systems. Examples are facilitation of fluid exchange, restoration of movement in acutely edematous muscles, or stretching of shortened connective tissue. This procedure is considered medically necessary for treatment of restricted motion of soft tissues in involved extremities, neck, and trunk.

Joint Mobilization/Manipulation

Joint mobilization and manipulation is utilized to reduce pain and increase joint mobility. Most often mobilizations are indicated for extremity and spine conditions, while manipulation may be more generally indicated for spinal conditions.

Therapeutic Activities

This procedure involves using functional activities (e.g., bending, lifting, carrying, reaching, pushing, pulling, stooping, catching and overhead activities) to improve functional performance in a progressive manner. The activities are usually directed at a loss or restriction of mobility, strength, balance or coordination. They require the professional skills of a practitioner and are designed to address a specific functional need of the member. This intervention may be appropriate after a patient has completed exercises focused on strengthening and range of motion but need to be progressed to more function-based activities. These dynamic activities must be part of an active treatment plan and directed at a specific outcome.

Activities of Daily Living (ADL) Training

Training of impaired individuals in essential activities of daily living and self-care activities including: bathing; feeding; preparing meals; toileting; dressing; walking; making a bed; and transferring from bed to chair, wheelchair or walker. This procedure is considered medically necessary to enable the member to perform essential activities of daily living related to the patient's health and hygiene, within or outside the home, and with minimal or no assistance from others. Services provided concurrently by physical therapists and occupational therapists may be considered medically necessary if there are separate and distinct functional goals.

Cognitive Skills Development

This procedure is considered medically necessary for persons with acquired cognitive defects resulting from head trauma, or acute neurologic events including cerebrovascular accident or pediatric developmental condition. It is not appropriate for persons without potential for improvement. Occupational/speech therapists with specific training typically provide this care, however physical therapists can also provide this care through a team approach. This procedure should be aimed at improving or restoring specific functions which were impaired by an identified illness or injury.

Orthotic Training

Training and re-education with braces and/or splints (orthotics).

Hand Orthotic Fabrication

Orthotic devices are defined as orthopedic appliances used to support, align, prevent or correct deformities. Orthotics may also redirect, eliminate or restrict motion of an impaired body part. In this context, they are not used for participation in sports, to improve athletic performance, and/or to prevent injury in an otherwise uninjured body part. Static orthoses are rigid and are used to support weakened or paralyzed body parts in a particular position. Dynamic orthoses are used to facilitate body motion to allow optimal function. Medical necessity for any orthotic device must be documented in the individual's medical record. Supportive documentation includes a prescription for the specific device, recent physical examination for the condition being treated, (i.e., < six months) with assessment of functional capabilities/limitations and any other comorbidities. Orthoses may be prefabricated or custom fabricated. A prefabricated orthosis is any orthoses that is manufactured in quantity without a specific patient in mind. A prefabricated orthosis can be modified (e.g., trimmed, bent or molded) for use by a specific patient and is then considered a custom-fitted orthosis. An orthosis that is made from prefabricated components is considered a prefabricated orthosis. Any orthosis that does not meet the standard definition of custom-fabricated is considered to be a prefabricated device. A custom-fabricated orthosis is one that is specifically made for an individual patient starting with the most basic materials that may include plastic, metals, leather or various cloths. The construction of these devices requires substantial labor such as cutting, bending, molding and sewing, and may even involve the use of some prefabricated components. A molded-to-patient model orthosis is a type of custom-fabricated device for which an impression of the specific body part is made (e.g., by means of a plaster cast, or computer-aided design/computer-aided manufacturing [CAD-CAM] technology). The impression is then

used to make a specific patient model. The actual orthosis is molded from the patient-specific model. CAD-Cam and other technologies, such as those that determine alignment of the device, are considered integral to the fitting and manufacturing of the base device. An unmodified, prefabricated orthosis is generally used in treating a condition prior to a custom-fitted orthosis (prefabricated orthosis that is modified by bending or molding for a specific patient). A custom-fitted orthosis is generally attempted prior to the use of a custom-fabricated orthosis (individually constructed from materials). Custom fabricated devices are considered medically necessary only when the established medical necessity criteria is met for the device and the individual cannot be fitted with a prefabricated (off-the-shelf) device or one is not available. Examples of conditions precluding the use of a prefabricated device typically include abnormal limb contour (e.g., disproportionate size/shape) or deformity (e.g., valgus, varus deformity) or when there is minimal muscle mass upon which to suspend the orthosis.

Prosthetic Checkout

These assessments are considered medically necessary when a device is newly issued or there is a modification or re-issue of the device. These assessments are considered medically necessary when a member experiences loss of function directly related to the orthotic or prosthetic device (e.g., pain, skin breakdown, or falls). This is usually completed in 1-2 sessions.

Prosthetic Training

Training and re-education with prosthetics devices. Considered medically necessary for persons with a medically necessary prosthetic. Periodic return visits beyond the third month may be necessary.

Wheelchair Management Training

This procedure is considered medically necessary only when it is part of an active treatment plan directed at a specific goal. The member must have the capacity to learn from instructions. Typically, three (3) sessions are adequate.

Certain physical medicine modalities and therapeutic procedures are considered duplicative in nature and it would be inappropriate to perform or bill for these services during the same session, such as:

- Functional activities and ADLs
- More than one deep heating modality
- Massage therapy and myofascial release
- Orthotics training and prosthetic training
- Whirlpool and Hubbard tank

The medical necessity of neuromuscular reeducation, therapeutic exercises, and/or therapeutic activities, performed on the same day, must be documented in the medical record.

Only one heat modality would be considered medically necessary during the same treatment session, with the exception of use of one form of superficial heat and one form of deep heat (i.e. ultrasound or diathermy and hot packs). Use of two forms of deep or superficial heat would not be acceptable.

Active Wound Care Management

The AMA CPT manual defines active wound care procedures as those procedures "performed to remove devitalized tissue and/or necrotic tissue and promote healing" (AMA, 2014). The practitioner is required to have direct one-on-one contact with the patient. Examples of active wound care management include debridement of an open wound, including topical application; use of whirlpool or other modalities; and negative pressure wound therapy.

Electromyography (EMG) and Nerve Conduction Velocity (NCV) Tests

According to the AMA CPT manual "Needle electromyographic procedures include the interpretation of electrical waveforms measured by equipment that produces both visible and audible components of electrical signals recorded from the muscle(s) studied by the needle electrode" (AMA, 2014). For nerve conduction testing, "motor nerve conduction study recordings must be made from electrodes placed directly over the motor point of the specific muscle to be tested. Sensory nerve conduction study recordings must be made from electrodes placed directly over the specific nerve to be tested." Waveforms must be reviewed on site in real-time. Reports must be prepared on site by the examiner and consist of the work product of the interpretation of numerous test results. EMG and NCV testing is only covered if provided by a qualified health care professional or physician. Physical

therapists who are board certified by the APTA are considered qualified health professionals. State licensure rules and regulations apply.

DOCUMENTATION GUIDELINES

Initial Examination/Evaluation/Diagnosis/Prognosis

The physical therapist performs an initial examination and evaluation to establish a physical therapy diagnosis, prognosis, and plan of care prior to intervention. An initial evaluation for a new condition by a Physical Therapist is defined as the evaluation of a patient:

- For which this is their first encounter with the practitioner or practitioner group
- Who presents with:
 - A new injury or new condition; or
 - The same or similar complaint after discharge from previous care.
- Choice of code is dependent upon the level of complexity.

Note: Appropriate range of motion (ROM) testing (CPT codes 95851- 95852), including digital wireless inclinometers or other such electronic device that measures ROM using a handheld device are integral within Evaluation/Reevaluation codes. Computerized isokinetic muscle strength and endurance testing using a machine, such as a Biodex, would be considered a physical performance test or measurement using CPT code 97750 – “Physical performance test or measurement (e.g. musculoskeletal, functional capacity), with written report, each 15 minutes.”

Four components are used to select the appropriate PT evaluation CPT code. These include:

- Patient history and comorbidities
- Examination and the use of standardized tests and measures
- Clinical presentation
- Clinical decision making

Relevant CPT Codes: CPT 97161, 97162, and 97163 – Physical Therapy evaluation

The physical therapist examination:

- Is documented, dated, and appropriately authenticated by the physical therapist who performed it
- Identifies the physical therapy needs of the patient
- Incorporates appropriate tests and measures to facilitate outcome measurement
- Produces data that are sufficient to allow evaluation, diagnosis, prognosis, and the establishment of a plan of care
- The program is expected to result in significant therapeutic improvement over a clearly defined period of time.

The physical therapist’s plan of care should be sufficient to determine the medical necessity of treatment, including:

- The diagnosis along with the date of onset or exacerbation of the disorder/diagnosis
- A reasonable estimate of when the goals will be reached
- Long-term and short-term goals that are specific, quantitative and objective
- Physical therapy evaluation
- The frequency and duration of treatment
- Rehabilitation or habilitation prognosis
- The specific treatment techniques and/or exercises to be used in treatment
- Signature of the patient's physical therapist.

Treatment Sessions

Documentation of treatment sessions must include:

- Date of treatment
- Specific treatment(s) provided that match the procedure codes billed
- Total treatment time
- Response to treatment

- Skilled ongoing reassessment of the individual's progress toward the goals; including objective data that can be compared across time
- Any challenges or changes to the plan of care
- Name and credentials of the treating clinician

Progress Reports

In order to reflect that continued PT services are medically necessary, intermittent progress reports must demonstrate that the individual is making functional progress. Progress reports should include at a minimum:

- Start date of therapy
- Time period covered by the report
- All diagnoses
- Statement of the patient's functional level at the beginning of the progress report period and current status relative to baseline data at evaluation or previous progress report; objective measures related to goals should be included
- Changes in prognosis, plan of care, and goals; and why
- Consultations with or referrals to other professionals or coordination of services, if applicable
- Signature and title of qualified professional responsible for the therapy services

Reexamination/Reevaluation

Re-evaluations are distinct from therapy assessments. There are several routine reassessments that are not considered re-evaluations. These include ongoing reassessments that are part of each skilled treatment session, progress reports, and discharge summaries. Re-evaluation provides additional objective information not included in documentation of ongoing assessments, treatment or progress notes. Assessments are considered a routine aspect of intervention and are not billed separately from the intervention. Continuous assessment of the patient's progress is a component of the ongoing therapy services and is not payable as a re-evaluation.

Re-evaluation services are considered medically necessary when all of the following conditions are met:

- Re-evaluation is not a recurring routine assessment of patient status
- The documentation of the re-evaluation includes all of the following elements:
 - An evaluation of progress toward current goals;
 - Making a professional judgment about continued care;
 - Making a professional judgment about revising goals and/or treatment or terminating services.

AND the following indication is documented:

- An exacerbation or significant change in patient/client status or condition.

A re-evaluation is indicated when there is an exacerbation or significant change in the status or condition of the patient. Re-evaluation is a more comprehensive assessment that includes all of the components of the initial evaluation, such as:

- Data collection with objective measurements taken based on appropriate and relevant assessment tests and tools using comparable and consistent methods;
- Making a judgment as to whether skilled care is still warranted;
- Organizing the composite of current problem areas and deciding a priority/focus of treatment;
- Identifying the appropriate intervention(s) for new or ongoing goal achievement;
- Modification of intervention(s);
- Revision in plan of care if needed;
- Correlation to meaningful change in function; and
- Deciphering effectiveness of intervention(s).

Discharge/Discontinuation of Intervention

The physical therapist discharges the patient from physical therapy services when the anticipated goals or expected outcomes for the patient have been achieved. The physical therapist discontinues intervention when the patient is unable to continue to progress toward goals or when the physical therapist determines that the patient will no longer benefit from physical therapy.

The physical therapy discharge documentation:

- Includes the status of the patient at discharge and the goals and outcomes attained;
- Is dated and appropriately authenticated by the physical therapist who performed the discharge
- Includes, when a patient is discharged prior to attainment of goals and outcomes, the status of the patient and the rationale for discontinuation
- Includes initial, subsequent, and final FOM scores
- Includes proposed self-care recommendations, if applicable
- Includes referrals to other health care practitioners/referring physicians, as appropriate

Standardized Tests and Measures/Functional Outcome Measures (FOMs)

Measuring outcomes is an important component of physical therapists' practice. Outcome measures are important in direct management of individual patient care and for the opportunity they provide the profession in collectively comparing care and determining effectiveness.

The use of standardized tests and measures early in an episode of care establishes the baseline status of the patient, providing a means to quantify change in the patient's functioning. Outcome measures, along with other standardized tests and measures used throughout the episode of care, as part of periodic reexamination/reevaluation, provide information about whether predicted outcomes are being realized. As the patient reaches the termination of physical therapy services and the end of the episode of care, the physical therapist measures the outcomes of the physical therapy services. Standardized outcome measures provide a common language with which to evaluate the success of physical therapy interventions, thereby providing a basis for comparing outcomes related to different intervention approaches. Measuring outcomes of care within the relevant components of function (including body functions and structures), activity, and participation, among patients with the same diagnosis, is the foundation for determining which intervention approaches comprise best clinical practice.

LITERATURE REVIEW

There are several guidelines, systematic reviews, meta-analyses, and randomized controlled trials (RCTs) published that examine physical therapy (a variety of interventions) for various conditions and note effectiveness of physical rehabilitation, exercise, education, manual therapies (e.g. mobilization, manipulation, soft tissue mobilization), and other various modalities (Taylor et al., 2007; Chou et al., 2016; Qaseem et al., 2017; Byström et al., 2013; Macedo et al., 2016; Oliveira et al., 2012; Saragiotto et al., 2016; Steffens et al., 2016; van Middelkoop et al., 2010; Logerstedt et al., 2010; Cibulka et al., 2009; Cibulka et al., 2017; Blanpied et al., 2017; Gay et al., 2016; Fransen et al., 2014; Babatunde et al., 2017; BiDonde et al., 2017; Pollock et al., 2014; French et al., 2005; Yousefi-Nooraie et al., 2008; Chou et al., 2020; Skelly et al., 2018; Skelly et al., 2020) Passive modalities, such as ultrasound, electric stimulation, traction, laser, and hot and cold packs, are often used in combination with manual therapies and exercise despite insufficient and/or inconclusive evidence for many conditions. Often methodologic flaws and heterogeneity of studies result in an inability to draw confirmatory conclusions.

Massage Therapy: Few clinical trials have been undertaken to assess the effect of this modality alone in the treatment of specific medical conditions. Rehabilitation programs frequently combine massage therapy with one or more other treatment interventions. While there is scant literature regarding the efficacy of this treatment when used as the sole modality, massage therapy has been a part of physical therapy or chiropractic treatment plans for the management of musculoskeletal pain. As an example, for mechanical low back pain, the greatest effects of massage therapy are seen in short term relief of pain. The effects on function were less clear. These therapeutic effects tend to diminish in the longer term (Chou et al., 2016). Massage therapy was also noted as an effective treatment of acute post-operative pain (Chou et al., 2020) and chronic low back pain in the intermediate term (Skelly et al., 2018). Slight functional improvements were noted in the intermediate term for fibromyalgia using myofascial release massage (Skelly et al., 2018).

PHYSICAL THERAPY FOR CONDITIONS CONSIDERED EXPERIMENTAL, INVESTIGATIONAL OR UNPROVEN

Sexual Dysfunction (unrelated to musculoskeletal or orthopedic condition)

Female sexual dysfunction conditions can be classified as sexual desire disorders, sexual arousal disorder, orgasmic disorder, or sexual pain disorders. Hypoactive sexual desire disorder and sexual aversion disorder comprise the sexual desire disorders.

ACOG (2011) published a clinical management guideline on female sexual dysfunction. Conditions included in this guideline include: sexual desire disorders (e.g., hypoactive sexual desire disorder and sexual aversion disorder), female sexual arousal disorder, female orgasmic disorder, and sexual pain disorders with no muscular involvement (e.g., dyspareunia, vaginismus). Physical therapy is not included in the recommendations in this guideline. The guideline includes the following for management of these conditions:

- Conclusion based on good and consistent scientific evidence (Level A):
 - Transdermal testosterone has been shown to be effective for the short-term treatment of hypoactive sexual desire disorder, with little evidence to support long-term use (longer than 6 months).
- Conclusions are based on limited or inconsistent scientific evidence (Level B) include:
 - Prospective studies constructed to address the effect of hysterectomy on postoperative sexual function have failed to show a difference in total versus subtotal hysterectomy.
 - Vaginal estrogen for the treatment of postmenopausal atrophy results in improved dyspareunia, less vaginal dryness, improved vaginal mucosal maturation indices, and reduced vaginal pH.
 - The main risks associated with androgen replacement therapy in women are hirsutism, acne, virilization, and CV complications. In addition, a possible association with breast cancer has been reported.

The European Urological Association published guidelines on male sexual dysfunction, including erectile dysfunction and premature ejaculation. Physical therapy is not included in the guidelines as a treatment for these conditions (Hatzimouratidis, et al., 2014).

Scoliosis

Scoliosis, lateral curvature of the spine, is a structural alteration that occurs in a variety of conditions. Progression of the curvature during periods of rapid growth can result in significant deformity, which may be accompanied by cardiopulmonary compromise (Schreiber et al., 2019; Scherl, 2016). Options for treatment of scoliosis include observation, bracing, and surgery. Evidence is insufficient to demonstrate effectiveness of physical therapy (scoliosis-specific exercises, including the Schroth Method), chiropractic treatment, electrical stimulation, or biofeedback to correct, improve or prevent further curvature (Scherl, 2016; National Institutes of Health [NIH]/National Institute of Arthritis and Musculoskeletal and Skin Disease [NIAMS], 2015; American Academy of Orthopedic Surgeons [AAOS], 2015; Mehlman, 2015; Romana, et al., 2012).

PHYSICAL THERAPY TREATMENTS CONSIDERED EXPERIMENTAL, INVESTIGATIONAL OR UNPROVEN **Constraint-Induced Movement Therapy (CIMT)**

Constraint-induced movement therapy (CIMT) is a multi-faceted intervention that has been proposed for neurological conditions that involve hemiparesis. CIMT is also referred to as constraint-induced therapy or forced use therapy and is primarily provided by physical therapists and occupational therapists. Several variations exist based on method and length of restraint, and type and duration of therapy (e.g. environment and provider). The therapy involves constraining the unaffected arm or hand with a sling, glove or mitt. CIMT typically involves intensive individualized therapy with up to six–eight hours of therapy provided per day. However, other forms of modified CIMT have been developed with less therapy provided, but longer periods of restraint (Wolf, 2007). Veterans Affairs/Dept of Defense (VA/DoD) published guidelines that have also been endorsed by American Heart Association/American Stroke Association (AHA/ASA)—Clinical Practice Guideline for the Management of Adult Stroke Rehabilitation Care (Bates, et al., 2005). The guidelines note that, “Use of constraint-induced therapy should be considered for a select group of patients—that is, patients with 20 degrees of wrist extension and 10 degrees of finger extension, who have no sensory and cognitive deficits.” indicating a recommendation that the intervention may be considered). The Royal College of Physicians/Intercollegiate Stroke Working Party (United Kingdom) and the Ottawa Panel (2006) agree with these recommendations.

CIMT has demonstrated inconsistent effectiveness for treatment of patients post-stroke (Pulman et al., 2013; McIntyre et al., 2012; Corbetta et al., 2010; Sirtori et al., 2009; Abdullahi et al., 2021a; Abdullahi et al., 2021b). Future randomized controlled trials need to have accurate characteristics in terms of methodological quality, larger samples, longer follow up, reliable and relevant measure and report of adverse events. Some evidence demonstrates that modified CIMT could reduce the level of disability, improve the ability to use the paretic upper extremity, and enhance spontaneity during movement time, but evidence is still limited about the effectiveness of modified CIMT in kinematic analysis (Pollack et al., 2014; Shi et al., 2011). Research suggests that modified CIMT and intensive CIMT produce similar results (Peurala et al., 2012).

CIMT has also been used for the treatment of children with cerebral palsy (CP). Research is not conclusive with regards to the effectiveness of CIMT for this population; however there appears to be modest evidence to support its use in a modified format (Taub et al., 2004; Sakzewski et al., 2009; Eliasson et al., 2005; Hoare et al., 2007; Chen et al., 2014; Chiu and Ada, 2016; Eliasson et al., 2014; Hoare et al., 2019; Martínez-Costa Montero et al., 2020). Further research using adequately powered RCTs [randomized controlled trials], rigorous methodology and valid, reliable outcome measures is essential to provide higher level support of the effectiveness of CIMT for children with hemiplegic cerebral palsy.

Intensive Model of Therapy (IMOT) programs

IMOT was developed in Poland for treating children and adults with cerebral palsy and other neurologic disorders. This therapy involves performing exercises over an extended period of time — typically 5 days a week for 4 hours a day. The time in the program may be a 3 week period or longer. There is insufficient evidence to conclude that IMOT demonstrates improved long term and short term outcomes over less intensive/frequent care (Sakzewski et al., 2014; Anderson et al., 2013; Christiansen and Lange 2008; Sakzewski, Ziviani et al., 2014; Almeida et al., 2017). Therapeutic suits such as the Adeli and NeuroSuit are also used and proposed to assist in re-training the central nervous system by allowing the child to overcome increasingly complex pathological movement and to execute and repeat previously unknown movement patterns. More studies are needed to provide evidence to support use of these suits to improve outcomes.

Dry hydrotherapy

Dry hydrotherapy, also referred to as aquamassage, water massage, or hydromassage, is a treatment that incorporates water with the intent of providing therapeutic massage. The treatment is generally provided in chiropractor or physical therapy offices. There are several dry hydrotherapy devices available that provide this treatment, including the following:

- Aqua Massage® (AMI Inc., Mystic, CT)
- AquaMED® (JTL Enterprises, Inc., Clearwater, FL)
- H2OMassage System™ (H2OMassage Systems, Winnipeg, MB, Canada)
- Hydrotherapy Tables (Sidmar Manufacturing, Inc., Princeton, MN)

Proponents of dry hydrotherapy maintain that it can be used in lieu of certain conventional physical medicine therapeutic modalities and procedures, such as heat packs, wet hydrotherapy, massage, and soft tissue manipulation. The assertions that have been made by manufacturers of this device at their websites have not yet been proven. No published studies or information regarding dry hydrotherapy devices or dry hydrotherapy treatment were identified in the peer-reviewed scientific literature. In the absence of peer-reviewed literature demonstrating the effectiveness of dry hydrotherapy and in the absence of comparison to currently accepted treatment modalities, no definitive conclusions can be drawn regarding the clinical benefits of this treatment.

Non-invasive Interactive Neurostimulation (e.g., InterX®)

Non-invasive, Interactive Neurostimulation (NIN) (e.g. InterX®) is used for the treatment of acute and chronic pain using high amplitude, high density stimulation to the cutaneous nerves, activating the natural pain relieving mechanisms of the body (segmental and descending inhibition). There is a lack of evidence to support this form of modality.

Microcurrent Electrical Nerve Stimulation (MENS)

There is insufficient evidence in the published peer-reviewed scientific literature to support the safety and effectiveness of MENS (Rajpurohit et al., 2010; Zuim et al., 2006; Nair et al., 2018).

H-WAVE®

H-wave stimulation is a form of electrical stimulation that differs from other forms of electrical stimulation, such as transcutaneous electrical nerve stimulation (TENS), in terms of its wave form. There is insufficient evidence in the published peer reviewed scientific literature to support the safety and effectiveness of the H-WAVE® electrical stimulators (Blum et al., 2008).

Spinal Manipulation for the Treatment of Non-Musculoskeletal Conditions and Related Disorders

Spinal manipulation is considered experimental, investigational, or unproven for the treatment of non-musculoskeletal conditions and related disorders including, but not limited to:

- Asthma
- ADHD
- Autism spectrum disorders
- Dysmenorrhea
- Hypertension
- Infantile colic
- Nocturnal enuresis
- Otitis media

The set of conditions above represents those non-musculoskeletal conditions which have been found in the literature relative to spinal manipulation either through RCTs, systematic reviews, or both. Evidence is insufficient to support use of spinal manipulation for treatment of these conditions (Alcantara et al., 2011; Hondras et al., 2011; Kaminskyj et al., 2014; Gleberzon et al., 2012; Clar et al., 2014; Karpouzis et al., 2010; Ferrance and Miller, 2010; Proctor, et al., 2006; Bakris, 2007; Mangum et al., 2012; Dobson et al., 2012; Huang et al., 2011; Pohlman, Holton-Brown, 2012; Driehuis et al., 2019).

Equestrian therapy (e.g. hippotherapy)

Equestrian therapy, also known as hippotherapy, is proposed to offer a person with a disability a means of physical activity that aids in improving balance, posture, coordination, the development of a positive attitude and a sense of accomplishment. It is proposed for treatment of several conditions including autism spectrum disorders and cerebral palsy. There is insufficient published evidence regarding the effects of this therapy on individuals with impaired physical function resulting from illness, injury, congenital defect or surgery (Bronson et al., 2010; Lee et al., 2014; O'Haire et al., 2014; De Guindos-Sanchez et al., 2020; De Miguel et al., 2018; Kraft et al., 2019). The authors note that most studies were limited by methodological weaknesses. This review demonstrates that there is a need for further, more rigorous research.

MEDEK Therapy

MEDEK, a form of physiotherapy, refers to Metodo Dinamico de Estimulacion Kinesica or Dynamic Method for Kinetic Stimulation. MEDEK is used for developing gross motor skills in young children with physical disabilities and movement disorders (e.g., cerebral palsy, Down's syndrome, hypotonia, muscular dystrophy, and developmental motor delay). At this time, no evidence exists of its effectiveness in the peer reviewed literature. Well-designed clinical studies are needed to determine the effectiveness of MEDEK and whether a clinically significant improvement is achieved through the use of MEDEK Therapy, as there appears to be no peer-reviewed, published literature available as noted with a thorough literature search at this time.

The Interactive Metronome Program

Interactive Metronome® (IM) is purported to be an assessment and training tool that measures and improves Neurotiming, or the synchronization of neural impulses within key brain networks for cognitive, communicative, sensory and motor performance. It is designed to improve processing speed, focus, and coordination. Patients wear headphones and match a beat using a hand or foot sensor along with visual and auditory feedback. The IM program has been promoted as a treatment for children with attention-deficit hyperactivity disorder (ADHD) and for other special needs children to increase concentration, focus, and coordination. It has also been promoted to improve athletic performance, to assess and improve academic performance of normal children, and to improve children's performance in the arts (e.g., dance, music, theater, creative arts). Additionally, it has been implemented as part of a therapy program for patients with balance disorders, cerebrovascular accident, limb amputation, multiple sclerosis, Parkinson's disease, and traumatic brain injury. However, based on peer-reviewed literature, evidence is insufficient to support effectiveness of the IM program. Well-designed clinical studies are needed to determine the effectiveness of the IM program and whether a clinically significant improvement is achieved.

Taping/Elastic therapeutic tape (e.g., Kinesio™ tape, Spidertech™ tape)

Elastic therapeutic tape, also known as kinesiology tape, differs from traditional white athletic tape in the sense that it is elastic and can be stretched to 140% of its original length before being applied to the skin.

Elastic tape is available in various lengths or pre-cut. There are several types of elastic therapeutic tape available including:

- Kinesio™ tape (Kinesio Taping, LLC. Albuquerque, NM)

- SpiderTech™ tape (SpiderTech Inc., Toronto, Ontario)
- KT TAPE/KT TAPE PRO™ (LUMOS INC., Lindon, UT)

The clinical value of elastic therapeutic taping (i.e., Kinesio taping) or rigid therapeutic taping (i.e., McConnell) for back pain, radicular pain syndromes, and other back-related conditions has not been established as there is insufficient evidence in the peer-reviewed literature (Chou et al., 2016).

The effectiveness of elastic therapeutic taping (i.e. Kinesio taping) or rigid therapeutic taping (i.e., McConnell) for all conditions such as lower extremity spasticity, meralgia paresthetica, post-operative subacromial decompression, wrist injury, performance enhancement and prevention of ankle sprains has not been established as the evidence is insufficient in the peer-reviewed literature (Added et al., 2016; Al-Shareef et al., 2016; Csapo et al., 2014; Kalron et al., 2013; Lim et al., 2015; Mostafavifa et al., 2012; Nelson 2016; Parreira et al., 2014; Williams et al., 2012; Luz Júnior et al., 2019; Lin et al., 2020; Li et al., 2020; Martonick et al., 2020; Cupler et al., 2020; Lim and Tay 2015; Montalvo et al. 2014)..

The following uses of therapeutic taping are professionally recognized and safe; however, additional studies are needed before the clinical effectiveness can be established. Use of elastic or rigid taping techniques as part of comprehensive treatment program may be clinically appropriate for the following:

- Elastic therapeutic tape (e.g., Kinesio tape, Spidertech tape) in the treatment or management of lymphedema
- Rigid therapeutic taping for pain reduction in patellofemoral pain syndrome
- Rigid therapeutic taping of the shoulder in patients with hemiplegia

The use of rigid taping or elastic taping for rehabilitation of orthopedic or neurologic conditions is not intended as a sole treatment or as a separately billable procedure, but rather is part of a broad treatment program that includes exercise, manual therapy and/or neuromuscular re-education (NMR) and is inclusive in these procedures. Strapping codes are not allowed for application of therapeutic taping.

Dry Needling

Research suggests that dry needling may improve pain control, reduce muscle tension, normalize biochemical and electrical dysfunction of motor endplates, and may facilitate an accelerated return to active rehabilitation [American Association of Orthopaedic Manual Physical Therapists (AAOMPT) position statement, 2010; APTA Resource Paper, 2012]. However further high quality research is needed to confirm findings for specific conditions and to relate improvements in pain and muscle quality to objective functional measures (Boyles et al., 2015; Cerezo-Téllez et al., 2016; Cotchett et al., 2010; Dommerholt et al., 2016; Dıraçoğlu et al., 2012; Gerber et al., 2016; Kalichman et al., 2010; Kietrys et al., 2013; Liu et al., 2015; Rodríguez-Mansilla et al., 2016; Tekin et al., 2014; Tough et al., 2009; Gattie et al., 2017; Espí-López et al., 2017; Liu et al., 2017; Sánchez Romero et al., 2020; Navarro-Santana et al., 2020; Pourahmadi et al., 2021; Navarro-Santana et al., 2021; Gattie et al., 2021; Bier et al., 2018; Sánchez-Infante et al., 2021; Jayaseelan et al., 2021; Llurda-Almuzara et al., 2021; Al-Moraissi et al., 2020; Valencia-Chulián et al., 2020).

Low-level laser therapy (LLLT)

Although the use of LLLT appears to be safe for the treatment of carpal tunnel syndrome, lateral epicondylitis, rheumatoid arthritis, and other musculoskeletal pain syndromes, the literature is insufficient to conclude that the use of LLLT is either clinically effective or ineffective in the treatment of these conditions due to inconsistent results, methodologic weaknesses and heterogeneity of studies. (Valdes and Marik, 2010; Brosseau et al. 2007; Pereira Alfredo et al., 2011; Huang et al., 2015; Youssef et al., 2016; Khesie et al., 2014; Kim et al., 2016; Dong et al., 2015; Bekhet et al., 2017; Franke et al., 2017; Chou et al., 2016; Wong et al., 2016; Butts et al., 2017; Yu et al., 2016; Dion et al., 2017; Doyle et al., 2016; Clijisen et al., 2017; Alfredo et al., 2017; Pieters et al., 2020; Cheung et al., 2020; Skelly et al., 2020; Martimbianco et al., 2020; de Pedro et al., 2020). Additional clinical trials are required to determine the effectiveness of LLLT for the treatment of these conditions for individual patients in order to determine its benefit:risk profile. There is a paucity of peer reviewed literature on high power laser light therapy (Class IV).

Vertebral Axial Decompression Therapy and Devices

Vertebral axial decompression therapy, also referred to as mechanized spinal distraction therapy, has been proposed as a nonsurgical treatment for back pain. Vertebral axial decompression devices are typically used in

a clinic or rehabilitation setting and include the VAX-D (VAX-D Medical Technologies LLC, Oldsmar, FL), DRS system (Professional Distribution Systems, Inc., Boca Raton, FL), DRX2000 (Axiom Worldwide, Inc., Tampa, FL) and other FDA-approved devices.

The published scientific data is insufficient to validate improved clinical outcomes (e.g., reduction of back pain, improved functioning) associated with vertebral axial decompression therapy. While several technology assessments have been published, effectiveness of the various devices have not been proven when compared to standard equipment or testing (Macario and Pergolizzi 2006, 2008; Daniel 2007; Beattie et al., 2008; Schimmel et al., 2009; Apfel et al., 2010).

Providers of Physical Therapy Services

Physical therapists are licensed health care professionals. Qualification for licensure includes passing the National Physical Therapy Exam (NPTE), administered by the Federation of State Boards of Physical Therapy. Another important qualification for licensure is graduation from a physical therapy education program accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE) or a program that is deemed substantially equivalent to a CAPTE accredited program. Physical therapist assistants working under the supervision and direction of a PT are also considered qualified providers of PT services.

Coding/Billing Information

Note: 1) This list of codes may not be all-inclusive.

2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
97010	Application of a modality to 1 or more areas; hot or cold packs
97012	Application of a modality to 1 or more areas; traction, mechanical
97014	Application of a modality to 1 or more areas; electrical stimulation (unattended)
97018	Application of a modality to 1 or more areas; paraffin bath
97022	Application of a modality to 1 or more areas; whirlpool
97024	Application of a modality to 1 or more areas; diathermy (eg, microwave)
97028	Application of a modality to 1 or more areas; ultraviolet
97032	Application of a modality to 1 or more areas; electrical stimulation (manual), each 15 minutes
97033	Application of a modality to 1 or more areas; iontophoresis, each 15 minutes
97034	Application of a modality to 1 or more areas; contrast baths, each 15 minutes
97035	Application of a modality to 1 or more areas; ultrasound, each 15 minutes
97036	Application of a modality to 1 or more areas; Hubbard tank, each 15 minutes
97110	Therapeutic procedure, 1 or more areas, each 15 minutes; therapeutic exercises to develop strength and endurance, range of motion and flexibility
97112	Therapeutic procedure, 1 or more areas, each 15 minutes; neuromuscular reeducation of movement, balance, coordination, kinesthetic sense, posture, and/or proprioception for sitting and/or standing activities
97113	Therapeutic procedure, 1 or more areas, each 15 minutes; aquatic therapy with therapeutic exercises
97116	Therapeutic procedure, 1 or more areas, each 15 minutes; gait training (includes stair climbing)
97124	Therapeutic procedure, 1 or more areas, each 15 minutes; massage, including effleurage, petrissage and/or tapotement (stroking, compression, percussion)
97140	Manual therapy techniques (eg, mobilization/manipulation, manual lymphatic drainage, manual traction), 1 or more regions, each 15 minutes
97150	Therapeutic procedure(s), group (2 or more individuals)
97161	Physical therapy evaluation: low complexity, requiring these components: A history with no personal factors and/or comorbidities that impact the plan of care; An examination of body

	system(s) using standardized tests and measures addressing 1-2 elements from any of the following: body structures and functions, activity limitations, and/or participation restrictions; A clinical presentation with stable and/or uncomplicated characteristics; and Clinical decision making of low complexity using standardized patient assessment instrument and/or measurable assessment of functional outcome. Typically, 20 minutes are spent face-to-face with the patient and/or family.
97162	Physical therapy evaluation: moderate complexity, requiring these components: A history of present problem with 1-2 personal factors and/or comorbidities that impact the plan of care; An examination of body systems using standardized tests and measures in addressing a total of 3 or more elements from any of the following: body structures and functions, activity limitations, and/or participation restrictions; An evolving clinical presentation with changing characteristics; and Clinical decision making of moderate complexity using standardized patient assessment instrument and/or measurable assessment of functional outcome. Typically, 30 minutes are spent face-to-face with the patient and/or family.
97163	Physical therapy evaluation: high complexity, requiring these components: A history of present problem with 3 or more personal factors and/or comorbidities that impact the plan of care; An examination of body systems using standardized tests and measures addressing a total of 4 or more elements from any of the following: body structures and functions, activity limitations, and/or participation restrictions; A clinical presentation with unstable and unpredictable characteristics; and Clinical decision making of high complexity using standardized patient assessment instrument and/or measurable assessment of functional outcome. Typically, 45 minutes are spent face-to-face with the patient and/or family.
97164	Re-evaluation of physical therapy established plan of care, requiring these components: An examination including a review of history and use of standardized tests and measures is required; and Revised plan of care using a standardized patient assessment instrument and/or measurable assessment of functional outcome Typically, 20 minutes are spent face-to-face with the patient and/or family.
97530	Therapeutic activities, direct (one-on-one) patient contact (use of dynamic activities to improve functional performance), each 15 minutes
97535	Self-care/home management training (eg, activities of daily living (ADL) and compensatory training, meal preparation, safety procedures, and instructions in use of assistive technology devices/adaptive equipment) direct one-on-one contact, each 15 minutes
97542	Wheelchair management (eg, assessment, fitting, training), each 15 minutes
97760	Orthotic(s) management and training (including assessment and fitting when not otherwise reported), upper extremity(ies), lower extremity(ies) and/or trunk, initial orthotic(s) encounter each 15 minutes
97761	Prosthetic(s) training, upper and/or lower extremity(ies), initial prosthetic(s) encounter, each 15 minutes
97763	Orthotic(s)/prosthetic(s) management and/or training, upper extremity(ies), lower extremity(ies), and/or truck, subsequent orthotic(s)/prosthetic(s) encounter, each 15 minutes

HCPCS Codes	Description
G0151	Services performed by a qualified physical therapist in the home health or hospice setting, each 15 minutes
S9131	Physical therapy; in the home, per diem

Considered Not Medically Necessary:

CPT®* Codes	Description
97016	Application of a modality to 1 or more areas; vasopneumatic devices
97026	Application of a modality to 1 or more areas; infrared

Considered Training in Nature/Not Medically Necessary:

CPT®* Codes	Description
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97169	Athletic training evaluation, low complexity, requiring these components: A history and physical activity profile with no comorbidities that affect physical activity; An examination of affected body area and other symptomatic or related systems addressing 1-2 elements from any of the following: body structures, physical activity, and/or participation deficiencies; and Clinical decision making of low complexity using standardized patient assessment instrument and/or measurable assessment of functional outcome. Typically, 15 minutes are spent face-to-face with the patient and/or family
97170	Athletic training evaluation, moderate complexity, requiring these components: A medical history and physical activity profile with 1-2 comorbidities that affect physical activity. An examination of affected body area and other symptomatic or related systems addressing a total of 3 or more elements from any of the following: body structures, physical activity, and/or participation deficiencies; and Clinical decision making of moderate complexity using standardized patient assessment instrument and/or measurable assessment of functional outcome. Typically, 30 minutes are spent face-to-face with the patient and/or family.
97171	Athletic training evaluation, high complexity, requiring these components: A medical history and physical activity profile, with 3 or more comorbidities that affect physical activity; A comprehensive examination of body systems using standardized tests and measures addressing a total of 4 or more elements from any of the following: body structures, physical activity, and/or participation deficiencies; Clinical presentation with unstable and unpredictable characteristics; and Clinical decision making of high complexity using standardized patient assessment instrument and/or measurable assessment of functional outcome. Typically, 45 minutes are spent face-to-face with the patient and/or family.
97172	Re-evaluation of athletic training established plan of care requiring these components: An assessment of patient's current functional status when there is a documented change, and A revised plan of care using a standardized patient assessment instrument and/or measurable assessment of functional outcome with an update in management options, goals, and interventions. Typically, 20 minutes are spent face-to-face with the patient and/or family.
97537	Community/work reintegration training (eg, shopping, transportation, money management, avocational activities and/or work environment/modification analysis, work task analysis, use of assistive technology device/adaptive equipment), direct one-on-one contact, each 15 minutes
97545	Work hardening/conditioning; initial 2 hours
97546	Work hardening/conditioning; each additional hour (List separately in addition to code for primary procedure)

HCPCS Codes	Description
S8990	Physical or manipulative therapy performed for maintenance rather than restoration
S9117	Back school, per visit

Considered Experimental, Investigational, Unproven:

CPT®*	Description
20560	Needle insertion(s) without injection(s); 1 or 2 muscle(s)
20561	Needle insertion(s) without injection(s); 3 or more muscles

HCPCS Codes	Description
S8940	Equestrian/hippotherapy, per session
S8948	Application of a modality (requiring constant provider attendance) to one or more areas, low-level laser; each 15 minutes
S9090	Vertebral axial decompression, per session

Considered Experimental/Investigational/Unproven when used to report any other treatment listed as EIU in the policy statement that does not have an assigned code:

CPT®* Codes	Description
97039	Unlisted modality (specify type and time if constant attendance)
97799	Unlisted physical medicine/rehabilitation service or procedure

Hand Orthotic

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
L3763	Elbow wrist hand orthosis, rigid, without joints, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3764	Elbow wrist hand orthosis, includes one or more non-torsion joints, elastic bands, turnbuckles, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3765	Elbow wrist hand finger orthosis, rigid, without joints, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3766	Elbow wrist hand finger orthosis, includes one or more non-torsion joint(s), elastic bands, turnbuckles, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3806	Wrist hand finger orthosis, includes one or more non-torsion joint(s), turnbuckles, elastic bands/springs, may include soft interface material, straps, custom fabricated, includes fitting and adjustment
L3807	Wrist hand finger orthosis without joint(s), prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise
L3808	Wrist hand finger orthosis rigid without joints, may include soft interface material, straps, custom fabricated, includes fitting and adjustment
L3891	Addition to upper extremity joint, wrist or elbow, concentric adjustable torsion style mechanism for custom fabricated orthotics only, each
L3900	Wrist hand finger orthosis, dynamic flexor hinge, reciprocal wrist extension/ flexion, finger flexion/extension, wrist or finger driven, custom fabricated
L3901	Wrist hand finger orthosis, dynamic flexor hinge, reciprocal wrist extension/ flexion, finger flexion/extension, cable driven, custom fabricated
L3905	Wrist hand orthosis, includes one or more nontorsion joints, elastic bands, turnbuckles, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3906	Wrist hand orthosis, without joints, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3913	Hand finger orthosis, without joints, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3915	Wrist hand orthosis, includes one or more nontorsion joint(s), elastic bands, turnbuckles, may include soft interface, straps, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise
L3917	Hand orthosis, metacarpal fracture orthosis, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise
L3919	Hand orthosis, without joints, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3921	Hand finger orthosis, includes one or more nontorsion joints, elastic bands, turnbuckles, may include soft interface, straps, custom fabricated, includes fitting and adjustment
L3923	Hand-finger orthosis, without joints, may include soft interface, straps, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise
L3929	Hand finger orthosis, includes one or more nontorsion joint(s), turnbuckles, elastic bands/springs, may include soft interface material, straps, prefabricated item that has been trimmed, bent, molded, assembled, or otherwise customized to fit a specific patient by an individual with expertise

L3931	Wrist-hand-finger orthosis, includes one or more nontorsion joint(s), turnbuckles, elastic bands/springs, may include soft interface material, straps, prefabricated, includes fitting and adjustment
L3933	Finger orthosis, without joints, may include soft interface, custom fabricated, includes fitting and adjustment
L3935	Finger orthosis, nontorsion joint, may include soft interface, custom fabricated, includes fitting and adjustment
L3956	Addition of joint to upper extremity orthotic, any material; per joint
L4205	Repair of orthotic device, labor component, per 15 minutes

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References

1. Abdullahi A, Aliyu NU, Useh U, et al. Comparing two different modes of task practice during lower limb constraint-induced movement therapy in people with stroke: A randomized clinical trial. *Neural Plast.* 2021a;2021:6664058.
2. Abdullahi A, Truijen S, Umar NA, et al. Effects of lower limb constraint induced movement therapy in people with stroke: A systematic review and meta-analysis. *Front Neurol.* 2021b;12:638904
3. Added MA, Costa LO, de Freitas DG, Fukuda TY, Monteiro RL, Salomão EC, de Medeiros 2 FC, Costa Lda C. Kinesio Taping Does Not Provide Additional Benefits in Patients 3 With Chronic Low Back Pain Who Receive Exercise and Manual Therapy: A 4 Randomized Controlled Trial. *J Orthop Sports Phys Ther.* 2016 Jul; 46(7):506-13.
4. Agency for Healthcare Research and Quality. Multidisciplinary Postacute Rehabilitation for Moderate to Severe Traumatic Brain Injury in Adults. Effective Health Care Program. Comparative Effectiveness Review, 2012;72. Retrieved on October 29, 2021 from https://www.ncbi.nlm.nih.gov/books/NBK98993/pdf/Bookshelf_NBK98993.pdf
5. Alcantara J, Alcantara JD, Alcantara J. The chiropractic care of infants with colic: a systematic review of the literature. *Explore.* 2011 May;7(3):168–74.
6. Allen KD, Bongiorno D, Bosworth HB, Coffman CJ, Datta SK, Edelman D, Hall KS, Lindquist JH, Oddone EZ, Hoenig H. Group Versus Individual Physical Therapy for Veterans With Knee Osteoarthritis: Randomized Clinical Trial. *Phys Ther.* 2016 May;96(5):597-608.
7. Almeida KM, Fonseca ST, Figueiredo PRP, Aquino AA, Mancini MC. Effects of interventions 39 with therapeutic suits (clothing) on impairments and functional limitations of children with 40 cerebral palsy: a systematic review. *Braz J Phys Ther.* 2017 Sep - Oct;21(5):307-320.
8. Alfredo PP, Bjordal JM, Junior WS, Lopes-Martins RÁB, Stausholm MB, Casarotto RA, Marques AP, Joensen J. Long-term results of a randomized, controlled, double-blind study of low-level laser therapy before exercises in knee osteoarthritis: laser and exercises in knee osteoarthritis. *Clin Rehabil.* 2018 Feb;32(2):173-178.
9. Al-Shareef AT, Omar MT, Ibrahim AH. Effect of Kinesio Taping on Pain and Functional 11 Disability in Chronic Nonspecific Low Back Pain: A Randomized Clinical Trial. *Spine 12 (Phila Pa 1976).* 2016 Jul 15; 41(14):E821-8.
10. Al-Moraissi EA, Alradom J, Aladashi O, Goddard G, Christidis N. Needling therapies in the management of myofascial pain of the masticatory muscles: A network meta-analysis of randomised clinical trials. *J Oral Rehabil.* 2020 Jul;47(7):910-922.

11. American Physical Therapy Association Policies and Bylaws. Retrieved October 29, 2021 from <https://www.apta.org/apta-and-you/leadership-and-governance/policies-and-bylaws>
12. American Medical Association. (current year). Current Procedural Terminology (CPT) Current year (rev. ed.). Chicago: AMA.
13. American Academy of Orthopedic Surgeons. Scoliosis. Last reviewed: April 2021. Retrieved on October 29, 2021 from <http://orthoinfo.aaos.org/topic.cfm?topic=A00353>
14. American Academy of Orthopedic Surgeons. Nonsurgical Treatment Options for Scoliosis. Last Reviewed: Sept 2019. Retrieved on October 29, 2021 from <http://www.orthoinfo.org/topic.cfm?topic=A00636>
15. American College of Obstetricians and Gynecologists (ACOG) Committee on Gynecologic Practice. ACOG Committee Opinion: Number 345, October 2006: vulvodynia. *Obstet Gynecol.* 2006 Oct;108(4):1049-52. (reaffirmed 2008; 2015)
16. American College of Obstetricians and Gynecologists (ACOG) Committee on Practice Bulletins--Gynecology. ACOG Practice Bulletin No. 85: Pelvic organ prolapse. *Obstet Gynecol.* 2007 Sep;110(3):717-29. (reaffirmed 2013)
17. American College of Obstetricians and Gynecologists Committee on Practice Bulletins-Gynecology. ACOG Practice Bulletin No. 119: Female sexual dysfunction. *Obstet Gynecol.* 2011 Apr;117(4):996-1007.(reaffirmed 2013; 2015)
18. American Physical Therapy Association (APTA). Criteria for Standards of Practice for Physical Therapy. BOD S03-06-16-38. 2006; updated: 8/12/2020. Retrieved on October 29, 2021 from <https://www.apta.org/apta-and-you/leadership-and-governance/policies/standards-of-practice-pt>
19. Andersen JC, Majnemer A, O'Grady K, Gordon AM. Intensive upper extremity training for children with hemiplegia: from science to practice. *Semin Pediatr Neurol.* 2013 Jun;20(2):100-5.
20. Apfel CC, Cakmakkaya OS, Martin W, Richmond C, Macario A, George E, et al. Restoration of disk height through non-surgical spinal decompression is associated with decreased discogenic low back pain: a retrospective cohort study. *BMC Musculoskelet Disord.* 2010 Jul 8;11:155.
21. Aqua Massage [product description]. AMI Inc. Retrieved on October 29, 2021 from http://amiaqua.com/PR_overview.htm
22. AquaMED Dry Hydrotherapy. JTL Enterprises, Inc. Retrieved on October 29, 2021 from <http://www.hydromassage.com/>
23. Bakris G, Dickholtz M Sr, Meyer PM, Kravitz G, Avery E, Miller M, Brown J, Woodfield. Atlas vertebra realignment and achievement of arterial pressure goal in hypertensive patients: a pilot study. *J Hum Hypertens.* 2007 May;21(5):347-52.
24. Bates B, Choi JY, Duncan PW, Glasberg JJ, Graham GD, Katz RC, et al.; US Department of Defense; Department of Veterans Affairs. Veterans Affairs/Department of Defense Clinical Practice Guideline for the Management of Adult Stroke Rehabilitation Care: executive summary. *Stroke.* 2005 Sep;36(9):2049-56.
25. Beattie PF, Nelson RM, Michener LA, Cammarata J, Donley J. Outcomes after a prone lumbar traction protocol for patients with activity-limiting low back pain: a prospective case series study. *Arch Phys Med Rehabil.* 2008 Feb;89(2):269-74.
26. Bekhet AH, Ragab B, Abushouk AI, Elgebaly A, Ali OI. Efficacy of low-level laser therapy in carpal tunnel syndrome management: a systematic review and meta-analysis. *Lasers Med Sci.* 2017 Aug;32(6):1439-1448.

27. Bier JD, Scholten-Peeters WGM, Staal JB, Pool J, van Tulder MW, Beekman E, Knoop J, Meerhoff G, Verhagen AP. Clinical Practice Guideline for Physical Therapy Assessment and Treatment in Patients With Nonspecific Neck Pain. *Phys Ther*. 2018 Mar 1;98(3):162-171.
28. Boyd R, Sakzewski L, Ziviani J, Abbott DF, Badawy R, Gilmore R, et al. INCITE: A randomised trial comparing constraint induced movement therapy and bimanual training in children with congenital hemiplegia. *BMC Neurol*. 2010 Jan 12;10:4.
29. Brosseau L, Robinson V, Wells G, et al. WITHDRAWN: Low level laser therapy (classes III) for treating osteoarthritis. *Cochrane Database Syst Rev*. 2007:CD002046.
30. Boyles R, Fowler R, Ramsey D, Burrows E. Effectiveness of trigger point dry needling for multiple body regions: a systematic review. *J Man Manip Ther*. 2015 Dec;23(5):276-93.
31. Briem, K., Eythörsdóttir, H., Magnúsdóttir, R. G., Pálmarsson, R., Rúnarsdóttir, T, & Sveinsson, T. (2011). Effects of kinesio tape compared with non-elastic sports tape and the untaped ankle during a sudden inversion perturbation in male athletes. *Journal of Orthopaedic and Sports Physical Therapy*, 41(5), 328-335.
32. Brogårdh C, Flansbjerg UB, Lexell J. What is the long-term benefit of constraint-induced movement therapy? A four-year follow-up. *Clin Rehabil*. 2009 May;23(5):418-23. Epub 2009 Apr 6.
33. Bronson C, Brewerton K, Ong J, Palanca C, Sullivan SJ. Does hippotherapy improve balance in persons with multiple sclerosis: a systematic review. *Eur J Phys Rehabil Med*. 2010 Sep;46(3):347-53.
34. Butts R, Dunning J, Pavkovich R, Mettillie J, Mourad F. Conservative management of temporomandibular dysfunction: A literature review with implications for clinical practice guidelines (Narrative review part 2). *J Bodyw Mov Ther*. 2017 Jul;21(3):541-548.
35. Callaghan MJ, Selfe J. Patellar taping for patellofemoral pain syndrome in adults. *Cochrane Database Syst Rev*. 2012 Apr 18; 4:CD006717.
36. Campolo M, Babu J, Dmochowska K, Scariah S, Varughese J. A comparison of two taping techniques (kinesio and mcconnell) and their effect on anterior knee pain during functional activities. *Int J Sports Phys Ther*. 2013 Apr; 8(2):105-10.
37. Centers for Medicare and Medicaid Services (CMS). Pub. 100-02, Chapter 15, Sections 220 and 230 Therapy Services. Coverage of Outpatient Rehabilitation Therapy Services (Physical Therapy, Occupational Therapy, and Speech-Language Pathology Services) Under Medical Insurance (Rev. 259, 7-12-19, Issued: 01-14-14, Effective: 01-07-14, Implementation: 01-07-14; 3-24-21). Retrieved on October 29, 2021 from <http://www.cms.hhs.gov/manuals/Downloads/bp102c15.pdf>
38. Centers for Medicare & Medicaid Services (CMS). National Coverage Determination 160.16. Vertebral axial decompression (VAX-D). Effective date April 15, 1997. Retrieved on October 29, 2021 from <http://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=124&ncdver=1&bc=BAABAAAAAAAA&>
39. Cerezo-Téllez E, Torres-Lacomba M, Fuentes-Gallardo I, Perez-Muñoz M, Mayoral-Del-Moral O, Lluch-Girbés E, Prieto-Valiente L, Falla D. Effectiveness of dry needling for chronic nonspecific neck pain: a randomized, single-blinded, clinical trial. *Pain*. 2016 Sep;157(9):1905-17.
40. Chang WD, Chen FC, Lee CL, Lin HY, Lai PT. Effects of Kinesio Taping versus McConnell Taping for Patellofemoral Pain Syndrome: A Systematic Review and Meta-Analysis. *Evid Based Complement Alternat Med*. 2015; 2015:471208.
41. Chen YP, Pope S, Tyler D, Warren GL. Effectiveness of constraint-induced movement therapy on upper-extremity function in children with cerebral palsy: A systematic review and meta-analysis of randomized controlled trials. *Clin Rehabil*. 2014;28(10):939-953.

42. Cheung WKW, Wu IXY, Sit RWS, Ho RST, Wong CHL, Wong SYS, Chung VCH. Low-level laser therapy for carpal tunnel syndrome: systematic review and network meta-analysis. *Physiotherapy*. 2020 Mar;106:24-35.
43. Chiu HC, Ada L. Constraint-induced movement therapy improves upper limb activity and participation in hemiplegic cerebral palsy: A systematic review. *J Physiother*. 2016;62(3):130-137.
44. Chou R, Deyo R, Friedly J, Skelly A, Hashimoto R, Weimer M, Fu R, Dana T, Kraegel P, Griffin J, Grusing S, Brodt E. Noninvasive Treatments for Low Back Pain. Comparative Effectiveness Review No. 169. (Prepared by the Pacific Northwest Evidence-based Practice Center under Contract No. 290-2012-00014-I.) AHRQ Publication No. 16-EHC004-EF. Rockville, MD: Agency for Healthcare Research and Quality; February 2016.
45. Chou R, Wagner J, Ahmed AY, et al. Treatments for Acute Pain: A Systematic Review. Rockville (MD): Agency for Healthcare Research and Quality (US); December 2020.
46. Chou R, Huffman LH; American Pain Society; American College of Physicians. Nonpharmacologic therapies for acute and chronic low back pain: a review of the evidence for an American Pain Society/American College of Physicians clinical practice guideline. *Ann Intern Med*. 2007a Oct 2;147(7):492-504.
47. Chou R, Qaseem A, Snow V, Casey D, Cross JT Jr, Shekelle P, Owens DK; Clinical Efficacy Assessment Subcommittee of the American College of Physicians; American College of Physicians; American Pain Society Low Back Pain Guidelines Panel. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Ann Intern Med*. 2007b Oct 2;147(7):478-91.
48. Christiansen AS, Lange C. Intermittent versus continuous physiotherapy in children with cerebral palsy. *Dev Med Child Neurol*. 2008 Apr;50(4):290-3.
49. Clar C, Tsertsvadze A, Court R, Hundt GL, Clarke A, Sutcliffe P. Clinical effectiveness of manual therapy for the management of musculoskeletal and non-musculoskeletal conditions: systematic review and update of UK evidence report. *Chiropr Man Therap*. 2014 Mar 28;22(1):12.
50. Clijisen R, Brunner A, Barbero M, Clarys P, Taeymans J. Effects of low-level laser therapy on pain in patients with musculoskeletal disorders. A systemic review and meta-analysis. *Eur J Phys Rehabil Med*. 2017 Jan 30.
51. Corbetta D, Sirtori V, Moja L, Gatti R. Constraint-induced movement therapy in stroke patients: systematic review and meta-analysis. *Eur J Phys Rehabil Med*. 2010 Dec;46(4):537-44.
52. Cotchett MP, Landorf KB, Munteanu SE. Effectiveness of dry needling and injections of myofascial trigger points associated with plantar heel pain: a systematic review. *Foot Ankle Res*. 2010;3:18.
53. Csapo R, Alegre LM. Effects of Kinesio[®] taping on skeletal muscle strength-A meta-analysis of current evidence. *J Sci Med Sport*. 2014 Jun 27.
54. Cupler ZA, Alrwaily M, Polakowski E, Mathers KS, Schneider MJ. Taping for conditions of the musculoskeletal system: an evidence map review. *Chiropr Man Therap*. 2020 Sep 15;28(1):52.
55. Daniel DM. Non-surgical spinal decompression therapy: does the scientific literature support efficacy claims made in the advertising media? *Chiropr Osteopat*. 2007;15:7.
56. de Brito Brandão M, Mancini MC, Vaz DV, Pereira de Melo AP, Fonseca ST. Adapted version of constraint-induced movement therapy promotes functioning in children with cerebral palsy: a randomized controlled trial. *Clin Rehabil*. 2010 Jul;24(7):639-47.

57. De Guindos-Sanchez L, Lucena-Anton D, Moral-Munoz JA, et al. The effectiveness of hippotherapy to recover gross motor function in children with cerebral palsy: A systematic review and meta-analysis. *Children (Basel)*. 2020;7(9):106.
58. Delitto A, George SZ, Van Dillen LR, Whitman JM, Sowa G, Shekelle P, et al.; Orthopaedic Section of the American Physical Therapy Association. Low back pain. *J Orthop Sports Phys Ther*. 2012 Apr;42(4):A1-57. Epub 2012 Mar 30.
59. De Miguel A, De Miguel MD, Lucena-Anton D, Rubio MD. Effects of hypotherapy on the motor function of persons with Down's syndrome: A systematic review. *Rev Neurol*. 2018;67(7):233-241.
60. de Pedro M, Lopez-Pintor RM, de la Hoz-Aizpurua JL, et al. Efficacy of low-level laser therapy for the therapeutic management of neuropathic orofacial pain: A systematic review. *J Oral Facial Pain Headache*. 2020;34(1):13–30.
61. Dion S, Wong JJ, Côté P, Yu H, Sutton D, Randhawa K, Southerst D, Varatharajan S, Stern PJ, Nordin M, Chung C, D'Angelo K, Dresser J, Brown C, Menta R, Ammendolia C, Shearer HM, Stupar M, Ameis A, Mior S, Carroll LJ, Jacobs C, Taylor-Vaisey A. Are Passive Physical Modalities Effective for the Management of Common Soft Tissue Injuries of the Elbow?: A Systematic Review by the Ontario Protocol for Traffic Injury Management (OPTIMA) Collaboration. *Clin J Pain*. 2017 Jan;33(1):71-86.
62. Dıraçoğlu D, Vural M, Karan A, Aksoy C. Effectiveness of dry needling for the treatment of temporomandibular myofascial pain: a double-blind, randomized, placebo controlled study. *J Back Musculoskelet Rehabil*. 2012;25(4):285-90.
63. Dobson D, Lucassen PLBJ, Miller JJ, Vlieger AM, Prescott P, Lewith G. Manipulative therapies for infantile colic. *Cochrane Database Syst Rev*. 2012;12:CD004796.
64. Dommerholt J, Hooks T, Finnegan M, Grieve R. A critical overview of the current myofascial pain literature - March 2016. *J Bodyw Mov Ther*. 2016 Apr;20(2):397-408.
65. Dong W, Goost H, Lin XB, Burger C, Paul C, Wang ZL, Zhang TY, Jiang ZC, Welle K, Kabir K. Treatments for shoulder impingement syndrome: a PRISMA systematic review and network meta-analysis. *Medicine (Baltimore)*. 2015 Mar;94(10):e510.
66. Doyle AT, Lauber C, Sabine K. The Effects of Low-Level Laser Therapy on Pain Associated With Tendinopathy: A Critically Appraised Topic. *J Sport Rehabil*. 2016 Feb;25(1):83-90.
67. Driehuis F, Hoogeboom TJ, Nijhuis-van der Sanden MWG, de Bie RA, Staal JB. Spinal manual therapy in infants, children and adolescents: A systematic review and meta-analysis on treatment indication, technique and outcomes. *PLoS One*. 2019 Jun 25;14(6):e0218940.
68. Dromerick AW, Lang CE, Birkenmeier RL, Wagner JM, Miller JP, Videen TO, et al. Very Early Constraint-Induced Movement during Stroke Rehabilitation (VECTORS): A single-center RCT. *Neurology*. 2009 Jul 21;73(3):195-201. Epub 2009 May 20.
69. Dromerick AW, Edwards DF, Hahn M. Does the application of constraint-induced movement therapy during acute rehabilitation reduce arm impairment after ischemic stroke? *Stroke*. 2000 Dec;31(12):2984-8.
70. Dry Hydromassage. Princeton, MN: Sidmar Manufacturing, Inc.; 2001-2005. Retrieved on October 29, 2020 from <http://www.sidmar.com/>
71. Espí-López GV, Serra-Añó P, Vicent-Ferrando J, Sánchez-Moreno-Giner M, Arias-Buría JL, Cleland J, Fernández-de-Las-Peñas C. Effectiveness of Inclusion of Dry Needling in a Multimodal Therapy Program for Patellofemoral Pain: A Randomized Parallel-Group Trial. *J Orthop Sports Phys Ther*. 2017 Jun;47(6):392-401.

72. Eliasson AC, Krumlinde-sundholm L, Shaw K, Wang C. Effects of constraint-induced movement therapy in young children with hemiplegic cerebral palsy: an adapted model. *Dev Med Child Neurol.* 2005 Apr;47(4):266-75.
73. Eliasson AC, Krumlinde-Sundholm L, Gordon AM, et al; European network for Health Technology Assessment (EUnetHTA). Guidelines for future research in constraint-induced movement therapy for children with unilateral cerebral palsy: An expert consensus. *Dev Med Child Neurol.* 2014
74. Fernández-de-Las-Peñas C, Pérez-Bellmunt A, Llurda-Almuzara L, Plaza-Manzano G, De-la-Llave-Rincón AI, Navarro-Santana MJ. Is Dry Needling Effective for the Management of Spasticity, Pain, and Motor Function in Post-Stroke Patients? A Systematic Review and Meta-Analysis. *Pain Med.* 2021 Feb 4;22(1):131-141.
75. Ferrance RJ, Miller J. Chiropractic diagnosis and management of non-musculoskeletal conditions in children and adolescents. *Chiropr Osteopat.* 2010 Jun 2;18:14.
76. Fishman SM, Ballantyne JC, Rathmell JP editors. *Bonica's management of pain* 4th ed. Lippincott Williams & Wilkins: Philadelphia; 2010.
77. FitzGerald MP, Payne CK, Lukacz ES, Yang CC, Peters KM, Chai TC, et al; Interstitial Cystitis Collaborative Research Network.. Randomized multicenter clinical trial of myofascial physical therapy in women with interstitial cystitis/painful bladder syndrome and pelvic floor tenderness. *J Urol.* 2012 Jun;187(6):2113-8.
78. Franke TPC, Koes BW, Geelen SJG, Huisstede BMA. Do Patients with Carpal Tunnel Syndrome Benefit from Low-Level Laser Therapy? A Systematic Review of Randomized Controlled Trials. *Arch Phys Med Rehabil.* 2017 Jun 16. pii: S0003-9993(17)30391-X.
79. Frontera W, Silver J, Rizzo TD editors. *Essentials of physical medicine and rehabilitation.* 3rd ed. Philadelphia, PA: Saunders, an imprint of Elsevier Inc.; 2014.
80. Furlan AD, Giraldo M, Baskwill A, Irvin E, Imamura M. Massage for low-back pain. *Cochrane Database Syst Rev.* 2015 Sep 1;(9):CD001929.
81. Gattie E, Cleland JA, Snodgrass S. The Effectiveness of Trigger Point Dry Needling for Musculoskeletal Conditions by Physical Therapists: A Systematic Review and Meta-analysis. *J Orthop Sports Phys Ther.* 2017 Mar;47(3):133-149.
82. Gattie E, Cleland JA, Pandya J, Snodgrass S. Dry Needling Adds No Benefit to the Treatment of Neck Pain: A Sham-Controlled Randomized Clinical Trial With 1-Year Follow-up. *J Orthop Sports Phys Ther.* 2021 Jan;51(1):37-45.
83. Gatt M, Willis S, Leuschner S. A meta-analysis of the effectiveness and safety of kinesiography taping in the management of cancer-related lymphoedema. *Eur J Cancer Care (Engl).* 2016 May 11.
84. Gerber LH, Sikdar S, Aredo JV, Armstrong K, Rosenberger WF, Shao H, Shah JP. Beneficial Effects of Dry Needling for Treatment of Chronic Myofascial Pain Persist for 6 Weeks After Treatment Completion. *PM R.* 2016 Jun 11. pii: S1934-32 1482(16)30180-0.
85. Gleberzon BJ, Arts J, Mei A, McManus EL. The use of spinal manipulative therapy for pediatric health conditions: a systematic review of the literature. *J Can Chiropr Assoc.* 2012 Jun;56(2):128-41.
86. Goetsch MF. Surgery combined with muscle therapy for dyspareunia from vulvar vestibulitis: an observational study. *J Reprod Med.* 2007 Jul;52(7):597-603.
87. Goldstein AT, Marinoff SC, Haefner HK. Vulvodynia: strategies for treatment. *Clin Obstet Gynecol.* 2005 Dec;48(4):769-85.

88. González-Iglesias J, Fernández-de-Las-Peñas C, Cleland JA, et al. Short-term effects of cervical kinesio taping on pain and cervical range of motion in patients with acute whiplash injury: A randomized clinical trial. *J Orthop Sports Phys Ther.* 2009; 39(7):515-521.
89. Guide to Physical Therapist Practice 3.0. 2nd ed. Alexandria, VA: American Physical Therapy Association; 2014.
90. Grampurohit N, Pradhan S, Kartir D. Efficacy of adhesive taping as an adjunct to physical rehabilitation to influence outcomes post-stroke: a systematic review. *Top Stroke Rehabil.* 2015 Feb; 22(1):72-82.
91. Grotta JC, Noser EA, Ro T, Boake C, Levin H, Aronowski J, Schallert T. Constraint-induced movement therapy. *Stroke.* 2004 Nov;35(11 Suppl 1):2699-701.
92. H2OMassage System. Winnipeg, MB, Canada. Retrieved on October 29, 2021 from <http://www.h2omassage.com/>
93. Haefner HK, Collins ME, Davis GD, Edwards L, Foster DC, Hartmann ED, et al. The vulvodynia guideline. *J Low Genit Tract Dis.* 2005 Jan;9(1):40-51.
94. Halseth T, McChesney JW, Debeliso M, Vaughn R, Lien J. The effects of kinesio™ taping on proprioception at the ankle. *J Sports Sci Med.* 2004 Mar 1;3(1):1-7.
95. Hatzimouratidis K, Eardley I, Giuliano F, Hatzichristou D, Moncada I, Salonia A, et al.; European Association of Urology. Guidelines on male sexual dysfunction: erectile dysfunction and premature ejaculation. 2015.
96. Hoare BJ, Imms C, Rawicki HB, Carey L. Modified constraint-induced movement therapy or bimanual occupational therapy following injection of Botulinum toxin-A to improve bimanual performance in young children with hemiplegic cerebral palsy: a randomised controlled trial methods paper. *BMC Neurol.* 2010 Jul 5;10(1):58.
97. Hoare BJ, Wasiak J, Imms C, Carey L. Constraint-induced movement therapy in the treatment of the upper limb in children with hemiplegic cerebral palsy. *Cochrane Database Syst Rev.* 2007 Apr 18;(2):CD004149.
98. Hoare BJ, Wallen MA, Thorley MN, et al. Constraint-induced movement therapy in children with unilateral cerebral palsy. *Cochrane Database Syst Rev.* 2019;4:CD004149.
99. Hondras MA, Linde K, Jones AP. Manual therapy for asthma. *Cochrane Database. Syst Rev.* 2005 Apr 18;(2):CD001002.
100. Huang HH, Fetters L, Hale J, McBride A. Bound for success: a systematic review of constraint-induced movement therapy in children with cerebral palsy supports improved arm and hand use. *Phys Ther.* 2009 Nov;89(11):1126-41.
101. Huang Z, Chen J, Ma J, Shen B, Pei F, Kraus VB. Effectiveness of low-level laser therapy in patients with knee osteoarthritis: a systematic review and meta-analysis. *Osteoarthritis Cartilage.* 2015 Apr 23. pii: S1063-4584(15)01125-5.
102. Huang Z, Ma J, Chen J, Shen B, Pei F, Kraus VB. The effectiveness of low-level laser therapy for nonspecific chronic low back pain: a systematic review and meta-analysis. *Arthritis Res Ther.* 2015 Dec 15;17:360.
103. Huang T, Shu X, Huang YS, Cheuk DK. Complementary and miscellaneous interventions for nocturnal enuresis in children. *Cochrane Database Syst Rev.* 2011 Dec 7;(12):CD005230.

104. Hurwitz EL, Carragee EJ, van der Velde G, Carroll LJ, Nordin M, Guzman J, et al. Treatment of neck pain: noninvasive interventions: results of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders. *J Manipulative Physiol Ther.* 2009 Feb;32(2 Suppl):S141-75.
105. ICF Project Published Guidelines. Clinical Practice Guidelines. Orthopaedic Section, American Physical Therapy Association. Published Guidelines. Retrieved on October 29, 2021 from <https://www.orthopt.org/content/practice/clinical-practice-guidelines>
106. Jayaseelan DJ, T Faller B, H Avery M. The utilization and effects of filiform dry needling in the management of tendinopathy: a systematic review. *Physiother Theory Pract.* 2021 Apr 27:1-13.
107. Kalichman, L and Vulfsons, S. Dry needling in the management of musculoskeletal pain. *J Am Board Fam Med.* 2010;23(5): 640-646.
108. Kalron A, Bar-Sela S. A systematic review of the effectiveness of Kinesio Taping--fact or fashion? *Eur J Phys Rehabil Med.* 2013 Oct; 49(5):699-709.
109. Kaminskyj A, Frazier M, Johnstone K, Gleberzon BJ. Chiropractic care for patients with asthma: A systematic review of the literature. *J Can Chiropr Assoc.* 2010 Mar;54(1):24–32.
110. Karpouzis F, Bonello R, Pollard H. Chiropractic care for paediatric and adolescent Attention-Deficit/Hyperactivity Disorder: A systematic review. *Chiropr Osteopat.* 2010 Jun 2;18:13. doi: 10.1186/1746-1340-18-13.
111. Kheshie AR, Alayat MS, Ali MM. High-intensity versus low-level laser therapy in the treatment of patients with knee osteoarthritis: a randomized controlled trial. *Lasers Med Sci.* 2014 Jul;29(4):1371-6.
112. Kietrys DM, Palombaro KM, Azzaretto E, Hubler R, Schaller B, Schlusser JM, Tucker M. Effectiveness of Dry Needling for Upper Quarter Myofascial Pain: A Systematic Review and Meta-analysis. *J Orthop Sports Phys Ther.* 2013 Jun 11
113. Kim GJ, Choi J, Lee S, Jeon C, Lee K. The effects of high intensity laser therapy on pain and function in patients with knee osteoarthritis. *J Phys Ther Sci.* 2016 Nov;28(11):3197-3199.
114. Kong LJ, Zhan HS, Cheng YW, Yuan WA, Chen B, Fang M. Massage therapy for neck and shoulder pain: a systematic review and meta-analysis. *Evid Based Complement Alternat Med.* 2013;2013:613279.
115. Kraft KA, Weisberg J, Finch MD, et al. Hippotherapy in rehabilitation care for children with neurological impairments and developmental delays: A Case Series. *Pediatr Phys Ther.* 2019;31(1):E14-E21.
116. Lentz GM, Lobo RA, Gershenson DM, Katz VL editors. *Comprehensive Gynecology* 6th ed. Philadelphia: Mosby, imprint of Elsevier; 2012 ch9.
117. Lee CW, Kim SG, Yong MS. Effects of hippotherapy on recovery of gait and balance ability in patients with stroke. *J Phys Ther Sci.* 2014 Feb;26(2):309-11.
118. Lim EC, Tay MG. Kinesio taping in musculoskeletal pain and disability that lasts for more than 4 weeks: is it time to peel off the tape and throw it out with the sweat? A systematic review with meta-analysis focused on pain and also methods of tape application. *Br J Sports Med.* 2015 Dec; 49(24):1558-66.
119. Local Coverage Determination (LCD): Outpatient Physical and Occupational Therapy Services (L33631). National Government Services, Inc. Retrieved on October 29, 2021 from <https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=33631&ver=51&Date=01%2f01%2f2020&DocID=L33631&bc=ggAAAAIAAAAA&&>
120. Medically Necessary Physical Therapy Services. American Physical Therapy Association. Position BOD P08-11-03-04; updated 2011 .

121. Li Y, Yin Y, Jia G, Chen H, Yu L, Wu D. Effects of kinesiotape on pain and disability in individuals with chronic low back pain: a systematic review and meta-analysis of randomized controlled trials. *Clin Rehabil.* 2019 Apr;33(4):596-606.
122. Lin S, Zhu B, Huang G, Wang C, Zeng Q, Zhang S. Short-Term Effect of Kinesiotaping on Chronic Nonspecific Low Back Pain and Disability: A Meta-Analysis of Randomized Controlled Trials. *Phys Ther.* 2020 Feb 7;100(2):238-254.
123. Liu L, Huang QM, Liu QG, Ye G, Bo CZ, Chen MJ, Li P. Effectiveness of dry needling for myofascial trigger points associated with neck and shoulder pain: a systematic review and meta-analysis. *Arch Phys Med Rehabil.* 2015 May;96(5):944-55.
124. Liu L, Huang QM, Liu QG, Thitham N, Li LH, Ma YT, Zhao JM. Evidence for Dry Needling in the Management of Myofascial Trigger Points Associated with Low Back Pain: A Systematic Review and Meta-analysis. *Arch Phys Med Rehabil.* 2017 Jul 6. pii: S0003-9993(17)30452-5.
125. Llorca-Almuzara L, Labata-Lezaun N, Meca-Rivera T, Navarro-Santana MJ, Cleland JA, Fernández-de-Las-Peñas C, Pérez-Bellmunt A. Is Dry Needling Effective for the Management of Plantar Heel Pain or Plantar Fasciitis? An Updated Systematic Review and Meta-Analysis. *Pain Med.* 2021 Jul 25;22(7):1630-1641.
126. Lucado AM, Dale RB, Vincent J, Day JM. Do joint mobilizations assist in the recovery of lateral elbow tendinopathy? A systematic review and meta-analysis. *J Hand Ther.* 2019;32(2):262-276.e1.
127. Luz Júnior MAD, Almeida MO, Santos RS, Civile VT, Costa LOP. Effectiveness of Kinesio Taping in Patients With Chronic Nonspecific Low Back Pain: A Systematic Review With Meta-analysis. *Spine (Phila Pa 1976).* 2019 Jan 1;44(1):68-78.
128. Macario A, Pergolizzi JV. Systematic literature review of spinal decompression via motorized traction for chronic discogenic low back pain. *Pain Pract.* 2006 18 Sep;6(3):171-8.
129. Macario A, Richmond C, Auster M, Pergolizzi JV. Treatment of 94 outpatients with chronic discogenic low back pain with the DRX9000: a retrospective chart review. *Pain Pract.* 2008 Mar;8(1):11-7.
130. Mangum K, Partna L, Vavrek D. Spinal manipulation for the treatment of hypertension: a systematic qualitative literature review. *J Manipulative Physiol Ther.* 2012;35(3):235-43.
131. Martínez-Costa Montero MC, Cabeza AS. Effectiveness of constraint-induced movement therapy in upper extremity rehabilitation in patients with cerebral palsy: A systematic review. *Rehabilitacion (Madr).* 2020 Nov 30 [Online ahead of print].
132. McIntyre A, Viana R, Janzen S, Mehta S, Pereira S, Teasell R. Systematic review and meta-analysis of constraint-induced movement therapy in the hemiparetic upper extremity more than six months post stroke. *Top Stroke Rehabil.* 2012 Nov-Dec;19(6):499-513.
133. Mehlman CT. Idiopathic Scoliosis. Jun 30, 2004. Updated Dec 2020. *emedicine.* Retrieved on October 29, 2021 from <http://www.emedicine.com/orthoped/TOPI504.HTM>
134. Montalvo AM, Cara EL, Myer GD. Effect of kinesiology taping on pain in individuals with musculoskeletal injuries: Systematic review and meta-analysis. *Phys Sportsmed.* 2014 May; 42(2):48-57.
135. Mostafavifar M, Wertz J, Borchers J. A systematic review of the effectiveness of kinesio taping for musculoskeletal injury. *Phys Sportsmed.* 2012 Nov;40(4):33-40.

136. National Center for Complementary and Alternative Medicine (NCCAM). National Institutes of Health. Massage Therapy for Health Purposes: What You Need To Know. September 2006; updated May 2019. Retrieved on October 29, 2021 from <https://nccih.nih.gov/health/massage/massageintroduction.htm>
137. National Institutes of Health. National Institute of Arthritis and Musculoskeletal and Skin Disease. Questions and answers about scoliosis in children and adolescents. NIH Publication No. 13–4862. Dec 2019. Retrieved on October 29, 2021 from http://www.niams.nih.gov/Health_Info/Scoliosis/default.asp
138. Nair HKR. Microcurrent as an adjunct therapy to accelerate chronic wound healing and reduce patient pain. *J Wound Care*. 2018 May 2;27(5):296-306.
139. Navarro-Santana MJ, Sanchez-Infante J, Gómez-Chiguano GF, Cleland JA, López-de-Uralde-Villanueva I, Fernández-de-Las-Peñas C, Plaza-Manzano G. Effects of trigger point dry needling on lateral epicondylalgia of musculoskeletal origin: a systematic review and meta-analysis. *Clin Rehabil*. 2020 Nov;34(11):1327-1340.
140. Navarro-Santana MJ, Gómez-Chiguano GF, Cleland JA, Arias-Burúa JL, Fernández-de-Las-Peñas C, Plaza-Manzano G. Effects of Trigger Point Dry Needling for Nontraumatic Shoulder Pain of Musculoskeletal Origin: A Systematic Review and Meta-Analysis. *Phys Ther*. 2021 Feb 4;101(2):pzaa216.
141. Navarro-Santana MJ, Sanchez-Infante J, Fernández-de-Las-Peñas C, Cleland JA, Martín-Casas P, Plaza-Manzano G. Effectiveness of Dry Needling for Myofascial Trigger Points Associated with Neck Pain Symptoms: An Updated Systematic Review and Meta-Analysis. *J Clin Med*. 2020 Oct 14;9(10):3300.
142. Nelson NL. Kinesio taping for chronic low back pain: A systematic review. *J Bodyw Mov Ther*. 2016 Jul; 20(3):672-81.
143. Nijland R, Kwakkel G, Bakers J, van Wegen E. Constraint-induced movement therapy for the upper paretic limb in acute or sub-acute stroke: a systematic review. *Int J Stroke*. 2011 Oct;6(5):425-33. doi: 10.1111/j.1747-4949.2011.00646.
144. O'Haire ME. Animal-assisted intervention for autism spectrum disorder: a systematic literature review. *J Autism Dev Disord*. 2013 Jul;43(7):1606-22.
145. Ottawa Panel. Ottawa Panel evidence-based clinical practice guidelines for therapeutic exercises in the management of rheumatoid arthritis in adults. *Phys Ther*. 2004 Oct;84(10):934-72.
146. Ottawa Panel. Ottawa panel evidence-based clinical practice guidelines for therapeutic exercises and manual therapy in the management of osteoarthritis. *Phys Ther* 2005 Sep;85(9):907-71.
147. Ottawa Panel, Khadilkar A, Phillips K, Jean N, Lamothe C, Milne S, Sarnecka J. Ottawa panel evidence-based clinical practice guidelines for post-stroke rehabilitation. *Top Stroke Rehabil*. 2006 Spring;13(2):1-269.
148. Owen PJ, Miller CT, Mundell NL, Verswijveren SJJM, Tagliaferri SD, Brisby H, Bowe SJ, Belavy DL. Which specific modes of exercise training are most effective for treating low back pain? Network meta-analysis. *Br J Sports Med*. 2020 Nov;54(21):1279-1287.
149. Page MJ, Green S, Mrocki MA, Surace SJ, Deitch J, McBain B, Lyttle N, Buchbinder R. 18 Electrotherapy modalities for rotator cuff disease. *Cochrane Database Syst Rev*. 19 2016 Jun 10;(6):CD012225.
150. Paiva LL, Ferla L, Darski C, Catarino BM, Ramos JG. Pelvic floor muscle training in groups versus individual or home treatment of women with urinary incontinence: systematic review and meta-analysis. *Int Urogynecol J*. 2017 Mar;28(3):351-359.

151. Parreira Pdo C, Costa Lda C, Hespanhol Junior LC, Lopes AD, Costa LO. Current evidence does not support the use of Kinesio Taping in clinical practice: a systematic review. *J Physiother.* 2014 Mar; 60(1):31-9.
152. Patel KC, Gross A, Graham N, Goldsmith CH, Ezzo J, Morien A, Peloso PM. Massage for mechanical neck disorders. *Cochrane Database Syst Rev.* 2012 Sep12;9:CD004871.
153. Peter WF, Jansen MJ, Hurkmans EJ, Bloo H, Dekker J, Dilling RG, et al.; Guideline Steering Committee - Hip and Knee Osteoarthritis. Physiotherapy in hip and knee osteoarthritis: development of a practice guideline concerning initial assessment, treatment and evaluation. *Acta Reumatol Port.* 2011 Jul-Sep;36(3):268-81.
154. Peterson LE, Goodman C, Karnes EK, Chen CJ, Schwartz JA. Assessment of the quality of cost analysis literature in physical therapy. *Phys Ther.* 2009;89(8):733-755.
155. Peurala SH, Kantanen MP, Sjögren T, Paltamaa J, Karhula M, Heinonen A. Effectiveness of constraint-induced movement therapy on activity and participation after stroke: a systematic review and meta-analysis of randomized controlled trials. *Clin Rehabil.* 2012 Mar;26(3):209-23.
156. Pereira Alfredo P et al. Efficacy of low level laser therapy associated with exercises in knee osteoarthritis: a randomized double-blind study. *Clin Rehabil.* 2011;26(6):523-533.
157. Peurala SH, Kantanen MP, Sjögren T, Paltamaa J, Karhula M, Heinonen A. Effectiveness of constraint-induced movement therapy on activity and participation after stroke: a systematic review and meta-analysis of randomized controlled trials. *Clin Rehabil.* 2012 Mar;26(3):209-23.
158. Pieters L, Lewis J, Kuppens K, Jochems J, Bruijstens T, Joossens L, Struyf F. An Update of Systematic Reviews Examining the Effectiveness of Conservative Physical Therapy Interventions for Subacromial Shoulder Pain. *J Orthop Sports Phys Ther.* 2020 Mar;50(3):131-141.
159. Pollock A, Baer G, Pomeroy V, Langhorne P. Physiotherapy treatment approaches for the recovery of postural control and lower limb function following stroke. *Cochrane Database Syst Rev.* 2007 Jan 24;(1):CD001920.
160. Pollock A, Baer G, Campbell P, Choo PL, Forster A, Morris J, et al. Physical rehabilitation approaches for the recovery of function and mobility following stroke. *Cochrane Database Syst Rev.* 2014 Apr 22;4:CD001920.
161. Pohlman KA, Holton-Brown MS. Otitis media and spinal manipulative therapy: a literature review. *J Chiropr Med.* 2012 Sep;11(3):160–9.
162. Pourahmadi M, Dommerholt J, Fernández-de-Las-Peñas C, Koes BW, Mohseni-Bandpei MA, Mansournia MA, Delavari S, Keshtkar A, Bahramian M. Dry Needling for the Treatment of Tension-Type, Cervicogenic, or Migraine Headaches: A Systematic Review and Meta-Analysis. *Phys Ther.* 2021 May 4;101(5):pzab068.
163. Pulman J, Buckley E, Clark-Carter D. A meta-analysis evaluating the effectiveness of two different upper limb hemiparesis interventions on improving health-related quality of life following stroke. *Top Stroke Rehabil.* 2013 Mar-Apr;20(2):189-96.
164. Robertson B, Harding KE. Outcomes with individual versus group physical therapy for treating urinary incontinence and low back pain: a systematic review and meta-analysis of randomized controlled trials. *Arch Phys Med Rehabil.* 2014 Nov;95(11):2187-98.
165. Rodríguez-Mansilla J, González-Sánchez B, De Toro García Á, Valera-Donoso E, Garrido-Ardila EM, Jiménez-Palomares M, González López-Arza MV. Effectiveness of dry needling on reducing pain intensity in patients with myofascial pain syndrome: a Meta-analysis. *J Tradit Chin Med.* 2016 Feb;36(1):1-13.

166. Roll SC, Hardison ME. Effectiveness of Occupational Therapy Interventions for Adults With Musculoskeletal Conditions of the Forearm, Wrist, and Hand: A Systematic Review. *Am J Occup Ther.* 2017;71(1):7101180010p1-7101180010p12
167. Romano M, Minozzi S, Bettany-Saltikov J, Zaina F, Chockalingam N, Kotwicki T, et al. Exercises for adolescent idiopathic scoliosis. *Cochrane Database Syst Rev.* 2012 Aug 15;(8):CD007837.
168. Royal College of Physicians/Intercollegiate Stroke Working Party. National clinical guidelines for stroke 5th ed. 2016.
169. Rutjes AW, Nüesch E, Sterchi R, Kalichman L, Hendriks E, Osiri M, Brosseau L, Reichenbach S, Jüni P. Transcutaneous electrostimulation for osteoarthritis of the knee. *Cochrane Database Syst Rev.* 2009 Oct 7;(4):CD002823.
170. Sakzewski L, Ziviani J, Boyd RN. Efficacy of upper limb therapies for unilateral cerebral palsy: a meta-analysis. *Pediatrics.* 2014 Jan;133(1):e175-204..
171. Sakzewski L, Gordon A, Eliasson AC. The state of the evidence for intensive upper limb therapy approaches for children with unilateral cerebral palsy. *J Child Neurol.* 2014 Aug;29(8):1077-90.
172. Sánchez-Infante J, Navarro-Santana MJ, Bravo-Sánchez A, Jiménez-Díaz F, Abián-Vicén J. Is Dry Needling Applied by Physical Therapists Effective for Pain in Musculoskeletal Conditions? A Systematic Review and Meta-Analysis. *Phys Ther.* 2021 Mar 3;101(3):pzab070.
173. Scherl SA. Adolescent idiopathic scoliosis: Management and prognosis. In: UpToDate, Post TW (Ed), UpToDate, Waltham, MA.
174. Schreiber S, Parent EC, Hill DL, Hedden DM, Moreau MJ, Southon SC. Patients with adolescent idiopathic scoliosis perceive positive improvements regardless of change in the Cobb angle - Results from a randomized controlled trial comparing a 6-month Schroth intervention added to standard care and standard care alone. SOSORT 2018 Award winner. *BMC Musculoskelet Disord.* 2019;20(1):319. Published 2019 Jul 8.
175. Shi YX, Tian JH, Yang KH, Zhao Y. Modified constraint-induced movement therapy versus traditional rehabilitation in patients with upper-extremity dysfunction after stroke: a systematic review and meta-analysis. *Arch Phys Med Rehabil.* 2011 Jun;92(6):972-82.
176. Silberstein N. Dry hydrotherapy: don't add water. *Rehab Manag.* 2006 Jun;19(5):22-3.
177. Silkwood-Sherer DJ, Killian CB, Long TM, Martin KS. Hippotherapy—an intervention to habilitate balance deficits in children with movement disorders: a clinical trial. *Phys Ther.* 2012 May;92(5):707-17.
178. Singh P, Pradhan B. Study to assess the effectiveness of modified constraint-induced movement therapy in stroke subjects: A randomized controlled trial. *Ann Indian Acad Neurol.* 2013 Apr;16(2):180-4.
179. Sirtori V, Corbetta D, Moja L, Gatti R. Constraint-induced movement therapy for upper extremities in stroke patients. *Cochrane Database Syst Rev.* 2009 Oct 7;(4):CD004433.
180. Skelly AC, Chou R, Dettori JR, et al. Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review. Rockville (MD): Agency for Healthcare Research and Quality (US); June 2018.
181. Skelly AC, Chou R, Dettori JR, Turner JA, Friedly JL, Rundell SD, Fu R, Brodt ED, Wasson N, Kantner S, Ferguson AJR. Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review Update [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2020 Apr. Report No.: 20-EHC009. PMID: 32338846.

182. Stevenson T, Thalman L, Christie H, Poluha W. Constraint-Induced Movement Therapy Compared to Dose-Matched Interventions for Upper-Limb Dysfunction in Adult Survivors of Stroke: A Systematic Review with Meta-analysis. *Physiother Can.* 2012 Fall;64(4):397-413.
183. Sung IY, Ryu JS, Pyun SB, Yoo SD, Song WH, Park MJ. Efficacy of forced-use therapy in hemiplegic cerebral palsy. *Arch Phys Med Rehabil.* 2005 Nov;86(11):2195-8.
184. Taub E, Ramey SL, DeLuca S, Echols K. Efficacy of constraint-induced movement therapy for children with cerebral palsy with asymmetric motor impairment. *Pediatrics.* 2004 Feb;113(2):305-12.
185. Taylor NF, Dodd KJ, Shields N, Bruder A. Therapeutic exercise in physiotherapy practice is beneficial: a summary of systematic reviews 2002-2005. *Aust J Physiother.* 2007;53(1):7-16.
186. Tekin L, Akarsu S, Durmuş O, Cakar E, Dinçer U, Kıralp MZ. The effect of dry needling in the treatment of myofascial pain syndrome: a randomized double-blinded placebo-controlled trial. *Clin Rheumatol.* 2013;32(3):309-15.
187. *Today's Physical Therapist: A Comprehensive Review of a 21st Century Health Care Profession.* Alexandria, VA: APTA; 2011.
188. Tough EA, White AR, Cummings TM, Richards SH, Campbell JL. Acupuncture and dry needling in the management of myofascial trigger point pain: a systematic review and meta-analysis of randomised controlled trials. *Eur J Pain.* 2009;13(1):3-10.
189. Valdes K, Marik T. A systematic review of conservative interventions for osteoarthritis of the hand. *Journal of Hand Therapy* 2010;23(4):334-50.
190. van Middelkoop M, Rubinstein SM, Kuijpers T, Verhagen AP, Ostelo R, Koes BW, van Tulder MW. A systematic review on the effectiveness of physical and rehabilitation interventions for chronic non-specific low back pain. *Eur Spine J.* 2011 Jan;20(1):19-39.
191. Weiss HR. The method of Katharina Schroth - history, principles and current development. *Scoliosis.* 2011 Aug 30;6:17.
192. Westad K, Tjoestolvsen F, Hebron C. The effectiveness of Mulligan's mobilisation with movement (MWM) on peripheral joints in musculoskeletal (MSK) conditions: A systematic review. *Musculoskelet Sci Pract.* 2019 Feb;39:157-163.
193. Williams S, Whatman C, Hume PA, Sheerin K. Kinesio taping in treatment and prevention of sports injuries: a meta-analysis of the evidence for its effectiveness. *Sports Med.* 2012 Feb 1;42(2):153-64.
194. Wolf SL, Winstein CJ, Miller JP, Taub E, Uswatte G, Morris D, et al; EXCITE Investigators. Effect of constraint-induced movement therapy on upper extremity function 3 to 9 months after stroke: the EXCITE randomized clinical trial. *JAMA.* 2006 Nov 1;296(17):2095-104.
195. Wong JJ, Shearer HM, Mior S, Jacobs C, Côté P, Randhawa K, Yu H, Southerst D, Varatharajan S, Sutton D, van der Velde G, Carroll LJ, Ameis A, Ammendolia C, Brison R, Nordin M, Stupar M, Taylor-Vaisey A. Are manual therapies, passive physical modalities, or acupuncture effective for the management of patients with whiplash-associated disorders or neck pain and associated disorders? An update of the Bone and Joint Decade Task Force on Neck Pain and Its Associated Disorders by the OPTIMa collaboration. *Spine J.* 2016 Dec;16(12):1598-1630
196. Youssef EF, Muaidi QI, Shanb AA. Effect of Laser Therapy on Chronic Osteoarthritis of the Knee in Older Subjects. *J Lasers Med Sci.* 2016 Spring;7(2):112-9.
197. Yu H, Côté P, Shearer HM, Wong JJ, Sutton DA, Randhawa KA, Varatharajan S, Southerst D, Mior SA, Ameis A, Stupar M, Nordin M, van der Velde GM, Carroll L, Jacobs CL, Taylor-Vaisey AL, Abdulla S,

Shergill Y. Effectiveness of passive physical modalities for shoulder pain: systematic review by the Ontario protocol for traffic injury management collaboration. *Phys Ther.* 2015 Mar;95(3):306-18.

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