



## The Application of Passive Modalities for Neuromusculoskeletal Disorders

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### Policy Statement

Passive therapeutic modalities are considered to be clinically appropriate and/or necessary in the supervised/attended conservative management of common neuromusculoskeletal conditions when:

- There are no contraindications to the intervention
- Self-administration is implausible or places the patient at risk of harm
- Used mainly during the initial period of an episode of treatment
- Used to support an active care approach (i.e., therapeutic exercise, self-care)
- Used for a particular condition for which there is an evidence-basis of significant benefit

Passive therapeutic modalities are considered NOT to be clinically appropriate and/or necessary for the supervised/attended conservative management of common neuromusculoskeletal conditions when:

- Patient safety is jeopardized by the application of the modality
- The modality can be safely self-administered
- Used during a course of treatment, which is continuing beyond the initial period
- Used as the primary or sole therapy (except laser therapy for shoulder impingement)
- Greater than one passive modality is used to support an active care approach involving the same body region(s)
- Used largely for the comfort and convenience of the patient
- Used as part of the routine office protocol

### Purpose

To summarize the assessment of Optum\* by OptumHealth Care Solutions, LLC on the evidence-based applications of passive therapeutic modalities in the clinical management of common neuromusculoskeletal conditions or complaints.

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## Scope

All in and out of network programs involving all provider types, where utilization review (UR) determinations are performed.

## Definitions

**Modality:** "Any physical agent applied to produce therapeutic changes to biologic tissues; includes but not limited to thermal, acoustic, light, mechanical or electric energy.

- *Supervised* (previously termed "unattended") modalities are those that do not require direct (one-on-one) patient contact by the provider.
- *Constant Attendance* (previously termed "attended") modalities require direct (one-on-one) patient contact by the provider. Constant attendant modalities are each performed in intervals of 15 minutes.[1]

## Background

### Introduction

Passive physical modalities (PM) are commonly employed interventions in the treatment of a wide variety of neuromusculoskeletal conditions.[2-7] The evidence-basis and consensus opinions of professional thought leaders have been recorded in a number of international guidelines (Table 1) and systematic reviews of the scientific literature (Table 2).

The appropriate application of passive physical modalities (PM) in the treatment of neuromusculoskeletal disorders can be viewed within the context of the generally accepted central goals of pain reduction and decreased activity restriction (disability). These patient-centered objectives are usually accompanied by physical performance goals (ROM, strength, etc.) and a long-term aim to reduce recurrence.[26,48-50]

The decision to employ PM and the selection of the type of modality are typically believed to be associated with one or more of these clinical goals. Other factors that are considered in the decision to utilize PM include: the physiologic effects of the modality in vivo, potential risk, patient preferences, and availability of the modality.[51,52]

The use of passive modalities in the treatment of neuromusculoskeletal conditions presents the inherent risk of negatively impacting a patient's ability to "cope" with the condition by promoting passive dependence.[12,20,48,49,51] It is the responsibility of the treating clinician to judiciously apply PM and encourage active patient participation in the treatment plan. Accordingly, PM are generally viewed as appropriate, when used for a short period of time and in support of an active treatment approach.[12,13,17,20,51,52]

### Literature Search

A qualitative literature search of bibliographic databases (Medline, MANTIS, and PEDro), as well as hand searches of literature and texts, was conducted. Search strategies focused upon clinical guidelines and systematic reviews for interventions and conditions commonly associated with the used of physical modalities. Guidelines and reviews were identified for a broad variety of neuromusculoskeletal conditions regarding the spine (neck & low back); extremities (shoulder, elbow, knee, wrist/hand, hip, ankle/foot); and headaches. Likewise, a number of interventions (ultrasound, electrotherapy, TENS, thermotherapy, diathermy, traction, laser, pulsed electromagnetic fields, infrared, and combined therapies) were considered in the literature retrieved. Primary studies were evaluated and included when they presented new insight on previously reported topics or were viewed as the best source for answering specific questions.



## Utilization Management Policy

### Literature Summary

The preponderance of evidence appears to support either a lack of efficacy or insufficient data to make a judgment on benefit for the modalities evaluated. When a positive outcome was described, the reported treatment effects were modest. Similarly, the duration of treatment effectiveness was typically reported as short (2 weeks to 2 months).

The limited investigations under therapeutic conditions do not support the frequently described biophysical effects of physical modalities. Baker, et al asserted that the putative biophysical effects of ultrasound do not actually occur.[53] The authors found that the thermal effects of continuous ultrasound were counteracted in vivo by homeostatic mechanisms. The effects of increased cellular activity and collagen tissue extensibility reportedly lack an evidence-basis under therapeutic conditions.

There is no evidence of an optimal mode or duration of treatment for most, if not all, passive physical modalities.[35,47,52] Most international guidelines recommend these interventions should only be used reservedly based upon individual circumstances, and not as a principle component of a treatment regime. Hot/cold packs were viewed as “home-based” therapies.[17,20,30]

The preponderance of limited evidence does not appear to support the premise that combined (multiple) physical modalities result in better treatment outcomes.[15,35,54,55] Haas in a recent pilot study, however, has reported that the combined application of PM with spinal manipulation was more effective in achieving long-term results in patients with chronic LBP, when the treatment regime occurred at a frequency of 3 or 4 times per week.[56] Alternatively, Hurley found no benefit from the inclusion of interferential therapy along with spinal manipulation for patients presenting with acute low back pain.[57]

Clinically important benefits for particular conditions from the application of specific modalities were identified:

#### Ultrasound

- Calcific tendonitis (shoulder)
- Lateral epicondylitis (elbow)

#### Laser Therapy (as a sole treatment)

- Impingement syndrome (shoulder)

#### Phonophoresis

- Lateral epicondylitis (elbow)

#### TENS

- Osteoarthritis (knee)
- Chronic myofascial pain (general)

### Coding Information

Note: The Current Procedural Terminology (CPT) codes listed in this policy may not be all inclusive and are for reference purposes only. The listing of a service code in this policy does not imply that the service described by the code is a covered or non-covered health service. Coverage is determined by the member’s benefit document.

Code	Description
97010	Application of a modality to one or more areas; hot or cold packs
97012	Traction, mechanical
97014	Electrical stimulation (unattended)
97016	Vasopneumatic devices
97018	Paraffin bath
97022	Whirlpool
97024	Diathermy (e.g., microwave)
97026	Infrared
97028	Ultraviolet
97032	Application of a modality to one or more areas; electrical stimulation (manual), each 15 minutes
97033	Iontophoresis, each 15 minutes
97034	Contrast baths, each 15 minutes
97035	Ultrasound, each 15 minutes
97036	Hubbard tank, each 15 minutes
97039	Unlisted modality (specify type and time if constant attendance)

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**Tables**

<b>Table 1</b>	<b>Summary of International Guidelines</b>
<b>Table 2</b>	<b>Summary of Systematic Literature Reviews</b>

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**Table 1 Summary of International Guidelines**

Guideline	Body Region or Condition Evaluated	Modalities/Procedures Evaluated	Conclusions/Recommendations
<i>European Guidelines, 2004</i>	<ul style="list-style-type: none"> <li>▪ Acute LBP</li> <li>▪ Chronic LBP</li> <li>▪ Pelvic Girdle Pain</li> </ul>	Acute: <ul style="list-style-type: none"> <li>- Traction</li> <li>- TENS</li> </ul> Chronic: <ul style="list-style-type: none"> <li>- Shortwave diathermy</li> <li>- Ultrasound</li> <li>- Thermotherapy</li> <li>- Traction</li> <li>- TENS</li> </ul> Pelvic Girdle Pain: <ul style="list-style-type: none"> <li>- Electrotherapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ None of the services evaluated were recommended for acute low back pain</li> <li>➤ None of the services evaluated could be recommended in the treatment of chronic LBP</li> <li>➤ Electrotherapy is not recommended for the treatment of pelvic girdle pain</li> </ul>
<i>Management Guidelines For Acute Low Back Pain. AHCP 1994</i>	LBP of up to 3 months' duration	<ul style="list-style-type: none"> <li>- Diathermy</li> <li>- Cutaneous Laser Therapy</li> <li>- Ultrasound</li> <li>- Hot/Cold Therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ No proven efficacy for any of the physical modalities in the treatment of acute low back symptoms</li> <li>➤ The clinician may wish to provide the patient with instructions on self-application of heat or cold therapy for temporary symptom relief</li> </ul>
<i>Acute Low Back Pain Guide 2004 edition; ACC (New Zealand)</i>	Acute LBP	<ul style="list-style-type: none"> <li>- Traction</li> <li>- Electrotherapy</li> <li>- Ultrasound</li> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ Traction is not useful in the treatment of chronic LBP.</li> <li>➤ It is unclear whether electrotherapy (including TENS), ultrasound or laser therapy is useful.</li> <li>➤ The guidelines recommend that these interventions should only be used reservedly, in individual circumstances, and are not a key component of the treatment regime.</li> <li>➤ When employed, they should only be used for a short time in support of the active approach.</li> </ul>
<i>Evidence-Based Management of Acute Musculoskeletal Pain. 2003; Australia</i>	<ul style="list-style-type: none"> <li>▪ LBP</li> <li>▪ Neck pain</li> <li>▪ Thoracic pain</li> <li>▪ Shoulder pain</li> <li>▪ Knee pain</li> </ul>	<ul style="list-style-type: none"> <li>- Traction</li> <li>- EMS</li> <li>- TENS</li> <li>- Ultrasound</li> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is insufficient evidence to support the use of Electrical stimulation, TENS, Traction, Laser or Ultrasound (see next bullet).</li> <li>➤ Therapeutic ultrasound may provide short-term pain relief in calcific tendonitis compared to placebo.</li> </ul>
<i>Evidence-Based Clinical Practice Guidelines on Selected Rehabilitation Interventions for Low Back Pain. 2001; Physical Therapy 81(10)</i>	Mixed duration of LBP	<ul style="list-style-type: none"> <li>- Mechanical traction</li> <li>- Ultrasound</li> <li>- TENS</li> <li>- Thermotherapy</li> <li>- EMS</li> <li>- Combined interventions</li> </ul>	<ul style="list-style-type: none"> <li>➤ No clinically important benefit in terms of pain, function or patient global assessment was demonstrated for traction, ultrasound or TENS</li> <li>➤ Interventions with insufficient data include: thermotherapy, EMS and combined interventions for chronic LBP</li> </ul>

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<p><i>Evidence-Based Clinical Practice Guidelines on Selected Rehabilitation Interventions for Neck Pain.</i> 2001; Physical Therapy Oct;81(10)</p>	<p>Acute and Chronic Neck Pain</p>	<ul style="list-style-type: none"> <li>- Mechanical traction</li> <li>- Ultrasound</li> <li>- TENS</li> <li>- Thermotherapy</li> <li>- EMS</li> <li>- Combined interventions</li> </ul>	<ul style="list-style-type: none"> <li>➤ No clinically important benefit was demonstrated with TENS for acute neck pain, and ultrasound for chronic neck pain</li> <li>➤ Interventions with insufficient data include: traction for acute &amp; chronic neck pain; TENS, EMS and combined interventions for chronic neck pain</li> </ul>
<p><i>Guidelines for the Assessment and Management of Chronic Pain.</i> WMJ 2004;103(3):13-42</p>	<p>General musculoskeletal</p>	<ul style="list-style-type: none"> <li>- Thermal</li> <li>- Electrical stimulation</li> <li>- Traction</li> <li>- TENS</li> </ul>	<ul style="list-style-type: none"> <li>➤ Transient relief only; use sparingly. Use in conjunction with active exercise.</li> </ul>
<p><i>Assessment and Management of Chronic Pain</i> - Institute for Clinical Systems Improvement 2009</p>	<p>Chronic musculoskeletal and neurogenic pain syndromes</p>	<ul style="list-style-type: none"> <li>- Ultrasound</li> <li>- TENS</li> <li>- Thermotherapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ Passive modalities should be limited and used only with an active exercise program</li> <li>➤ The use of ice and heat should be part of self management to help manage pain</li> </ul>
<p><i>KNGF Guidelines for Physical Therapy in Patients with Low Back Pain.</i> 2003; Royal Dutch Society for Physical Therapy, the Netherlands</p>	<p>Mixed duration of LBP</p>	<ul style="list-style-type: none"> <li>- Traction</li> <li>- Ultrasound</li> <li>- TENS</li> <li>- Electrotherapy</li> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is moderate evidence of ineffectiveness of traction for acute and subacute LBP</li> <li>➤ There is strong evidence of ineffectiveness of traction for chronic LBP</li> <li>➤ The evidence of effectiveness is unclear for the balance of physical modalities for all durations of LBP</li> </ul>
<p><i>Evidence-Based Clinical Practice Guidelines on Selected Rehabilitation Interventions for Shoulder Pain.</i> 2001; Physical Therapy Oct;81(10)</p>	<p>Non-specific shoulder pain (capsulitis, bursitis, tendonitis) and calcific tendonitis of the shoulder</p>	<ul style="list-style-type: none"> <li>- Ultrasound</li> <li>- Electrical stimulation</li> <li>- TENS</li> <li>- Thermotherapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ultrasound showed clinically important benefit for calcific tendonitis.</li> <li>➤ Ultrasound did not show benefit for the treatment of nonspecific shoulder pain</li> <li>➤ There is insufficient evidence regarding the efficacy of thermotherapy, TENS and electrical stimulation</li> </ul>

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<p><i>Low-Back Pain: Frequency, Management and Prevention From an HTA Perspective 1999; Danish Institute for Health Technology Assessment</i></p>	<p>Mixed duration of LBP with or without lower extremity referral</p>	<ul style="list-style-type: none"> <li>- Heat/cold therapy</li> <li>- TENS</li> <li>- Mechanical traction</li> <li>- Ultrasound</li> <li>- Laser therapy</li> <li>- Shortwave diathermy</li> </ul>	<ul style="list-style-type: none"> <li>➤ Heat/cold are not recommended for general application. These modalities can be considered for initial pain relief, as no long-term effects have been demonstrated. Heat/cold therapy is usually performed by the patient at home.</li> <li>➤ TENS is not recommended as a commonly used modality. It can be considered in certain patients suffering from chronic pain as a home-based therapy.</li> <li>➤ Traction is not recommended for patients with or without sciatica</li> <li>➤ Ultrasound, laser therapy and short-wave diathermy cannot be recommended</li> </ul>
<p><i>Neck and Back Pain: The Scientific Evidence of Causes, Diagnosis, and Treatment. 2000; Swedish Council on Technology Assessment</i></p>	<p>Mixed durations of neck and LBP</p>	<ul style="list-style-type: none"> <li>- Ultrasound</li> <li>- Shortwave diathermy</li> <li>- TENS</li> <li>- Traction</li> <li>- Heat/cold therapy</li> <li>- PEMF therapy</li> <li>- Infrared light therapy</li> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is no evidence of the effectiveness of ice, heat, short-wave diathermy or ultrasound in the treatment of acute LBP</li> <li>➤ There is conflicting evidence for traction and TENS in the treatment of acute LBP, as well as TENS for chronic LBP</li> <li>➤ There is strong evidence that traction is not effective in treating chronic LBP</li> <li>➤ There is insufficient conflicting evidence, which does not allow for conclusions to be made regarding the effectiveness of laser therapy and traction for acute neck pain</li> <li>➤ There is limited evidence, based on small trials, that TENS and PEMF may provide a short-term influence on pain-free range of motion in acute neck pain</li> <li>➤ There is no evidence of benefit with infrared light for acute neck pain</li> <li>➤ There is limited evidence of the ineffectiveness of PEMF and traction in the treatment of chronic neck pain</li> <li>➤ There is inconsistent evidence, which prohibits any judgment on the effectiveness of laser therapy for chronic neck pain</li> </ul>
<p><i>Evidenced-Based Treatment of Adult Neck Pain Not Due to Whiplash. 2005; Canadian Chiropractic Association</i></p>	<p>Mixed duration of neck pain</p>	<ul style="list-style-type: none"> <li>- Traction</li> <li>- TENS</li> <li>- Low-power laser</li> <li>- PEMF therapy</li> <li>- ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ Recommend all physical modalities for pain reduction and/or ROM in the short and medium terms in dosages and methods based upon individual practitioner experience and patient-specific situations.</li> <li>➤ There is insufficient published evidence to support or refute narrow generalizations about the use of these treatment modalities.</li> </ul>

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<p><i>The Diagnosis and Management of Soft Tissue Knee Injuries: Internal Derangements.</i> 2003; ACC and the New Zealand Guidelines Group (NZGG)</p>	<p>Knee pain</p>	<ul style="list-style-type: none"> <li>- Ultrasound</li> <li>- Laser therapy</li> <li>- TENS</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ultrasound: A number of reviews have investigated the use of ultrasound for musculoskeletal conditions. None of these reviews supported the use of ultrasound for the treatment of musculoskeletal injuries; however, most were based on poor quality trials.</li> <li>➤ Laser: The effects of laser therapy on normal and damaged tissue are not concise. No significant effects for the reduction of pain in musculoskeletal conditions have been demonstrated.</li> <li>➤ TENS: There is no evidence that the use of TENS for pain relief in soft tissue injuries of the knee facilitates recovery over and above that achieved by exercise alone. In people with an acute traumatic injury for whom oral analgesics are contraindicated, TENS may offer an effective alternative.</li> </ul>
<p><i>The Diagnosis and Management of Soft Tissue Shoulder Injuries and Related Disorders</i> 2004; New Zealand Guidelines Group.</p>	<p>Shoulder pain</p>	<ul style="list-style-type: none"> <li>- Ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is good evidence that ultrasound is of no additional benefit and should not be used.</li> </ul>
<p><i>Evidence-Based Clinical Practice Guidelines on Selected Rehabilitation Interventions for Knee Pain</i> 2001; Physical Therapy Oct;81(10)</p>	<p>Knee pain due to osteoarthritis, post-surgery, patellofemoral syndrome and tendinitis</p>	<ul style="list-style-type: none"> <li>- Ultrasound</li> <li>- Electrical stimulation</li> <li>- Thermotherapy</li> <li>- TENS</li> </ul>	<ul style="list-style-type: none"> <li>➤ Clinically important benefit for TENS in the treatment of osteoarthritis was demonstrated</li> <li>➤ No evidence of clinically important benefit was identified for ultrasound; TENS or thermotherapy for post-surgery treatment; or electrical stimulation for knee osteoarthritis</li> <li>➤ There is insufficient data to make judgments regarding electrical stimulation for post-surgery treatment</li> </ul>
<p><i>KNGF Guidelines for Physical Therapy in Patients with Chronic Ankle Sprain</i> 2003; Royal Dutch Society for Physical Therapy, the Netherlands</p>	<p>Chronic ankle pain with or without history of trauma</p>	<ul style="list-style-type: none"> <li>- Ultrasound</li> <li>- Electrotherapy</li> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is insufficient evidence to support the use of any of these physical modalities</li> </ul>



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**Table 2 Summary of Systematic Literature Reviews**

Review	Body Region or Condition Evaluated	Modalities/Procedures Evaluated	Conclusions/Recommendations
Interventions for shoulder pain. <i>Cochrane Database of Systematic Reviews</i> 1999, Issue 2	Shoulder (exclusive of fracture and rheumatoid arthritis)	- Infrared laser therapy - Electromagnetic therapy	➤ There is little evidence to support or refute the efficacy of these interventions for shoulder pain
Therapeutic ultrasound for treating patellofemoral pain syndrome. <i>Cochrane Database of Systematic Reviews</i> 2001, Issue 4	Knee	- Ultrasound	➤ Ultrasound therapy was not shown to have a clinically important effect on pain relief for people with patellofemoral pain syndrome
Transcutaneous electrical nerve stimulation (TENS) for chronic low back pain. <i>Cochrane Database of Systematic Reviews</i> 2005, Issue 3	Chronic LBP	- TENS	➤ The available evidence supporting the use of TENS as an isolated treatment modality is limited and conflicting. ➤ The usefulness of TENS as part of a multi-disciplinary rehabilitation approach was not investigated.
Superficial heat or cold for low back pain. <i>Cochrane Database of Systematic Reviews</i> 2006, Issue 1	Mixed duration of LBP	- Various heat treatments including hot packs, heating pads and infrared lamps - Various cold treatments including ice packs, gel packs and ice massage	➤ There is moderate evidence that heat wrap therapy reduces pain and disability for patients with back pain that lasts for less than three months. The relief has only been shown to occur for a short time and the effect is relatively small. ➤ There is still not enough evidence about the effect of the application of cold for low-back pain of any duration, or for heat for back pain that lasts longer than three months.
Traction for low back pain with or without sciatica. <i>Cochrane Database of Systematic Reviews</i> 2005, Issue 4	Mixed duration of LBP with or without sciatica	Any type of traction including: - Continuous - Intermittent - Mechanical - Manual - Bed rest - Auto	➤ The evidence suggests that traction is probably not effective. ➤ For patients with a mixed duration of low-back pain (LBP), with or without sciatica, continuous or intermittent traction by itself was no more effective than placebo, sham or other treatments in improving pain, function or work absenteeism.
Electrotherapy for neck disorders. <i>Cochrane Database of Systematic Reviews</i> 2005, Issue 2	Mixed duration of mechanical neck pain including WAD	- Galvanic current - EMS - TENS - PEMF & magnets	➤ No definitive statements can be made on the effects of electrotherapy for people with acute or chronic mechanical neck disorders (MND).

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<p>What is the value of physical therapies for back pain? <i>Best Practice &amp; Research Clinical Rheumatology</i> 2005; 19(4)</p>	<p>Mixed duration of LBP</p>	<ul style="list-style-type: none"> <li>- Various types of electrotherapy including interferential &amp; TENS</li> <li>- Ultrasound</li> <li>- Traction (sustained or intermittent; manual or mechanical)</li> <li>- Hot/cold packs</li> <li>- Laser therapy</li> <li>- Short-wave diathermy</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is little or no evidence for the effectiveness of passive modalities in the treatment of acute LBP</li> <li>➤ If used at all for acute LBP, passive modalities should be viewed as supporting an active treatment approach and not applied as a sole therapy.</li> <li>➤ There is no evidence to support the use of physical modalities in the treatment of subacute or chronic LBP</li> </ul>
<p>The role of physiotherapy in the management of non-specific back pain and neck pain. <i>Rheumatology</i> 2006; 45:371-378</p>	<p>Mixed duration of LBP and neck pain</p>	<ul style="list-style-type: none"> <li>- TENS</li> <li>- Interferential therapy</li> <li>- Traction</li> <li>- Ultrasound</li> <li>- Hot/cold packs</li> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is too little evidence from good quality studies to either support or refute the use of physical medicine modalities for patients with neck or back pain.</li> <li>➤ Dependency on physical modalities could encourage passivity, inactivity and disability behavior</li> <li>➤ Physical modalities may sometimes have an adjunctive role to an active care management program.</li> <li>➤ The use of passive modalities as a sole treatment is not recommended</li> </ul>
<p>The use of ice in the treatment of acute soft-tissue injury. <i>Am J of Sports Med</i> 2004; 32(1):251-261</p>	<p>Wide variety of acute spinal and extremity conditions including trauma and surgery-related presentations</p>	<ul style="list-style-type: none"> <li>- Ice packs</li> <li>- Cryocuff</li> <li>- Ice submersion</li> </ul>	<ul style="list-style-type: none"> <li>➤ There was marginal evidence that ice plus exercise is most effective after ankle sprain and postsurgery</li> <li>➤ There was little evidence to suggest that the addition of ice to compression had any significant benefit</li> <li>➤ There was no evidence of an optimal mode or duration of treatment.</li> </ul>
<p>A review of therapeutic ultrasound: effectiveness studies. <i>Physical Therapy</i> 2001; 81(7):1339-1350</p>	<p>Pressure ulcers plus a wide variety of musculoskeletal conditions</p>	<ul style="list-style-type: none"> <li>- Pulsed and continuous ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is little evidence that active therapeutic ultrasound is more effective than placebo ultrasound for treating people with pain or a range of musculoskeletal injuries or for promoting soft-tissue healing.</li> </ul>

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Acupuncture, transcutaneous electrical nerve stimulation, and laser therapy in chronic pain. <i>Clinical J of Pain</i> 2001; 17(4):supplement	Wide variety of chronic spinal and extremity conditions including degenerative and surgery-related presentations	<ul style="list-style-type: none"> <li>- TENS</li> <li>- Laser Therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ No positive conclusion could be reached for either of these modalities</li> <li>➤ A single RCT provided weak evidence of benefit from TENS for relief of chronic myofascial pain for up to 4 weeks</li> </ul>
Non-invasive physical treatments for chronic/recurrent headache. <i>Cochrane Database of Systematic Reviews</i> 2004, Issue 3	Headaches (chronic & recurrent): <ul style="list-style-type: none"> <li>- Migraine</li> <li>- TTH</li> <li>- Post-traumatic</li> <li>- Cervicogenic</li> <li>- Mixed type</li> </ul>	<ul style="list-style-type: none"> <li>- PEMF</li> <li>- TENS</li> <li>- Cold packs</li> </ul>	<ul style="list-style-type: none"> <li>➤ For the prophylactic treatment of migraine headache, there is weak evidence of the effectiveness of pulsating electromagnetic fields and a combination of transcutaneous electrical nerve stimulation [TENS] and electrical neurotransmitter modulation</li> </ul>
Therapeutic modalities in the management of nonspecific neck pain. <i>Phys Med Rehabil Clin N Am</i> 2003 Aug;14(3):605-27	Mixed duration of neck pain	<ul style="list-style-type: none"> <li>- Thermal modalities</li> <li>- Electrical devices</li> <li>- Laser therapy</li> <li>- Mechanical traction</li> </ul>	<ul style="list-style-type: none"> <li>➤ Thermal treatments (including therapeutic ultrasound), and electrical therapies (including TENS) have little evidence of effectiveness and no evidence for more than a transient benefit.</li> <li>➤ Low-power laser treatment and magnetic therapy require some well-controlled studies before they can be recommended to neck pain patients or discarded as worthless interventions.</li> <li>➤ Cervical traction seems to be generally ineffective for nonspecific neck pain.</li> </ul>
Therapeutic ultrasound for osteoarthritis of the knee. <i>Cochrane Database of Systematic Reviews</i> 2001, Issue 3	Knee osteoarthritis	<ul style="list-style-type: none"> <li>- Ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ Ultrasound therapy appears to have no benefit over placebo or short wave diathermy for people with hip or knee OA.</li> <li>➤ No conclusions can be drawn about the use of ultrasound in smaller joints such as the wrist or hands.</li> </ul>
Interventions for treating plantar heel pain. <i>Cochrane Database of Systematic Reviews</i> 2003, Issue 3	Ankle/foot	<ul style="list-style-type: none"> <li>- Ultrasound</li> <li>- Magnets</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is no evidence to support the effectiveness of ultrasound or insoles with magnetic foil.</li> </ul>
Therapeutic ultrasound for acute ankle sprains. <i>Cochrane Database of Systematic Reviews</i> 2002, Issue 1	Ankle/foot	<ul style="list-style-type: none"> <li>- Ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ The results of this review show that there is little evidence for the effectiveness of ultrasound therapy for acute ankle sprains</li> </ul>

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Acute Soft Tissue Ankle Injuries effectiveness of interventions. Accident Rehabilitation & Compensation Insurance Corporation of New Zealand and the National Health Committee, Wellington NZ	Ankle/foot	<ul style="list-style-type: none"> <li>- Ice</li> <li>- Electrotherapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ The evidence is inconclusive on the use of ice and electrotherapy</li> </ul>
Effectiveness of rehabilitation for patients with subacromial impingement syndrome: a systematic review. <i>J Hand Therapy</i> 2004 Apr-Jun;17(2):152-64.	Shoulder	<ul style="list-style-type: none"> <li>- Ultrasound</li> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ Laser therapy appears to be of benefit only when used in isolation, not in combination with therapeutic exercise</li> <li>➤ Ultrasound is of no benefit</li> </ul>
<i>Clinical Evidence</i> 2005, Issue 14; BMJ	Ankle Sprain	<ul style="list-style-type: none"> <li>- Diathermy</li> <li>- Cold Treatment</li> <li>- Ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ Insufficient evidence of effectiveness compared with placebo in walking ability and reduction in swelling</li> <li>➤ Conflicting results based upon limited evidence for cold packs</li> <li>➤ No evidence of the effectiveness of ultrasound</li> </ul>
<i>Clinical Evidence</i> 2005, Issue 14; BMJ	Carpal Tunnel Syndrome	<ul style="list-style-type: none"> <li>- Ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ Unknown effectiveness: conflicting results based upon very limited evidence</li> </ul>
<i>Clinical Evidence</i> 2005, Issue 14; BMJ	Acute LBP	<ul style="list-style-type: none"> <li>- Traction</li> </ul>	<ul style="list-style-type: none"> <li>➤ Unknown effectiveness: conflicting results based upon very limited evidence</li> </ul>
<i>Clinical Evidence</i> 2005, Issue 14; BMJ	Chronic LBP	<ul style="list-style-type: none"> <li>- TENS</li> <li>- Traction</li> </ul>	<ul style="list-style-type: none"> <li>➤ No difference in pain relief between TENS and sham stimulation</li> <li>➤ Traction is likely to be ineffective</li> </ul>
<i>Clinical Evidence</i> 2005, Issue 14; BMJ	Neck Pain	<ul style="list-style-type: none"> <li>- Heat/cold therapy</li> <li>- PEMF</li> <li>- Traction</li> <li>- TENS</li> </ul>	<ul style="list-style-type: none"> <li>➤ There is insufficient evidence to make conclusions about the effectiveness of these physical modalities</li> </ul>
<i>Clinical Evidence</i> 2005, Issue 14; BMJ	Heel Pain and Fasciitis	<ul style="list-style-type: none"> <li>- Laser therapy</li> <li>- Ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ No evidence of effectiveness for either physical modality vs. placebo based upon limited studies</li> </ul>

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<p><i>Clinical Evidence</i> 2005, Issue 14; BMJ</p>	<p>Shoulder Pain</p>	<ul style="list-style-type: none"> <li>- Laser therapy</li> <li>- Ice</li> <li>- Electrical stimulation</li> <li>- Phonophoresis</li> <li>- Ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>➤ Laser therapy appears to increase short-term recovery rates (2-4 weeks) when compared with placebo</li> <li>➤ There is insufficient evidence to make judgments about the effectiveness of ice, EMS, phonophoresis, or ultrasound. One RCT on ultrasound in the treatment of calcific tendonitis showed improved quality of life and reduced pain at 6 weeks and no significant difference at 6 months</li> </ul>
<p>Rehabilitation for patients with lateral epicondylitis: a systematic review. <i>J of Hand Therapy</i> 2004; 17(2)243-66</p>	<p>Lateral epicondylitis</p>	<ul style="list-style-type: none"> <li>- Phonophoresis</li> <li>- Ultrasound</li> <li>- PEMF</li> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ There was evidence to support the effectiveness of ultrasound and phonophoresis for the management of patients with lateral epicondylitis.</li> <li>➤ The available evidence suggested that laser therapy and pulsed electromagnetic fields are ineffective</li> </ul>
<p>Effectiveness of low-level laser therapy for lateral elbow tendinopathy. <i>Photomed Laser Surg.</i> 2005; 23:425-430</p>	<p>Lateral epicondylitis</p>	<ul style="list-style-type: none"> <li>- Laser therapy</li> </ul>	<ul style="list-style-type: none"> <li>➤ Poor results for the effectiveness of LLLT</li> <li>➤ Definitive treatment parameters have not been established for interventions with low-level laser</li> </ul>

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### Policy History/Revision Information

Date	Action/Description
3/07/2001	Original effective date
9/20/2002	Annual review completed
11/11/2003	Annual review completed
11/18/2004	Policy updated and Annual review completed
2/14/2006	Annual review completed
12/04/2006	Annual review completed
4/10/2008	Annual review completed
11/11/2008	Policy header rebranded, "OptumHealth Care Solutions – Physical Health
1/15/2009	Policy placed into new format
4/30/2009	Annual review completed
4/08/2010	Annual review completed
10/26/2010	Policy rebranded to "OptumHealth Care Solutions, Inc. (OptumHealth)"
4/07/2011	Annual review completed
4/19/2012	Annual review completed
4/18/2013	Annual review completed
4/17/2014	Annual review completed; Policy rebranded "Optum* by OptumHealth Care Solutions, Inc."
4/16/15	Annual review and approval completed
4/21/16	Annual review and approval completed
4/20/17	Annual review and approval completed; Legal entity name changed from "OptumHealth Care Solutions, Inc." to "OptumHealth Care Solutions, LLC."
4/26/2018	Annual review completed
4/25/2019	Annual review completed
4/23/2020	Annual review completed

### Contact Information

Please forward any commentary or feedback on Optum utilization management policies to: [policy.inquiry@optumhealth.com](mailto:policy.inquiry@optumhealth.com) with the word "Policy" in the subject line.

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