Kinesiology (Kinesio) Taping

Policy Statement

Optum® by OptumHealth Care Solutions, LLC considers kinesiology (kinesio) taping therapy to be unproven and not medically necessary for the treatment of musculoskeletal disorders due to insufficient scientific evidence of effectiveness as either a single intervention or when combined with other treatment.

Purpose

This policy has been developed as the clinical criterion that describes the position of Optum regarding the efficacy, effectiveness, risks and burdens associated with the use of kinesiology (kinesio) taping therapy.

Key Policy Question

Is there sufficient research evidence of a beneficial impact on health outcomes (efficacy and safety) of kinesiology taping, either as a single or combined therapy, for the sustained reduction of pain and disability to conclude this intervention is an appropriate therapeutic approach for a specific patient population?

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Summary

- Kinesiology (kinesio) taping is a therapeutic taping method that utilizes a latex-free elastic tape, which is purported to give support and stability to joints and muscles without affecting circulation, range of motion, and biomechanics. It is also used for preventive maintenance, edema, and to treat pain.
- Kinesiology taping is being promoted to healthcare practitioners and consumers as having a number of therapeutic effects and for the treatment of a broad range of disorders.
- Kinesiology taping is most commonly viewed as an adjunct to therapy and exercise.
- Training and certification programs are available through product vendors.
- The prevalence of use of kinesiology taping by health care professionals has not been reliably reported.
- Systematic evidence reviews have uniformly concluded the current literature does not support the use of KT in the treatment of musculoskeletal disorders.
- Other health care organizations exclude KT from benefit coverage as being experimental, investigational and/or unproven.
- Further research is very likely to have an important impact on confidence in the estimate of effect.

Scope

The application of this policy is limited to those services and supplies best described as kinesiology (kinesio) taping. Conventional athletic taping and McConnell taping are excluded from the scope of this policy.

Description

The kinesiology taping method is applied over muscles to reduce pain and inflammation, relax overused and tired muscles, and to support muscles in movement on a 24hr/day basis. It is a non-restrictive type of taping, which allows for full range of motion.

Background

Overview

Most taping methods (athletic, McConnell) use rigid material in order to restrict joint and/or muscular movement. Tape is typically worn for a relatively short duration (<18 hours). In contrast, kinesiology (kinesio) taping (KT) is a therapeutic taping method that utilizes a latex-free elastic tape, which is purported to give support and stability to joints and muscles without affecting circulation, range of motion, and biomechanics. It is also used for preventive maintenance, edema, and to treat pain.1-3 KT methods use highly-specific designed tape, which may be pre-cut for certain joints, and reportedly can be used by patients of every age and condition for 1-5 days per application.

KT has been in use for more than three decades. Publicity gained from its use by some athletes during the 2008 Olympics has broadened its dissemination in athletics and the general population.
Therapeutic Effects
KT purportedly has the ability to:

- Improve contraction of a weak muscle
- Reduce muscle fatigue and spasm
- Reduce over-stretching and over-contraction of muscles
- Re-educate muscles through sensory feedback
- Lessen edema (swelling) through aiding the lymphatic system
- Minimize post-traumatic or post-surgical bruising through improved circulation
- Help mobilize scar tissue by enhancing glide between tissue layers
- Help correct joint mechanics through aiding muscle function around the joint
- Relieve pain by activating the natural analgesic system in our skin receptors

Clinical Indications
According to consumer-oriented websites, kinesiology taping is used for a broad range of disorders, as well as for injury prevention. Examples include: muscular facilitation or inhibition in pediatric patients, carpal tunnel syndrome, lower back strain/pain (subluxations, herniated disc), knee conditions, shoulder conditions, hamstring and groin injury, rotator cuff injury, whiplash, tennis elbow, plantar fasciitis, patella tracking, pre and post surgical edema, ankle sprains, athletic injury prevention, and as a support method.

Healthcare provider publications websites assert that kinesio taping is best used as an adjunct to therapy and exercise; that it can dramatically speed the rehabilitation process by lessening pain and improving tolerance to exercise and movement. The main functions of KT are described as: A) correcting muscle function; B) improving circulation (blood and lymph); C) correcting joint movement; and D) pain relief.

Aside from these broad indications, there is a lack of information for patient selection at the individual care management level. Patient sub-groups that are most likely to benefit from KT vs. no taping or other established options have not yet been identified in empirical studies.

Training
According to professional websites, the success of kinesiology taping strongly depends on clinician knowledge. A thorough evaluation is integral to determine which taping techniques are indicated. Courses and seminars are offered through vendors that teach the underlying principles and the different taping techniques. Training programs vary from self-directed web-based modules to hands-on classes (up to three weekends). The Kinesio Taping Association (http://www.kinesiotaping.com) offers a certification program that consists of three 8-hour modules, which encompass the fundamental concepts, advanced concepts, and corrective techniques tailored to specific conditions. Specialized KT training methods training are also available to those having completed the first 3 modules.

Literature Review
A structured literature search and data extraction using a broadly adopted methodology was conducted by a clinical work group. Biomedical databases and consumer-oriented search engines were used to identify and retrieve relevant evidence. Hand-searches of bibliographies and non-indexed documents were included in the search strategy.

Seven recent systematic literature reviews were identified. These were qualitatively appraised using the AMSTAR tool. Four of the reviews systematically evaluated the effectiveness KT for a range of musculoskeletal disorders (neck pain, shoulder impingement, rotator cuff tendonitis, chronic low back pain, patellofemoral pain syndrome, and plantar fasciitis), either as a stand-alone intervention or in combination with other therapies. One systematic review also appraised clinical trials investigating the effects of KT on breast-cancer-related lymphedema and post-stroke muscle spasticity. Another review

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assessed effects of elastic and non-elastic taping on spinal pain and disability.\textsuperscript{11} One review assessed the quality of the literature on the effect of KT on athletic-based performance outcomes in healthy, active individuals.\textsuperscript{12} A single review aimed to evaluate the effectiveness of KT in the treatment and prevention of sports injuries.\textsuperscript{13}

The consensus findings of all reviews did not support the application of KT in clinical settings. Bassett, et al\textsuperscript{7} concluded, “…there is no substantial evidence to support the use and treatment efficacy of KT within a clinical musculoskeletal population.” Mostafavitar, et al\textsuperscript{8} stated, “Our systematic review found insufficient evidence for or against the use of KT to improve pain, function, performance, and time to return to play following musculoskeletal injury.” Parreira, et al\textsuperscript{9} determined, “Although Kinesio Taping is widely used in clinical practice, the current evidence does not support the use of this intervention.” Morris, et al\textsuperscript{10} reported, “There currently exists insufficient evidence to support the use of KTT over other modalities in clinical practice.” Vanti and colleagues concluded the current literature does not support the use of KT in the treatment of spinal conditions.\textsuperscript{11} Drouin, et al\textsuperscript{12} found a lack of evidence supporting the use of KT, as a successful measure for improving athletic-based performance outcomes in healthy individuals. Williams, et al\textsuperscript{13} concluded, “…there was little quality evidence to support the use of KT over other types of elastic taping in the management or prevention of sports injuries. KT may have a small beneficial role in improving strength, range of motion in certain injured cohorts and force sense error compared with other tapes, but further studies are needed to confirm these findings.”

**Research Evidence Rating**

**Potential but unproven benefit (C):** Kinesiology taping is supported by some positive published data regarding safety and/or efficacy for the cited applications, but a beneficial impact on health outcomes has not been proven for one of two reasons: (1) Data are sparse and the level of evidence is low, or (2) Data are inconsistent or conflicting.

**No proven benefit (D):** For those applications not cited, research regarding use of kinesiology taping is so limited that an appraisal of safety and efficacy cannot be made.

**Pragmatic Judgments**

1. Does kinesiology taping address a significant patient or plan need?
   - There are typically other established or more broadly employed options for most disorders where kinesiology taping has been studied and/or recommended
   - Specific patient sub-groups favoring kinesiology taping have not been identified

2. Is insufficient evidence likely to continue?
   - The National Institutes of Health website notes there are at least twenty-two relevant clinical trials involving kinesiology taping that are in various stages of development.\textsuperscript{17}

3. Is kinesiology taping already used or will it soon be in widespread use?
   - The prevalence of use for kinesiology taping has not been established
   - There are good reasons to believe that use by clinicians is increasing

4. Do the potential benefits for the patient outweigh the risks?
   - The current evidence suggests benefits are no better than sham taping; and any effects are temporal (\(< 2\) weeks)
   - Adverse event reporting is sparse.

**What are the Conclusions of Others?**

KT is considered to be experimental, investigational and/or unproven for the treatment of musculoskeletal disorders by other health care organizations.\textsuperscript{18-22}
References

3. Lukacs C. Stick to it: add kinesiology taping to your repertoire. ACA news; May 2010:24-26

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<thead>
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<th>Table 1: Quality Appraisal of Systematic Reviews of Kinesio Taping</th>
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Policy History/Revision Information

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<td>7/15/2010</td>
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<tr>
<td>10/26/2010</td>
<td>Policy rebranded to “OptumHealth Care Solutions, Inc. (OptumHealth)”</td>
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<tr>
<td>4/07/2011</td>
<td>Annual review and approval completed</td>
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Contact Information

Please forward any commentary or feedback on Optum utilization management policies to: policy.inquiry@optumhealth.com with the word “Policy” in the subject line.

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Utilization Management Policy # 483

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Plain Language Summaries are presented to supplement the associated clinical policy or guideline. These summaries are not a substitute for advice from your own healthcare provider.

What is kinesiology (kinesio) taping and what is known about it so far?

Kinesiology tape is a thin, stretchy, and hypoallergenic tape. It has been used for both spinal and extremity conditions. Kinesiology taping is used for pain relief, to decrease swelling and inflammation, and support overused muscles.

Information about kinesiology taping is easily found on vendor and healthcare websites. The uses of kinesiology taping are largely based on laboratory studies performed on healthy individuals and low quality clinical research. There is a lack of higher quality information, which is usually needed to make confident judgments about benefits and risks.

How was kinesiology (kinesio) taping evaluated?

A work group of clinicians was assigned to review the available research. The internet was searched for articles about kinesiology (kinesio) taping. The work group independently examined the selected research studies. A broadly accepted rating scale was used. Possible ratings were high, moderate, low, or very low quality. Additionally, the positions and guidelines of other professional and healthcare groups were evaluated.

Before it was approved, the policy was presented to a series of committees that included independent health care practitioners.
What did the work group find?

There is only limited research about the effectiveness of kinesiology taping for the treatment of spinal and extremity disorders. The overall research quality was rated as low. Better quality studies are needed.

It was not possible to make a determination that kinesiology taping provided more benefit or less risk, when compared to generally accepted and safe treatments including traditional taping procedures.

What were the limitations of the information?

A number of studies involve only healthy people. Others include very specific groups, such as only women. So it is not clear if positive results apply to different groups.

The use of kinesiology taping for many spinal and extremity disorders has not been studied.

What are the conclusions?

Kinesiology (kinesio) taping is viewed as unproven. Further research is needed before its use can be considered an established treatment option for any spinal or extremity condition.