



Utilization Management Policy

Kinesiology (Kinesio) Taping

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Policy Statement

Optum* by OptumHealth Care Solutions, LLC considers kinesiology (kinesio) taping therapy to be unproven and not medically necessary for the treatment of neuromusculoskeletal 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 frequently 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
- Evidence syntheses have generally concluded the current literature does not support the use of KT in the treatment of musculoskeletal disorders.
- Other health care organizations exclude kinesiology taping 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.

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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.^{2,4,5} 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.^{2,3}

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 systematic literature search and data extraction, using a broadly adopted methodology, was conducted by a clinical work group.⁶ 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.

Reviews:

A total of eleven evidence syntheses (7 systematic reviews with meta-analysis, 2 meta-analysis, and 2 systematic reviews) were identified in the current literature search. Two systematic review with meta-analysis broadly assessed the efficacy of KT for chronic musculoskeletal disorders.^{7,8} Lim, et al (2015) concluded that KT was superior to minimal intervention (no taping, sham taping), but was not more

effective when compared to other active interventions (eg, exercise).⁷ The reported results likely over-estimated the benefit of KT, as the conclusions were based on a faulty statistical analysis. Standardized mean differences (SMD) were calculated, when mean difference (MD) would have been the more appropriate method to calculate the effects of KT on pain.⁹ Additionally, the impact of timing of follow-up when assessing outcomes was not considered in the analysis. The heterogeneity of follow-up assessment likely confounded the analysis.⁹ Ramírez-Vélez, et al (2019) published a systematic review and meta-analysis describing the effects of KT-alone versus sham taping for MSK disorders. Low-quality evidence was inconclusive of a beneficial effect of KT alone over sham taping in LBP and knee osteoarthritis. There were no studies of KT versus sham taping for other MSK disorders.⁸

Two systematic reviews with meta-analysis^{10,11}, one systematic review¹² and a meta-analysis¹³ examined the impact of KT on pain and function (disability) for individuals diagnosed with chronic LBP. These studies reported consistent findings that KT was not clinically superior to no intervention, placebo or other interventions. Zhang, et al. (2019) conducted a systematic review with meta-analysis that evaluated the efficacy of KT for persons diagnosed with myofascial pain syndrome or having myofascial trigger points.¹⁴ The analysis found there was no detectable effect of KT on disability or function. An appraisal of results showed KT achieved statistically significant improvement to comparators in pain intensity measurement at post-intervention; however, the results did not achieve clinical relevance. Ghozy, et al (2020) conducted a systematic review and meta-analysis that investigated the efficacy of KT as a stand-alone treatment, as an adjuvant treatment to exercise, and compared with other usual treatment modalities for shoulder pain.¹⁵ The authors found insufficient evidence to support the use of KT in clinical practice as a treatment for shoulder pain. There was limited evidence of its benefit as a complement to exercise in the treatment of shoulder pain syndromes; however, the clinical relevance of benefit could not be ascertained. Another systematic review and meta-analysis included RCTs and non-randomized trials when exploring the effectiveness of KT in the treatment of individuals diagnosed with ankle sprain.¹⁶ The analysis of two studies showed no significant immediate benefit with KT on range of motion. A meta-analysis was conducted that investigated the efficacy of KT as a treatment for adults diagnosed with knee osteoarthritis.¹⁷ The analysis included five RCTs with a sample size ranging from 39 to 94. While measures for pain and function favored KT, they did not achieve clinical relevance. The difference, which favored KT, in ROM (~6%) was of uncertain clinical relevance. No benefit in muscle strength was measured for the KT intervention. The efficacy of KT as an adjunct to conventional physical therapy for children (<18 y/o) with Cerebral Palsy was the subject of a systematic review.¹⁸ The quantitative results of gross motor function measures showed KT to be favored for sitting and conflicting for standing at the end of 12-weeks. Gross motor function proficiency achieved statistically significant benefit favoring KT at 12 weeks; however, the clinical relevance of the findings was not reported.

Trials:

Eleven randomized controlled trials (RCTs) – not reported in any of the included systematic reviews – were identified in the literature search. Three studies included participants with LBP.¹⁹⁻²¹ A single RCT assessed the effects of KT for individuals with neck pain.²² The efficacy of KT for shoulder disorders was investigated in two trials.^{23,24} Two RCTs evaluated the application of KT for patients with lateral epicondylitis.^{25,26} Another trial included participants diagnosed with carpal tunnel syndrome.²⁷ One study evaluated KT for the treatment of shin splints.²⁸ A single RCT explored the efficacy of KT in the treatment of stroke-related upper limb hemiplegia.²⁹ KT was compared to sham/placebo, no KT and conventional treatment (exercise, rigid taping, orthotics/splints). Primary outcomes included measures of pain intensity, function (disability), range of motion, and strength. Most studies conducted follow-up assessment either

immediately after intervention or in the short-term timeframes. A single trial assessed outcomes 3-months following treatment²⁴ and only two RCTs conducted follow-up measurement after 6-months.^{19,29}

Collectively, the results of these studies did not support the efficacy of KT. There was no benefit with the inclusion of KT in five studies.^{19,22,24,25,29} Another trial that included participants with lateral epicondylitis found no improvement with the application of KT for most outcomes (pain at rest, strength and pressure pain threshold).²⁶ The clinical relevance of statistically significant results was not clear in four studies.^{20,23,26,28} The durability of outcomes was uncertain due to short follow-up periods with three RCTs.^{20,21,27}

Summary:

The assessment of the current literature review – that KT has not been proved to be clinically efficacious for neuromusculoskeletal disorders – is consistent with an earlier evidence appraisal, where seven systematic literature reviews were identified.³⁰⁻³⁶

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 131 clinical trials involving kinesiology taping that are in various stages of development.³⁷
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 appear to be limited to a short-term
 - 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.³⁸⁻⁴²

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Utilization Management Policy

Policy History/Revision Information

Date	Action/Description
7/15/2010	Original effective date
10/26/2010	Policy rebranded to “OptumHealth Care Solutions, Inc. (OptumHealth)”
4/07/2011	Annual review and approval completed
4/19/2012	Annual review and approval completed
4/18/2013	Annual review and approval completed
4/17/2014	Annual review and approval completed; Policy rebranded “Optum* by OptumHealth Care Solutions, Inc.”
4/16/2015	Annual review and approval completed
4/21/2016	Literature review revised. Coding section deleted. Annual review and approval completed
4/20/2017	Annual review and approval completed; Legal entity name changed from “OptumHealth Care Solutions, Inc.” to “OptumHealth Care Solutions, LLC.”
4/26/2018	Annual review and approval completed; updated references
4/25/2019	Annual review and approval completed; Revised the Literature Review; Deleted Table 1; Updated references
4/23/2020	Annual review and approval completed; The Literature Review and References sections were updated

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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PLAIN LANGUAGE SUMMARY

Kinesiology (Kinesio) Taping

Utilization Management Policy # 483

Plain Language Summaries are a service provided by *Optum*^{*} by *OptumHealth Care Solutions, LLC* to help patients better understand the complicated and often mystifying language of modern healthcare.

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.

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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.