Kinesiology (Kinesio) Taping

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Related Policies

Experimental and Investigational Services and Devices

Policy Number	**483**
Original Effective Date:	7/2010
Current Approval Date:	4/27/2023
Next Review:	4/2024
Category:	Determination

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?

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 therapeutic effects for the treatment of different musculoskeletal disorders.
- Kinesiology taping is frequently viewed as an adjunct to therapy and exercise.
- Evidence syntheses for a range of musculoskeletal disorders have generally reported favorable trends; however, the clinical relevance of KT on patient important outcomes (pain, function) remains to be established.
- 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

Kenzo Kase, D.C. developed and introduced the Kinesio Taping Method in the 1970s (Kinesio Holding Corp, Albuquerque NM, USA, https://kinesiotaping.com/about/our-history/). During the following decade, the public awareness of KT began to grow and training programs were implemented for healthcare professionals. Different from traditional rigid tape, kinesiology (kinesio) tape (KT) is an elastic woven-cotton strip that can be stretched to 120% to 140% of its original length and can be kept in situ for 1-5 days at a time.[1,2] KT purportedly mimics the physical qualities of the skin, as it is believed to be the same weight and thickness of the epidermis along with its inherent elastic properties.[1] There are many proposed benefits to KT, including proprioceptive facilitation; reduced muscle fatigue; muscle facilitation; reduced delayed-onset muscle soreness; pain inhibition; enhanced healing, such as reducing edema, and improvement of lymphatic drainage and blood flow.[3] There has been an increasing number of studies investigating the role of KT for the treatment of pain and disability related to musculoskeletal disorders (MSD) affecting axial and extremity regions.

Literature Review

A systematic literature search and data extraction, using a broadly adopted methodology, was conducted to identify relevant systematic reviews with or without meta-analysis.[4] Biomedical databases, consumer-oriented search engines and product websites were used to identify and retrieve relevant evidence. Hand-searches of bibliographies and non-indexed documents were included in the search strategy. A total of sixteen evidence syntheses were identified in the literature search. These were broadly grouped into a general MSD category and by anatomic region.

General Musculoskeletal Disorders and Myofascial Pain Syndrome

Two evidence reviews broadly assessed the efficacy of KT for musculoskeletal disorders (MSD) or myofascial pain syndrome.

An evidence synthesis of KT for MSD included 43 systematic reviews (17 meta-analyses).[5] Collectively, systematic reviewers reported a paucity of high-quality randomized controlled trials and that overall evidence was of "very low" to "moderate" quality. There were 32 systematic reviews published since 2015 and these provided tentative evidence that kinesiology taping was superior to no or minimal treatment, but not superior to conventional physical therapies for reducing pain and improving function in the short-term in myofascial pain syndrome, shoulder impingement syndrome, chronic low back pain, knee osteoarthritis and patellofemoral pain syndrome. There was insufficient high-quality evidence to determine the clinical efficacy of KT for managing musculoskeletal pain with any certainty.

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.[6] 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.

Head and Face Complaints

The efficacy of KT was judged to be unclear (equivocal), based on moderate quality evidence from four clinical trials, for the treatment of temporomandibular joint dysfunction.[7]

Upper Extremity (UE) Conditions

Cupler, et al. (2020) assessed the evidence for the effectiveness of KT in the treatment of multiple UE conditions.[7] Based on moderate quality evidence, KT was deemed to show an unclear trend in outcomes for subacromial impingement syndrome, lateral epicondylalgia, carpal tunnel syndrome, and osteoarthritis of the proximal interphalangeal joint. KT was considered *promising* for the treatment of de Quervain's Syndrome; however, this conclusion was based on weak evidence and is likely to be impacted by future higher quality studies.

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.[8] 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.

A Systematic review and meta-analysis evaluated the effects of KT on shoulder disorders (impingement, nonspecific pain, calcific tendonitis), as a single treatment modality or as conjunction to other treatments.[9] Despite reported positive effects in some studies, the authors found no firm evidence of any benefit of KT on shoulder disorders. Fourteen studies were included with 680 participants. KT did not produce better results on pain compared to sham, exercises or passive treatments. Similarly, KT was not superior to sham taping, exercises or passive treatments on function. There were no significant between-group differences with range of motion (ROM) compared to sham taping and passive treatment.

Deng (2021) investigated the effectiveness of KT compared to inert controls (no treatment, sham taping) for the management of hemiplegic shoulder pain.[10] The results of the systematic review and meta-analysis showed a trend favoring KT for pain, upper limb motor function and the magnitude of shoulder subluxation. Pain outcomes did not reach a clinically relevant effect. The clinical relevance of other outcomes was not described. Passive controls demonstrated a greater effect on activities of daily living when compared to KT intervention.

A meta-analysis from RCTs was performed in order to evaluate the efficacy and safety of KT in the treatment of lateral epicondylitis.[11] Five studies with a total of 168 patients were included. The meta-analysis described statistically but not clinically superior pain scores, grip strength, Modified Mayo performance index and DASH (functional) scores.

Spinal & Pelvic Disorders

The findings from clinical trials were mapped for a range of spinal and pelvic disorders.[12] Based on strong evidence; the authors *recommended* KT for the treatment of chronic low back pain (LBP). For acute LBP, pregnancy-related LBP and diastasis recti abdominis, the application of KT was judged to be *favorable* (the results indicate a positive trend; however, this conclusion needs confirmation by higher quality RCTs). The appraisal of moderate quality evidence led to an *equivocal* (the results indicate an unclear trend for KT; this conclusion remains to be clarified by higher quality RCTs) determination for the treatment of individuals with lumbar disc herniation, postmenopausal thoracic hyperkyphosis, cervical myofascial trigger points, and whiplash-associated disorder. The authors reported there is strong evidence that the use of KT is not supported for the treatment of nonspecific neck pain.

Ramírez-Vélez, et al. (2019) conducted a systematic review and meta-analysis aimed to investigate the effectiveness of KT versus sham taping (placebo) in patients with LBP, where the interventions lasted at least 1 week.[12] For the outcome of pain, the results statistically favored KT immediately post-treatment and at follow-up. The pooled estimates, however, were inconclusive concerning clinical relevance. The width of the confidence intervals (CI) included trivial and non-clinically meaningful effects. Disability outcomes, immediately after treatment and at follow-up, were statistically and clinically insignificant.

The results of RCTs on the effectiveness of KT for chronic nonspecific LBP were summarized in a meta-analysis.[13] The authors concluded there is low-quality evidence that KT has a beneficial role in pain reduction and disability improvement for patients with chronic nonspecific LBP. More high-quality studies are required to confirm the effects of KT on chronic nonspecific LBP. However, the pooled analyses did not demonstrate clinically meaningful benefits for pain and disability. An assessment of the 11 included trials showed only three studies reached the threshold of minimal clinically important change for pain intensity.[14-16] Clinically relevant improvement for disability was approximated in a single RCT.[17]

Junior, et al. (2019) investigated the effects of KT in patients with nonspecific LBP.[18] Eleven RCTs were included in the systematic review and meta-analysis. Two clinical trials (pooled n=100) compared KT to no intervention at the short-term follow-up. Four studies compared KT to placebo (pooled n=287) at short-term follow-up and two trials (pooled n=100) compared KT to placebo at intermediate-term follow-up. Five trials (pooled n=296) compared KT combined with exercises or electrotherapy to exercises or spinal manipulation alone. No statistically significant difference was found for most comparisons. The authors concluded they found no evidence to support the use of KT in clinical practice for patients with chronic nonspecific LBP.

Eight moderate quality studies were included in a systematic review and meta-analysis that evaluated the effectiveness of KT, when compared to other non-pharmacologic interventions (physical agents, physical therapy, acupuncture), for patients with chronic non-specific LBP.[19] The pooled effects did not show any clinically relevant between-group differences in pain or disability outcomes.

Lower Extremity Conditions

A mapping review interpreted the quality and direction of the evidence, when making recommendations concerning support for the use of KT across a range of lower extremity disorders.[7] Moderate evidence supported a *favorable* (a positive trend for KT needs to be confirmed by higher quality RCTs) recommendation. *Promising* recommendations, based on weak evidence, were made for the application of KT for tibial stress syndrome and plantar heel pain (plantar fasciitis). For these conditions, the positive but inconclusive results are likely to be impacted by future higher quality studies. The utility of KT for patellofemoral pain syndrome was rated as *equivocal*, based on moderate evidence. The use of KT for the treatment of ankle sprain yielded an *unfavorable* recommendation (moderate quality evidence).

Lin, et al. (2020) conducted a systematic review and meta-analysis that compared the therapeutic effects between physical therapy (PT) combined with KT and PT-alone in knee osteoarthritis treatment.[20] Compared with PT alone, PT combined with KT provided better therapeutic effects regarding pain reduction and functional improvement in patients with knee osteoarthritis. The additional pain reduction and functional improvement did not, however, achieve an important clinical difference. In a systematic review, Melese, et al. (2020) sought to summarize the current best evidence for the effectiveness of KT in reducing pain and increasing knee function for patients with knee osteoarthritis.[21] While the findings of individual studies were mixed, in aggregate this qualitative review suggests a favorable trend with KT with improved outcomes for pain, and functional disability. This conclusion remains to be confirmed by systematic quantitative analyses. An earlier systematic review and meta-analysis reported that KT had significant effects on pain, physical function, range of motion, and quadriceps muscle strength in patients with knee osteoarthritis.[22] However, the evidence was insufficient to draw conclusions about clinical relevance and the durability of effects.

Nunes, et al. (2021) investigated whether KT, applied to ankles of healthy people as a preventive intervention and people with ankle injuries (e.g., sprain, instability, tendinopathy), is superior to sham or alternative interventions on ankle function.[23] Eighty-four trials met the eligibility criteria, which evaluated 2,684 people. The systematic reviewers found the current evidence does not support or encourage the use of KT applied to the ankle for improvements in functional performance, regardless the population. The authors concluded that KT technique alone may not be an adequate therapeutic technique to enhance ankle function; and therefore, clinicians should consider techniques with consistent evidence, such as exercise

and bracing, to improve postural control, gesture performance, movement, and neuromuscular control, which are related to ankle function. In contrast to Nunes, et al. (2021), a previous systematic review and meta-analysis reported that KT was superior to other taping methods (athletic taping) in ankle functional performance improvement.[24] An appraisal of this study identified critical flaws including missing studies, suboptimal methodological approaches for assessing the quality of trials and the analytic approach.[25]

Summary

The current literature review does not support the clinical efficacy of KT-alone or in combination with other interventions for the treatment of different MSD.

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 49 clinical trials involving kinesiology taping that are in various stages of development.[26]

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 not clinically important and any effects are generally limited to a short-term
   - Adverse event reporting is sparse.

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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
4/22/2021	Annual review and approval completed; The Background, Literature Review, Summary, and References sections were updated
5/03/2022	Annual review and approval completed
6/29/2022	Updated legal entity name "OptumHealth Care Solutions, LLC." to *Optum™ Physical Health ("Optum") includes OptumHealth Care Solutions, LLC; ACN Group IPA of New York, Inc.; ACN Group IPA of California, Inc. d/b/a OptumHealth Physical Health of California; Managed Physical Network, Inc.; and OrthoNet Holdings, Inc. which includes OrthoNet New York IPA, Inc., OrthoNet West, Inc., OrthoNet, LLC, OrthoNet of the South, Inc.
4/27/23	Annual review and approval completed; no significant changes made to the document. Updated contact email from policy.inquiry@optumhealth.com to phpolicy_inquiry@optum.com.

Contact Information

Please forward any commentary or feedback on Optum utilization management policies to: phpolicy_inquiry@optum.com with the word "Policy" in the subject line.

discretion, to modify policies as necessary without prior written notice unless otherwise required by Optum's administrative procedures.

Certain internal policies may not be applicable to self-funded members and certain insured products. Refer to the member's Summary Plan Description (SPD) or Certificate of Coverage (COC) to determine whether coverage is provided or if there are any exclusions or benefit limitations applicable to any of these policies. If there is a difference between any policy and the member's SPD or COC, the member's SPD or COC will govern.

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.

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 decide 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?

Several 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 and not medically necessary*. Further research is needed before its use can be considered an established treatment option for any spinal or extremity condition.