



Kinesiology Taping For PT's



Introduction

Kinesiotape: developed in the 1970's by Dr Kenzo Kase

- Elastic – stretches up to 180%
- Different adhesive – less reactions
- Stays on longer
- Different brands



Conventional tape vs. Kinesiology Tape

Conventional tape

- Vascular considerations due to circumferential application
- Can be uncomfortable
- Limits ROM
- Some loss of tension /effectiveness over short period of time
- Bulky
- Possible detraining effect to muscles/ joints supported
- Provides afferent sensory stimulation

Kinesiology tape

- Vascular Improvement
- Comfortable
- Allows for full functional range of motion
- Uses less tape with improved dynamic support for up to 4 days
- Enhances restoration of normal kinetic chain function and therefore decreases compensatory reactions
- Provides increased afferent sensory stimulation?



How it works...



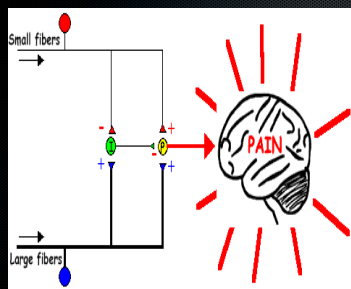
How it works...

- Applying an elastic tape on the skin creates a lifting effect, decompressing the subcutaneous layers beneath the tape.



Pain gate effect

Melzack and Wall 1962



Neuropathophysiology:

- Stimulate **non-pain** generating nerves (A-Beta Fibers)
- Inhibit pain** perception (A-Delta and C Fibers)
- Increase strength in affected muscle
- Improve performance

ROCKTAPE

General rules of application

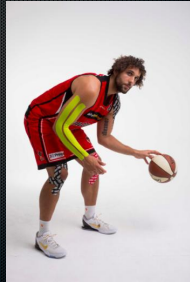
- Ensure skin is clean, dry, free of oils etc
- Very hairy areas can be clipped
- Round edges of tape
- No tension in first or last inch of tape
- Don't use all the stretch in the tape all of the time
- This tape sticks better to skin than to itself
- Can cut tape into fans, X, Y or V shapes
- Glue is heat activated
- Apply at least one hour before sport, two hours before swimming



ROCKTAPE

Removing Tape

- Tape comes off more easily when wet
- Can use oil to help break down the adhesive
- Remove the tape slowly in a downward motion
- **DON'T** "GRIP AND RIP" like a band aid



ROCKTAPE

Precautions

- Elderly with thin skin – minimal stretch (10-20%)
- Diabetics – lower extremities
- **CLINICIAN ERROR** – Too much stretch on the tape.

ROCKTAPE

Regional taping

Taping individual muscles and joints to provide increased afferent input and decrease nociceptive drive.



ROCKTAPE

Principles of application

3 Step Program:

1. Stretch the body part
2. Stabilization tape
3. Decompression tape

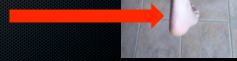


ROCKTAPE

Step 1: Stretch the body part

- A stretch is applied to the skin to engage the cutaneous receptors and pre-load the elastic quality of the organ

e.g. ankle dorsiflexion



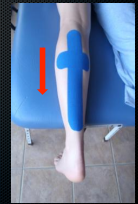
ROCKTAPE

Step 2: Stabilization tape

Typically longitudinal application:

- Stimulate skin mechanoreceptors = decreased nociception/pain
- Support local joint via snap back phenomenon (Recoil Effect)
- Improving proprioception may enhance recovery
- Only 30% stretch in tape *

* Adapt to client and activity/sport



ROCKTAPE

Step 3: Decompression tape

Typically transverse application:

- The lifting/decompression effect increases blood flow, decreases congestion/oedema, and adds extra stimulation to local mechanoreceptors
- Can use 80% stretch of tape



ROCKTAPE

Specific examples of regional taping

- Calf
- "Shin splints" / MTSS
- Achilles tendon
- Plantar fasciitis
- Patellofemoral joint
- Shoulder
- Lateral epicondylalgia



ROCKTAPE

Calf

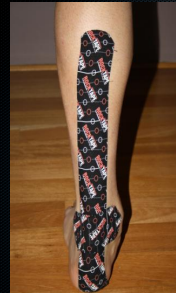
- 2. Stabilization tape
- 3. Decompression tape



- 1. Stretch the part

ROCKTAPE

Achilles tendon



ROCKTAPE

Patellofemoral joint



ROCKTAPE

Plantar fasciitis



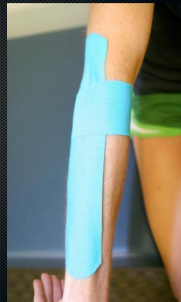
Stabilization Tape



Decompression Tape

ROCKTAPE

Lateral epicondylalgia



ROCKTAPE

"Shin splints"- MTSS



ROCKTAPE

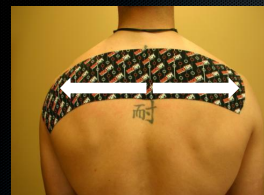
Postural control taping

Goal: To assist in establishing a targeted posture to facilitate normal movement patterns:

1. Place the body into the desired posture, even slightly over-corrected.
2. Apply the tape to facilitate the intended posture (via cutaneous stimulation).
3. Apply the tape with little to moderate stretch.

ROCKTAPE

Thoracic kyphosis taping



Establish indicated posture followed by application of decompression tape on targeted structures.

ROCKTAPE

Lower limb spiral chain



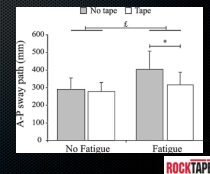
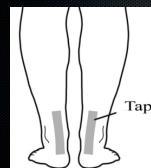
Limits valgus stress and internal femur rotation via stimulating hip activation +/- foot control.

ROCKTAPE

Some evidence

Cutaneous mechanoreceptor input

- Degraded postural performance after muscle fatigue can be compensated by skin stimulation (2011) Thedon et al. Gait and Posture
- Tape over the Achilles tendon decreased postural sway when the calf muscles were exercised to fatigue.



ROCKTAPE

RCT's of kinesiology tape

- Konishi (2012) – Crossover trial. MVC quads. Baseline ecc MVC, 20/60 vibration, repeat MVC with/without tape- MVC significantly higher with tape when "fatigued". n= 10
- Krajczyk (2012) – RCT post cholecystectomy. Measured VAS, 100m walk and pain meds. All reduced with tape compared with controls. n=63
- Thelen et al (2008) – Double blinded RCT for shoulder pain. Immediate increase in pain-free shoulder abduction ROM. n=42
- Gonzalez-Iglesias et al (2009) – RCT for cervical pain & ROM in acute WAD. Small ↓ in pain and ↑ ROM (less than MCID) n=42
- Hsu et al (2009) – Effect of tape on scapular kinematics. ↑ scap post tilt during elevation and ↑ lower traps activity in lowering. n=17

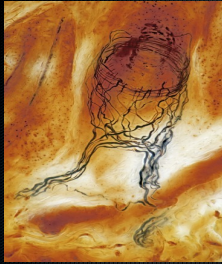
ROCKTAPE

Evidence based practice?

- "In an ideal world the experimental testing of an idea would be completed and all issues resolved and understood before implementation into practice, but this is not practical as nothing would ever be implemented." Hodges (2008), BJSM 42, pp 941-944
- "The perception that parachutes are a successful intervention is based largely on anecdotal evidence". Smith & Pell (2003), BMJ 327, pp1459-61. *Parachute use to prevent death and major trauma related to gravitational challenge: a systematic review of randomised controlled trials.*

ROCKTAPE

Animal "Experiments"



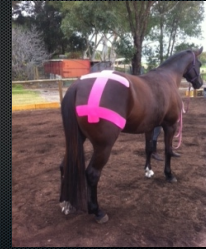
Assist Merkel and Meissner cells function
(fine/light touch/discrimination)

[https://
www.falwTnw.youtube.com/
watch?vFf-qQ](https://www.falwTnw.youtube.com/watch?vFf-qQ)



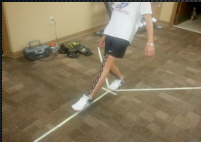
Animal taping

- Animals don't understand that they are supposed to "feel" better after a human has treated them.
- Any visible response is therefore a "true" indication of what the tape does.



Recent pilot studies

- Cycling ergo study- 2-6% improvement in elite cyclists time trial over 40km
- Dynamic standing balance- 3-9% improvement in SEBT with front chain taped after fatigue protocol



Star Excursion
Balance Test

Soccer performance- vertical jump performance in female players untaped vs LL chains Powertaped



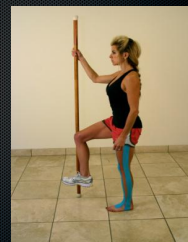
PowerTaping examples



Anterior chain



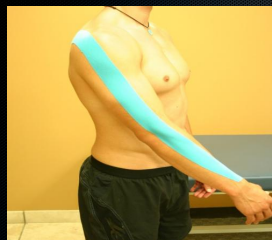
Posterior chain



Lateral chain



PowerTaping examples



Posterior chain



Anterior chain



How to purchase ROCKTAPE

- Online – www.rocktape.com.au
- Our Australian distributors are Club Warehouse, IDM Sports, APE tape & Briggate Medical Company



Keep up to date

Youtube: Many Rocktape and other kinesiology taping techniques:

Or go to www.rocktape.com.au and subscribe to our quarterly newsletter.



Questions?

