A randomised crossover trial investigating actual and perceived changes in peak knee extensor torque following Kinesio Tape® application.

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Purpose and existing literature (KT = Kinesio tape)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>KT does improve peak knee extensor torque 1007.7 (P = 0.031) 60°/s (P &gt; 0.05)</td>
<td>KT does not improve peak knee extensor torque (P = 0.006) but does decrease time to reach (P = 0.03)</td>
<td>Placebo response has been specifically identified as an area that requires further investigation (Vercelli et al., 2013)</td>
</tr>
<tr>
<td>No studies comparing strength and perceived strength following KT application were found following multiple database searches</td>
<td>Meta analysis Very small population effect (r = 0.05)</td>
<td>Is there a correlation between actual and perceived changes in peak knee extensor torque following Kinesio Tape® application?</td>
</tr>
</tbody>
</table>

Primary aim
- to determine whether there is a correlation between actual and perceived changes in peak knee extensor torque following kinesio taping®

Secondary aim
- to determine the extent to which kinesio taping improves peak knee extensor torque

Conclusions:
- KT improves perceived knee extensor torque
- KT does not improve actual peak knee extensor torque
- Changes in perceived and actual torque do not correlate

Design and methods (GRCS = Global Rating of Change Scale)

Information + consent form
↓
Biodex fitted + practice attempt
↓
3 contractions no tape (minute rest)
↓
3 contractions - taping condition one (sham or actual)
↓
GRCS – taping condition one
↓
Break
↓
3 contractions - taping condition two (sham or actual)
↓
GRCS – taping condition two
↓
Debrief

GRCS: “With respect to trials performed without tape, how would you describe your leg when the tape was applied?”

<table>
<thead>
<tr>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much Weaker</td>
<td>Slightly Weaker</td>
<td>Unchanged</td>
<td>Slightly Stronger</td>
<td>Much Stronger</td>
</tr>
</tbody>
</table>

Inclusion Criteria
- Participate in at least an hour of sporting activity per week
- Aged 18-30

Exclusion Criteria
- History of traumatic injury or surgery in the lower limb
- Sensory deficit of the lower limbs
- Current lower limb pain
- Allergy to tape/adhesive material

Results

- Sham perception
- K tape perception

Table 1. Correlation of actual and perceived peak torque (N=36)

<table>
<thead>
<tr>
<th>Output</th>
<th>Spearman’s correlation</th>
<th>Correlation Coefficient (rs)</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sham tape / GRCS</td>
<td>0.133</td>
<td>0.438</td>
<td></td>
</tr>
<tr>
<td>Kinesio Tape / GRCS</td>
<td>-0.142</td>
<td>0.408</td>
<td></td>
</tr>
</tbody>
</table>

Considerations and Implications

Psychological benefits may play a greater role in affecting actual strength output when applying it to more functional movement within the context of real life competition.

Although it appears any such effect is small, the slimmest of margins can make a difference in elite, high performance sport.

It is also unclear whether changes in perception may benefit performance when combined with other treatments.

References: