

A Non-Invasive Approach to Treating Patellofemoral Pain

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Introduction

- Anterior knee pain is a common musculoskeletal complaint often associated with altered lower-extremity biomechanics, including impaired hip abductor control.^{1,2}
- Weakness or dysfunction of the gluteus medius may contribute to dynamic knee valgus and increased patellofemoral stress during weight-bearing activities.²
- Impaired neuromuscular control and altered proprioceptive input have been proposed as contributing factors in patellofemoral pain.³
- Kinesio Tape (KT) has been suggested as a non-restrictive modality to enhance proprioception and muscle activation without limiting range of motion.

Methods

A 65-year-old male with activity-limiting anterior knee pain underwent a comprehensive osteopathic structural examination.

Findings: positive left standing and seated flexion test, lumbar dysfunction at L5 (FRSR), sacral rotational dysfunction, left posterior innominate, and multiple lower-extremity somatic dysfunctions including tibial external rotation, posterior fibular head, interosseous membrane hypertonicity, anterior talus restriction, and midfoot dysfunction.

OMT Performed: seated muscle energy for the lumbar spine; seated combined sacral techniques with respiratory assist; pubic decompression; myofascial release to the sacroiliac joint and lumbar spine; articular techniques with long-axis compression

For tibia and fibula; counterstain and indirect myofascial release for midfoot dysfunction; and additional articular techniques to the ankle as indicated. Kinesio Tape was applied to the gluteus medius using an "I" strip from the PSIS to the greater trochanter, with no tension at the anchors and approximately 75–80% tension through the mid-portion.^{3,6}

A home exercise program emphasizing hip abductor activation was prescribed, including single-leg stance with slight knee flexion (10–30 second holds, 1–2 repetitions per leg, twice daily) with progression to isometric hip extension and abduction at approximately 45 degrees.

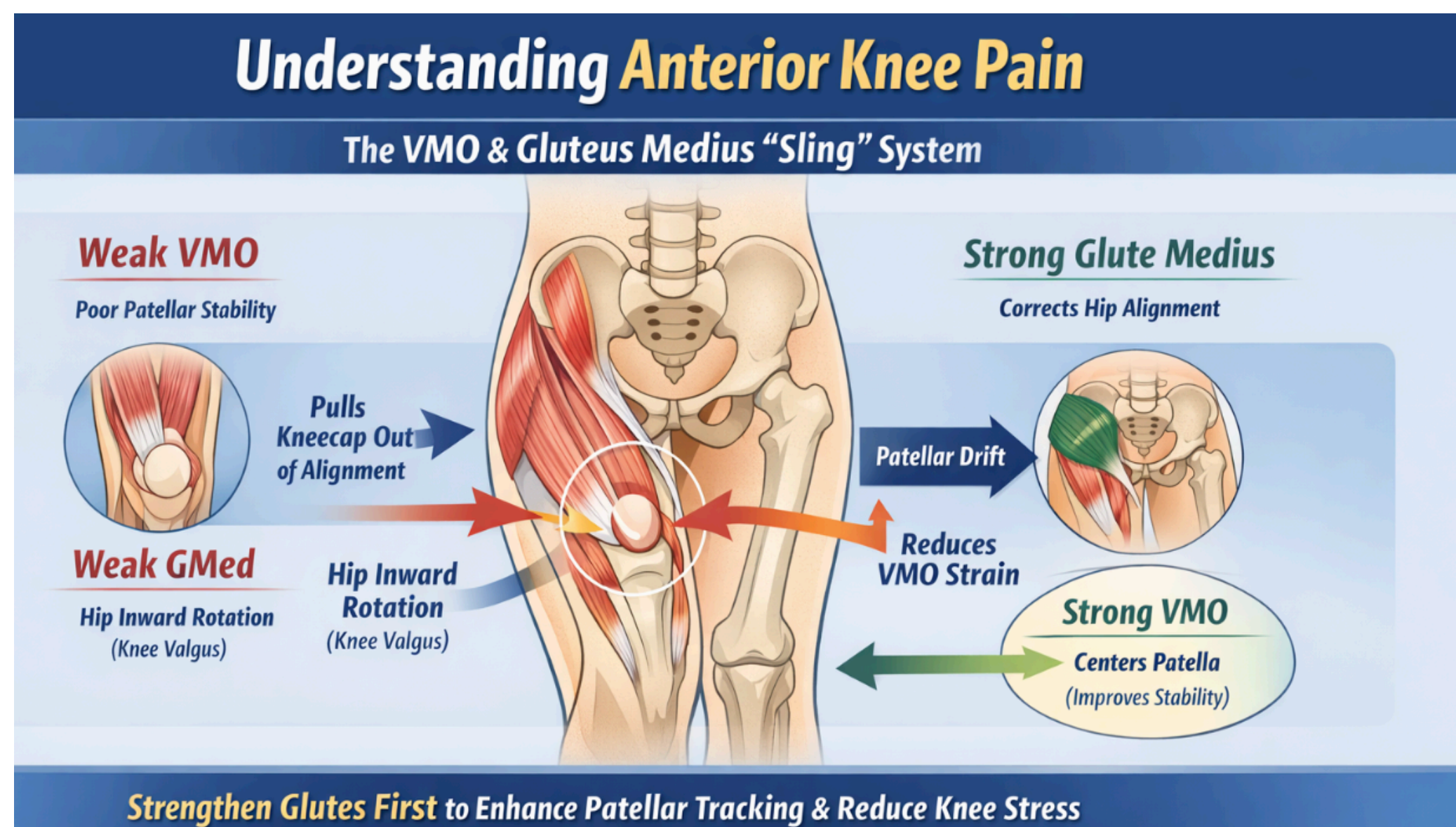
Clamshell exercises with light ankle weights were recommended as an alternative.

Results

Before treatment: knee pain prevented patient from completing 30 minutes of sustained walking.

After OMT and KT application: the patient reported being able to walk approximately 8 miles, with pacing adjustments required primarily due to deconditioning rather than knee pain.

The patient reported improved functional stability and reduced activity-limiting symptoms.



Objective

To describe the effect of combined OMT, gluteus medius-specific KT application, and targeted exercise on functional capacity and knee pain in an older adult with anterior knee pain.

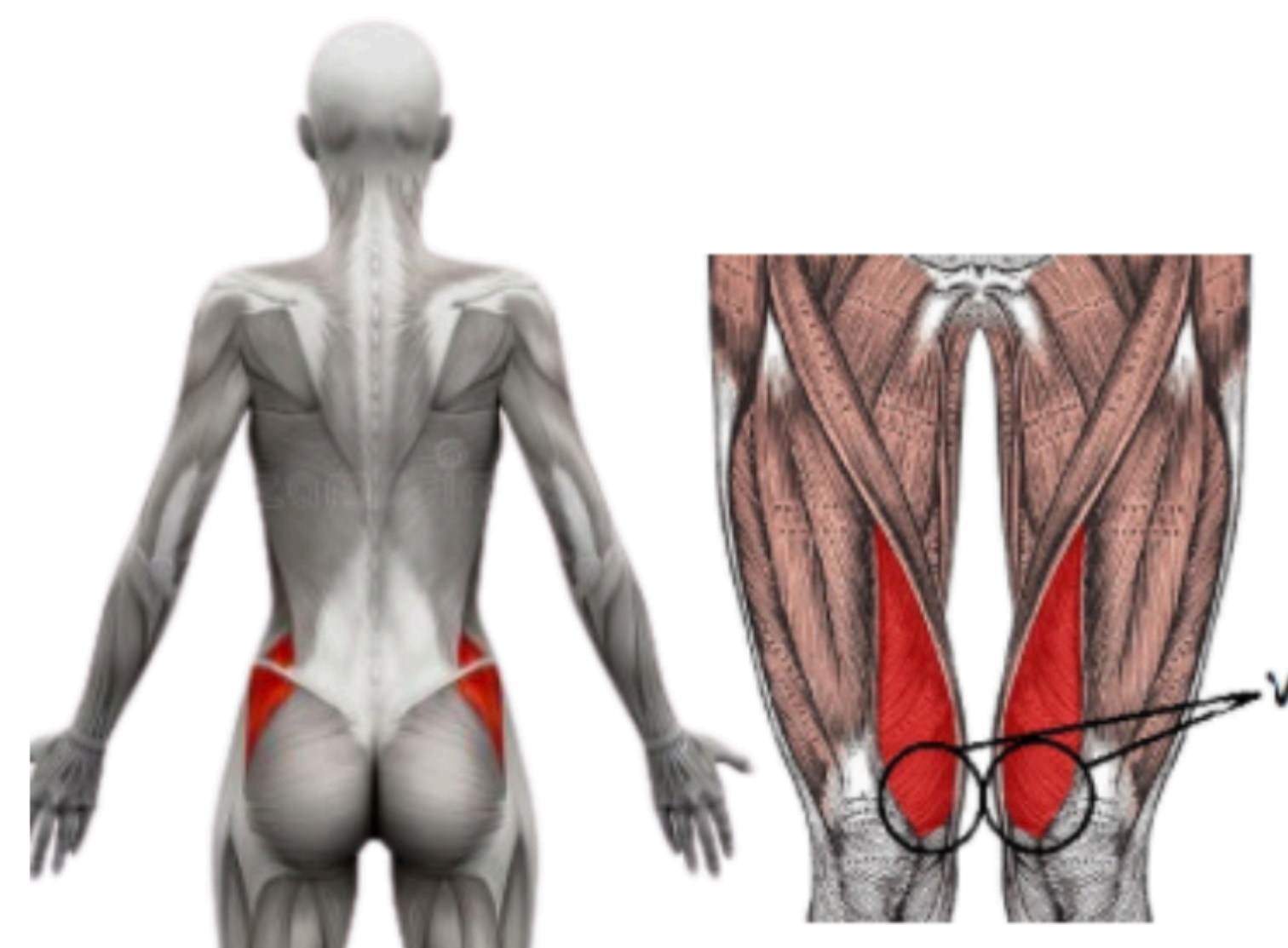


Figure 1. Locations of the Gluteus Medius and the Vastus Medialis Oblique

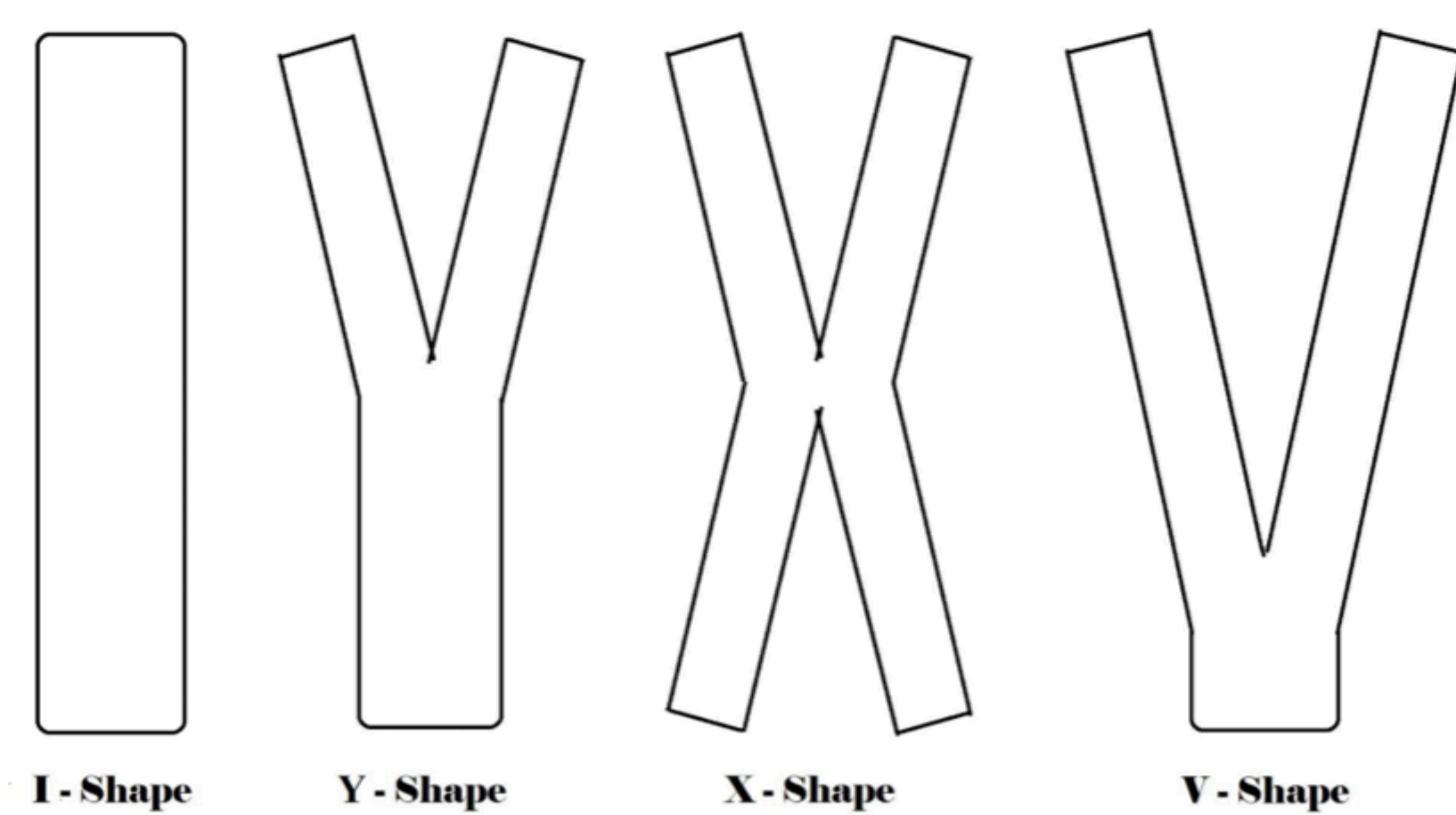


Figure 2. Different cuts of Kinesio Tape

Proposed Mechanism

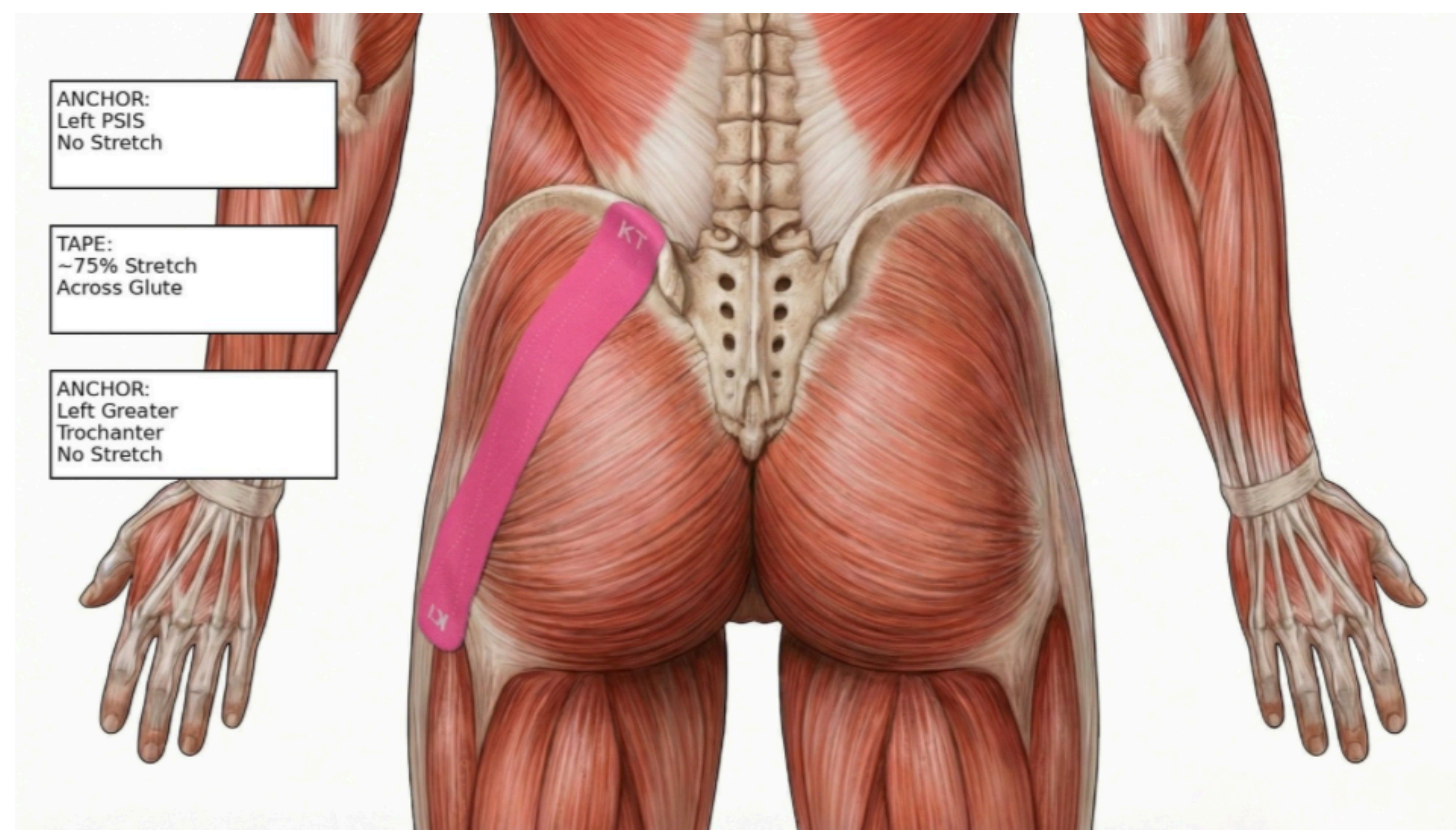
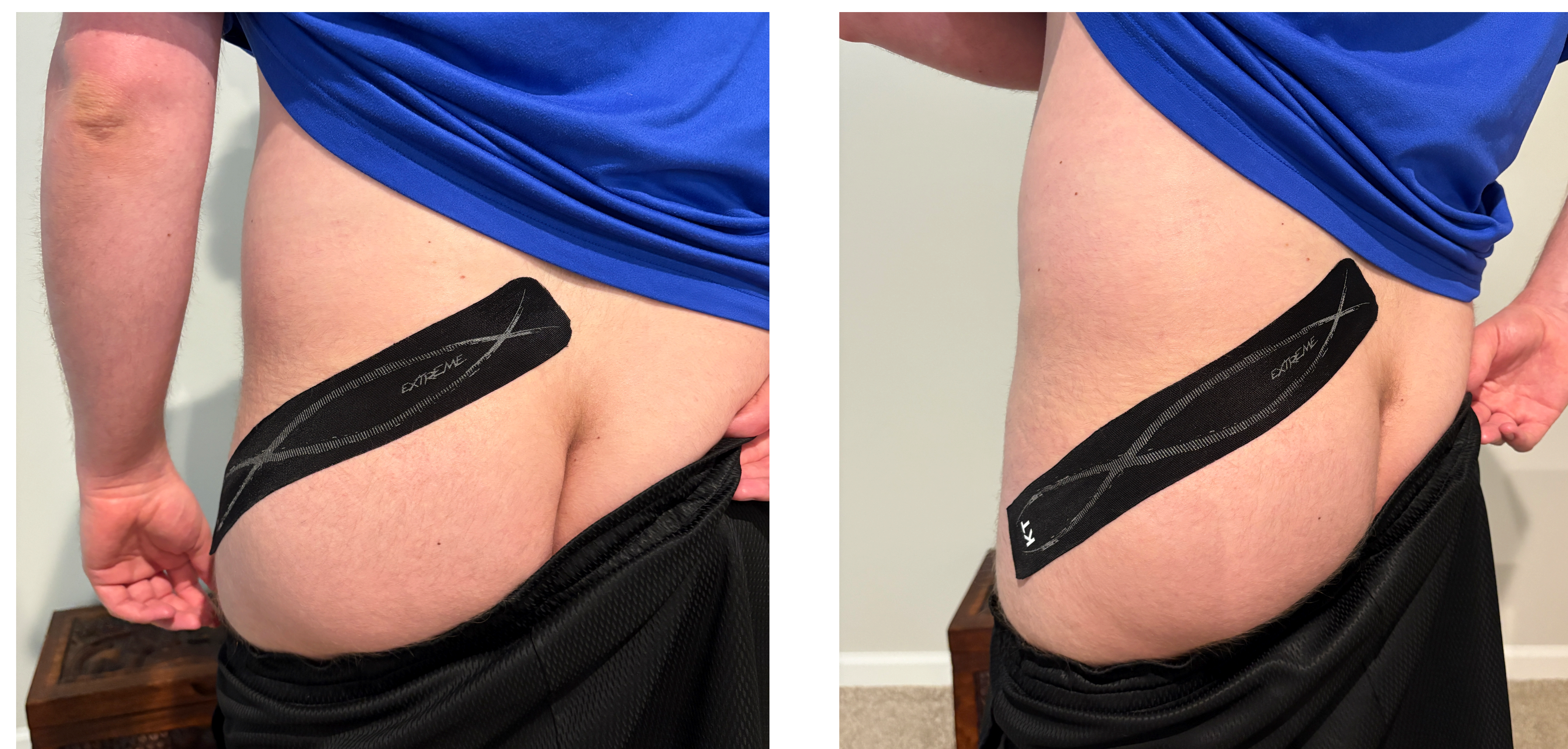


Figure 4: Proposed mechanism of Kinesio tape⁴



Figures 3a–3c. Kinesio tape applied to the gluteus medius

Conclusion

This case suggests that functional walking capacity in patients with anterior knee pain may be improved using a combined osteopathic approach incorporating:

- targeted OMT
- gluteus medius-directed KT application, and
- progressive hip abductor strengthening.

These findings support further investigation into proximal biomechanical interventions as adjunctive treatments for patellofemoral pain.^{1–3}

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