The Use of Medical Exercise Therapy for a Post-operative Gastrocnemius Recession Patient After Multiple Conservative Physical Therapy Treatments Failed: A Case Report

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Background

Achilles Tendonitis\textsuperscript{1,2}
- Affects 9\% of all recreational runners
- Treatment is variable
- Surgery is controversial

Gastrocnemius Recession\textsuperscript{3,4}
- Small incision to postero-medial lower leg to release gastrocnemius tendon
- Most commonly used to treat chronic achilles tendonitis
- No known literature for the post-operative physical therapy management

Medical Exercise Therapy (MET)\textsuperscript{5}
- Developed by the Holten Institute
- 60 minutes of graded exercise
- High repetitions with low weight
- Functional weight bearing during functional movement patterns

Case Description

- 30 year-old female who was an avid runner with chronic achilles tendonitis in her left ankle
- Pes cavus foot structure
- Underwent a gastrocnemius recession after 3 failed attempts of conservative physical therapy
- Chief complaints after surgery: pain, weakness, and instability
- Goal: run 30 minutes without pain

Examination

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<tr>
<th>Impairments</th>
<th>Functional Limitations</th>
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<tr>
<td>Pain</td>
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<td>Strength</td>
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Interventions

- 70 minutes of physical therapy 3 times a week for 6 weeks.
- Exercises chosen to promote return to running.

Manual Therapy
- Cross Friction, Retrograde, and Effleurage Massage

Therapeutic Exercise
- Lower Body Ergometer, Ankle PRE, Terminal Knee Extension, Bridges

Therapeutic Activities
- Deloading Squats & Step-ups, Single Leg Balance, Standing Hip Abduction & Hip/Knee Extension, Eccentric Calf Raises

Home Exercise Program

- Instructions: rise onto toes of both feet. Slowly lower left heel down, then return to start position.
- 3x30 sets at least 3 times a day

Standing Calf Stretch
- Gastrocnemius and Soleus
- 3x30 seconds each

Short Term Goals

- Regain left ankle ROM
- Improve left ankle strength to 4+/5
- Be able to walk 3 days a week for 20 minutes without report of increased pain
- LEFS score of 40/80 & PSFS score of 7/10

Outcomes

- Improvements made in all areas
- MMT: goal met, except for plantarflexion which was 4/5
- Pain: decreased from constant 3-4/10 to constant 2-3/10
- Able to walk for 30 minutes and bike for 20 minutes without increased pain; did not trial running

Discussion

MET was a viable intervention for a patient after a gastrocnemius recession as treatment for chronic achilles tendonitis. The patient reported satisfaction despite constant pain and slow return to activity. The slow-paced improvements may be related to the chronicity of the tendonitis, length of time she spent inactive, and her pes cavus foot structure. Future research should be conducted with a larger sample size for a longer duration.

Acknowledgements

The author acknowledges Kirsten R. Buchanan, PhD, PT, ATC for the conceptualization of this report.

References

1. M. Results of proximal medial gastrocnemius release for Achilles tendonitis. The patient 
5. Kirsten R. Buchanan, PhD, PT, ATC

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