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Who: 16-year-old male cross country runner, diagnosed with a fibular stress fracture.

What: Physical therapy program included use of the AlterG Anti-Gravity Treadmill™ twice a week, in addition to personal training sessions for manual therapy and therapeutic exercises.

Why: Body weight support was used because this patient had a history positive for overuse injuries in the past. The AlterG was used to establish confidence, maintain fitness, and manage symptoms/swelling, while progressively increasing weight bearing while running.

Introduction

16 year old male cross country runner sustained a fibular stress fracture 4 weeks ago. He runs 55 miles a week. Has a past history of avulsion fracture to distal right tibia 2 years ago and stress fracture of 4th metatarsal last year. Was in a boot and instructed to be Weight Bearing as Tolerated (WBAT) with crutches for 4 weeks.

Goals

- Decrease pain from 6/10 to 0/10
- Improve ankle Range of Motion (ROM) through increased ankle joint mobility and flexibility
- Increase strength of both hips and ankles to 5/5
- Reduce swelling
- Develop a progressive return to activity
- Maintain fitness and function
- Return to running

History

The patient twisted his ankle 5 weeks ago, and when he tried to return to running, experienced lateral shin pain. Had diagnostic imaging which revealed a stress fracture in his fibula.

He was put into a walking boot for 4 weeks, WBAT. Referred to physical therapy 5 weeks post injury.

Treatment Provided

His physical therapy treatment plan consisted of manual therapy interventions (soft tissue mobilisation, joint mobilisation, facilitated stretching) and therapeutic exercises.

Exercises included stabilisation exercises for core and lateral hips, closed chain functional exercises, and the AlterG for reduced weight bearing running.

The patient attended physical therapy sessions once a week over the course of 6 weeks, and used the AlterG an additional two times a week. At discharge, he was back to running cross country.

Considerations

This young patient has had multiple overuse injuries to his right lower extremity.

His ankle mobility had not been normal since his injury 2 years prior. Although his stress fracture was healed, it was important to work to increase his ankle mobility through mobilisation techniques to provide for improved weight bearing and progressive loading while running in the AlterG.

Results

The patient was seen in physical therapy for 6 weeks. He progressed well and was released to return to distance running. He achieved all of the goals of his rehabilitation plan. The AlterG was incorporated into his rehabilitation plan for: establishing confidence, maintaining fitness, and managing his symptoms and swelling, while progressively increasing his weight-bearing while running.



AlterG Case Study

Weeks post injury	Program	Speed (mph)	Incline	Time (min.)	Frequency
5	55%	5 min. warm up at 2-3.5, 20 min. at 10, 5 min. cool down at 3.5	0	30	3
6	60%	10	0	30	3
7	65%	10	0	60	3
8	70%	10	0	60	3
9	75%	10	0	60	3
10	85%	10	0	60	3
11	85%	10	0	60	3

