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Who: 24 year-old Field Hockey athlete with acute foot pain after she was diagnosed with 4th Metatarsal Stress Fracture after imaging.

What: Body weight support was incorporated into the rehabilitation protocol once patient cleared for Full Weight Bearing.

Why: The AlterG Anti-Gravity Treadmill™ was incorporated into the athlete's rehabilitation plan to progressively load lower extremity safely, establish athletic confidence, and maintain fitness levels.

Introduction

24 year-old female Field Hockey player with healed Plantar fascia tear, sesamoid fracture and entrapped nerve. Her sport is played on artificial turf, requiring constant running and frequent changes of direction.

1. Athlete suffered from acute foot pain after activity. Diagnostic imaging confirmed diagnosis of a 4th Metatarsal Stress Fracture.
2. Athlete followed physician's recommendations for initial care and treatment.

Goals

- Following release to weight-bearing, incorporate de-weighting into rehabilitation protocol.
- Develop a progressive return to activity.
- Maintain fitness and function during rehabilitation.

History

Plan

- Athlete was diagnosed with a 4th Metatarsal Stress Fracture.
- Upon consultation with treating physician and review of diagnostic imaging, the athlete was placed in a walking boot for 4 weeks, weight-bearing as tolerated (WBAT).
- After the physician release to unrestricted weight bearing, a complementary conditioning program was developed incorporating the AlterG Anti-Gravity Treadmill.
- Along with traditional medical treatment: modalities, therapeutic exercise, joint mobilisation and NSAID's, the AlterG Anti-Gravity Treadmill was added to the treatment protocol.
- Program duration was for 8 weeks.
- AlterG Anti-Gravity Treadmill was incorporated at week 5 of rehabilitation once athlete was cleared for unrestricted weight bearing.
- Athlete achieved desired competition goals.

Considerations

- Pain/ soreness levels were considered and used to gauge weight percentage and speed. Pain level reported by athlete was not to exceed 4 on a scale of 1-10 during Phase I, and not to exceed 3 on a scale of 1-10 during Phases II-IV.
- Athlete feedback was considered prior to each workout.
- Pre and post workout pain was recorded and monitored.

Results

The athlete was released for return to sport by the treating physician after 8 weeks of rehabilitation. The athlete achieved the goals of the rehabilitation plan, incorporating a progressive sport specific conditioning plan to transition the athlete to full participation. The AlterG Anti-Gravity Treadmill was incorporated into the athlete's rehabilitation plan to establish confidence, maintain fitness, manage gait and progressively increase impact on the extremity. The athlete resumed modified activity after release from rehabilitation and continued using the AlterG Anti-Gravity Treadmill as part of the reconditioning program.



Phase I Week 5-6

Partial Weight-bearing

- Range of Motion
- Gait evaluation/re-education
- Neuromuscular activation
- Neuromuscular conditioning
- Pain Management
- Proprioception

Phase II Week 7-8

Weight-bearing as tolerated

- Emphasize heel to toe walk
- Pain free activity
- Proprioception
- Initiate cardiovascular training
- Increase load bearing
- Increase volume
- Increase strike frequency
- Increase musculoskeletal strength and endurance
- Decrease incline of surface

Phase III Week 9-11

Preparation

- Full foot strike
- Increase intrinsic muscular function
- Proprioception/Technique
- Maintain volume
- Increase intensity/ load
- Increase musculoskeletal strength and conditioning
- Increase cardiovascular training
- Decrease angle of surface

Phase IV Week 12-15

Return to activity

- Increase load and intensity
- Challenge Proprioception
- Maintain Volume
- Maintain Conditioning
- Maintain Technique
- Maintain angle of surface