

SmartStep™

a Step Forward in the Rehabilitation Process of an Achilles Tendon Rupture



Overview

E.D. is a 32-year-old male basketball player who suffered forced dorsiflexion at high impact upon landing from a jump during a game. Upon ultrasonic evaluation, he was diagnosed as having sustained a full-thickness rupture of the mid-portion of the Achilles tendon. His ankle was placed in plantar flexion within a plaster cast for a period of six weeks. He commenced physical therapy immediately thereafter, and was permitted to perform full weight-bearing.

SmartStep™ – Evaluation and Treatment Step Up a Level

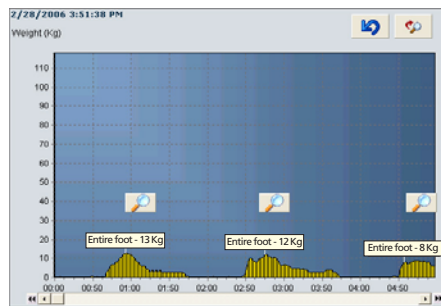
A SmartStep™ biofeedback training device was introduced to evaluate his initial weight-bearing status. The patient's weight-bearing ability was extremely limited, with no differentiation between heel-strike and toe-off, and there was a significantly disturbed stance/swing phase (87%/13%).

The patient's weight-bearing progress was carefully monitored, and by the fifth treatment session, he was weight-bearing 50% of his body weight.

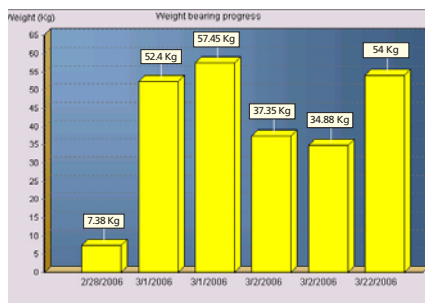
After five treatment sessions and noticeable progress had been achieved, there was a sudden decrease in the patient's measurements. Further investigation revealed an acute inflammatory skin infection around the operation site.

The patient did not report this, and it was only due to SmartStep™'s accurate monitoring capabilities that the clinician investigated this matter further.

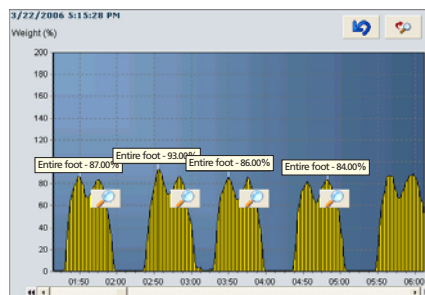
The patient was placed on oral antibiotics and discontinued rehabilitation for 20 days. Using SmartStep™, the patient completed his rehabilitation process successfully within three weeks. At the end of the rehabilitation process, both his gait pattern and stance/swing phase returned to normal (64%/36%) and he resumed his sporting activity.



First evaluation with SmartStep™ indicates a limited weight-bearing ability



The graph indicates an unexplained decrease in patient's measurements



Normal gait pattern

Conclusion

The SmartStep™ biofeedback training device proved indispensable throughout the entire rehabilitation process. The patient's weight-bearing capability was significantly improved and he was able to return to full sporting activity.

“SmartStep™ proved to be an effective tool in evaluating the patient's condition and monitoring his progress. In this case, it also served as a diagnostic tool when identifying an unnoticeable infection.”

Yonatan Kaplan
Jerusalem Sports Medicine Institute