IM Gait Mate Helps UC Berkeley Football Player Recover

A 19-year-old sophomore football player from UC Berkeley injured his right knee and came to Cal Sports Medicine for rehabilitation. The IM Gait Mate was introduced when the patient was approximately six weeks status post reconstruction of his right knee anterior cruciate ligament, with a patellar tendon autograft. He was followed regularly postoperative by his orthopedic surgeon, and had regular sessions with both a physical therapist and certified athletic trainer, with the contents of the session dictated by physician protocol.

The IM Gait Mate is used to improve Stride Length, Heel Strike, Gait Stamina, Weight Shifting, and Quality of Movement. The therapist inserts a wireless insole into the patient's shoe that detects when the patient performs a heel strike. The patient hears a beat through wireless headphones or speakers and is asked to match the cadence provided. The Gait Mate provides the patient with auditory feedback as they walk instructing them to speed up if they are walking too slowly or to slow down if they are shuffling or dropping their foot too quickly. The patient receives no positive feedback if his/her heel doesn't strike the ground.

Before the use of the IM Gait Mate, it was noted on treadmill unloaded walking (at 60% of body weight) the patient had difficultly pushing off on his right foot, and was not obtaining the requisite knee extension during toe off. Because of this, his left foot heel strike was occurring prematurely, and his walking gait appeared abnormal.

With the introduction of the IM Gait Mate, the patient began to focus more on his heel strike, and also attempted to match the pace dictated by the unit. Though he struggled in day one to match the tones to his heel strike, in days two and three, he actually started to vary his gait (heel strike) based on the tones, striking earlier when the tones indicated the strike was too late, and striking later when the tones indicated the strike too early.

Most patients in a Sports Medicine setting see the IM Gait Mate as something they can "compete" with during every exercise. While each patient should be monitored to ensure that they don't perform the exercises incorrectly while trying to "win," I found it to be useful to have a goal for the patient during rehabilitation exercises that are often boring for them. **Walking on a treadmill does not challenge a collegiate level athlete. But add the tones, and he or she has something to work on, improve on, and something that gives instant feedback.**

By day five, the appearance of his walking gait appeared essentially normal (which is often more difficult to change than the running or jogging gait). Introducing the IM Gait Mate so early in the rehabilitation process allowed the injured extremity to react precisely to the feedback given from the brain, which is vital. So often, this proprioceptive re-training does not begin until a patient can begin to fully balance or do higher-level rehabilitation.

With the IM Gait Mate, you could potentially begin in the first week post op with re-connecting the injured limb with the control necessary from the brain to perform specific motions, and perform them in a very precise way. In Professional and Collegiate Level athletics, the **proprioceptive awareness and ability to have the mind, consciously and unconsciously, be able to task the limbs to perform precise motions, like stopping, planting and cutting, are what separates good athletes from great ones. It is what wins or loses games, and it is what prevents injury or re-injury**.

The IM Gait Mate appears to have the potential to do what we as Physical Therapists or Athletic Trainers spend hours having patients try to do, which to re-train these proprioceptive and neural pathways. And, it does so DURING the rehabilitation exercises that we are already having the patient perform. This translates into a better use of therapy time. Patients are already performing the exercises and re-conditioning. So, why not utilize a unit during the exercise that enhances the ability of the patient to recover, and does so in ways that exercise alone would not enhance.

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