

Academy Tech Tips

FreeWalk KAFO: Evaluating the Subtalar Joint

The FreeWalk Stance Control KAFO is for patients with quadriceps weakness or paralysis and can be used for patients with mild to low-moderate dropfoot. It is unlocked during pre-swing in the presence of 10° of dorsiflexion and the absence of a knee flexion moment acting on the orthotic knee joint.

There have been questions from Orthotists and end users as to why the single lateral stirrup is so flexible.

The stirrup is purposefully designed to be flexible so that ground reaction forces in the frontal plane (valgus/varus) and transverse plane forces (rotation) caused by uneven terrain can be mitigated by deflection and torque within the stirrup.

In a rigid stirrup these forces would be transferred up the lateral upright and cause the FreeWalk knee joint to be forced out of the line of progression or cause torque and deflection moments at the knee joint causing it not to unlock at pre-swing.



Users that present with an unstable subtalar joint can also induce torque and rotation on the stirrup. It is critical that the patient's subtalar joint remain in an anatomic position throughout the function range of motion in any manner that this can be achieved (use of posting of the foot plate, or UCBL trimlines).

It is recommended that the subtalar joint be evaluated for anatomic position in a functional weight bearing position of 10° of dorsiflexion; apply a long knee immobilizer to the patient if necessary. The knee must also be in full extension when evaluating for this. The gastrocnemius must be at full stretch length to determine if muscle tightness is contributing to a non-anatomic subtalar position.

If anatomic subtalar position cannot be maintained throughout a functional weight bearing range of dorsiflexion, then the patient should be fit with a double upright stance control KAFO such as the E-MAG Active or the Sensor Walk.

If you have any further questions, please contact Ottobock at 800 328 4058 and ask to speak with a member of our Professional and Clinical Services department.