

Weight activated stance control



Description

Knees with a weight activated stance control feature a built-in braking or locking mechanism which is activated by the user's bodyweight. When the mechanism is engaged it either exerts pressure on the knee components to restrict flexion (monocentric design) or alters the geometry to make the knee less prone to flexion (polycentric design).

While weight is directed through the knee and heel the brake is active. De-weighting the knee releases the brake mechanism.

Advantages

- Can be found in monocentric (single axis) style knees using either friction, hydraulic or pneumatic systems.
- Featured in all polycentric knees with more than four centres of rotation.
- Enhanced stability at heel strike.
- Often an excellent choice for a primary amputee's first prosthesis or for less active amputees.

Disadvantages

- Requires accurate adjustment by a knowledgeable practitioner to ensure the lock is effective.
- May require frequent adjustment (a poorly adjusted lock can be ineffective).
- User's weight must be lifted off the prosthesis to unlock the knee (e.g. when sitting).
- Steeper learning curve.