Evidence Essentials.
Genium microprocessor knees

	Mobility need or deficit of the patient	Evidence for benefits of the *Genium* compared to *C-Leg*
Mobility	Patient feels limited in activities of daily living (ADL) and overall mobility	- **Significant improvement in total score of Physical Functional Performance Test (10 ADLs), and subdomains Upper Body Function, Upper Body Strength, Lower Body Strength and Balance, scores no longer different from able-bodied individuals.** (Highsmith et al., 2016B; Mileusnic et al, 2019) - **Significantly improved perceived ease and safety of ADLs.** (Hahn et al., 2016; Kannenberg et al., 2013; Mileusnic et al, 2019) - **Significant improvements AMP scores and step-activity derived functional level.** (Highsmith et al., 2016A and 2016B; Mileusnic et al, 2019)
Mobility	Patient has difficulty with long-distance ambulation	- **Significant reduction of stance-phase braking forces.** (Bellmann et al., 2012; Schmalz et al., 2014) - **Optimized swing control with constant knee swing flexion angle of 64° across walking speed.** (Bellmann et al., 2012; Schmalz et al., 2014; Mileusnic et al, 2019) - **Best correction of kinematic and kinetic gait deviations and compensatory mechanisms compared to NMPK and C-Leg.** (Varrecchia et al., 2019)
Mobility	Patient has difficulty negotiating stairs and clearing bigger obstacles	- **Patients rated stair ascent and descent and clearing bigger obstacles significantly easier.** (Hahn et al., 2016; Highsmith et al., 2014B; Kannenberg et al., 2013; Mileusnic et al, 2019) - **Many patients improve quality of stair ascent to reciprocal (step-over-step) gait pattern that can also be used for stepping over bigger obstacles.** (Aldridge et al., 2014; Bellmann et al., 2012A and 2012B; Highsmith et al., 2014A and 2016A; Mileusnic et al, 2019; Schmalz et al., 2014)
Mobility	Patient has difficulty negotiating slopes and uneven terrain	- **Significantly increased self-selected walking speed and quality of slope descent.** (Bell et al., 2016; Mileusnic et al, 2019) - **Significantly improved gait symmetry and quality and unloading of the sound limb during slope descent.** (Bellmann et al., 2012; Highsmith et al., 2016A, Lura et al., 2017; Schmalz et al., 2014; Mileusnic et al, 2019) - **Significantly improved knee swing flexion (toe clearance during slope descent.** (Bellmann et al., 2012; Highsmith et al., 2016A, Lura et al., 2017; Mileusnic et al, 2019; Schmalz et al., 2014)

		- **Patients rated slope and uneven terrain ambulation significantly easier and safer.** (Hahn et al., 2016; Highsmith et al., 2014B; Kannenberg et al., 2013; Mileusnic et al, 2019)
Mobility	Patient has difficulty standing still for longer periods of time, especially on slopes and hills	- **Significantly increased weight-bearing on the prosthetic side while standing still on level ground and slopes.** (Bellmann et al., 2012; Highsmith et al., 2014B) - **Patients rate ADLs that require standing significantly easier and safer.** (Hahn et al., 2016; Kannenberg et al., 2013; Mileusnic et al, 2019)
Musculo-skeletal pain	Patient suffers from joint and back pain due to gait asymmetry and excessive loading	- **Significant improvement in gait symmetry and, thus, loading of the locomotor system.** (Bellmann et al, 2012A; Highsmith et al., 2016C; Lura et al.; 2017; Mileusnic et al, 2019; Schmalz et al., 2014) - **Best correction of kinematic and kinetic gait deviations and compensatory mechanisms compared to NMPK and C-Leg.** (Varrecchia et al., 2019)

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