

Epirus

Epirus incorporates an elastic Multiflex style ankle joint with an energy-storing-and-return prosthetic foot, which uses e-carbon foot springs to efficiently absorb energy during weight bearing and return it during off-loading, in order to aid propulsion. The elastic ankle joint provides a greater range-of-motion for improved adaptability. By providing plantarflexion motion at heel strike, cushioning/comfort improves compared to a fixed ankle ESR foot. The split-toe design permits further medial-lateral slope compliance.

Clinical Outcomes using e-carbon feet

Much research confirms the substantial equivalency of all energy-storing and return feet, including Blatchford e-carbon feet¹.

With respect to **SAFETY**

- High mean radius of curvature for Esprit-style e-carbon feet²: “The larger the radius of curvature, the more stable is the foot”

With respect to **MOBILITY**

- Allow variable running speeds³
- Increased self-selected walking speed⁴
- Elite-style e-carbon feet (L code VL5987) or VT units demonstrate the second highest mobility levels, behind only microprocessor feet⁵

With respect to **LOADING SYMMETRY**

- Users demonstrate confidence in prosthetic loading during high activity⁶
- Improved prosthetic push-off work compared to SACH feet⁷
- Increased prosthetic positive work done⁴

With respect to **USER SATISFACTION**

- High degree of user satisfaction, particularly with high activity users⁸

Clinical Outcomes using Multiflex-style ankles

Multiflex was the “habitual” foot for all or majority of participants in 13 different studies⁹⁻²¹

With respect to **SAFETY**

- Low stiffness at weight acceptance leads to early foot-flat and greater stability for lower mobility patients²²
- No loss of stability during standing with Multiflex than fixed ankle/foot²³
- Easier to walk on uneven ground with Multiflex than fixed ankle/foot^{23,24}
- Easier to walk up a slope with Multiflex than fixed ankle/foot²³

With respect to **MOBILITY**

- Little to no difference in gait mechanics compared to flexible, “energy storing” prosthetic feet²⁵
- Increased prosthetic ankle range-of-motion with Multiflex compared to fixed ankle/foot^{23,24,26-28}
- Increased prosthetic ankle power with Multiflex compared to fixed ankle/foot²⁴
- Prosthetic rollover shape closer to natural biomechanics than fixed ankle/foot²⁶
- Users can walk longer distances and report “smoother” gait with Multiflex compared to fixed ankle/foot²⁴
- Benefits in mobility for bilateral users^{23,24,26,27}
- Mixed objective results when user group was more active than is recommended for Multiflex^{29,30} so may benefit more from a similar but higher activity foot like Epirus.

With respect to **RESIDUAL LIMB HEALTH**

- Equivalent socket comfort to higher technology, energy-storing feet²⁹

With respect to **LOADING SYMMETRY**

- Improved stance phase timing symmetry with Multiflex compared to fixed ankle/foot²⁸
- Reduced sound limb loading with Multiflex compared to fixed ankle/foot²⁸

With respect to **USER SATISFACTION**

- Mixed subjective feedback around preferences when user group was more active than is recommended for Multiflex²⁵ so may benefit more from a similar but higher activity foot like Epirus.
- Majority of users rate Multiflex as either “good” or “acceptable”³¹ and prefer Multiflex to fixed ankle/foot²⁴

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