

## **Gait Efficiency Using the C-Leg**

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Microprocessor-controlled prosthetic knees are claimed to improve gait efficiency in transfemoral (TF) amputees. This hypothesis was tested in a prospective randomized crossover trial that compared the Mauch SNS knee and the C-Leg microprocessor-controlled knee in eight TF amputees.

The subjects were given a 3-month acclimation period in each knee. Then, their net oxygen cost (mL/kg/m) was measured while they walked overground at four speeds in random order: 0.8 m/s, 1.0 m/s, 1.3 m/s, and self-selected walking speed (SSWS).

The C-Leg caused small reductions in net oxygen cost that were not statistically significant compared with the Mauch SNS at any of the walking speeds ( $p > 0.190$ ).

Subjects chose higher SSWSs with the C-Leg compared with the Mauch SNS (mean  $\pm$  standard deviation = 1.31  $\pm$  0.12 m/s vs 1.21  $\pm$  0.10 m/s, respectively,  $p = 0.046$ ) but did not incur higher oxygen costs ( $p = 0.270$ ), which suggests greater efficiency only at their SSWS.

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