

Effect of walking function in amputees with Xtend Foot compared to regular foot prostheses

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Background

There is a projected increase in number of amputees in the United States. During the next three decades there will be a two-fold increase in number of Americans living with limb amputation secondary to a vascular disease. According to the Swedish registrar (SwedAmp) there are about 3000 amputations every year in Sweden in lower extremities and 80 % is due to diabetes or vascular disease. The last 20 % is due to trauma or tumor. Rates of prosthesis use in patients with lower limb amputation vary from 49% to 95%.

Purpose

The purpose of the study was to compare the walking ability in amputees supplied with Xtend Foot vs. regular foot prostheses.



Patients & Method

Three trans-tibial and three trans-femoral amputated patients were included. Patients were asked to walk both with their current prosthesis and the new Xtend Foot.

Primary outcomes were kinematics in trunk and arms and lower extremities together with kinetics in lower extremities. Secondary outcomes were balance, 6 minute walk, Time up and go (TUG) and PROM (Plus-M).

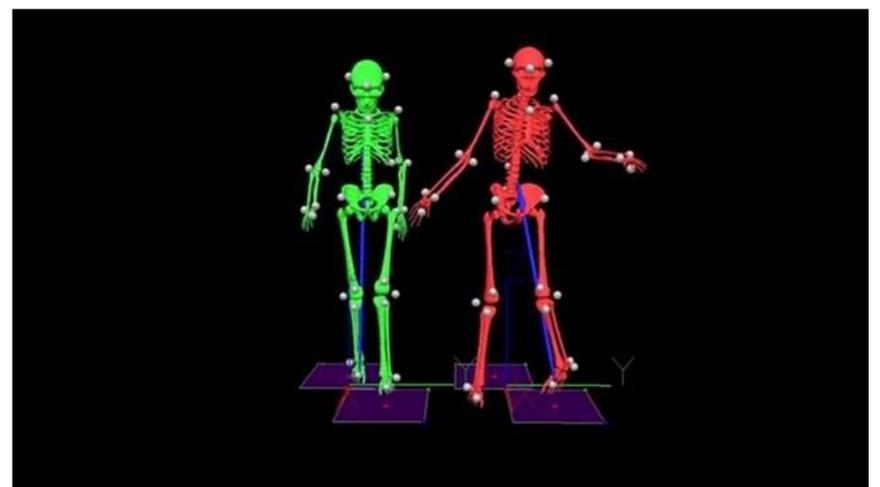
Preliminary results

Walking with the Xtend Foot showed:

- used fewer steps in 10 meters (15 vs 16)
- longer walking distance in 6 minutes (412 vs. 377 m)
- faster, TUG (10.4 vs. 11.1 sec)

Patient comments about Xtend-Foot:

- "Possible to walk faster and with more energy"
- "Better balance, movement and joint load"
- "Softer and smoother"



Conclusions

In this small serie the Xtend Foot improved walking ability in patients with trans-tibial and trans-femoral amputees. Larger studies are needed to validate findings in this study.

Take home message

The benefits experienced by patients when walking with the Xtend Foot will most probably improve the activity of daily living

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