

REAMPUTATION – A NEW OPPORTUNITY

A CASE STUDY APPROACH



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Introduction

Limb amputation causes important functional, psychological and social problems. To minimize these consequences a successful rehabilitation programme is needed.

Nowadays, the technical evolution in prosthesis construction offers plenty of choices to the rehabilitation team and makes functional goals more and more demanding, mainly when the amputee is a healthy young individual with traumatic limb amputation.

Case Study

Clinical History

21-Year-old male victim of car accident that caused partial left foot traumatic amputation. Cutaneous grafts were needed to recover the wound.

a) On the first rehabilitation episode, on which the patient had a left tarso-metatarsal amputation, he was integrated in an intensive rehabilitation treatment to make a functional adaptation to an exoskeletal prosthesis. This intensive rehabilitation treatment consisted in: proprioceptivity exercises, balance and coordination training, reinforcement of the stump muscles, stairs and gait training.



Fig. 1 Stump with atrophic and bone adherent skin.



Fig. 2 Exoskeletal prosthesis made to reduce distal weight-bearing



Fig. 3 Protective sock with distal silicone



Fig. 4 At the end of Rehabilitation programme he achieved a three-point gait due to pain during the stance phase.

b) His balance and mobility was assessed at the beginning/end of the rehabilitation process by using the Community Balance and Mobility Scale (CB&M)¹.

DATE	CB&M Scale
JULY/2003	ADMISSION - 22/96
FEBRUARY/2004	DISCHARGE - 47/96

At the end of the first rehabilitation programme it was proposed a surgical correction with possible re-amputation at a higher level, but it was refused by the patient.

One year later

- c) He was not using the prosthesis because residual limb was still painful and the skin easily broke.
- d) His balance and mobility at that time was reassessed by using the Community Balance and Mobility Scale (CB&M)¹.
- e) He accepted a transtibial amputation proposed by the Plastic Surgeon and the Rehabilitation Department.
- f) He was submitted to a reamputation at the transtibial level of the same lower limb and restarted a new rehabilitation program.
- g) After the surgery he made a functional adaptation to an endoskeletal prosthesis with silicone liner and dynamic foot.
- h) The second rehabilitation program consisted in: proprioceptivity exercises, balance and coordination training, reinforcement of the stump muscles, stairs and gait training.



Fig. 5, 6, 7. Proprioceptivity exercises, balance and coordination training with his new prosthesis

i) After the rehabilitation program he was reassessed and achieved a normal locomotion pattern on irregular ground, walk up and down stairs. He also was able to participate in some sports activities.

DATE	CB&M Scale
JUNE/2005	ADMISSION - 67/96
OCTOBER/2005	DISCHARGE - 77/96

Conclusion

This study case shows that sparing the length of amputation, does not always mean a better functional result. The rehabilitation team work, the will and the patient's motivation, had an important and crucial role to the success of the treatment.

Therefore, limb sacrifice produced a more functional life and better social integration for this patient.

¹Inness L., Howe J., Verrier MC, Williams JI. Development of the Community Balance and Mobility Scale (CB&M) for Traumatic Brain Injury (TBI). Indianapolis, IN: American Congress of Rehabilitation Medicine; 1999. This scale has been used since 2003 at the amputee population by the Rehabilitation Department of G.F.Strong Centre, Vancouver-Canada.