Walking with a lower limb prosthesis can be a challenge. Walking requires a balance between the available physical capacity and the physical load experienced when walking. This thesis gives insight into the available physical capacity of people with a prosthesis and the underlying factors causing the increased physical load while walking with a prosthesis. Based on the results recommendations are formulated that help to improve the quality of life of people after a lower limb amputation, optimize prosthetic development and prosthetic rehabilitation.