# Prosthetic Training: Upper Limb

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**KEYWORDS**

• Occupational therapy • Prosthetic training • Rehabilitation • Upper limb
• Prosthetics

**KEY POINTS**

- A collaborative approach is essential to successful rehabilitation.
- The choice of componentry determines the training needs.
- Prosthetic component manufacturers are a useful resource.
- Managing expectations during therapy is crucial in helping minimize client frustration.
- Mastering skills before proceeding to the next set of skills during training is vital for improved client outcomes.

## INTRODUCTION

For the individual who receives an arm prosthesis, occupational therapy is a critical piece of the overall rehabilitation puzzle. An occupational therapist (OT) will help the individual learn to use their prosthesis; use it for activities of daily living (ADL); and, it is hoped, incorporate it into their everyday life. But an OT can only do so much.

If the prosthesis does not fit, is poorly designed, has components that are inappropriate, has components that are assembled incorrectly, and/or is improperly programed, then the OT will struggle greatly or will be unable to train the individual how to use their prosthesis properly. This scenario could lead to frustration for the OT and especially the individual with limb loss. Without proper knowledge of what components are appropriate or how a prosthesis is supposed to fit, individuals might think it is their fault and that they need to try harder and practice more, when ultimately this will lead nowhere. The OT, in turn, may wonder what they are doing wrong. It is imperative that there is constant collaboration and frequent communication between the certified prosthetist (CP) and the OT for the best overall outcome for individuals with an arm prosthesis.

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Phys Med Rehabil Clin N Am 25 (2014) 133–151
http://dx.doi.org/10.1016/j.pmr.2013.09.012 pmr.theclinics.com
1047-9651/14/$ – see front matter 

For the purposes of this text, this article solely focuses on adult upper limb prosthetic training. Pediatric prosthetic training will vary significantly secondary to the nature of the limb loss/limb difference. Parental involvement is a crucial factor, and training typically happens in phases according to the various developmental milestones and stages of life. Many resources are available for pediatric prosthetic training.[1–4]

## TYPES OF PROSTHESES: AN OT'S PERSPECTIVE

The OT essentially needs to know that there are 5 types of prostheses and the various terms that might be used to describe the same type of prosthesis:

1. Cosmetic or passive functional
2. Body powered or cable driven
3. Electrically powered (myoelectric or switch controlled)
4. Hybrid (combination of body powered and electric)
5. Activity specific (designed for a specific task, such as swimming or showering)

But an OT should be able to rely on the CP for more detailed information regarding the various types of prostheses available for individuals with upper limb loss. Please see the article by Kistenberg elsewhere in this issue.

To properly train an individual with an arm prosthesis, the OT must understand the following:

- What type of prosthesis their patient has
- What componentry is on the prosthesis
- If electric, how the components are programed

The OT and CP should communicate on an ongoing and regular basis to discuss any questions regarding the prosthesis as well as any problems, issues, or barriers that might impede training.

## WORKING CLOSELY WITH THE CP AND PROSTHETIC COMPONENT MANUFACTURER

The OT should form a close working relationship with the CP and even attend prosthetic appointments with their client if possible and when necessary. The same should go for the CP attending OT appointments because this will only help both professionals understand what it is the other is looking for and more closely appreciate each other's roles and responsibilities because some items may overlap or one professional might have a resource that the other was unaware of.

The CP has typically formed a relationship with the prosthetic component manufacturer, which is crucial with today's evolving and rapidly advancing technology. The prosthetic manufacturers offer instructional courses and training on their specific components and technology and, in some instances, require the CP to bring and fit a client in order to become a certified provider of that particular technology. The prosthetic manufacturers encourage the CPs to bring OTs to courses because this helps foster the relationship and enhances the OT's knowledge base. The OT is not required to understand all of the intricate details of the components, technology, and programing; however, the more knowledge acquired, the better they are able to train individuals how to use their prosthesis and use it in their ADL.

## GOALS AND TIME FRAMES

The time from an individual being casted for a prosthesis to incorporating it into their daily life varies greatly. General time frames for prosthetic training rehabilitation are