

**Capabilities of Amputees and Projecting Prosthetic Lifetime Costs**  
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**Amputee Capabilities**

- In today's world amputees have attained phenomenal physical achievements.
- Successful amputees are able to make the same commitments to family, vocation, and community as everyone else.
- There are amputees who do not live up to their fullest potential.
- Assessing amputee care requires knowledge of how prosthetics are provided and what components are optimal.

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**Current Capabilities of Amputees**



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### Current Capabilities of Amputees



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### Current State of Prosthetic Profession

How Services are Provided



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### Recreational Prostheses



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Recreational Prostheses



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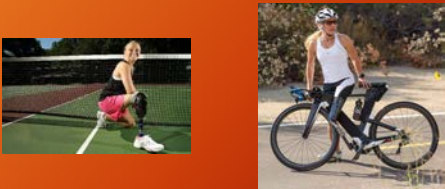
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Recreational Prostheses



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Recreational Prostheses



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### Prosthetic Componentry

- Much is made of advanced prosthetic componentry and how it can change an amputee's life.
- Advancements have made prosthetic fit more comfortable, more durable, lighter weight, and safer.
- Navigating the maze of prosthetic components is critical to creating an accurate picture of amputee needs.
- The perfect prosthesis is the one that you put on in the morning and do not think about until you go to bed.

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### What is the optimal prosthetic component?



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### Other prosthetic feet



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Prosthetic feet have unique capabilities



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Simplicity also has its place



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Microprocessor knees can improve stability



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Simpler & lighter knees can also provide safety



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Sport & high activity knees



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Upper limb external powered, myoelectrically controlled prostheses



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Most commonly used upper limb prostheses are body powered



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Specific activities can be accommodated with interchangeable terminal devices



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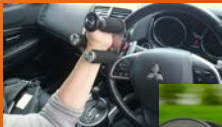
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Assistive Technology



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### Special Considerations

- The litigation process
- Comorbidities
- Child amputee
- Multiple amputations

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### Litigation Impacts

Amputees involved in litigation can be impacted by the process



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### Comorbidities Impact

Comorbidities, such as diabetes, will have an effect on rehabilitation



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Child amputees have special considerations



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Multiple amputations create different rehabilitation challenges



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Support for Amputees

Amputee support groups can have a positive effect on rehabilitation



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### Support for Amputees

Sport Organizations

- Disabled Sports USA
- Amputee Coalition
- Challenged Athletes Organization



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### What does the future hold for prosthetics?



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### Osseointegration: A more viable option?



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### Conducting a prosthetic evaluation

- Venue for evaluation
- Participants
- Testing for activity level
- Determining goals and aspirations
- Evaluation fit and alignment
- Gait evaluation
- Other assessments: balance, speed, agility tests

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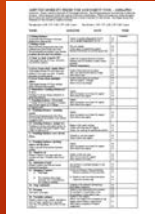
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### Tools for Evaluation: Activity Level Testing



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### What are K-Levels?



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**The K-scale is separated into 5 categories of functional mobility (least to most)**

- **K0 - Absolutely no mobility.** This patient is unable to move to another location, with or without assistance, regardless of the addition of a prosthesis. This category is also used as a base level for all of the other levels to compare to.
- **K1 - Very little mobility.** This type of patient is able to move to another location on their own with the assistance of a prosthetic limb. A level and straight path are required along with a consistent walking speed.
- **K2 - Limited mobility.** This patient is able to move to another location with the use of a prosthesis, as well as adjust to small variations in the walking surface (steps, curbs, etc.) Small variations in walking speed can also be made at this level.
- **K3 - Average/normal mobility.** At this level, patients are able to move to other locations while adjusting to most variations in the walking surface while varying their walking speed.
- **K4 - High mobility.** These patients possess the ability to perform all of the previously mentioned tasks with the addition of being able to apply high impact, pressure, and stress on the prosthetic limb.

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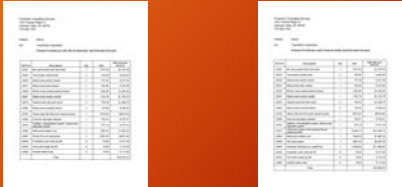
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**Creating a prosthetic cost estimate: Transtibial**



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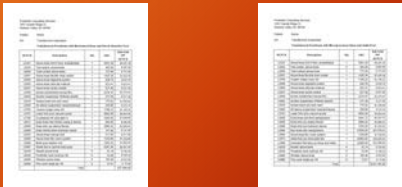
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**Cost estimates for similar devices can vary widely: Transfemoral**



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Cost estimates for similar devices can vary widely: Upper Extremity



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Prosthetic Coding Explained

What is an unlisted procedure code?

L5999 - Lower extremity unlisted procedure code

L7499 - Upper extremity unlisted procedure code

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What is considered fair value of prosthetic device?

Prosthetic invoice from company      Paid amount for same invoice

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Replacement Rate: based on several factors

- Medicare replacement policy
- Phases of amputee rehabilitation
- Age of amputee
- Warranties on specific components

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Amputees can return to semblance of normal life



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Multiple Footwear = Multiple Prostheses



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### Physical Therapy & Occupational Therapy



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### Summary

- Amputees have been able to successfully integrate into society and can live nearly normal lives.
- Prosthetic technology can assist an amputee to be more comfortable and safer but a prosthesis can never replace original anatomy.
- Prosthetic costs can be determined with an understanding of amputee needs and individual goals.
- In order to duplicate human capabilities, multiple prostheses are necessary.
- Periodic replacement of prostheses and attendant care complete the assessment for the determination of costs.

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