People with upper-limb amputations (arms and hands) have many choices for terminal devices (such as prosthetic hands or grippers). But these choices often bring trade-offs between function, appearance, visibility and weight. This sheet has facts to know before you make a choice about which terminal device to use.

**Function**

The words “function” and “functional” refer to how well devices work and what users can do with them. Function is important because it allows people with upper-extremity amputations to be more independent (not need help) when doing household chores, hobbies, and other two-handed tasks. Here are some types of terminal devices and accessories:

- **Mechanical and powered “split hooks” or “grippers.”** These devices are very functional meaning that amputees can perform most tasks independently. But these devices do not look like hands, which is a concern for many people.
• **Passive hands.** Some devices that look like hands are considered “passive.” This means that they are not very functional and can only help steady or stabilize objects.

• **Mechanical and electric prosthetic hands.**

These look more like hands than grippers or hooks. They function better than passive devices. Many amputees choose mechanical or electric hands as a balance between function and looks. They are covered with “gloves” to give a more realistic look.

• **“Quick change” wrist units.** These units connect the forearm and terminal device. They allow users to quickly change from one device to another. For instance, a person might use a gripper at work and a passive hand when going to a party. Many people like these wrist units because they can switch between function and looks.
• **Functional wrist units.** These allow the wrist to move (flex, extend and rotate) so that the user can position (align) the hand or gripper to perform a task.

**Appearance**

This refers to how terminal devices look.

• **Realistic components.** These are devices that look like hands. Many amputees want realistic components because people are less likely to notice them.

• **Cosmetic covers or gloves.** These fit over mechanical and electric hands. Some gloves are simple and made of one-color PVC (polyvinyl chloride). Others are more advanced and custom-made from silicone. The choice of material affects durability (how long gloves last), stain-resistance (how dirty they get), degree of definition (how much they look like hands), and cost.
Visibility

People with upper-extremity amputations must have visibility so they can see objects they want to grasp. Here are some facts about visibility:

- Prosthetic hands with five fingers tend to block visibility.
- Hooks and grippers with slender jaws (moving parts) allow better visibility.
- Some wrist units let users bend devices from side-to-side or front-to-back. This helps improve visibility for tasks such as eating and grooming.

Weight

Users also need to think about the weight of terminal devices. Most passive hands and split hooks weigh less than electric hands and powered grippers. In this choice, the trade-off is between function and weight.

About the Author

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http://www.amputee-coalition.org/inmotion/nov_dec_03/solutions.html