Therapist's Specialty Is Functional Skills
By Fay Jobe Tripp, MS, OTR/L

A key member of the rehabilitation team, the occupational therapist can assist an upper extremity amputee in such areas as comprehensive evaluation, education about prosthetic options, training in skills of daily living, and follow-up care.

Familiar with prosthetic choices, the therapist explains pros and cons of three basic options -- the passive, cosmetic arm; the body-powered prosthesis; or the electrically-powered device. The body-powered, or mechanical, prosthesis is more durable for rough work, allows the user to pick up smaller objects such as coins or nails, gives better visual feedback to compensate for the lack of sensory feedback, and costs less than an electrically-powered prosthesis. However, it requires more strength from higher level amputations, and is not as cosmetically accepted as some electrically-powered prostheses.

Besides outlining options, the OT will demonstrate performing functional skills with one hand, with or without adaptive equipment, while the affected arm is healing. Many task specific items are available from self-help catalogs. Therapists may instruct in wrapping the residual limb with ace bandages, or in applying stump shrinkers, socks made of stretchy material which help decrease postsurgical swelling. Also, the client will learn non-resistive exercises for the affected arm to maintain good joint range of motion, and, as medically allowed, perform resistive exercises to increase arm strength and endurance.

The OT should also address the potential for phantom pain, an uncomfortable feeling that the hand is clawing-up or gripping tightly. Many upper extremity amputees have found that keeping the residual limb warm helps diminish this pain. Additionally, desensitization techniques, such as touching, rubbing, and tapping over healed skin areas, massaging the limb gently over the area of pain, and moving the sound hand or arm in the opposite direction with resistance have been found to reduce the pain. For example, if the missing hand of an amputated limb feels tightly-fisted, it may be helpful to stretch the opposite fingers of the sound side. After an amputation, the client should also continue to problem-solve creatively to do as many things as independently as possible, such as self-care, work, and leisure activities.

When the client is ready to be fit for a prosthesis, the OT will begin prosthetic training. A client may expect to be involved in the following amount of training which will vary depending on the level of amputation, learning styles and speed, type of prosthesis, and wearing tolerance:

Below Elbow - 5 to 8 hours, over 5 days
Above Elbow/Shoulder - 9 to 12 hours, over 2 weeks
Bilateral Below Elbow - 10 to 14 hours, over 2 to 3 weeks
Bilateral Above Elbow - 20 to 30 hours, over 3 to 4 weeks

During this prosthetic training time, the amputee will learn how to put on and take off the prosthesis; care for it and keep it clean; control the terminal device with different arm movements; and control the amount of pressure given at the terminal device for picking up objects of various sizes and textures or consistencies. The wearer may initially learn open-close control of the terminal device in various planes, such as moving a hard block from a low level to a higher level to moving a soft, squeezable object (foam pieces or paper cup) from a low level to a high level without squeezing or dropping it. The amputee will also practice functional tasks involving activities of daily living, homemaking, work, and leisure skills. It is important that the client identify significant areas so that the OT can focus treatment activities and secure positive, successful performances.

Often, a client will want to wear a new prosthesis too long initially, causing sore and painful residual limb muscles. The client should build up wearing time gradually, always checking for pressure areas or skin
discoloration after use. Tolerance may also be increased by keeping the prosthesis on, but not actually opening and closing the terminal device.

It is vital that the OT provide written instructions regarding all areas covered in therapy sessions for information referral when the client goes home. The therapist should remain available for questions that will arise after the client and caregivers return home.

The occupational therapy training period is a time when client and caregivers should ask questions, gain insights, and form realistic expectations. Rehabilitation continues throughout the client's lifetime, requiring creative problem-solving and practical solutions. Frequently, therapists learn some of their best adaptive techniques from experienced upper extremity amputees. Many amputees and occupational therapists have gained helpful-tips from the following resources:

"The Use of Upper Extremity Prostheses," a 49-minute video by Art Heinze, OTR, who is a bilateral UE amputee (Contact Art Heinze, OTR, 307 South Spruce Avenue, Thief River Falls, MN); and


About the Author.....

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