DRESSING TREES AND BILATERAL AMPUTEE ADAPTIVE DONNING AND DOFFING
TECHNIQUES

Tiffany Ryan, MOT, OTR, CSCS
Advanced Arm Dynamics, 3501 North MacArthur Boulevard, Suite 650, Irving, Texas 75062

INTRODUCTION

Bilateral upper limb loss amputees face a multitude of challenges when performing activities of daily living. Of these, manipulating clothing and the requisite fasteners is especially difficult. Upper limb (UL) amputees, their families or therapists often design and fabricate custom adaptive dressing equipment. This equipment may include a dressing tree. Dressing trees can be a valuable tool for bilateral upper limb amputees. Dressing trees are developed for a variety of purposes specific to each person’s needs. These adaptive devices are widely accepted as helpful in assisting bilateral UL amputees to don and doff prostheses and clothing.

The benefit of utilizing dressing trees is commonly referenced in therapeutic literature for activities of daily living (ADL) training. Anecdotal UL amputee and therapist reports of the value of this type of adaptive equipment also highlight their importance to independent self care. However, documented explanation as to the variety of dressing trees and exact protocols for their fabrication and clinical use are limited. A review of professional references to these devices along with examples of type and designs of dressing trees with their intended purpose will be presented. Suggestions for dressing tree fabrication to meet the needs of therapeutic versus home environments and the variation of designs to meet patient dressing and prosthesis needs will be discussed.

DRESSING TREE DESIGN

Commercially pre-fabricated dressing trees are not readily available. Therapists generally create these devices as needed for their patients without assembly specifications. As the dressing tree is designed to aid in self care activities, it is primarily utilized by occupational therapists in ADL training. This adaptive device is especially useful for individuals with a higher level of bilateral limb loss. Diane Atkins, OTR, CHT, recommends dressing trees be considered for this patient population because, “A dressing tree may be preferred for the individual with more proximal levels of limb loss.”[1] Julie Klarich, OTR, CHT points to the value of dressing trees in developing skills for life; “A dressing tree with hooks in various positions can make dressing easier for bilateral amputees.”[2]

Use of the dressing tree is also mentioned as a viable rehabilitation tool for injured combatants. “A dressing hook or “tree” can position items of clothing such that the amputee can maneuver into them.” [3] The World Health Organization recognized the unique challenges in dressing for bilateral upper limb amputees as well. “For the person with a double amputation, use a hook on a long stick that can be manipulated by the mouth or in a universal cuff.” [4]

As mentioned, dressing trees vary in size and design. Following are photographs of dressing trees designed to meet specific patient needs. Individual needs to be considered may include cost, mobility and durability along with their purpose as a dressing aide.

Figure 1: Adjustable, PVC pipe training dressing tree
Figure 2: Patient specific wood dressing tree
Figure 3: Wood, adjustable training tree
THERAPEUTIC CONSIDERATIONS

Consideration for amputee lifestyle and specific dressing needs are paramount to successful dressing tree design. Location of the hooks, dycem and clips on a dressing tree should allow for best possible body mechanics while in use. It is helpful to have a “training” dressing tree in the clinic setting. The “training” dressing tree should be adjustable for height and width of dressing aid placement. The use of a training dressing tree allows for trial and error with hook and clip placement prior to fabricating a dressing tree for the home.

The weight of a prosthesis should be considered when selecting hooks to hold the prosthesis. A bilateral shoulder level harness prostheses can be somewhat heavy and require heavy duty hooks. In addition, depending on the components, the prosthesis may not be evenly weighted.

The base of the dressing tree should provide for stability when in use. This can be realized via a wide base of support, weighted platform or fastening the base to the floor.

Some bilateral amputees prefer their dressing tree devices as permanent structures in their home and may have them mounted on a wall. Placement for charging devices and ease of their use are beneficial to amputees with myoelectric prostheses.

Prosthesis design should be considered when place the hooks supporting the harness. Care should be taken to prevent damage to the prosthesis during donning and doffing.

Head to toe dressing applications should be considered. Clips with a foot release may be utilized for donning and doffing hats. Clips at the base may be added for assistance in donning socks. A boot jack may be added to the base as well. Dycem may be used at various levels to assist in “grabbing” fabric for pushing and pulling it up and down.

Amputees utilizing pull bags to don their prosthesis will require consideration of hook and/or clip placement to allow for this method of dressing. Trial and error along with repetitive training is required.

An individual’s lifestyle may dictate additional dressing tree modifications or the need for multiple dressing aides. Amputees may require a lightweight or travel dressing tree. Bilateral amputees may require a small version to assist in doffing and donning pants in the restroom at work. As therapists are developing dressing tree designs and training patients for their use, these special situations should be addressed.

REHABILITATION PARTNERSHIP

Therapists working directly with the upper limb amputee’s prosthetist have the benefit of valuable input as to the unique qualities of the prosthesis design. The prosthetist will provide insight as to aspects affecting doffing, donning and adaptative advantages provided by the prosthesis design.

Individuals with bilateral upper limb amputation often go on to become proficient in performing complex living skills. Self care tasks are of primary concern and afford the confidence to expand learning to these more difficult tasks. The upper limb amputee, therapist and prosthetist partnership provides the best opportunity for success in the transition to independence in this fundamental activity of daily living.