Title: Angulation Osteotomy to Improve Function in Transhumeral Amputee Rehabilitation

Presenter & Primary Author: Troy Farnsworth, CP, FAAOP
Hanger Prosthetics and Orthotics
Vice President, Upper Extremity Prosthetic Program

Co-Authors: Del Lipe, CPO
John Fergason, CPO
Robert Granville, MD
Jennifer Menetrez, MD
Amy Hillard, OT

Contact Address: Troy Farnsworth, CP, FAAOP
1508 W Elm Hill Circle
Taylorsville, UT 84123

(801) 554-2656 cell phone
(801) 265-1815 fax
tfarnsworth@hanger.com

Learning Outcomes: At the conclusion of this presentation the attendees will:

1. Understand the clinical basic surgical considerations of an angulation osteotomy
2. Understand the prosthetic considerations of an angulation osteotomy
3. Understand the rehabilitation considerations of an angulation osteotomy

Abstract:

Regardless of prosthetic design, there exist inherent limitations which adversely affect the functionality of transhumeral prostheses. Loss of voluntary humeral rotational control, limitations in prosthetic suspension and decreased range of motion limit the user's acceptance and functional use of a prosthesis.

Various techniques have been discussed in the medical literature to compensate for these shortcomings. These include socket design techniques, harness techniques, and surgical techniques.

Marquette introduced the concept of humeral angulation osteotomy to resolve these issues. By surgically angling the distal humerus the amputee can be fit with a self-suspending prosthesis that enables voluntary rotational control without restrictions to range of motion. Although this technique is discussed in various prosthetic text books, very few cases have been reported. Case studies will be presented showing surgical, rehabilitation, and prosthetic considerations.
Angulation Osteotomy to Improve Function in Transhumeral Amputee Rehabilitation (page 2)

Presenter’s experience:

Presenter has extensive clinical expertise as well as lecturing experience including:

AAOP Upper Limb Fellowship Module
AOPA presentations
AAOP presentations
ISPO presentations
MEC presentations
CMSA presentations
PM&R presentations

Biographical Sketch of Presenter:

Troy Farnsworth, CP, FAAOP is an American Board for Certification accredited prosthetist and licensed engineer, specializing in upper extremity prosthetics. As the Vice President of Hanger Prosthetics & Orthotics, Inc. National Upper Extremity Prosthetic Program, Mr. Farnsworth lectures, educates and demonstrates to patients, therapists and physicians nationally and internationally. Clinically he specializes in the rehabilitation of difficult cases of upper limb loss. He currently provides clinical consultation and services for the Center for Intrepid at Brooke Army Medical Center (BAMC) in San Antonio, Texas for amputee soldiers returning from global conflicts.