

This month's submission is a unique design for a simple and effective device that I have often found to be a challenging area to address especially with upper neck, chest and shoulder burns. Thanks so much to Michael and his patient for helping add to our collective knowledge and resource. This is a quote from Michael that I believe sums up the reason why we all need to continue adding to this resource page:

"This sling was instrumental in correcting a shoulder elevation contracture. This patient was grafted over the top of his shoulder and began to develop significant scar banding that began elevating his shoulder. My patient was able to provide the low-load stretch needed to address the contracture while at home. This has always been a troubled area for a patient to stretch independently. I would like to say a special thanks to my patient. He challenged me with his motivation to achieve all he could- which ultimately made me a better therapist".

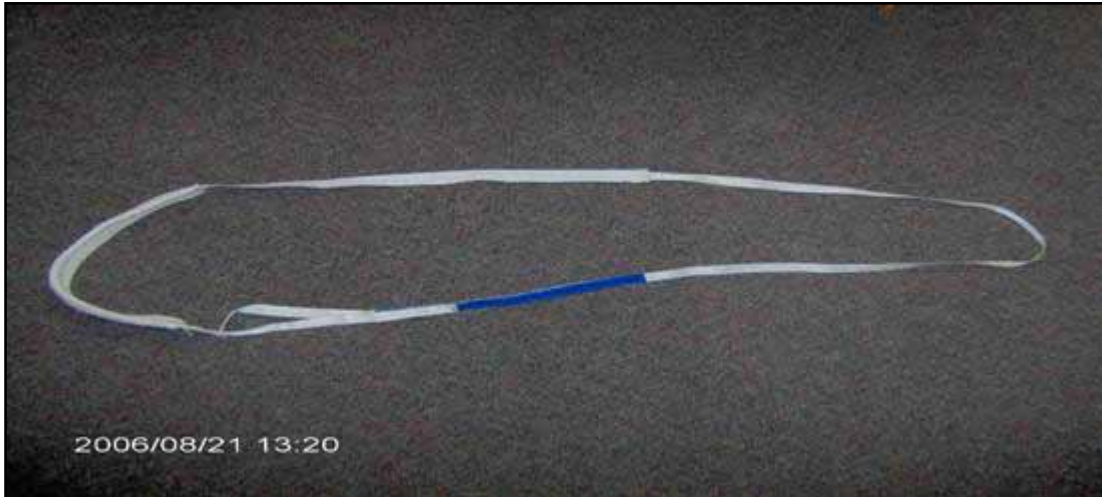
October 2006 Device **Shoulder Depressor Sling- (Estes Sling)**

Submitted By: Michael S Reynolds, OTR/L
Via Christi Health System, St. Francis Campus in Wichita, KS



Description of device: Used to prevent contracture of upper trapezium, lateral neck and upper chest by providing a self regulated stretch of the affected shoulder.

Materials used/needed: One universal postural clavicle support, 6-12' additional 1 inch banding material- dependent upon height of patient, 12" hook and loop, tape measure, scissors, sewing machine.



Fabrication Instructions: Measure distance from proximal shoulder to opposite great toe, multiply by 2, and then add 24 inches: this will be the length of entire sling. Disassemble support brace into two separate pieces; preserving as much banding material as possible on the ventral side (you will be using only one padded piece per sling). Subtract total measured length by the length of salvaged clavicle piece. Next, cut extra banding to the required length. Using dorsal metal securing tab, thread one end of the extra banding through to secure in place. Place sling on patient: padded portion resting over shoulder and dorsal banding traversing patient distally to metatarsal heads of opposite foot and then returns proximally to overlap ventral banding at waist level. The overlapping should equal 12 inches (ensure overlap is located at patient's waist level so patient can adjust the sling if needed). Mark total overlap on both dorsal/ventral strapping. Sew 12" of hook Velcro on dorsal marked banding overlap and then sew 12" loop Velcro onto ventral marked banding. Apply to patient: instruct patient to fully dorsiflex opposite ankle, and then pull dorsal/ventral strapping taut and adhere Velcro. Instruct patient to gently plantar flex opposite foot to apply gentle shoulder depression to affected shoulder.

Advantages: Allows patient to facilitate passive-progressive stretch over upper trapezius region to address troublesome scar banding and correct/ prevent shoulder elevation and neck contractures.

Considerations: Varying the degrees of head rotation and lateral neck flexion could intensify stretch of scar banding. Positioning of head through the use of pillows or

Velfoam strapping is an option that enables the patient ensures passive method of stretch.



****Note the ability of the sling to depress the shoulder and stress the scar band on the neck and the patient can easily increase stretch with rotation and/or lateral neck flexion****

Indications: Upper trapezius burn or grafting with potential of contracture.

Precautions/Contraindications: Inadequate patient education or understanding could lead to improper use. Excessive and/or prolonged shoulder depression could lead to neural tension of neck/ upper extremity. Patients with a weak shoulder complex or upper quadrant should be evaluated for appropriateness of sling.

Disadvantages: Can be difficult to construct for those who do not have access to a sewing machine.

Level of Therapist Skill / Specialization Required: Intermediate to Advanced (Good sewing skills a must for this device)

Total Time Required to Fabricate Splint / Device: 30 – 45 minutes (dependent on sewing skill)

References: Herndon, David. Ed. Total Burn Care. London: W.B. Saunders, 2000.

Richard, Reginald L, and Marlys Staley. Burn Care and Rehabilitation Principles and Practice. Philadelphia: F.A Davis Company, 1994.

Barret-Nerin, Juan P, and David N. Herndon. Principles and Practice of Burn Surgery. New York: Marcel Dekker, 2005.

If you have any questions about the design of the splint or comments about the fabrication, please email Michael at: michael_reynolds@via-christi.org

Submission Criteria for splint: October 2006 submission

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