

Modified Neck Conformer

Name: Malvina Sher, PT

Title of Splint: LTS Neck Conformer

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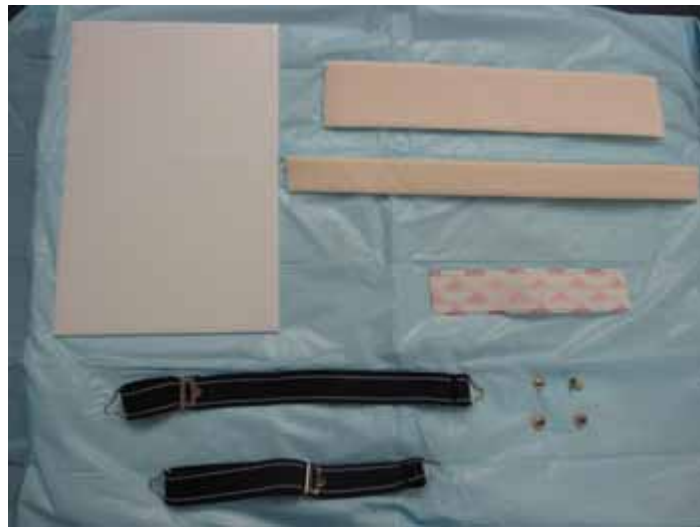


Description of Splint:

This neck splint was developed for an adult patient who sustained full thickness flame burn to the neck, face and B UEs that required multiple skin grafts. Burn related complications resulted in extended hospital stay. Initial neck splints maximized their benefits, however scarring continued to limit ROM. The need to fabricate a positioning device to prevent cervical contractures and minimize scarring was eminent.

Materials Used:

- Low temperature thermoplastic material lined with silicone – LTS™
- Adhesive velcro (male/hook)
- Velcro loop strap (1 or 2 inch depending on the size of the patient's neck)
- Optional: Rivets and elastic bands (Cervical traction bands/ Orthoband Company, Inc.)



Rules to follow:

- Two therapists required to mold the splint
- LTS™ becomes clear when heated, therefore it is recommended to mark the non-silicone side with a little piece of colored splinting material prior to heating.
- Lotion both hands prior to molding material on patient as LTS™ becomes sticky when heated
- Don't stop molding around pt's neck until material hardens and becomes white as it may shrink.
- Material is highly elastic, therefore the original pattern needs to be smaller than the splinted area.

Fabrication Instructions:

1. Measure the width of the pattern, which begins at the mandible angle and extends to the contralateral mandible angle.
2. Measure the height which will begin from the lower lip and end at the top of the clavicle.
3. Copy this pattern onto the thermoplastic material.
4. Cut out the pattern.
5. Position patient in supine with pillow under upper back area to position neck in slight extension.
6. Apply and conform thermoplastic material from chin and jaw into anterior neck.



7. Stretch sides of the material on each side while maintaining hand contact at the chin / anterior neck.



8. Cut out sides of the splint while maintaining contact with patient's neck.



9. To address scarring around the ear pull material above or below the ear to create tabs (as shown on the picture)

***may reheat ear tabs as the material has memory and may be remolded as needed.



10. Place Velcro hook on ear tabs and lateral base of the splint. Attach 1" Velcro loop strap to the ear tabs over the head. Attach 2" Velcro loop strap to the base of the splint around the neck.

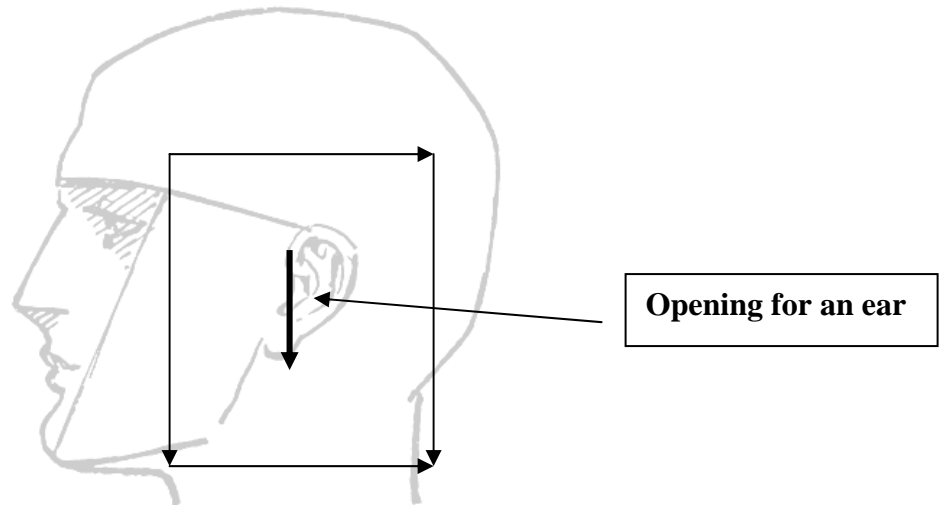


*** Rivets and elastic cervical traction bands can be used as an alternative to Velcro and straps.

ALTERNATIVE SPLINTING OPTIONS

1. Scarring to the right side of face and neck

- Prior to molding a splint cut opening for an ear

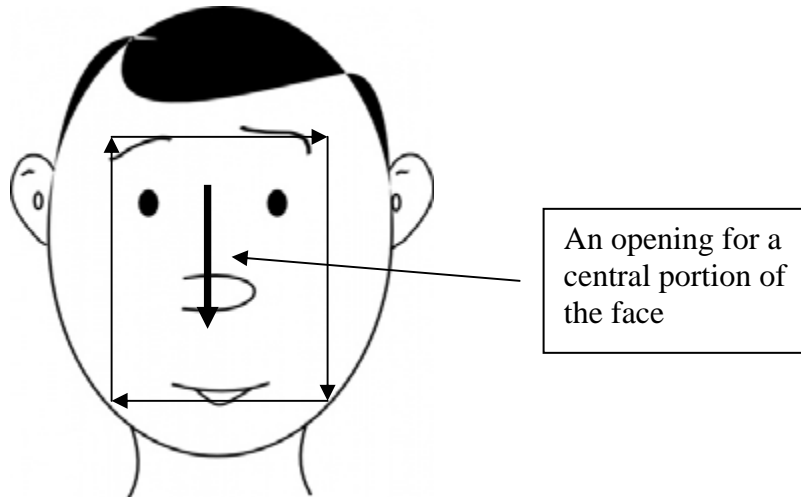


2. Scarring to anterior neck



3. Scarring to the periphery of the face

- Measure the rectangle pattern: from left lateral eyebrow to right lateral eyebrow, down to mandible angle and extending to the contralateral mandible angle.
- Prior to molding cut opening for a central portion of the face.





Advantages:

- 1.) Splint and silicone scar management in one.
- 2.) Maintains correct posture at cervical area
- 3.) Durability allows for 23 hour wear

Disadvantage:

- 1.) Poor patient compliance
- 2.) Potential for skin breakdown
- 3.) Occlusive material

Indications:

Face, anterior neck and upper chest scarring.

Precautions/Contraindications:

1. C-spine precautions
2. Compromised skin at bony prominence

Level of Therapist:

Intermediate level of splinting knowledge

Total time to Fabricate Splint:

2 therapists at approximately 30 - 45 minutes

References:

Serghiou, M., Holmes, C., and McCauley, R. (2004). A survey of current rehabilitation trends for burn injuries to the head and neck. *J Burn Care Rehabil.* **25: 514-518.**

For additional information, please contact Malvina Sher at: mas9062@nyp.