Elastic Taping

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Description & Objectives

This instructional session will review the concept of elastic taping as an adjunct modality to CDT in the treatment of lymphedema and related conditions. After review of concepts, attendees will have the opportunity to participate in a hands-on laboratory session focused on elastic taping applications for various lymphedema presentations, focal edema issues, and scar mobilization techniques.

Objectives:
Participants will:

- Understand anatomic and physiological effect of elastic taping on the lymphatic system
- Understand indications, precautions, and contraindications to elastic taping
- Observe and actively participate in laboratory session for practical application of elastic taping to specific patient presentation simulations
  - Lymphedema (facial, truncal, limb), focal edema, and scar techniques
- Understand patient education topics related to elastic taping application and safety

Lab Sponsors

Thank You

Elastic Taping Effects

- Encourage uptake of lymphatic loads
- Improve blood and lymphatic circulation
- Reroute fluid congestion
- Reduce fibrosis
- Increase tissue mobility
- Reduce pain
- Facilitate muscle activation

Goal of Taping

- Direct lymphatic fluids toward areas of a less congested lymphatic pathway or lymph node grouping
- Optimal route of clearance:
  - taping across an anastomosis for activation
  - along a bundle in the limbs
  - global stimulation of the initial lymph plexus
  - an alternative route to decongested lymph nodes
  - around scars or other barriers
- Enhance and follow the patient’s individualized lymphatic drainage treatment strategy

Effectiveness

- Stage 1, Early Stage 2:
  - Water component
  - Clinically effective
- Late Stage 2, Stage 3:
  - Tissue fibrosis and adipose proliferation
  - Mixed results published

www.lymphedema-treatments.com
Lymphangiomotoricity
- Taking up elasticity results in stimulatory mechanical stresses on the anchoring filaments and a resultant “open junction” of the initial lymphatic vessels
- Smooth muscle response
- Similar effects as MLD
  - Mechanical deformation

Adjunct to CDT
- Literature does not support utilizing taping as a stand-alone treatment or to replace any component of CDT
- In the case of contraindications/complications to MLD or compression bandaging, elastic taping could be utilized as a viable alternative

Conjunction to Compression
Applications may be worn beneath garments and bandages or proximal/distal to compression.

Indications
- Activation of anastamoses
- Generalized and focal areas of edema
- Truncal and head/neck edema where bandaging is difficult
- Scar management
- Traditional and alternative drainage pathways
- Ecchymosis
- Pain relief
- Alternative to bandaging (cost, environmental temperature tolerance, allergy, and quality of life)

Precautions/Contraindications
- direct use over new scars/incision sites, radiation fibrosis, wound sites, cysts, and fistulas
- skin sensitivities
- skin insensitivity
- fragile skin
- allergy
- sunburn
- deep vein thrombosis
- caution: systemic causes of edema
  - cardiac and renal conditions

Safety
- Complications: allergy, skin tears
- Safety:
  - Avoid wrinkles, folds, creases
  - Max of ‘off the paper’ tension
  - Test strip advised
  - LyE population: CDT & elastic taping certification
### Tape Properties
- 100% cotton, acrylic adhesive
- Longitudinal 10% stretch applied to tape
- 3” preferred for edema applications
- 5 day wear
- Water
- Heat activated

### Strategies
- **Directional/Anatomic:**
  - Base at target, tails in anatomical treatment zone
  - Ex: ‘octopus’ fan/strips
- **Coverage/Zone:**
  - Maximize skin surface coverage
  - Activation of initial lymph plexus
  - Ex: wave, spiral, criss-cross

### Channeling Concept
- Subcutaneous lift of skin
  - Creates space for fluid flow
  - Convolutions (microscopic)

### Convolution Controversy
- Convolution Effectiveness:
  - Literature demonstrates no difference in taping with or without convolutions
  - Positioning in stretched position to allow full ROM results in safety and reduced injury to the skin

### Intensity of Application
<table>
<thead>
<tr>
<th>Increased</th>
<th>Decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing # of strips</td>
<td>Decreasing # of strips</td>
</tr>
<tr>
<td>Overlapping the strips</td>
<td>No overlap/criss-cross</td>
</tr>
<tr>
<td>Increase application over larger surface area</td>
<td>Decrease surface area treated</td>
</tr>
<tr>
<td><em>wave pattern</em></td>
<td><em>straight/anatomical strips</em></td>
</tr>
<tr>
<td>Reducing space between strips</td>
<td>Widen distance between strips</td>
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  - maximal intensity is achieved when the width between the strips is equal to the width of the tape strip

### Skin Preparation
- Free of oils, lotions, perspiration, and hair
- **Barrier products**
- **Positioning strategy**
- Rub application to maximally adhere
  - 30-60 min with body heat
Application Caution

• Do not blow-dry tape
• Do not attach to nape of hair, through axilla, or groin
• Do not ‘pull’ patient into position using the tape
• Do not touch back of adhesive
• Do not utilize over open skin areas
• Remove if itching, burning or ↑ pain occurs

Patient Education

• Avoid activity x 60 min
• Movement
• Skin tolerance
• Pat dry
• Cut away non-adherent portions
• Self application strategy
• Removal

Patient Instruction

• Tape remains effective 3-5 days
• Maximally adhered in 20-30 minutes
  — Avoid high level activity during this time
    • Movement and perspiration
• If tails peel up, cut off any non-adhered ends and leave remainder
• Can shower, just pat dry
• Could cause skin damage if removed prematurely due to high level of adherence

Removal

• Time – epithelial shedding
• Moisten
• Direction of the body hair
• Products:
  — commercial adhesive removers
  — oils
• Safety Strategy: fixate the proximal integument and separate the tape from the skin by utilizing your finger to push the skin down and away from the tape

Tape Removal

• Easiest if tape is moistened
• Premature, may damage skin as adhesive is maximally adhered
• Best to remove from top down (direction of body hair)
• Lift tape from skin, applying tension b/w skin and tape
• Push skin away from tape rather than pulling the tape away from the skin
• Application of mineral oil or milk of magnesia may assist in removal if tape remains strongly adhered

Documentation

• Target tissue/anatomy to be effected
• Strategy utilized
• Direction of application
• Tension of tape
• Desired effect or tx goals
  — Resolve edema
  — Decrease pain
  — Improve tissue mobility
• Education provided
Hands-On Lab

Taping Cuts Demo/Discussion

- Cuts:
  - Fan
  - I strips
  - Punch tape

Taping Intensity Demo/Discussion

- Intensity
  - Width
  - Distance
  - Overlap/criss-cross
  - Treatment area
    - wave

Strategy
Case: L UE Stage 2 Secondary LyE

- Directional/Anatomic:
  - Base at target, tails in anatomical treatment zone
  - Ex: ‘octopus’ fan/strips

- Demo/Lab

Tape may be cut into a fan shape with a unifying base or individual strips. Application may be applied following the anatomical lymphatic drainage pathways or in a wave form to increase integumentary surface area coverage and intensity effect.

Strategy
Case: L UE Stage 2 Secondary LyE

- Coverage/Zone:
  - Maximize skin surface coverage
  - Activation of initial lymph plexus
  - Ex: wave, spiral, criss-cross

- Demo/Lab
Coverage taping is performed on a patient with secondary left upper extremity lymphedema to facilitate activation of the initial lymphatic plexus on the arm. The strips are applied individually and extend in a wave pattern over the posterior axillo-axillary anastomosis.

**Case: Secondary Stage 2 & 3 Bil LE LyE**

- Demo/Lab
  - Intensity strategy
  - Re-routing critical thinking
  - Punch tape

Anatomic taping techniques following MLD route. Punch tape is applied bilaterally along IAs. The limb is taped with fan cuts covering tx areas in successive series over specific zones. Taping toward ipsilateral (involved) inguinal nodes may be utilized in general edema techniques or primary lymphedema, however rerouting laterally is indicated in secondary LyE.

**Scar Strategies**

Through a Scar  
Rerouting

Space Correction

- Lifting
  - ↓ pressure on target tissue
  - Creates recoil and lift over target tissue
  - Multi-strip star application has cumulative effect
- 25-50% tension in middle of base
- Sample technique
  - ‘Star’: Four ‘I’ strip

**Case: Compression Alternative Secondary Stage 2 Head/Neck LyE**

- Demo/Lab
  - Compression alternative
  - Routing critical thinking
    - Anterior vs posterior
    - Bilateral vs unilateral
    - Intensity
    - Precautions
  - Psychosocial considerations
  - Long term management strategy
These pits are taped with anatomical taping following MLD patterns toward the left axilla. The base of the fan application is below the anterior and posterior upper horizontal watershed with tails covering the treatment zone. In general, taping can be applied unilaterally or bilaterally depending on patient presentation and treatment strategy. Careful consideration for scars and radiation fibrosis must be observed.

Case: Axillary Webbing

- Demo/Lab
  - Adjunct to compression
  - Activation of inter-territorial anastamoses
  - Webbing: inhibition strategy from insertion to origin
    - Improve mobility
    - Increase range of motion/function
    - Decrease pain

Give The Man a Hand!

Thank You

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