Orthosis And Spasticity In Upper Extremity

PRINCIPAL OCCUPATIONAL THERAPIST SENGKANG HEALTH

Introduction

Occupational Therapy interventions for spasticity is vast and may include strategies as simple as positioning patient in bed to using electrical modalities combined with functional task for recovery.

Occupational Therapy Approaches

Remediation/Restoration Of A Skill Or Ability







Compensation/Modification/Adaptation To Enhance Performance Or To Prevent Injuries

Retention And Enhancement Of Skills



Orthosis

An orthosis is an externally applied device that is designed and fitted to the body to achieve one or more of the following goals:

1. Control biomechanical alignment

- 2. Correct or accommodate deformity
- 3. Protect and support an injury 4. Assist rehabilitation
- 5. Reduce pain
- Increase mobility
 Increase independence

(The Australian Orthotic and Prosthetic Association)

Aims In Applying Orthosis For Spasticity

Reduction in spasticity Reduction in spasticity
Prevention of contracture
Improvement in functional outcome
Reduction in pain
Prevention of edema
Positioning
Skin care and hygiene

(Lannin and Herbert 2003)

- There is strong evidence that static hand splinting does not improve motor function or reduce contracture formation $\,$

-Insufficient evidence that splinting was effective in decreasing muscle tone.

(Basaran A etal, 2012) (steultjiens etal. 2003)

Primary Goal

- positioning to prevent injury
- skin care/hygiene
- comfort
- Aesthetics



Common Orthosis Used In Hemiplegic Upper Extremity

wrist-hand-orthosis/splints.

static/passive

dynamic/active



Commonly Fabricated Static Splints

Resting Hand splint

Walking Ankle Foot Orthosis



Dynamic Splints

- Functional
- Bulky
- Expensive
- Regular follow up



Slings

- To reduce stress from gravitational pull while a patient is standing and walking
- To protect the upper extremity during transfer
- To reduce shoulder pain
- To maintain proper glen humeral alignment
- To correct glen humeral alignment of subluxed shoulder.
- To reduce arm and hand edema

(Dominican university of California- 2013)









Conclusion

Orthosis for spasticity should be used in conjunction with other modalities of treatment for best results $\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} \right) \left$

Regular monitoring with modifications to the orthosis and its schedule is very vital to prevent secondary complications.