



# Don't Let Me Fall: Implementing the use of assistive standing device with functional task specific training can improve safety of transfers in a 65 y/o woman with Primary Lateral Sclerosis: A Case Report.

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## BACKGROUND PURPOSE

Primary Lateral Sclerosis (PLS) is one of the rarest neurodegenerative disorders within the Motor Neuron Disease (MND) spectrum found in 1 to 3% of patients within the MND realm.<sup>1</sup> Similar to Amyotrophic Lateral Sclerosis (ALS), PLS presents with a dysfunction within the UMN of the corticospinal pathways.<sup>2</sup>

Lack of research to support:<sup>3</sup>

- Specific management of PLS
- Physical activity preventing the progression of the disease
- Functional improvements due to physical therapy interventions

The purpose of this case report is to describe improvements of a novel functional training program in a patient diagnosed with PLS.

## CASE DESCRIPTION

65 y/o Female 12yr Dx of PLS  
6 wks s/p intramedullary nailing of R tibia spiral fracture

Body Structure/Function	Activity Limitations	Participation Restrictions
<ul style="list-style-type: none"> <li>- Hamstring Spasticity</li> <li>- Decreased Endurance</li> <li>- Generalized weakness</li> </ul>	<ul style="list-style-type: none"> <li>- Non-ambulatory</li> <li>- Dependent transfers</li> </ul>	<ul style="list-style-type: none"> <li>- Fear of falling</li> <li>- Limited social outings</li> <li>- Inability to return home safely</li> </ul>

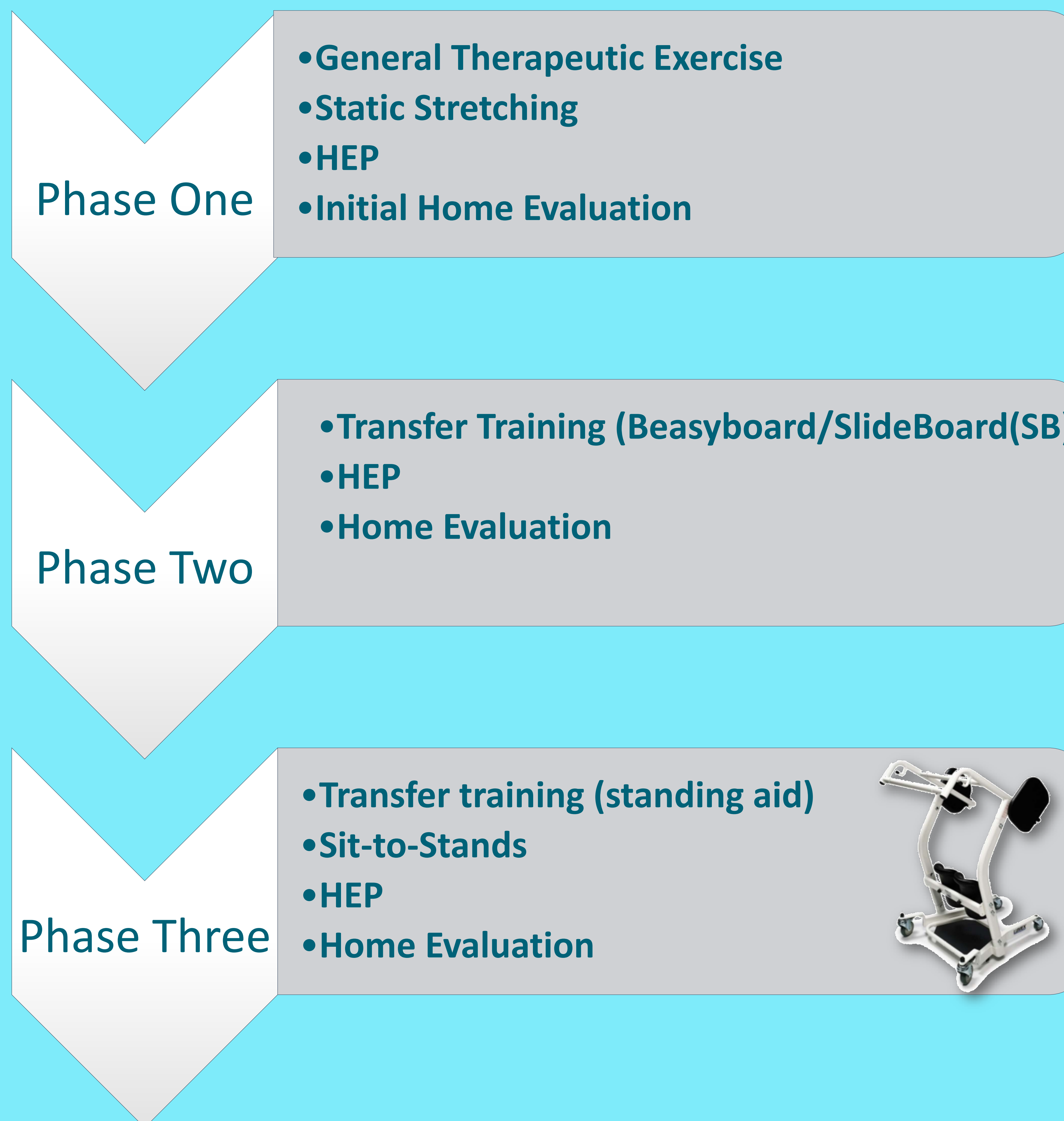
### Personal Factors

- Power wheelchair
- Depression
- Anxiety
- 12 yr Dx of PLS

### Environmental Factors

- Supportive family
- Financial support
- 4 story home
- Narrow elevator

## METHODS



## RESULTS

Tests and Measures	Phase 1	Phase 2	Phase 3
<b>Numeric Pain Scale Rating</b>	(R) LE: 9/10 pain with movement (B) LE: 4/10 pain constantly	(R) LE: 4/10 pain with movement (B) LE: 2/10 pain constantly	(B) LE: 0/10 pain
<b>Manual Muscle Test</b>	(B) LE: 2+/5 with the exception of (R) knee flexion: 1/5 with pain.	(B) LE: 3/5 with the exception of (R) knee flexion: 2+/5 with 4/10 pain	(B) LE: 3+/5 with the exception of (R) knee flexion: 3/5
<b>RPE</b>	RPE: Not tested	RPE: 7	RPE: 3
<b>Modified Ashworth Scale</b>	(B) LE: 0/4 with the exception of (B) hamstrings: 3/4	(B) LE: 0/4 with the exception of (B) hamstrings: 3/4	(B) LE: 0/4 with the exception of (B) hamstrings: 2/4*
<b>Functional Independence Measure</b>	FIM: 63/126= 50%	FIM: 76/126= 60%	FIM: 111/126= 88%*
<b>Quality of Life Scale</b>	QoLS: 67/112= 60%	QoLS: 74/112= 66%	QoLS: 91/112= 81%*

\*MCID met

## DISCUSSION

The novel functional training program with sit-to-stands demonstrated improvements with functional strength, endurance, and increased independence.

Research suggests:

- Developing a more functional rehabilitation program is more beneficial than a general strengthening program in patients with ALS.<sup>3</sup>
- Rehabilitation should focus on function-expanding aspects of assistive devices to ensure functional independence and safe mobility at home and in the community.<sup>4</sup>

This supports this case report as benefits from functional and task specific training such as repetitive sit-to-stands had a better effect on the patient's independence and QoL.

## CLINICAL RELEVANCE

Home Evaluations  
• Environmental barriers

Functional Training Program  
• Improving safety and independence

Ability to return home SAFELY

Anxiety and depression decreased with utilization of a more functional training protocol during physical therapy.

## ACKNOWLEDGEMENTS

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## REFERENCES

Please SCAN for References



\* Additionally, she was diagnosed with idiopathic paralysis, hypertension, panic disorder, hypokalemia, urinary tract infections, and hypomagnesium