TREATMENT INTERVENTIONS FOR LATEROPULSION POST-STROKE

For the purpose of this document, the Left (L) side is the AFFECTED/HEMIPLEGIC side, and the Right (R) side is the UNAFFECTED/LESS AFFECTED side.

Lateropulsion involves the patient pushing with their unaffected/strong side towards their affected/hemiplegic side using their arm and leg. The severity of pushing is typically less in supine/side lying and increases as the individual approaches a vertical position.

Key Considerations for Lateropulsion:

- Assess lateropulsion severity using a reliable scale.
- Evaluate sensation, tone, and active volitional movement on the involved (affected) side.
- Neglect will be on the affected side, with a preference to look towards the unaffected side.
- Always allow active movement; never "push" a "pusher".

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Position SIDE LYING

1. Lying on the R side, reach for a target placed at midline with the L Upper Extremity (UE) - Scap mobs and AAROM/AROM
2. Lying on the R side, perform mass flexion and extension. Rolling patterns from R sidelying <> supine

RATIONALE

- Sidelying on the unaffected side increases somatosensory input to the stronger side.
- This promotes midline head alignment, scanning past midline towards the weaker side and functional use of L UE.
- Repeated movement patterns intensify the exercise and boost vestibular input, particularly for low-level patients.

Position SITTING

1. Edge of mat with R UE flexed on a pillow, elbow at 90 degrees, palm facing upwards. Target (blaze pod/buzzer) placed on the R side, outside of Base of Support (BOS). **Goal: Reach for target and return to starting position. Facilitate as needed with hand-over-hand guidance and verbal cues (VCs).**
2. Edge of mat with wall on the R side of patient slightly beyond their BOS. Mirror with tape placed in front of patient. Patient's R arm positioned as above. **Goal: Lean out of BOS, tap shoulder to the wall, and return to midline in front of mirror aligning with tape.**

- Placing the R UE in a flexed, supinated position brings them out of the "pushing arm position".
- Active reaching outside their BOS towards the intact side (R side) facilitates weight acceptance to the “pushing” side

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Position STANDING

1. At either an elevated tray table or mat with R UE flexed at 90 degrees, palm facing upwards. Place a small step under the R foot if there is excessive "push" from the R LE. Block or guide the L LE as needed, or use a knee immobilizer, leg air splint, or the patient's brace. **Goal: Reach out of BOS on the R side with R UE to target placed on the R side and return to starting position.**
2. Standing at wall bar/hemi bar, place the hand slightly forward to allow the elbow to be in a flexed position on the wall bar, place a target on the wall, above patients head to facilitate shoulder flexion **Goal: reach for target placed above on the wall and return to starting position.**

RATIONALE

- Placing the R UE in a flexed, supinated position brings them out of the "pushing arm position".
- Active reaching outside their BOS towards the intact side (R side) facilitates extension on the weight bearing LE (L)
- Use of splints, air splint increases sensory input in weight bearing position
- Reaching overhead with RUE facilitates crossed extension reflex into LLE further enhancing extensor recruitment

Position TRANSFERS

1. Slide board transfers towards the weaker side, while ensuring the patients R arm flexed at the elbow in 90 degrees.
2. Slide board transfer towards the R/stronger side, place a larger step under the feet (8” or more) which forces hip and knee flexion during the transfers.

- Transferring towards the weaker side allows you to use the “pushing” to your advantage.
- Forcing the hip and knee into flexion decreases the amount of “push” from the legs during the transfers.

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Position WALKING

1. Ambulation with Elbow crutch or straight cane held on R side
2. Ambulation with R arm over shoulder technique, R arm placed over another therapist

RATIONALE

- Ambulating with devices with a smaller base of support decreases the “pushing” ability
- Ambulation without UE or the use of an AD support when appropriate can be performed as this minimizes “pushing” with the arm making it less challenging

Circuit option for lateropulsion post stroke

Exercise 1 - Repeated rolling to the R side

Exercise 2 - R sidelying to short sit edge of bed/mat

Exercise 3 - Sitting edge of bed, repeated reach outs to the R side out of BOS

Exercise 4 - Transfers from mat <> wheechair towards R and L side

Progressions include but not limited to -

High Reps

Adding resistance

Adding unstable surface