



FLEXION DIRECTIONAL PREFERENCE

Definition:

- Symptoms move down leg while bending backwards (ie, peripheralize) and move back up the leg toward the back while bending forward (ie, centralize).



Basic Principles:

1. Avoid prolonged standing and bending backwards during any household activities.
2. Sit in chair to perform activities.

EXTENSION DIRECTIONAL PREFERENCE

Definition:

- Symptoms move down leg while bending forward (ie, peripheralize) and move back up the leg toward the back while bending backward (ie, centralize).



Basic Principles

1. Avoid bending forward and prolonged sitting.
2. Maintain upright spine during all movements.

* Directional preference is determined by your physical therapist.

REFERENCES

1. Andrusaitis SF, Brech GC, Vitale GF, Greve JM. Trunk stabilization among women with chronic lower back pain: a randomized, controlled, and blinded pilot study. *Clinics (San Paulo)*. 2011;66(9):1645-1650.
2. Hodges PW, Richardson CA. Inefficient muscular stabilization of the lumbar spine associated with low back pain. *Spine (Phila Pa 1976)*. 1996;21(22):2640-2650.
3. Kim HK, Zhang Y. Estimation of lumbar spinal loading and trunk muscle forces during asymmetric lifting tasks: application of whole-body musculoskeletal modelling in OpenSim. *Ergonomics*. 2017;60(4):563-576. doi: 10.1080/00140139.2016.1191679.
4. Long A, May S, Fung T. Specific directional exercises for patients with low back pain: a case series. *Physiother Can*. 2008;60(4):307-317. doi: 10.3138/physio.60.4.307.
5. Manal TJ, Claytor R. The Delitto classification scheme and the management of lumbar-spine dysfunction. *Athl Ther Today*. 2005;10(5):17-25.
6. Delitto A, George SZ, Van Dillen LR, et al. Low back pain. *J Orthop Sports Phys Ther*. 2012;42(4):A1-A57. doi:10.2519/jospt.2012.0301.
7. Williams B, Vaughn D, Holwerda T. A mechanical diagnosis and treatment (MDT) approach for a patient with discogenic low back pain and a relevant lateral component: a case report. *J Man Manip Ther*. 2011;19(2):113-118. doi: 10.1179/2042618610Y.0000000008.

LOW BACK PAIN: AVOIDING PAIN WITH EVERYDAY ACTIVITIES: Flexion or Extension Directional Preference



EXERCISING

Flexion Directional Preference

- Walk or run on an inclined treadmill
- Ride a bicycle
- Resistance exercises while seated



Extension Directional Preference

- Walk or run on a flat treadmill
- Elliptical
- Resistance exercises while standing



WATCHING TV OR RESTING

Flexion Directional Preference

- Lie on back with knees bent over a pillow (A)
- Sidelying with hips and knees bent to 90° (B)



Extension Directional Preference

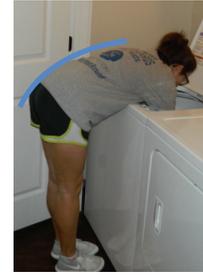
- Lie on stomach, propped on elbows (C)



LAUNDRY

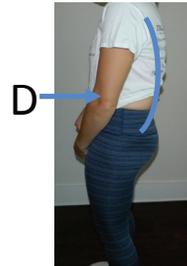
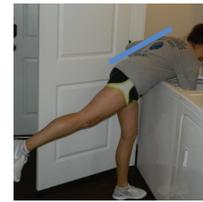
Flexion Directional Preference

- Stand with both feet flat on floor while bending forward to pick up laundry
- Fold laundry sitting at a table



Extension Directional Preference

- Kick one leg back while hinging forward at the hips on standing leg
- Fold laundry while standing at counter



POSTURE

Flexion Directional Preference

- Draw belly in toward spine as shown (D)
- Maintain slight forward bend in low spine

Extension Directional Preference

- Bring buttocks back (E)
- Maintain slight backward bend in spine



FOOD PREPARATION

Flexion Directional Preference

- Sitting at a table

Extension Directional Preference

- Standing at a counter

DIRECTIONAL PREFERENCE MAY CHANGE!

- If symptoms start to move down the leg during exercises or activities prescribed, follow-up with your physical therapist as your directional preference may have changed. This is not uncommon.
- It is also not uncommon for symptoms to become worse in the low back as the symptoms become less in the legs.