



# STRUCTURE & FUNCTION EDUCATION

## Neck and Back Pain – Home Study

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### I. Welcome

- a. Video: Welcome Message from Instructor
- b. Video: How to Use this Course
- c. Survey: Before We Begin (goals, experience, roadblocks)

### II. Let's Get Started

Objectives: Upon completion of this module, the student will be able to:

- Describe how our structure dictates our function
- Describe how our function dictates our structure

- a. Video: Introduction to Spine Structure and Posture (9 minutes)
- b. Read: Human Postural Control

[Ivanenko Y, Gurfinkel VS. Human Postural Control. \*Front Neurosci.\* 2018;12:171. Published 2018 Mar 20. doi:10.3389/fnins.2018.00171](#)

### III. Postural Imbalance

Objectives: Upon completion of this module, the student will be able to:

- Define how our structure dictates our function
- Describe how does our body fits together and work together
- Describe how does the shape of our bodies dictate posture

- a. Watch: Postural Imbalance (15 minutes)
- b. Read: [Harrison DE, Colloca CJ, Harrison DD, Janik TJ, Haas JW, Keller TS. Anterior thoracic posture increases thoracolumbar disc loading. \*Eur Spine J.\* 2005;14\(3\):234–242. doi:10.1007/s00586-004-0734-0](#)

[Mrozkowiak M, Walicka-Cupryś K, Magoń G. Comparison of Spinal Curvatures in the Sagittal Plane, as Well as Body Height and Mass in Polish Children and Adolescents Examined in the Late 1950s and in the Early 2000s. \*Med Sci Monit.\* 2018;24:4489–4500. Published 2018 Jun 30. doi:10.12659/MSM.907134](#)

### IV. Breathing and the Role of the Diaphragm

Objectives: Upon completion of this module, the student will be able to:

- Describe how our diaphragm dictates our function
- Define how posture and breathing go hand in hand

- a. Watch: Breathing and the Role of the Diaphragm (15 minutes)
- b. Read: Diaphragm and Posture  
[Vostatek P, Novák D, Rychnovský T, Rychnovská S. Diaphragm postural function analysis using magnetic resonance imaging. \*PLoS One\*. 2013;8\(3\):e56724. doi:10.1371/journal.pone.0056724](#)  
  
[Kocjan J, Gzik-Zroska B, Nowakowska K, et al. Impact of diaphragm function parameters on balance maintenance. \*PLoS One\*. 2018;13\(12\):e0208697. Published 2018 Dec 28. doi:10.1371/journal.pone.0208697](#)

## V. Interconnections in Structure

Objectives: Upon completion of this module, the student will be able to:

- Describe How our anatomy is interconnected
  - Diagram how structure influences function elsewhere
- a. Watch: Interconnections in Structure (7 minutes)
  - b. Read: Interconnections in Structure  
[Low back pain and kidney mobility: local osteopathic fascial manipulation decreases pain perception and improves renal mobility Tozzi P, Bongiorno D, Vitturini C. \*J Bodyw Mov Ther\*. 2012 Jul;16\(3\):381-391. doi:10.1016/j.jbmt.2012.02.001. Epub 2012 Mar 3.](#)  
  
[Dainese R, Serra J, Azpiroz F, Malagelada JR. Influence of body posture on intestinal transit of gas. \*Gut\*. 2003;52\(7\):971–974. doi:10.1136/gut.52.7.971](#)

## VI. Conclusions

- a. Watch: Conclusion (1 minute)
- b. Quiz: Neck and Back Pain (10 Questions)
- c. Survey: Course Evaluation