

## Research Assessment #4

**Date:** October 23, 2017

**Subject:** Segmental lumbar mobility in individuals with low back pain

**MLA Citation:**

Kulig, Kornelia, et al. "Segmental Lumbar Mobility in Individuals with Low Back Pain." *BMC Musculoskeletal Disorders*, BioMed Central, 29 Jan. 2007, [bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/1471-2474-8-8](http://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/1471-2474-8-8).

**Assessment:**

Having established my topic of lumbar spine pain, I came into the article, "Segmental Lumbar Mobility in Individuals with Low Back Pain" by Kornelia Kulig, Christopher M Powers, Robert F Landel, Hungwen Chen, Michael Fredericson, Marc Guillet and Kim Butts with basic knowledge of the anatomy and treatment of low back pain.

The article sparked more innovative thinking to looking into biomechanical labs and research with dancers in which I found by both professors and students at the University of Southern California. In the way their bodies move and how it affects the injury with landing techniques used in dance. Focusing on low back pain, the main technology used to look closely at the anatomy of the lumbar spine is an MRI. The difference between applying pressure and not is the increasing curvature of the spine curving upward. I am wondering how with so many different treatments while a patient is in physical therapy, the approach used to focus on one area. Do physical therapists focus on the core then slowly transfer to other ways? What types of exercises are used to help with certain areas of the spine?

In the article it also correlated the pressure put on the head to the lower spine. In regards to the neurological aspect of the spine creating that pain in the lower back, is it more neurological that initiates the pain or physical and mental? When I had a concussion I had some pain in the low back, although it was not excruciating that I needed treatment. In physical therapy the act of applying pressure in the initial examination process to see where the patient feels pain might be different per body type and what areas the pain initiated from or related areas.

A stretch we do in dance, which is the pulling of the leg while leaning on the ground is a way to help the lower back and the areas below. In the pain of the low back the anatomy of the pain is so crucial. Therefore, imaging techniques such as the MRI used in the article to focus on the pain with pressure increasing a curvature in the spine in order to see certain angles using a tool called an inclinometer. I had never heard of the tool used before, but learned that it is used for angles in the body in the posture of the lumbar spine. I wonder if it is used for more than the lumbar spine, such as other angles in the body like the hip curvature.

The healing processes differ between age, body type, and if they have other issues that could cause low back pain. The healing process is faster in younger individuals than older. This seems to be a general thing for injuries because my injury in the hip was faster to heal than someone older than me who may have to receive a hip transplant instead of waiting a long time to heal. Based on the article, I want to ask my mentor about the process in treating a specific area with an injury. I have this question a lot, but it seems to be as you get older as a physical therapist you get better at focusing on certain areas after going through college and seeing different body types and injuries.

