



Surgical & Non-Surgical Care. Sports Medicine. Physical Therapy.

Volume 8, Issue 7, February 2017

**ON-SITE
ORTHOPEDIC
CLINICS EACH
WEEK**

- No Charge
- Open to patients of all ages
- Appointments (918) 346-7800

Collinsville Public Schools
Monday/Wednesday
2:00pm—3:30pm

Coweta Public Schools
Wednesday
2:45pm—3:30pm

Edison Preparatory School
Monday/Thursday
2:45pm—3:30pm

Glenpool Public Schools
Tuesday
2:45pm—3:30pm

Kellyville Public Schools
Wednesday
Noon—12:45pm

Regent Preparatory School
Wednesday
Noon—12:45pm

Rejoice Christian School
Monday/Wednesday
2:00pm—3:30pm

Victory Christian School
Tuesday
2:45pm—3:30pm

Wagoner Public Schools
Wednesday
2:45pm—3:30pm

*Hosted by CSO
Athletic Trainers and
Physician Assistants.

EXAMINATION OF THE SPINE AND EXTREMITIES: THE SPINE

Beginning in January of 2016, we began a series of newsletters examining the spine and the extremities one joint/region at a time. Beginning with the foot and working our way upward, the “Examination of the Spine and Extremities Series” is designed to provide a brief overview of the anatomy of each respective joint, an underlying review of its motion and dynamics, and likewise provide an explanation of some of the more common pathologies experienced in that particular joint/region.

Bones: 24 movable and 9 fused vertebrae, 24 intervertebral discs

Ligaments: Anterior Longitudinal Ligament, Posterior Longitudinal Ligament, Ligamenta Flava, Numerous Transverse & Spinous Ligaments

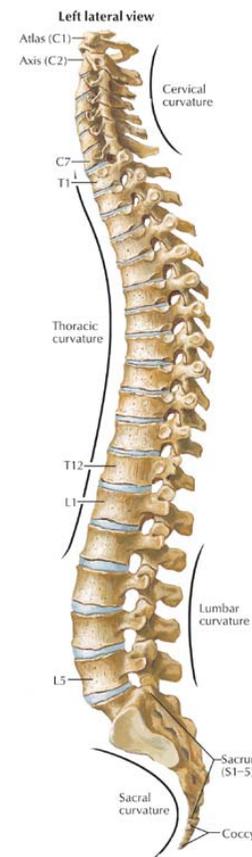
Muscles: Multifidus, Psoas, Longissimus, Iliocostalis, Spinalis, Splenius

Protecting the Spine:

The following is a selected re-print from our January 2014 Edition on Core Stability.

For some, the idea of a workout is only specific to activities that involve massive amounts of weight. Occasionally, some will also add in ab work as well. However, it can be these types of activities that can actually predispose athletes to spine injuries if they lack proper core stability prior to doing such.

When viewed from the side, the spine curves both anteriorly and posteriorly. Now while some spines curve more or less than others, the point to focus on is that almost all do curve. And this curvature is designed to dissipate force to the spine’s supporting musculature. With that in your thinking, now load a 225lb. squat bar on top of that spine. The added force encourages the column to curve more and more. As such, having the muscular strength surrounding and supporting the spine is vital toward maintaining the ideal position of the curve and protecting health of the spine. Therefore, before you load on the weights, you might want to focus on another area first.



...continued on page 2

Central States Orthopedics Physicians

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| David R. Hicks, MD | Bryan J. Hawkins, MD | Jeff A. Fox, MD | Troy A. Glaser, DO | Wendy B. Emerson, MD |
| David E. Nonweiler, MD | Thomas G. Craven, MD | Blake E. Shockley, MD | Bradley J. Lawson, MD | Chad E. Crawley, DO |
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Protecting the Spine...cont.

Holding the spine in an ideal position and eliminating excessive force from off the column are the two basic points of emphasis. Much like changing the oil in your car before a long road trip puts your car in an optimal position to perform, the following exercises and activities do the same for your spine.

1. Maintain a Neutral Spine Position

From the previous discussion on the anatomy and the physiology of the spine, it is easy to see that the first focus of core strengthening is to maintain the spine in its neutral position. Therefore, activities such as planks, bridges, and pushups on a stable surface or even on a plyoball are an excellent addition. By training your spine's supporting musculature in a spine-neutral position, you strengthen their ability to maintain such.

In addition, standing activities such as light-weight squats and kettle bells that have the primary focus on core and spine position are excellent and appropriate as well.

2. Train Controlled Acceleration & Deceleration

Ideally every movement performed by the spine is to be stable and controlled from its start to its end. Unless this is trained, it usually doesn't occur. In as much as slamming a door is not good for either the door jam or the door itself, appropriate core stability in acceleration and deceleration movements keeps the joints of each vertebra in the spine from "slamming" into each another. Exercises such as wood choppers, med ball rotations with a crunch or a toss, and lunges with a lateral trunk rotation are excellent, if you focus predominantly on 1) controlling the weight and 2) decelerating the weight during activity. In other words, slow and controlled is the ideal way to train the spine.

By implementing exercises like these for 4-8 weeks prior to beginning a lifting/weight-based workout, you can protect your spine and be better prepared to see the gains you're looking for.

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Protecting the Discs

The intervertebral discs in the spine are cartilage structures that are comprised of a central pulp-like center called the nucleus pulposus. The nucleus is surrounded by a thick band of fibers known as the annulus fibrosis and it holds the nucleus in the center. Over time, or with improper loading, excessive loading, or just inactivity, these discs begin to dehydrate and degenerate. Once discs begin to degenerate, it becomes very difficult to fully stop the downward cascade of continued degeneration. Therefore, implementing a proactive approach to protecting the discs is a much more effective long-term plan of action to maintaining spine health.

Hydration:

The volume of water in each disc directly improves or hinders the discs ability to maintain its shape and disperse force.

Poor hydration = Poor disc health.

Recommendation: the average person should consume 1/2 their body weight in ounces every day.

Walking:

Walking evenly strengthens the muscles surrounding the spine and the aerobic demands increase nutrition to the discs. Also, walking encourages increases in durability and density in both the discs and the vertebra.

Recommendation: General exercise recommendations that encourage 20-30 minutes of walking each day are a good place to start.

For more information on protecting your spine and spine health in general, visit the American Academy of Orthopaedic Surgeons Spine Education website at:

<http://www.aaos.org/Education/Spine/>

Main Clinic

6585 S. Yale Ave., Ste. 200
Tulsa, Oklahoma 74136
918-481-2767

Bixby Clinic

12800 S. Memorial, Ste. D
Bixby, Oklahoma 74008
918-394-2767

South Tulsa Clinic

9716 S. Riverside Dr., Ste. 110
Tulsa, Oklahoma 74137
918-528-3300

Owasso Clinic

13616 E. 103rd St. N., Ste. B
Owasso, Oklahoma 74055
918-272-4488

Downtown Clinic

802 S. Jackson, Ste. 405
Tulsa, Oklahoma 74127
918-583-4400

Hillcrest South Medical Plaza

8803 S. 101st E. Ave, Ste. 300
Tulsa, OK 74133
918-994-6277