Spine Health - Cheer Adaptation
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Nowhere in the body is more demand placed than on the spine of a cheerleader. It is required to be strong, yet moveable. It is demanded to be sturdy, yet to allow intricate movements. It is the "base" of stability for stunting. It is the "roots" of the arms and the legs, but yet can produce motion on its own. And best of all, it moves in 6 directions which are all equally important. No wonder why, along with wrists and ankles, a cheerleader's back ties for the most treated body part.

Taking care of the spine takes time and effort. In the middle of a busy competition season, with practices, choreography, travel and more, sometimes it falls by the wayside. This can lead to muscle strains from increased reps for basing, awkward motions from flyers, or tweaks from tumbling or stunting. Constant maintenance in warm-ups, cool-downs, strength and flexibility is something that we hope you focus on this season!

Let's break down the demands of the spine.

Stability
The spine needs to be stable, using the "Core" muscles including abdominals, rib muscles (intercostals), spine muscles, and hip muscles that attach to the spine itself and the sacrum. In varied intensity, these muscles need to at times contract to hold the body in a position and also to allow the arms and the legs to produce force with a stable attachment (Such as extensions, switch leaps, stunting). Without steadiness, muscles are less efficient in motion, and injury may happen with the back taking more of the brunt of force than muscles themselves. The most demand on stability is of course the base for the lift and toss, as well as cradling, letting the legs absorb the force and allow the flyer to land softly.

Strength
The spine – the bones themselves- cannot be strong. The muscles, however, that attach to the spine can, along with the ligaments that hold the bones in proper place. There are those muscles groups that extend the spine backwards, flex the spine forwards, bend to either side, or twist left and right. As well, there are some that are small and go between each level of the spine to provide small motions and positioning.

Limb attachments

The arms and the legs can move the way they do, often because of muscle attachments from them (the humerus of the arm, or the femur of the leg) to the spine itself. This allows for great force production, and an ability to be graceful in end ranges of motion as well. Examples of these are the lats (under the arm, side of the ribs), hip rotators and extensors (back of the leg and glute area), and psoas (deep hip flexor starting at the front of the bones in the spine). This is important for skills like herkes, toe touches, basket tosses and more.

Flexibility

Having six jobs to do is extreme. The back bends forward and backwards, sideways, and rotates. It does all of this in large motor motion, using many separate joints to add up to a large motion. For example- when bending in to a back bend, the arms flex over the head, shoulder blades move on the ribs, each piece of the spine extends/opens backwards, the hips open into extension, and the half-circle of the back bend is completed! Issues arise when not each piece of the puzzle does its fair share of the work, causing hinging, or pain. In positions such as the scorpion or bow and arrow, the spine has to allow the leg to get into position. In any cheer-dance choreography, the body is demanded to perform a combination of rotation, side bending, flexing, reaching, twisting and so much more. Artistic motion of the extremes- the bent back leg of a switch leap, or the ability to roll into a really tight flexed ball- all come from muscles allowing the stretch, or positioning, with ease.

Awareness

A person's ability to have proprioception, or the awareness of where the body is in space, plays into spine health to the extreme. Isolating certain muscle contractions, or breathing through muscle releases, can allow for more proper alignment and technique for all aspects of dance. Exercises that teach all cheerleaders and tumblers how to segment parts of the body away from others is key. Examples: rib tilting, front to back, or shifting side to side. Rotating the pelvis front to back, or under and forward. Position of the shoulder blades from protracted to squeezed together. One can fix themselves when they can identify and "separate out" all available motion. This can help the base to create minor alignment changes to support an unstable flyer, and for the flyer themselves to perfect their balance.

Quick tips!

1. Take plenty of time to warm up the spine in all directions. Don't miss any of the six!
2. Slow and fast. Static stretching increases overall motion, but dynamic (or with motion) tempers the body to know that it needs to allow dynamic movements without protecting or fighting back (i.e. high kicks)
3. Once a week, start from neck and go to tailbone. Move each level of the spine as individually as possible, isolating each motion, or trying to find "sticky" spots that

don’t work as well as others, and focus on them specifically. Circles in the neck all the way down to pelvic tilting.

4. Use devices to help! Everyone has rollers (foam, trigger point) and/or stress balls. Place them throughout the muscles on each side of the spine and along the gluteal border where your tailbone is. Move your body, go through breathing cycles, and release the tension that may be causing your body to stabilize too much, and disallow motion. Small “cracks” or adjustments are normal, especially when the muscles release and pressure leads them to fall back into proper place, or release air pockets.
5. Stay on your ab strength program! Do not miss even a day of working your abs in some way. Whether through planks at home, or advances stabilization programs, don’t let them get sleepy. They are your key to a low-injury career!