



# Core Strengthening

## Building a Learning Foundation



Core strength is widely recognized as vital for developing posture, but core strength also provides the background foundation for skills such as:

- △ **Reflex Integration:** The body is designed for voluntary movement and coordination skills to naturally surpass the body's automatic, less immature, movement patterns. Core strength is a vital part of this natural process.
- △ **Establishing and Maintaining Attention:** Core strength allows a child to focus energy and attention in an outward focus, on a given task, as opposed to using energy and attention to maintain body positions and perform routine motor tasks. When core strength is weak, tasks become more labor intensive for a child.
- △ **Visual Perception:** Core strength helps to provide stability through the head and neck to allow the eyes to take in accurate visual information for visual processing. Weak core strength often correlates with weak eye muscles and difficulty with eye coordination skills. The child will still scan, but the task is more labor intensive for the eye muscles and the eyes will often fatigue much more quickly.
- △ **Visual Motor Response:** Just like with visual perception, core strength is important for visual motor skills. It aides the eyes in taking in accurate information and supports the body as an effective motor response is formed. When core strength is weak, children often have difficulty with visual motor and visual motor sequencing tasks.
- △ **Static/ Stationary Balance Skills:** Core strength provides the stability for the arms and legs to develop coordinated movement skills. It is also the foundation for balance skills such as standing on one foot.
- △ **Body Position Sense Processing:** Core strength provides the basis for efficient **proprioceptive** processing (body position sense). It provides the stability and the foundation for processing that allows a student to sit in his/ her chair without wiggling or falling out of the chair. It also supports the development of coordination skills and results in more graceful, purposeful movements.

### step 1

Core strengthening can be initially developed by using **Developmental Positions** during play or learning activities. Developmental Positions include tummy time (prone on elbows), tall kneeling, and all fours (quadruped). Utilize the *Developmental Positions Handout* for specific instruction and strategies for using these positions.

### step 2

The next step in developing a foundation of Core Strength:



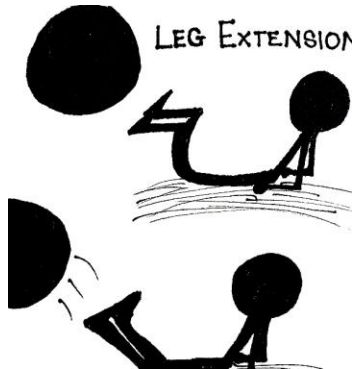
#### Superman / Prone Extension Activities:

- ✓ Work on arm position first: hit a rolled or tossed ball with both hands or with alternating hands.
- ✓ Work to maintain head, chest, and arms in correct position between hits with the ball.
- ✓ Work into maintaining the full position with arms, head, legs
- ✓ Work in short bursts (1-15 seconds) and focus on increasing **QUALITY** of the position and then increase how long the child can hold the position. Aim for the ability to maintain this position for at least 30-60 seconds.

### **Popcorn/ Supine Flexion Activities:**

- ✓ Work on crossing arms over chest, bringing knees up to chest
- ✓ Encourage head tuck to complete the Popcorn position
- ✓ Work to maintain the position in short burst (1-15 seconds) and focus on increasing QUALITY of the position and then increase how long the child can hold the position. Aim for the ability to maintain this position for at least 30-60 seconds.

### **POP CORN**



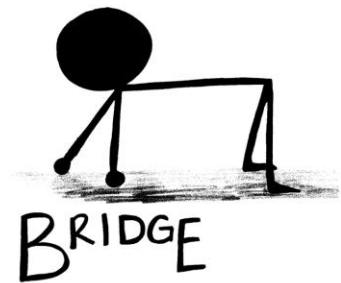
### **Leg Extension Activities:**

- ✓ Work on leg extension exercises next with a tossed or suspended ball
- ✓ Hips should flex about 90 degrees and feet remain off the floor
- ✓ Encourage head up with long neck for leg extension activity
- ✓ Encourage legs working together and then alternating.

**step 3** The next step in developing Core Strength:

### **Bridge Activities:**

- ✓ Start in a sitting position with hands placed on the floor behind you. Then, raise bottom off of the floor into a bridge position. (Sometimes also commonly called a “crab walk” position).
- ✓ Work on flat tummy (no sagging!) for short bursts (1 - 15 seconds) and focus on increasing QUALITY of the position and then increase how long the child can hold the position. Aim for holding this position for 30-60 seconds.
- ✓ When the child is able to hold the position with good alignment, begin lifting and straightening one leg at a time.



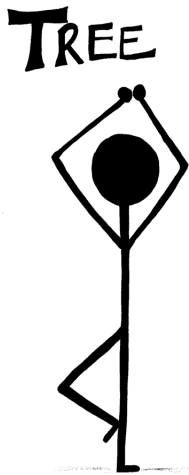
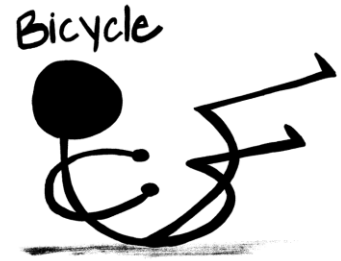
### **Dog Activities:**

- ✓ Begin with maintaining all fours and turning head side to side while keeping balance.
- ✓ Then add lifting alternating arms
- ✓ Then add lifting opposite arm/ leg together in an alternating pattern.
- ✓ This exercise can be connected to academic and visual scanning activities easily.
- ✓ Finally, add a head turn to lifting the opposite arm/leg together in an alternating pattern.

## **step 4** The next step in developing Core Strength:

### **Bicycle Activities:**

- ✓ This exercise is built upon the skills learned in Popcorn/ Supine Flexion work. Pull into a partial popcorn position initially and then touch one hand or elbow to the opposite knee in an alternating pattern.
- ✓ This exercise is good to use during memory or spelling work to help increase memory work and recall of information.
- ✓ This exercise also supports processing speed development.



### **Tree Activities:**

- ✓ Begin teaching standing on one foot by supporting the child at the hip joint and then fading your support to finger-tip touch. When the child can maintain balance on one foot with finger-tip touch for 10 seconds, you are ready to move to the next step.
- ✓ Encourage the child to place hands on hips or stretch arms out to the side while standing on one foot.
- ✓ Encourage them to maintain balance skills for increasing periods of time, building to at least one minute.
- ✓ Make it harder by repositioning the flexed leg into an abducted/ angle position with the foot resting on the opposite knee.
- ✓ Make it harder by repositioning the hands touching above the head.
- ✓ Build tree strength in the new positions to at least 60 seconds.
- ✓ Work on dynamic balance by standing on one foot and reaching with arms to complete a task or reach down to the ground to pick up objects.

## **step 5** Bring it all together:

Bring it all together by adding academic information into the exercises and activities. Add visual motor and eye scanning tasks while the head is in the supported, steady position. Add auditory motor tasks. Add sequencing and memory tasks.