



# Private Occupational Therapy

In-Home Pediatric Occupational Therapy

## Vestibular System

The vestibular system processes motion or change of head position during movement and in relation to gravity. This system tells us if we are moving, how fast, and in which direction. This system is foundational for appropriate 3 dimensional and later 2 dimensional spatial awareness. It is noted to have an influence on posture, balance, and bilateral motor coordination. It is also noted to have an influence on one's arousal level (or alertness). The vestibular system is also strongly linked with one's ocular-motor system influencing eye muscle movements.

### Functions:

- Balance, muscle tone and posture
- Coordination of eye movements
- Ability to use both sides of the body together
- Arousal (alertness) level/movement level
- Timing mechanism (where and when do I move my body to catch this ball), start/stop
- Orientation of ourselves in space
- Filter for dampening irrelevant sensations
- Core for all other sensory sensations

### Functional Skills of vestibular processing

- Smooth coordinated eye movements (reading)
- Knowledge of body in relation in space
- Balance of body in a variety of situations
- Ability to cross midline for coordinated activities/use of both sides of the body
- Timing and sequencing for moving activities (catching a ball)
- Ability to sit and attend at age appropriate levels

### Symptoms of Difficulty of the Vestibular System

- Low muscle tone (hyper-extension of joints)
- Seeking Excessive movement/holding head upside down
- Avoiding inverted position of head or moving equipment
- Spinning behaviors/spinning self or other objects
- Continually follows objects with eyes
- Difficulty with balance
- Fear when lifted off the ground or on elevated surfaces
- Difficulty crossing midline
- Difficulty regulating emotions
- Poor ocular motor movement
- Poor ability to plan actions

### Vestibular Activities

- Running, Jumping, Climbing, Roll down a hill (or on the ground)
- Swinging on your belly, rock in a rocking chair
- Hanging head upside down
- Participating in activities ON YOUR STOMACH or hands and knees
- Bouncing on a yoga ball, use a large ball for a chair
- Go down a slide, ride a bike, roller skate