Vancouver CoastalHealth
Promoting wellness. Ensuring care.

2110 West 43rd Avenue
Vancouver, BC, Canada, V6M 2E1

Telephone (604) 267 – 2606
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Vancouver Regional Pediatric Team

COORDINATION

WHAT IS HAND-EYE COORDINATION?

Hand-eye coordination refers to the ability to place the hands in space for motor activities by using visual input to guide the hand movement. If a student has difficulties with hand-eye coordination, he may have difficulties with: catching and bouncing a ball; copying movements; handwriting and tying shoes. These activities often require other components of motor coordination such as bilateral coordination.

Ideas to reduce demands for hand-eye coordination:

- Ball kicking activities tend to be easier than ball catching activities
- Individual sports may be better to encourage, as the student can progress at his/her own rate.
- In team sports, choose a position for the student that minimizes the hand-eye coordination requirements. For example, let the student be a runner without batting the ball.
- Activities like swimming, gymnastics, hiking, biking, skating, dancing and martial arts are good alternatives to sports which require more hand-eye coordination.

Ideas to promote hand-eye coordination development:

Throwing balls or beanbags at targets:	Adapt the balls or bags by changing their weight, size and colour. Large, light balls like 'Nerf' balls are the best to start. Adapt the targets by making them larger or closer.
Practice catching balls:	Softer and lighter balls are less threatening to children. For students with a lot of difficulty, start by rolling the ball back and forth on the ground; work on catching and rolling the ball to others accurately. Experiment with speed of delivery, starting with a slow trajectory. When throwing a ball, throw it so that it bounces once on the way to the student rather than throwing the ball in the air directly towards the student.
Practice bouncing balls:	Use large, slightly heavier balls to ensure slower rebound

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Games and other ideas:	Use badminton racquets with a balloon, then progress to a birdie Tether ball Volleyball – use a large beach ball to start Bowling Frisbee Baseball Archery Darts Golf

WHAT IS BILATERAL COORDINATION?

Bilateral coordination refers to the ability to coordinate movements with both the right and left sides of the body and to cross the midline. Both sides of the brain must work well together and share information in order to produce these movements, which may be reciprocal or synchronous. Coordinating both body sides is an important foundation in developing many fine and gross motor skills, and is essential for the skilled use of a dominant hand.

A child with poor coordination of the two body sides may adjust his/her body to avoid crossing the midline of his/her body. Difficulty may be seen in activities that require one hand to move and the other to stabilize the object (ie. scissor skills, writing), bilateral coordination is a foundation for such skills. Switching hands is also common due to the frustration in trying to use both hands together.

The ability to coordinate the two body sides is first observed when a baby transfers objects from one hand to another, bangs two blocks together or imitates pat-a-cake. Children learn to coordinate their body sides when they manipulate toys such as pop beads and lego, and when they skip, gallop, play rhythm games, jump rope or ride a bike.

Ideas to reduce the demands for bilateral coordination:

- Break activities down step by step.
    - For example: Learning to jump rope
        - Jump with 2 feet at consistent rhythm
        - Jump back and forth over rope on floor
        - Jump over rope swung slowly in circle along ground
        - Increase speed
        - Turn rope over head; allow to hit floor; step over
        - Turn over head; hit floor; jump over
        - Practice jumping over rope swinging back and forth (not over head)
        - Try normal jump rope
- Choose activities that require only arms or legs to move, such as standing still to throw or catch a ball.
- Choose activities that require only one-sided movement, such as throwing or catching a small ball or beanbag.
- Individual sports may be better to encourage, as the student can progress at his/her own rate (archery, bowling, darts).

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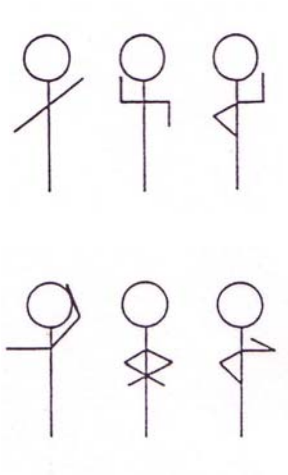
Ideas to promote bilateral coordination development:

Activities using both arms together:	Using both feet together:	Using both arms and both legs:
Carrying and stacking large boxes or toys. Two-handed throwing, catching, bowling (use a large ball such as a beach ball). Rhythmic gymnastics-type activities with large ribbon in each hand. Playing musical instruments (piano, symbols, xylophone). Keeping rhythm (clapping, lummi sticks, bongo drums). Pouring sand or water table Wheelbarrow walking Drawing on chalk board with two hands / use two flashlights on a wall Try imitating various arm patterns: 	Hopscotch Hopping through hoops on floor. Jumping rope (stationary or moving rope). Dancing. Tapping feet, marching in time to music. Running to kick a ball (kickball, soccer). Scooter board March with feet in various patterns Play stop and start games such as red light-green light. Begin stopping predictably, then progress to less predictable. Step through rungs of ladder on ground. Walk backwards. Set up an obstacle course	Running to catch a ball. Riding a bicycle. Playing musical instruments (piano, organ, drums). Dancing Swimming. Sports-type activities (baseball, basketball) Relay races holding a large object Tug-of-war Snow angels Commando crawling Climbing apparatus Jumping jacks – break it down into one step at a time and slow it down with definite pauses between movements “Out; Stop; In; Stop”, etc. Scissor jumps – same arm and leg forward; other arm and leg back; SWITCH Alternate: try moving opposite arm and leg. Animal walks – move like a bear, crab, rabbit, snake, etc. Play Simon Says, imitating activities where arms and legs are doing different movements Somersaults

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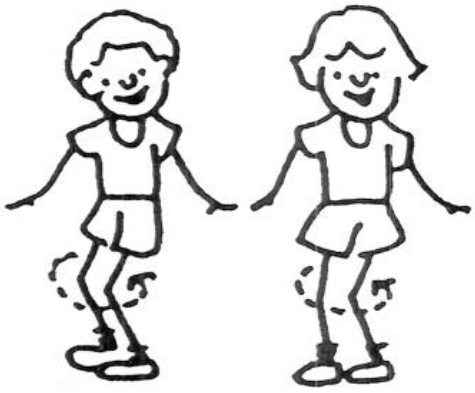
Some stretches & Warm ups:

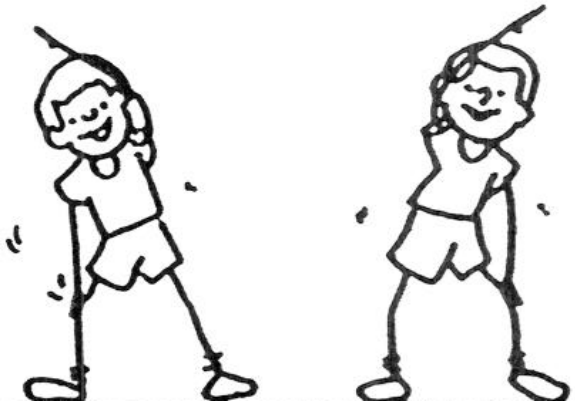
- Hold stretches for at least 30 seconds



Knee Circles

Sunflower Stretch

Arm Stretcher



Side Stretcher

BB Circles

Finger Stretcher

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Fink, B.E. (1989). Sensory-motor integration activities. Tucson Arizona: Therapy Skill Builders. A/bilateral motor coordination.

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Sunny Hill Health Centre for Children "What is bilateral coordination?" and "What is hand-eye coordination?"