Vancouver CoastalHealth
Promoting wellness. Ensuring care.

2110 West 43rd Avenue
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Telephone (604) 267 – 2606
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Vancouver Regional Pediatric Team

MOTOR PLANNING

What is it?

We use our motor planning ability to do complex movements or series of movements automatically. Examples of complex movements that require motor planning are activities such as dressing, writing, climbing on playground apparatus or riding a bicycle. The technical name for difficulties with motor planning is **dyspraxia**. A child with dyspraxia has difficulty doing complex movements, which is not caused by other motor problems. It can affect fine motor, gross motor or speech development, but a child may not have difficulties in all of these areas.

When we first learn a new motor skill, we watch our movements carefully. We make many decisions and changes in order to achieve the desired movements that we were striving for. After we have repeated the same sequence of movements many times, it then begins to feel familiar. A pattern will develop and this movement will become more and more firmly established in our memories. Finally after much repetition, it becomes automatic. We are able to perform automatic skills easily, with little or no conscious attention to the component parts. The ability to perform complex movements automatically requires motor planning. This automatic movement does not happen for some children and adults with motor planning difficulties. A child with motor planning problems will have difficulty copying more complex movements and have difficulty producing complex movements on his/her own.

WHAT MIGHT BE SEEN IN THE CLASSROOM, GYM, OR PLAYGROUND

- Clumsiness, awkwardness, bumps into, spills or knocks things over
- Requires assistance putting on or removing clothing
- Has unusual ways of forming letters and numbers
- Has difficulties learning to tie shoelaces
- Is reluctant to participate in paper/pencil tasks
- Avoids or appears uninterested in physical activities (i.e. playground)
- Tends to be talkative in an attempt to avoid tasks
- Has trouble keeping up with movement songs and finger plays
- Has difficulty imitating movements in gym class [i.e. jumping, hopping on one foot, somersaults (forward or backward rolls), galloping, skipping, jumping rope, difficulty following dance routines]
- Tends to over-exaggerate emotional needs
- Likes to follow routine
- Seems to understand directions, but does not do the task
- Avoids climbing on climbing apparatus on the playground
- A significant discrepancy between intellectual/language skills and motor skills

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GOAL-PLAN-DO-CHECK

A Problem Solving Method for Learning Skills

GOAL: What do I want to do?
How should it look?

PLAN: How am I going to do it?
The plan can have a few parts or steps

DO: Do what you've planned

CHECK: How well did my plan work?
Do I need to change my plan?

Your self-talk helps you. Your parents, teachers, or coaches can also give good advice. They can help you if you get "stuck" and can't make a new plan. They can remind you about some helpful things:

- Start with our body in a good position
- Pay attention to what you're doing
- Change the job to make it easier
- Feel the movement
- Think about "Goal-Plan-Do-Check" each time
- Let yourself talk your way through things

It can take a long time to learn new skills or to get better at old ones. Work on one thing at a time. Have fun!

KEY COMPONENTS TO HELP THESE CHILDREN

1 The underlying motor planning problem cannot be fixed. Anticipate difficulties and be ready to intervene before the child becomes frustrated.
2 Always orient yourself in the same direction as the student when teaching/explaining a task. Sit or stand beside the student or work over top their shoulders.
3 Use demonstration paired with verbal instruction. Strongly encourage the student to self-talk through all tasks. Self-talk has been found to be one of the key factors in helping students.
4 Break down tasks into smaller steps. Once steps are learned, work on combining then into a sequence. Teach the student to use this strategy when facing new tasks.
5 Do not make fun of the student when he/she cries or becomes frustrated for "no apparent reason".
6 Soothing words of understanding will help the child to feel less alone in his/her struggles.
7 Allow the child repetition and practice time.
8 Develop a general base of motor activities before developing specific skilled activities (i.e. teach running, jumping and hopping, galloping and skipping skills before incorporating these skills into dance or gymnastic routines.)
9 Start with simple movements and then move to more complex movements (i.e. teach running and hopping before teaching galloping and skipping.)
10 Select peer models to work with this student to provide assistance and a visual/motor model. Allow time for the child to observe others.
11 Have the student attempt to teach you or another student the task. This helps to reinforce the motor plan in their mind.
12 Encourage the student to problem solve. This may include the GOAL, PLAN, DO, CHECK approach to motor tasks.

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13 Recognize that these students work extraordinarily hard all day. Help them to set their own realistic but challenging expectations, accept their limitations and be proud of their accomplishments.
14 If helping the student choosing extracurricular activities, consider individual non-competitive activities (i.e. swimming, biking, and rollerblading) versus sports which require fast reactions (i.e. hockey, baseball, soccer). Encourage children to develop skills in a few areas for physical fitness, health and self-esteem.

TEACHING NEW MOTOR TASKS TO CHILDREN WITH MOTOR PLANNING DIFFICULTIES

1. Teach skills in small chunks (i.e. skipping consists of stepping and hopping on one foot then stepping and hopping on the other foot.)
2. Demonstrate the movement to the child as you say it
3. Allow time for the child to observe others
4. Have the child think through the movement mentally (mental practice)
5. Have the child say the steps of the movement as they do it (i.e. when teaching skipping, have the child say “step-hop right foot, step-hop left foot”.)
6. Start practicing the movement slowly and then increase the speed as the child masters the movement
7. Give the child a chance to practice and become familiar with the first chunk before presenting the next chunk
8. Give extra time for the child to practice more difficult parts of a movement
9. Gradually bring together the parts of the movement into the whole
10. Practice the newly acquired skill under different conditions (i.e. practice skipping on uneven ground, practice it as part of a series of other known movements)
11. Use the same process of teaching a movement in chunks when teaching a series of movements
12. Practice in bare feet – this gives the child maximum sensory feedback
13. Choose an enhanced setting (i.e. bouncy surfaces are good for jumping; gentle slopes for trike riding)
14. Have the child practice the skill in front of a mirror
15. Provide a good model – do the skill in an exaggerated, attention getting way
16. Practice for only a few minutes, but practice everyday
17. Choose a quiet setting without distractions – skill acquisition takes concentration
18. Try and find a fun effect for when the child performs the skill (i.e. jumping on bubble wrap makes a wonderful “pop”)

*Some hints and progressions include:

1. Start with activities which provide a lot of cues, both visual and verbal. (i.e. twister, matching hands)
2. Use equipment which helps guide the child through the activity.
3. Progress by decreasing the visual cues and giving verbal directions only. (i.e. imaginary play, animal imitation, rhythm records, charades)

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Simple motor planning:

- Pumping swing
- Walking up a ramp
- Climbing in/out equipment
- Kicking a balloon while swinging
- Eye hand coordination games with balls and balloon
- Target games

Whole body activities:

- Rolling up a ramp
- Moving through boxes
- Gross motor mazes
- Obstacle course made with equipment
- Jumping over a line
- Maneuvering through space on a scooter
- Pushing or pulling equipment across a room
- Jumping into tires
- Swinging on a rope/trapeze

Games:

- Twister
- Follow the leader
- Find the treasure following a map
- Pretend to walk like an animal
- Make a letter of the alphabet wit your body
- Simon Says
- Soccer
- Bumper cars
- Using tire swings
- Hopscotch

Running games:

- British Bull Dog
- Duck Duck Goose
- Relays
- Obstacle course
- Tag
- Rhythm Records (march, clap)

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BODY AND BODY SPATIAL AWARENESS

Definition:

Body Awareness
- This refers to an identification and understanding of the different parts of the body and knowing left from right.

Body-Spatial Awareness
- This refers to awareness and the ability to move body parts and the body as a whole around the environment. (i.e. understanding of forward, backward, sideways)
- A student with a deficit of awareness cannot relate to the environment around him/her. They might have difficulties moving within their environment. (i.e. bumping into things, falling over)

Ideas:

- Label body parts, identify parts in the mirror

- Touch different parts with various textures
- Body paints to identify various parts
- Move different parts in different ways (i.e. rolling, sliding, and turning in circles)
- Make body into various shapes (i.e. long, small, wide, etc)
- Body "Alphabet Letters"
- Imitate various positions
- Body puzzles

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