



SENSORY-BASED MOTOR DISORDERS: DYSPRAXIA

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Our previous columns described the first Sensory Processing Disorder (SPD) Pattern: Sensory Modulation Disorder (SMD) and its three subtypes. Described here is the second primary SPD pattern, Sensory-based Motor Disorder (SBMD), focusing on Dyspraxia.

SBMD is defined as a motor challenge with an underlying sensory basis, and has two subtypes: Postural Disorder and Dyspraxia. Unlike individuals with Sensory Modulation Disorder, the first primary pattern in which individuals have difficulty regulating sensory input, those with SBMD can regulate sensory input, but the individual exhibits atypical motor performance. Both SMD and SBMD can occur separately, but often individuals who exhibit one can exhibit the other at times.

What a Motor Action Requires

Dyspraxia is the inability or difficulty with three aspects of completing a motor action: 1) ideation, 2) sequencing, and/or 3) motor execution. *Ideation* is the ability to generate new ideas, *sequencing* is planning out the steps needed to conduct the idea, and *execution* is implementing the motor plan (i.e., carrying out whatever actions are needed to complete the idea). Once we can

execute an activity (e.g., getting dressed) automatically, a plan is no longer needed. Automaticity is the signal that the subcortical mechanisms (lower brain) have taken over and cognitive resources are no longer needed to complete that activity.

The following symptoms are red flags for Dyspraxia:

- > Clumsy, awkward movements
- > Difficulty climbing
- > Difficulty finding way around a new environment
- > Poor body awareness
- > Poor sequencing of tasks
- > Slow motor reactions
- > Difficulty playing ball games
- > Difficulty with handwriting and other fine-motor skills (e.g., buttoning, tying shoes, holding a pencil)
- > Difficulty timing movements
- > Poor control of the oral-motor muscles needed to drink, chew, blow bubbles, and articulate well
- > Difficulty dressing, putting clothes on in proper order (i.e., underwear then pants, socks then shoes) and in the correct orientation (i.e., shirt is frontward, shoes on correct feet)

Learning in Small Steps

Try to remember the last new motor activity you learned. Maybe it was rollerblading, snowboarding, or square dancing. There were probably other people there who were doing what you were learning and could do it smoothly and easily. How did you feel? Like a klutz. “What’s wrong with me?” you thought. “It looks so easy. Shoot. I started on the wrong foot again!”

When is the last time you truly watched a young child learning to ride a bike? Initially he puts so much effort into consciously trying to keep the bike upright. You can see him concentrating as he thinks about pushing first one foot, then the other. Simultaneously as he stares at his feet willing them to go up and down, he must also look ahead so he doesn’t run into anything, and try to keep balance. So many things to do all at the same time! Today, many kids start on what is called a balance bike that has no pedals, and they master the postural control and steering first, then switch to a kid’s bike and master the pedaling. Finally, the child can ride a bike.

Breaking the learning down into small pieces is the secret to success for anyone learning any new motor skill—whether he is typically developing or has special needs. All of these activities require a person to use his motor planning (or practice) skills. He must do the following: 1) have an idea of what he wants to do (ride his bike), 2) sequence the activity (i.e., put on a helmet, climb onto the bike), and 3) execute the complex actions (e.g., pushing off to put feet on pedals, rotating pedals while also steering). Dyspraxia can be a problem in any one (or more) of these processes.

Intervention for Dyspraxia

Practice generating new ideas. Most children with Dyspraxia have ideation challenges, thus they need practice coming up with new ideas on their own. As often as possible, engage in pretend play with your child. Try not to direct the play; instead prompt the child to create the story. Ask, “What comes next?” and wait for the answer. Continue to guide him until he comes up with the idea. Start simple and general, then move toward more complex and specific ideas.

General Prompts

- > “What should we do next?”
- > “What can we make out of this big empty box?”

Specific Prompts

- > “Should we find the dragon, or get some other astronauts to join us?”
- > “How can we turn this box into a spaceship?”

Build self-esteem. Children with Dyspraxia have had lots of experiences trying and trying—only to fail. The importance of success cannot be overstated. Find something the child is good at and make sure he has lots of time in the schedule for that. Help a child experience success so he will want to try again. The child may need help coming up with an idea, sequencing a task, or executing a movement, but once he does it correctly with support, he will be willing to try again.

Work on planning and sequencing. For our “sensational kids,” there is no such thing as too much planning. Plan your day the day before, your week the week before, and your month the month before. The magnetic surface on the refrigerator makes a perfect “screen” for the child to use (with your support) for planning. What will tomorrow look like? Plan the day in chunks; for example, you could post the most relevant segments from the following chart and fill in the next day’s actions after dinner.

PART OF THE DAY	ACTION
MORNING	<ul style="list-style-type: none">• GET DRESSED• EAT BREAKFAST
LEAVING THE HOUSE	<ul style="list-style-type: none">• CHECK TO MAKE SURE HOMEWORK AND LUNCH ARE IN BACKPACK
DRIVING TO SCHOOL	
AT SCHOOL	<ul style="list-style-type: none">• LUNCHTIME• RECESS
AFTER SCHOOL	<ul style="list-style-type: none">• HOMEWORK• LEISURE TIME
DINNER	<ul style="list-style-type: none">• SET THE TABLE• CLEAR MY OWN PLACE
AFTER DINNER	
GOING TO BED	

For children with Dyspraxia, having a plan is invaluable. These children are often very talented, gifted even. But they are lost in time and space. One way to think about it is this: because they don’t feel their bodies well, they are not grounded in the world. They seem to sort of float from one thing to another. The more you can help them plan their work and then work their plan, the more they will be able to compensate for their lack of internal structure.

Play games that involve different body parts in space.

Twister is a game that’s great fun (and therapeutic) for children with challenges feeling their bodies and sequencing movement patterns. Or, you can make up your own games! We often play a takeoff on Charades where we put movies, TV shows, phrases, or whatever seems to engage the child in a box and pull out one at a time. One person acts out what is on the card, and the other guesses the action.

Have the child build his own obstacle course. Make sure there are plenty of objects around for him to use such as an old tire, a sheet, a big box or something to climb into, an object to climb on, and so on. You don’t need fancy equipment from a catalog. Boxes and sheets go a long way!

Children need to be winners. Keep that in mind as you help your child navigate and negotiate his day. Whatever you can do to facilitate his success will come back manyfold! ■