





Digital magazine for pediatric occupational and physical therapists.

## Issue 37 - April 2012









## **New and Popular Products**



#### **RPT - Reminders for Physical** Therapy

Download 80+ physical therapy tips and reminders to give to teachers and parents

Regular price: \$4.99 SALE PRICE until 4/15/12 only \$2.99

www.YourTherapySource.com/ptreminders



#### **Follow the Path**

**Summary:** Over 30 dot to dot diagrams to copy that encourages visual motor practice and visual spatial skills

List Price for <u>electronic book:</u> \$3.99

www.YourTherapySource.com/follow

### **Recent Research for Cerebral Palsy**

#### Walking Drawings

*Health Psychology* will be publishing research on drawings that children with cerebral palsy created of themselves walking. Fifty two children (ages 5-18) were asked to draw a picture of themselves walking. The drawings were then analyzed to see if there was any association between drawing size/ content with clinical walking tests and children's self perception of their cerebral palsy. The following was noted:

1. larger drawings of self were associated with less distance traveled when walking, higher emotional responses to cerebral palsy and lower perceptions of pain/discomfort

2. a larger self to overall drawing height ratio was associated with walking less distance

3. drawings of the self between buildings and the absence of other figures was associated with reduced walking ability.

Reference: Chong J, Mackey AH, Stott NS, Broadbent E. Walking Drawings and Walking Ability in Children With Cerebral Palsy. Health Psychol. 2012 Feb 27. [Epub ahead of print]

#### **Repetitive Passive Motion and Cerebral Palsy**

Research will be published in the *Journal of Rehabilitation Medicine* on the use of repetitive passive knee movements for the management of spastic hypertonia in children with cerebral palsy. This study applied continuous passive motion (CPM) to the knees of 16 children with cerebral palsy. Continuous passive motion was used for 20 minutes at velocities of 15 and 0 degrees. To assess the effects of the CPM, the following variables were measured: range-of-motion, muscle tone, and ambulatory function. They were each measured before, immediately after, and 30 min after intervention. The research indicated that the 15 degree intervention resulted in significant differences in active range-of-motion of the knee (increased), relaxation index (increased), Modified Ashworth Scale (decreased), Timed Up-and-Go (decreased), and 6-Minute Walk test (increased). There was no significant changes seen with the 0 degree intervention. No differences were found in either group in passive range of motion.

Reference: Cheng HY, Ju YY, Chen CL, Wong MK. Managing spastic hypertonia in children with cerebral palsy via repetitive passive knee movements. J Rehabil Med. 2012 Mar;44(3):235-40

## Plan an OT/PT Showcase

Ave you ever considered hosting an occupational and physical therapy showcase at the school where you work? You could invite parents, teachers and students to come check out all the assistive technology and adapted equipment that is available for students. When therapists hop in and out of classrooms and homes they only see a slice of that child's life. Parents and teachers are with the children many more hours in the day therefore offering the most insight. When you stop to think about it, parents and teachers may not know what is even available especially along a continuum. For example, perhaps a student is using some simple adaptive equipment like a slant board. There are many different slant boards available along with many homemade versions. Perhaps if a parent or teacher spots a certain feature of one versus another for a student, that will trigger an idea of what would work best. Same could be said for other equipment including bigger equipment such a wheelchairs or standing frames. Therapists tend to recommend equipment from a medically and educationally based perspective of what the child needs but don't always take into account the perspective of the parent or teacher. If they are not on board than we all know the equipment usually does not get utilized (understandably so).

So here are some suggestions:

1. Have an open house night where you exhibit any adaptive equipment or assistive technology and its uses. Separate areas of the room perhaps by handwriting tools, technology tools, adaptive equipment and larger equipment. Make sure information is available for what each tool is used for.

2. Provide a demonstration of certain tools - explain why certain pencil grips are chosen, demonstrate word prediction programs, demonstrate different walkers, etc.

3. If you have a loads of equipment to showcase break it up into different nights therefore parents/teachers can come on the nights they are interested in the topic.

4. If you do not have time to host an actual showcase, how about create some poster presentations to leave by the room. This will inform teachers and parents what is available as they walk by. You could have different themes each month.

5. Love the idea of a showcase? Invite local vendors to bring wheelchairs, standing frames, orthotics, computer software, etc. Advertise it well and you would get attendees from other communities including therapists.

6. Take it one step further and make it a fund raiser. Do you need money for an adapted bicycle, iPad or handwriting program? Set up your showcase and charge a small admission fee.

Occupational and physical therapists have so much information to share that just can not occur during a 30 minute session. Start thinking outside the box to provide educational insight for all members of the special education team.



### **10 Simple Games to Practice Drawing/Writing**



Here are a few quick, simple activities to practice drawing, pre-writing strokes and/or letter formation:

1.) Squiggle Drawing: Draw a squiggle line on a piece of paper. Pass it to someone else. Let them add to the squiggle line to create a picture.

2.) Themed Squiggle Drawing: Draw a squiggle on a piece of paper. Write a theme on the top of the paper (i.e. - farm animal). Pass the paper to someone else and they have to create a farm animal from the squiggle on the paper.

3.) Group Shape Picture: Pick one shape (i.e. circles). Hang up a large piece of paper on an easel or the wall. Each person should add one circle to the paper, whatever size and color they wish. Add to it each day to create a nice work of art. Change shapes the next time.

4.) Drawing to Music: Turn on different types of music and draw while listening.

5.) Simon Says Draw: Just like the active game of Simon Says except the leader calls out phrases like: "Simon says draw a circle". "Simon says draw a face". "Draw three lines", "Write the letter A"....

6.) Follow the Leader: Put the easel in the front of the room or use a whiteboard. Choose one student to be a leader. That student draws an object. Each student at their seat follows the leader and draws the same object. Keep going and compare everyone's pictures at the end.

7.) Hot Artwork: Put a piece of paper on a clipboard and put several different writing utensils in the middle of a circle. Have the children sit in a circle. Turn on music and pass the clipboard. When the music stops, the person holding the clipboard draws one object. Turn the music on again and repeat until a picture is created.

8.) Hide the Drawings: Put two children near each other but put up a divider so they can not see each other's paper. Call out directions such as: draw a house, draw a flower in the yard, draw a bird in the sky, etc. At the end compare the pictures and see if they are similar. For letters you could call out directions such as: write a capital letter 'A' in the right corner, write a lowercase 'b' in the bottom left corner, etc.

9.) Complete the picture: Using a starting image on a piece of paper, have the child complete the picture. Here are free sample pages from <u>Partner Pictures</u> (<u>www.yourtherapysource.com/partnerfree</u>) to download. Try some Dice Drawing. Roll the dice and complete the picture. Here is a sample page to try <u>Dice Drawing</u> - <u>www.yourtherapysource.com/files/Dice Drawing Free Sample.pdf</u>

10.) Hide and Go Draw/Write: This is played like regular hide and go seek except the person hiding brings a clipboard along. While hiding they must draw a picture or write a word/ phrase. When the seeker finds them, he/she has to guess what was drawn or read the words.

## **Auditory Stimulation Versus NDT and Gait Training**

*Colored Rehabilitation* will be publishing research that compared the gait of two groups of adults with cerebral palsy following auditory stimulation or neurodevelopmental treatment (NDT). Thirteen individuals received gait training with NDT and 15 individuals received gait training with rhythmic auditory stimulation. The training sessions were 3 times per week for 3 weeks. Rhythmic auditory stimulation combined a metronome beat set to the individual's cadence with rhythmic cuing from a live keyboard and traditional neurodevelopmental treatment was provided.

Results indicated the following:

1. Temporal gait measures showed that rhythmic auditory stimulation significantly increased cadence, walking velocity, stride length, and step length.

2. Kinematic data indicated that anterior tilt of the pelvis and hip flexion during a gait cycle was significantly reduced following rhythmic auditory stimulation.

3. Gait deviation index also showed modest improvement in cerebral palsy patients treated with rhythmic auditory stimulation.

4. Neurodevelopmental treatment showed that internal and external rotations of hip joints were significantly improved.

5. Rhythmic auditory stimulation showed aggravated maximal internal rotation in the transverse plane.

The authors concluded that gait training with rhythmic auditory stimulation or NDT produced different effects on gait patterns of adults with cerebral palsy.

Reference: Kim SJ, Kwak EE, Park ES, Cho SR. Differential effects of rhythmic auditory stimulation and neurodevelopmental treatment/Bobath on gait patterns in adults with cerebral palsy: a randomized controlled trial. Clin Rehabil. 2012 Feb 3. [Epub ahead of print]



### **Celebrate OT Month**

We asked and you answered. We requested our followers on Facebook, Twitter and Pinterest to finish the statement "I love occupational therapy because...". Here are two images of the responses. You can view and print the pictures at www.YourTherapySource.com/loveot .





## **Hot Topics**

#### Modulation of Sound Sensitivity

An interesting discovery by researchers with be published in Neuroscience regarding the hair cells of the inner ear. Using a high voltage electron microscope, the researchers determined that the rootlets of the hair cells continue through the cell to the striated organelle which is believed to be responsible for the cell's stability. With the striated organelle connecting the rootlets to the cell membrane, this offers the opportunity of feedback from the cell to the very detectors that detect motion. One of the researchers states the following: "this suggests a new way to envision how hair cells work. Just as the brain adjusts the sensitivity of retinal cells in the eye to light, it may also modulate the sensitivity of hair cells in the inner ear to sound and head position". Feedback from the brain could be what changes the tension on the rootlets of the hair cells and their sensitivity to stimuli.

Reference: University of Illinois at Chicago (2012, March 8). Discovery of hair-cell roots suggests the brain modulates sound sensitivity. ScienceDaily. Retrieved March 9, 2012, from http://www.sciencedaily.com /releases/2012/03/120308174651.htm

#### Ambulation Activity of Children with CP

A recent study assessed the ambulation activity of 62 children with cerebral palsy (ages 7-13). The children had spastic cerebral palsy with GMFCS levels I-III. Ambulation activity was measured for one week. The following results were recorded: children took more steps during week days than on weekends, higher GMFCS, age and bilateral CP were associated with lower ambulatory activity on school days, bilateral CP, age and no sports participation were associated with lower ambulatory activity on the weekend. When the data was corrected for body height, this decreased the association with age.

The researchers recommend that interventions should focus on increasing ambulatory activity on weekends for children with bilateral spastic cerebral palsy.

Reference: VAN Wely L, Becher JG, Balemans AC, Dallmeijer AJ. Ambulatory activity of children with cerebral palsy: which characteristics are important? Dev Med Child Neurol. 2012 Mar 13. doi: 10.1111/j.1469-8749.2012.04251.x. [Epub ahead of print]

#### DCD and Mental Health Issues

A prospective study analyzing 346 children with probable developmental coordination disorder will be published in Pediatrics. Overall mental health was measured by using the child-reported Short Moods and Feelings Questionnaire and the parent-reported Strengths and Difficulties Questionnaire. The children who had probable DCD exhibited increased odds of self-reported depression and parent-reported mental health difficulties. When accounting for verbal IQ, social communication, bullying, and self-esteem, the odds of mental health difficulties significantly decreased. The researchers concluded that the mental health difficulties in the children with probably DCD were due to associated developmental difficulties, low verbal IQ, poor self-esteem, and bullying. The researchers recommend that mental health issues should be prevented and treated in children with DCD.

The children in this study were not officially diagnosed with DCD.

Reference: Raghu Lingam, Marian J. Jongmans, Matthew Ellis, Linda P. Hunt, Jean Golding, and Alan Emond. Mental Health Difficulties in Children With Developmental Coordination Disorder. Pediatrics peds.2011-1556; published ahead of print March 26, 2012, doi:10.1542/peds.2011-1556

## On The Web...

#### Play60 Funding

There are currently funding opportunities (up to \$4000) for Fuel Up to Play 60. They are accepting application from schools enrolled in Fuel Up to Play 60. If you are not enrolled you can join online. The money can be used to promote healthy eating and physical activity. You can read more about the opportunity here at <u>Fuel Up to Play 60 - http://school.fueluptoplay60.com/funds/funds\_for\_futp60.php</u>

#### Handouts for Adolescents with DCD

Here is another great hand out from CanChild to print and share with school staff that work with adolescents with developmental coordination disorder (DCD). Also includes suggestions how to MATCH the activity to the child:

Modify the activity

Alter your expectations

Teach strategies

Change the environment

Help by understanding You can view the document below or find it on the web <u>here</u> http://dcd.canchild.ca/en/EducationalMaterials/resources/MATCH\_Adolescent.pdf.

There are several more great handouts using this MATCH model for students with DCD. You can see them all here at <u>CanChild - http://dcd.canchild.ca/en/EducationalMaterials/school.asp</u>

#### Grant for People with Intellectual Disabilities

The Center for Disease Control and Prevention announced a grant opportunity this week for improving the health of people with intellectual disabilities. According to the website it states that

" The purpose of this program is to fund activities for people with intellectual disabilities (ID) that identify comorbid conditions and poor health behaviors and to increase healthy behaviors, and improve and increase access to appropriate health services. The primary goal is to address overall health by enhancing and increasing access to health services for people with ID and increasing their healthy behavior choices".

The grant application is due May 21, 2012. The award ceiling is \$3500.

You can get more information at <u>Grants.gov</u> http://www07.grants.gov/search/search.do?&mode=VIEW&oppId=158533

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## **Activity Ideas**



Roll and Pull

### www.yourtherapysource.com/freerollpull



Sock Blocks

### www.yourtherapysource.com/freesockblocks



DIY Rope Ladder

www.yourtherapysource.com/videoropeladder

Sample page from *Reminders for Physical Therapy* For the complete download visit www.YourTherapySource.com/ptreminders

downward pressure on the student's back as a tactile classroom chairs. Please make sure the foot stool is In order to maintain an upright posture in the chair, this student benefits from a tactile cue on the back. Thank you∼ available to provide proper stability when in the This student is unable to reach the floor in the As instructed by the therapist, provide a firm, Date: Date: Upright Posture ~Thank you~ Foot Stool cue to improve sitting posture. classroom chair. Student: \_ Student: sitting with proper posture. Please make sure that the improve desk top work and maintain a proper level degrees. Feet should be on the floor. ~Thank you~ student is sitting in a 90-90-90 position: hips at 90reminders for this student to sit up straight in the Thank you This student improves his/her tabletop work when Having proper posture in the chair can help to degrees, knees at 90 degrees and ankles at 90 of alertness. Please provide occasional verbal Sitting Up Straight Date:\_ **Proper Sitting Posture** classroom chair. Student: Student:

Sitting

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