



Digital magazine for pediatric occupational and physical therapists.

## Issue 21 - December 2010









## **New and Popular Products**



#### **Fingerprint Calender:**

Download materials to create a 12 month keepsake, fingerprint calender. Work on finger isolation and visual motor skills while creating a great gift!

List Price: \$1.99

Sale price: \$0.99 until 12/15/2010

### www.YourTherapySource.com/fprint

#### First Toddle® 5-in-1 Play and Development Center



The First Toddle® 5-in-1 Play and Development Center is a strong, stable and safe play environment that entertains children from 3 months to 3 years and beyond. The upper horizontal bars of First Toddle® adjust to three levels (17" to 27"), providing a stable framework for older children or children who need a little more support. It sets up quickly (without tools), weighs only 13 pounds, and comes packaged in a handy reusable box (23" x 17" x 7").

www.YourTherapySource.com/toddle

## **Motor Learning Versus NDT**

recent article in *Clinical Rehabilitation* compared two groups of children with cerebral palsy. Seventy eight children (ages 66-146 months) with spastic cerebral palsy (gross motor functional levels II and III) were divided into two groups. One group received motor learning coaching for 3x/week, one hour sessions, over three months. The other group received the same 3x/week, 1 hour sessions for three months of neurodevelopmetnal treatment (NDT). After the three months and at 6 months, the Gross Motor Function Measure (GMFM-66) was performed along with parent questionnaire and stair climbing was assessed.

The results showed the following:

- both groups showed increased scores in GMFM-66 at 3 months
- at 6 months retention was significantly better in the motor learning group level II children
- stair climbing also showed improved retention after 6 months in the motor learning group (increased by 1.1% compared to a decreased of 0.3% in the NDT group)
- mobility improved by 13% for the motor learning coaching group and decreased by 12% with the NDT group

The researchers concluded that motor learning coaching resulted in significantly better results in gross motor function and mobility for higher level functioning children with cerebral palsy.

Reference: Simona Bar-Haim et. al. Effectiveness of motor learning coaching in children with cerebral palsy: a randomized controlled trial Clin Rehabil November 2010 vol. 24 no. 11 1009-1020



### **Encouraging Physical Activity at Home**

et's face it growing up today is not the same as it used to be. The children in the United States are becoming less and less active. Many children today ride the bus to school, ride the bus home and play indoors (mostly television, video game and computer use). The extracurricular physical activities in a child's life are mostly organized sports. Pediatric occupational and physical therapists can encourage physical activity as a leisure activity leading to a healthier lifestyle for all children.

To get started perhaps you can devise a long term physical activity goal. Each month have a child pick something to do that requires physical activity with their family. Perhaps it is taking a hike, walking the mall, free play outdoors, sledding... whatever is possible for the family and child to complete. Provide the children with a hand out regarding the importance of physical activity. Check out this APTA page - Smart Moves for Families at <u>http://www.moveforwardpt.com/tips/smart-moves-for-families/</u>.

For each monthly activity, have the child take a photograph, video or draw a picture of what the activity included. Each month have a sharing day at school where the kids can describe what physical activity they completed. This allows other students to share physical fitness ideas with the whole class to spark interest in others.

At the end of the year, give the children a prize who have completed 10 physical activity tasks. Make sure the prize also encourages a healthy lifestyle i.e. free pass to a roller skating rink, playground ball or jump rope.



**Scavenger Hunts** electronic book includes over 150 scavenger hunt cards to find. In addition, there are 3 different scavenger alphabet hunts and 10 pencil and paper scavenger hunts to encourage visual discrimination and visual motor skills. These hunts are great to get any child up and moving!

List Price: \$4.99

www.YourTherapySource.com/scavengerhunts



### peech/ Language Disorders and Motor Delays

*Developmental Medicine and Child Neurology* published a study comparing the gross motor skills of 6-9 year old children with speech and language problems (n=105) with typical developing children (n=105). Using the Test of Gross Motor Proficiency Edition 2, the children were evaluated in 4 groups: those with speech disorders, those with language disorders, those with both and typically developing peers. The results indicated that all three subgroups with speech and language disorders scored lower on the locomotor and object control portions of the test. The scores on the test improved with age for the children with speech and language disorders but the scores were still behind their typically developing peers. The researchers recommend early diagnosis and intervention for children with speech and language disorders.

Reference: CHRIS VISSCHER et al Motor proficiency of 6- to 9-year-old children with speech and language problems Developmental Medicine & Child Neurology Volume 52, Issue 11, pages e254–e258, November 2010

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## eaction Time and DCD

*Pediatric Physical Therapy* published research comparing the reaction time, movement time and peak force between 16 children with developmental coordination disorder (DCD) and 11 children age matched peers without DCD. The children were asked to reach and grasp a toy car that was sliding down an 8 degree or 15 degree slope. The results showed that the children with DCD failed 35% of the test trials. When the children were successful at grabbing the car, the children with DCD had significantly longer reaction times and movement time. They also generated a larger peak force. When the slope did increase to 15 degrees both groups could adjust their reaction and movement times.

Reference: Mak, M. Reaching and Grasping a Moving Target Is Impaired in Children With Developmental Coordination Disorder Pediatric Physical Therapy: Winter 2010 - Volume 22 - Issue 4 - p 384–391doi: 10.1097/PEP.0b013e3181f9d885

## **Hot Topics**

#### **Media Use and Psychological Difficulties**

Here is yet another reason to get children to turn off the tv, computer and video games and get moving. *Pediatrics* published a large research study following 1013 children (average age 10.95 years old). Daily television hours and computer use were logged. Sedentary time and moderate/ vigorous physical activity were tracked with accelerometers. The results indicated that increases in television and computer time were associated with higher psychological difficulties. Children who experienced more than 2 hours a day of screen time were at increased risk of high level of psychological difficulties. The risks increased even more if the children did not reach the physical activity guidelines for the day.

Reference: Page, Angie S., Cooper, Ashley R., Griew, Pippa, Jago, Russell Children's Screen Viewing is Related to Psychological Difficulties Irrespective of Physical Activity Pediatrics 2010 126: e1011-e1017

#### **Resistance Training in Children**

*Pediatrics* published a review of the research on resistance training in children and adolescents. The researchers concluded that the ability to improve muscle strength increases with age and maturation without noticeable advancement noted during puberty. The duration of the study and the frequency of performed sets had a positive outcome on improving muscle strength.

Reference: Behringer, Michael, vom Heede, Andreas, Yue, Zengyuan, Mester, Joachim Effects of Resistance Training in Children and Adolescents: A Meta-analysis Pediatrics 2010 126: e1199-e1210

#### **Perceptual Reasoning and Handwriting**

*Neurology* has published research on a small study consisting of 24 adolescents, half with autism and half without autism. Using the Minnesota Handwriting Assessment Test, intelligence test and Physical and Neurological Examination for Subtle (Motor) Signs (PANESS), the researchers found that the adolescents with autism showed worse overall scores on handwriting just like younger children with autism exhibit. In addition, it was found that the perceptual reasoning skills were significantly predictive of handwriting skills where motor skills were not. One of the researchers, Dr. Bastian states:

"Our research suggests that adolescents with autism may be able to learn and utilize compensatory strategies that involve reasoning skills to compensate for their motor impairments."

Perceptual reasoning is the ability to reason and solve problems when non verbal material is presented. Just like OT's offer environmental modifications for handwriting such as pencil grips remember to consider how academic material is presented. Try modifying the work to assist a student's perceptual reasoning by changing the font type or size, reorganizing material or reducing visual distraction on the page to name a few.

Reference: Kennedy Krieger Institute. New Study Affirms Handwriting Problems Affect Children with Autism into the Teenage Years. Retrieved from the web on 11/17/2010 from http://www.kennedykrieger.org/kki\_news.jsp?pid=9212

## **More Hot Topics**

#### Note Taking Skills in Middle Schoolers with LD

The *Journal of Learning Disabilities* published research on the ability of middle schoolers with learning disabilities to take notes in class. The study compared 90 middle school students with and without learning disabilities and their ability to take notes in class. The results indicated that the students with learning disabilities performed "significantly worse than students without learning disabilities on the type and amount of notes recorded and test performance".

Reference: Boyle, J. Note-Taking Skills of Middle School Students With and Without Learning Disabilities J Learn Disabil November/December 2010 vol. 43 no. 6 530-540

#### **Working Hard for Food**

An interesting study was done in mice that indicated the harder the mice worked for food the more they enjoyed it. Using levers, the mice pressed the lever one time to get a tasty treat and 15 times to get a low calorie treat. The mice preferred the food that they had to work harder to get, even when the food was low calorie. These results even held true after time passed - the mice were again given a choice and they picked the food they worked harder to get. The researchers are hopeful that this will lead to some interesting studies in obese people - if you have to work harder for food will you value it more?

This research was interesting in terms of children who are picky eaters or overweight. Does proprioceptive work prior to eating influence a child's food preferences and choices? If a child is avoiding certain foods, if they have to exert more effort to get the food would they choose it? If I must exercise before I eat, will I make healthier food choices? Almost seems like reverse psychology...

Reference: Physorg.com Hard Work Improves the Taste of Food Study Shows. Retrieved from the web on 11/27/2010 at http://www.physorg.com/news/2010-11-hard-food.html

#### Therapy Balls in the Classroom

The *American Journal of Occupational Therapy* published a single subject design research study on the effectiveness of using therapy ball chairs on classroom participation in children with autism. Six boys with autism spectrum disorder were assessed using video recordings during circle time when they were sitting on the therapy balls. The results indicated that each child reacted differently. One child with extreme sensory seeking behaviors benefitted whereas children with poor postural stability were less engaged. The researchers concluded that clinical reasoning is important when making decisions for strategies to use it the classroom.

Reference: Nancy Bagatell-PhD, OTR/L, Gina Mirigliani-OTD, OTR/L, ATP, Chrissa Patterson-MPT, Yadira Reyes-MOTS, Lisa Test-OTD, OTR/L Effectiveness of Therapy Ball Chairs on Classroom Participation in Children With Autism Spectrum Disorders AJOT November/December 2010 Volume 64 / Number 6

## On the Web...

#### Teaching Children Daily Routines

Here is an informative hand out from Vanderbilt University entitled "Teaching Your Child to Become Independent with Daily Routines". It includes what to expect from children at different age levels with regards to self care skills and tips on encouraging independence in children including those with special needs. You can view it at <u>http://csefel.vanderbilt.edu/documents/teaching\_routines.pdf</u>

#### Letters of Medical Justification

Need to get some ideas to write letters of medical justification for adaptive equipment? Check out some of these websites to spark your letter writing:

Rifton - How To Write Letters of Medical Necessity at <a href="http://www.rifton.com/resources/lettersofmedicalneed/">http://www.rifton.com/resources/lettersofmedicalneed/</a>

<u>Easystand</u> - Offers a checklist of what to include in your letters. <u>http://www.easystand.com/funding/lmn.cfm</u>

<u>LMN Builder</u> - If you write many letters a year, this website is worth a look. It is free web tool for therapists to help write letters of medical necessity. <u>https://www.lmnbuilder.com/site/clinician</u>

#### Talking Books

There is a new free application called Create and Convert. It can take any editable document and make it accessible. For example, it can take a Word document and convert it to a talking book. For some documents you can enlarge the font, change the background color and even convert to Braille! Put it on a flash drive and it is ready to go. Did I mention it is FREE!!!! Check it out at <u>Create and Convert</u> <u>http://www.eduapps.org/</u>

#### School Based Physical Therapy Interventions

Here is an informative paper entitled *Review of Selected Physical Therapy Interventions for School Age Children with Disabilities* written by Susan K. Effgen and Irene R. McEwen. It is a 35 page document that includes a review of research for the different interventions that school based physical therapists utilize. The goal of the paper is to: "identify: (a) effective physical therapy procedural interventions that lead to positive outcomes for children (3-21 years) with disabilities in schools; and (b) gaps in the evidence and areas requiring further research".

You can view the document here: http://www.coe.ufl.edu/copsse/docs/PT\_CP\_090707\_5/1/PT\_CP\_090707\_5.pdf

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