



Thank You For Another Great Year and We Wish You A Blessed Christmas and A Happy New Year!

From:

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**Running Well®
Seminars**

& Karen Voss, MS, OTR, SIPT, IMC

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Physical & Occupational Therapy News

“Santa and all you folks who shovel the snow from the sidewalks, read on...”,
by Karen Voss

Back Care:

I am currently in Michigan participating in a 6-month Hand Therapy Fellowship through the Occupational Therapy program at the University of Michigan, Ann Arbor. While I am thrilled about this wonderful education and career opportunity; I am not so thrilled about the amount of snow we have had so far. Don't get me wrong, I am not complaining but merely being reminded of the importance of good and bad ways to scoop, lift and throw snow (I wouldn't want Santa to think I am ungrateful and only deserve a lump of coal).

In a recent journal review, I came across a study that gives good reason for the “use your legs” to squat, lift and weight shift to throw the snow. Even if you are not shoveling snow read on and be reminded of the importance of an effective *squat lift* rather than a back straining *stoop lift*.

In this study the authors sought to better support the widely recommended lifting method of squat lift with knees bent and back straight. This lift is considered to be safer than the stoop lift of knees straight and back bent over. The squat lift involves bringing the load closer to the body and, hence, reducing the extra demand on back muscles while counterbalancing the external load with postural muscles. It is evident that with the high numbers of acute onset back pain after performing lifting tasks; many people (despite instruction to the contrary) tend to stoop lift. This may be due to its (stoop lift) easier operation and lower energy consumption and our body's tendency to take shortcuts if the brain doesn't direct it to do what is right.

The participants in the study were asked to do repetitive lifts using squat or stoop technique without arm load or rotation and to do the lifts with rotation, with arms loaded and with arms loaded and rotation at the same time. This simulates many things we do in daily life: Stoop over to pick up a tissue off the floor, make the bed, retrieve an item from the dishwasher, reach into the refrigerator or low shelf. More intense activity may be stoop to scoop up snow then rotate to throw it to the side or to pull laundry from the washer/dryer. You get the idea and can probably think of many yard and garden activities that involve the “stoop”. *(continued pg.4)*

Trigger Point Dry Needling & Acupuncture

An Acupuncturist's Perspective

Check out the following link:

[http://www.dryneedlingcourse.com/
fast_changing.htm](http://www.dryneedlingcourse.com/fast_changing.htm)

This is an interesting article by Yun-tao Ma, PhD, LicAc, who is the director of the BioMedical Acupuncture Institute in Boulder.

Clients often ask me about the difference between the Trigger Point Dry Needling (TDN) that I perform and acupuncture. Traditionally, what has been termed as “acupuncture” is a part of Traditional Chinese Medicine or TCM. Acupuncture in the TCM realm is based on the belief that it restores energy flow through meridian systems in the body. TDN, on the other hand, is based on modern Western concepts of treating myofascial trigger points (TrPs). Trigger points are the areas of abnormal contraction (“knots”) that develop in our muscles and other soft tissues. Trigger points can cause pain, either locally or “referred” to a distant part of the body. (We refer to it as “dry” needling, because no substance is injected with the needle, as would be in a trigger point *injection*.)

There is really no relationship between the mechanisms and philosophy of TDN and TCM-based acupuncture. Dr. Ma refers to his Western-based dry needling approach as “Biomedical Acupuncture”.

For more information, also check out the following link from our website:

[http://www.catalysttherapies.com/documents/
TriggerPointDryNeedling.pdf](http://www.catalysttherapies.com/documents/TriggerPointDryNeedling.pdf)

ABOUT US



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OCCUPATIONAL THERAPY

for CHILDREN Sensory-Integration Therapy
Visual-Motor, Balance, Motor Coordination
Fine Motor Skills, Handwriting Skills

CAPD & ADD Symptoms & Behaviors

Treated with The Interactive Metronome

written by A Speech & Language Therapist, Barbara Fuoco-McCooley, MA CCC-SLP

This case report is about Pam, a ten-year-old girl diagnosed with Central Auditory Processing Disorder (CAPD) and Attention Deficit Disorder (ADD). Her parents reported she threw temper tantrums when she shifted from one task to another and when given a challenging task. In the classroom and in her homework, she showed language related difficulties in reading and math tasks. Decoding and comprehension skills were noted as her primary deficit areas.

Pam's parents were referred for The Interactive Metronome (IM) treatment during her summer break. Initially, Pam was uncommunicative during her IM sessions and resisted another therapy program interfering with her summer. Pam was given the Gray Oral Reading Inventory-4 (GORT-4), to assess her reading rate, accuracy, fluency, and comprehension. The test showed she fell below average in all areas. The IM pretest assessment identified Pam as having significant motor planning and sequencing difficulties. Pam was inattentive even during the short task durations required in the assessment, and her task vigilance appeared weak. Although she appeared to understand the task directions and reported as such, she often ceased following them during the tasks resulting in poor *IM Attend-Over-Time Test* performance.

A treatment plan was developed to meet Pam's individual needs based on the observations of her behaviors during the IM assessment, notes of conversations with her parents, and her test results. To allow Pam to feel more in control of her treatment plan, sessions were scheduled with her interests in mind. The mid-morning, three times per week appointments allowed her to sleep-in and to still be available to play with her friends. Trying to motivate her to participate in a treatment that took time away from her summer vacation days was the first challenge presented. A simple reward system was devised where Pam earned a small token prize from a treasure box at the end of each session if she reached her goal. The goal changed depending upon the activities planned for the session. Pam's highly competitive nature made her eager to beat her own scores and performance levels. She started the second session confident that it would be easy to better her previous scores. Her movements were haphazard and diminished by the end of a long IM exercise. When she checked the results, she was surprised not to have improved as much as she expected, and became determined to figure out how to get the results she needed. She progressed enough to not get frustrated but not always enough to earn a token for a prize. Her efforts and a more positive frame of mind in IM improved as the weeks progressed.

Pam met the objectives set forth at the beginning of her IM treatment program and on the IM posttest assessment demonstrated the following: a 72% improvement over the initial IM pretest scores; 87% improvement in her ability to attend to a task ; family reported a decline in temper tantrums with no occurrences in the last week of the treatment. Pam became more pleasant in her social interactions both in the clinic and with her peers. She agreed to receive tutoring in math and wished to continue IM through the fall season. This was a significant change in character for Pam since she previously would resist any tutoring or therapy. Other results: her scores on the posttest GORT-4 were dramatically improved in comparison to her pretest scores: reading rate – 75th percentile (16th at pretest), accuracy – 84th percentile (50th at pretest), fluency - 84th percentile (37th at pretest), and comprehension – 91st percentile (25th at pretest).

The positive outcomes noted in her attention, behavior, and in the reading related areas can be attributed to Interactive Metronome since no other interventions were conducted concurrently for the duration of the IM treatment. For more information visit www.interactivemetronome.com

Back Care continued from page 1

Results, for the tasks considered, advocate squat lifting over stoop lifting as the technique of choice in reducing net moments (strain), muscle forces and internal spinal loads.

The participants were reported to exhibit in the stoop lifts, as compared with squat, significantly larger thorax, pelvis and lumbar rotations ($P < 0.000002$, 0.05 and 0.03, respectively). These multiple rotations or “twist moments” in the spine in the stoop lift occurred whether the participant carried a load or not. They also found that S1 became a localized stress point with stoop lifts vs. squat due to the item and arms further away from the body. In the stoop lift, the item would inherently be positioned further away from your body in particular when bending down to pick it up. The maximum net “external moment” or force at the L5–S1 disc substantially increased as increased weight was added to the hands with the stoop technique (by 30% compared to squat lifts). This force and strain is placed on muscles that typically have a small contribution to extending the back, about 10–30% depending on the lifting technique. This extra strain is delivered to the passive ligamentous spine. Another measured result that should help us pause and “set up” before any lift is the measurement of intervertebral disc levels and their greater amount of compression and shear forces (measured in Newtons-N) with stoop lifts.

Internal local compression and shear forces at different intervertebral disc levels were also greater in stoop lifts than in squat lifts with maximum differences reaching ~800 N in compression and ~200 N in shear at the L5–S1 level.

Shearing and compression forces occur in both types of lifts but significantly more so at the L5 to S1 level in the stoop lift.

In summary, take a moment to learn the following steps for stronger core, stronger legs, and protecting your back:

1. use your strong legs by lowering yourself closer to the task, the more you do this first step, the more you will feel your quadriceps muscles strengthen
2. Transfer the force of the load to your legs by pushing through your feet slightly shifting from one to the other if you need to in order to return to an almost complete stance without hyperextension of your back or knees. You should feel your lower abdominal and your gluteal muscles kick in when you do this. If you don't, then go ahead and get those muscles to kick in and participate to keep your back stable at the end of your lift.
3. Weight shift, step and continue to push through your feet to toss the snow, place the item, whatever it is.

It's important to *train* yourself to move this way in your daily life, not just when you're doing an intense activity. Exercise and activities we teach in therapy, such as Arcing, hip hinge and functional squats are important to practice often, so the movement patterns happen more automatically.

Every item on the floor or after every snow fall is an opportunity to strengthen your leg muscles, your gluteals and your lower abs— Go For It and feel the good muscle burn instead of the aches and pains of the lower back strain. For those times when you do overdo it; be sure to do your back “release” exercises you have learned immediately after the activity. If you don't know any exercises, come in and learn what it takes to care for your back for life.

Analysis of squat and stoop dynamic liftings: muscle forces and internal spinal loads. Bazrgari et.al (2007) Eur Spine J., May; 16(5): 687–699



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Peter Szymanski, these seminars educate runners about improving their form, movement efficiency, and preventing running-related injuries. They meet for 90 minutes once a week for 6 consecutive weeks and include drill-work and video-taped analysis recording your improvements throughout the 6 weeks. Get more information and/or register at www.CatalystTherapies.com. Or contact Karen or Peter directly at the Catalyst Therapies office (303) 458-9660.

Individual Running Well Training Sessions also available by appointment.

*A portion of each participants registration fee is donated to the charity, Colorado Youth at Risk, www.ColoradoYouthAtRisk.org

2009 Running Well® Group Schedule

Tuesdays

April 7 - May 12

May 26 - June 30

July 14 - August 18

September 1 - October 6

Wednesdays

April 8 - May 13

May 27 - July 1

July 15 - August 19

September 2 - October 7

All sessions begin 6:00 PM, end approximately 7:30

Schedule is subject to change, call or see website for latest info.

You can also "create your own group" of 2 or more, and arrange it to fit your schedule.

We are also considering a weekend format in the spring. This would consist of 2 Saturdays or Sundays, 4 to 5 hour sessions, spaced 1 or 2 weeks apart. Please contact if you are interested in this option.



Help is needed for the AIR Foundation!

Running with Passion. Running for Hope. www.TheAirFoundation.com

The AIR Foundation suffered a major set back on the 15th of December. The office was vandalized and their only 2 computers were stolen. As anyone who depends on their computer as a lifeline to communication can imagine, this is a crushing blow for this nonprofit organization. Nick Sterner and the members of the Air Foundation have, in less than 2 years, made an enormous impact on so many lives through running. The recent events albeit devastating, will not shut down their organization. The members are too dedicated to their mission to let that happen. They are currently beginning to recruit members from the Denver Rescue Mission and Urban Peak for their Colfax Marathon event and have been stalled temporarily as a result of the recent burglary.

If you know of anyone who might have a laptop w/VISTA that the AIR Foundation/Nick Sterner could borrow or you may want to donate; please contact them directly at 720-365-2935. If you want to make a donation of money, you can contact them directly or go to the website, www.TheAirFoundation.org (non-profit 501c3 entity). This loss is untimely and is most definitely a set back for the organization but they plan to go forward and as they enter the training season for the Colfax Marathon; they are in need of winter running clothing and running shoes. Sizes range from teens to adults, men and women.

If you haven't heard about what the organization does, please visit the website and find out. The AIR Foundation uses endurance running to fight homelessness and addiction. Through Activity Inspired Rehabilitation, we are taking people off the streets and empowering them to live a life of lasting health and self-sufficiency.

Help would mean everything, especially at this time of year. 720 365-2935.