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Mobile Physical Therapy June 2010

June 2010 News and Announcements

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Muscle Power vs Muscle Strength--What's the Difference and Who Cares?

The term power is often misused or misunderstood. The true meaning of power is the ability to generate as much force as fast as possible. A golf tee-off, a vertical jump, or swinging a softball bat are all examples of power. If you do these things slowly, they just won't work very well.

Strength, on the other hand, is the ability to generate as much force as possible with no concern for the factor of time. It doesn't matter how long it takes to complete these tasks. All that matters is that it gets completed--doing it slowly doesn't take away from the success of the exercise.



Power, which is often referred to as speed-strength, is an important factor in sporting activities, but it is also used in everyday activities such as moving fast, running up a flight of stairs, or just keeping up with your kids.

Different exercise routines may emphasize strength, power, or both. But what is the most effective in training older adults? The answer in part, depends on what your goals are: muscle power, muscle strength, or muscle endurance. Research suggests that similar improvements can be gained in muscle power by lifting light, moderate, or even heavy weights. But muscle strength and endurance require lifting heavy weights.

In one study, muscle power improved 14-15% in all groups. Whether using light, medium, or heavy weights, all saw about the same improvements. But those lifting heavy weight saw bigger gains in strength (20%), while the medium group increased strength 16% and the light group 13%.

But the biggest difference was in muscle endurance: Those who lifted heavy weights gained 185%, while those who lifted medium weights gained 103% and the light group gained 82%. Therefore, using heavy loads during explosive resistance training may be the most effective strategy to achieve *simultaneous* improvements in muscle strength, power, and endurance in older adults.

[For an abstract of this article, click here.](#)

Mobile Physical Therapy Uses Elastic Tape Techniques to Improve Function

Elastic taping isn't just used by athletic trainers on pro athletes like Lance Armstrong. Did you know that Mobile Physical Therapy frequently uses taping techniques to improve function and decrease pain in our aging adult patients?



Elasticized taping is a treatment based on the body's own natural healing process. The major effects of the taping are correcting muscle function, improving circulation of blood and lymph, relieving pain, and repositioning the subluxation joints.

Elasticized tape is latex free, high quality tape that was specifically designed to be worn on the skin for an extended period of time (3-4 days) without irritation. It can also be worn during exercise and everyday activities to help support or encourage muscle function. The adhesive is not only heat activated, but also will not leave any residue when removed.

Elasticized tape has an elasticity of 140%, which matches the same basic elasticity found in human skin and muscles, allowing elastic taping to work with your body. This provides full range of motion, support, and stability, without adversely affecting the natural range of motion.

Calf Strength--Fall Risk Reduction for ALL Ages!

This article is second in a series of information and exercise program to prevent falls in all ages. For a copy of the previous article, [click here](#).

Even people in their 20s and 30s can have significant risks for falling, but more research is done on falling and the aging adult. New research at the University of Missouri is looking at gradual changes that happen as we age from early to late adulthood which may lead to falling.



As described in our last newsletter, researcher Carmen Abbott PT, PhD has identified several key areas which are affected by the aging process and can contribute to fall risk. **This study is unique because its participants were from various age groups starting at age 20. This information is relevant for those far below the considered fall risk age of 65.**

Abbott research shows correlations between ankle strength and several areas of everyday activity. Having adequate strength in the ankles, especially in the calf muscles is very important.

Weakness in the calf muscles can mean smaller steps, slower gait, lower walking endurance, and decreased safety. People with weak calf muscles have also been shown to fall more than those with strong calf muscles.

What is normal strength in the calf muscles?

In her research, Abbott found that community dwelling adults age 20-69 could perform 24-25 repetitions of the single leg stance heel lifts. Adults 70-79 could perform 21-22 repetition's.

You should be able to stand on one foot and raise up and down on your toes 25 times (1 second hold) without stopping. **See the "Exercise of the Month" below on how to improve your calf strength.**

Exercise of the Month--Heel Raises



Stand with feet shoulder width apart and toes pointed forward. Raise up on toes, lifting heels off floor as high as possible.

Hold for one second and slowly lower to start position for one second. Progress by increasing reps, then progressing to one-leg heel raises.

The goal is to get to 25 repetitions of one legged heel raises.

Common Errors in the Standing Heel Raise Exercise:

- Do not bend the knees during the raise - this brings the quads and glutes into the movement, reducing the tension on the calves.
- Always keep your knees stiff but not locked in order to best isolate the calf muscles and

minimize the involvement of other muscles.

[For a copy of this month's "Exercise of the Month--Calf Strengthening", click here.](#)

[For a copy of last month's "Exercise of the Month--Calf Stretch", click here.](#)

Mobile Physical Therapy Information

Mobile Physical Therapy provides physical therapy services to seniors and others in their homes. Our services are covered by Medicare Part B, PPO's,



some private insurances, and private pay. Our office can verify benefit coverage prior to beginning treatments.

[Click here for a referral form, or call us at 314-558-1385.](#)

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