Massage Combined with Resistance Significantly Improves Hamstring Flexibility

Recent study evaluated the effectiveness of Active Muscle Therapy, a combined intervention of deep stripping massage and eccentric resistance on hamstring flexibility, announces Performance Health.

Akron, OH (PRWEB) September 10, 2013 -- Hamstring flexibility, critical to sports performance and injury risk reduction, significantly improved in study participants after a massage treatment that combined a soft tissue technique and eccentric elastic resistance. The results of this study should translate into more efficient treatment sessions and the potential for helping clients and patients achieve their goals faster.

“A great deal of research has been conducted on a wide variety of techniques that improve hamstring flexibility. However, little research has been done on the effects of combining deep stripping massage strokes (DSMS) with eccentric resistance. Our research sought to fill this void by investigating the effects that DSMS alone and combining DSMS with eccentric resistance have on hamstring length and strength,” stated Jeffrey Forman, PhD, NCTMB. “We worked with 64 study participants between the ages of 18 and 62 who were qualified with either one or both hamstrings tight and with no history of knee, thigh or lower back problems for one year before the study.”

Poor flexibility can negatively impact normal biomechanical balance and function, resulting in impaired mobility, pain and reduced sports performance. Limited range of motion in the hamstring muscle group has been associated with postural deviations, low back problems, impaired athletic performance and greater risk of injury (Crosman et al., 1984).

The study was conducted at De Anza College in Cupertino, California in collaboration with the Wichita State University Department of Human Performance Studies. Their findings were published ahead of print in the Journal of Bodywork and Movement Therapies.

For the study, a tight hamstring was defined as a 15 degree or more deficit in passive knee extension. Measurements were taken with the participant supine, their hip flexed to 90 degrees and their pelvis strapped to the table. On the more flexible hamstring, or non-dominant if of equal flexibility, participants received a deep stripping massage, which consisted of fifteen, ten-second DSMS that covered the entire breadth of the hamstring from insertion to origin at a pressure of seven out of ten on a verbal pressure scale. On the tighter hamstring, eccentric resistance was added using a Green Thera-Band® professional resistance band. To perform the Active Muscle Therapy intervention, the participants were prone with the band attached to their ankle with a Thera-Band extremity strap. The other end of the band was attached to the massage table so that there was no slack through out the full range of knee extension motion. After being passively placed into 90 degrees of knee flexion, they lowered their leg against the pull of the resistance band for a 10-count while a massage therapist provided the same DSMS that were applied to the other leg. On both hamstrings the massage therapist used a Green Thera-Band Hand Exerciser as a shock absorber in their massaging hand and Prossage® Heat as a lubricant.

The participants’ hamstring flexibility and strength were recorded before and after the two interventions. Both techniques resulted in significant increases in hamstring flexibility; however, the hamstring receiving the deep stripping massage with eccentric resistance increased significantly more than the hamstring receiving massage.
alone. Massage alone increased 6.3%, while massage with eccentric exercise increased 10.7%. There was no significant change in strength after either intervention.

“The results of this study indicate that utilizing DSMS with eccentric resistance improved flexibility to a greater extent than DSMS alone,” concluded Dr. Forman. “Active Muscle Therapy treatment protocols have been developed for the upper and lower extremities and the neck muscles. Our research is continuing as we are studying the effects that these techniques have on other muscles. This technique may prove beneficial and effective for athletic trainers, massage therapists and physical therapists who are looking for a modality that quickly and efficiently helps restore flexibility to tight musculature.”

Dr. Forman will be presenting on Active Muscle Therapy at the AMC/One Concept Conference being held in San Diego on September 13-15, 2013. Learn more at www.ActiveMuscleTherapy.com.

About the Academy
The Thera-Band® Academy was formed to scientifically document the benefits of resistance exercise and pain relief, guide the company in its development of new products and exercise programs, and to promote therapeutic exercise and pain management through professional and consumer education. The Academy web site is a unique resource that connects healthcare professionals and consumers to the ever growing body of knowledge on exercise. Registration is free and provides access to the largest database of rehab exercises, protocols, research and education in the world.

About Performance Health
Featuring leading brands like Thera-Band®, Biofreeze® and Pedigenix®, Performance Health offers a broad portfolio of products for the therapy, rehabilitation, wellness, massage, podiatric and performance markets. In addition to market-leading products, Performance Health provides practice building support, evidence-based protocols, clinical and product education, turn-key dispensing and pain management solutions.

REFERENCE: Jeffery Forman, PhD, NCTMB; Lisbeth Geertsen, MS, CMT; Michael E. Rogers, PhD, Effect of deep stripping massage alone or with eccentric resistance on hamstring length and strength, Journal of Bodywork & Movement Therapies (2013)
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