Effect of Dynamic Platform Lateral Step-Up versus Stable Platform Lateral Step-Up Weight Bearing Exercise in Hip Abductor Strengthening on Healthy Male Volunteers - Randomized Clinical Trial

J, Alagesan and A, Ramadass (2011) *Effect of Dynamic Platform Lateral Step-Up versus Stable Platform Lateral Step-Up Weight Bearing Exercise in Hip Abductor Strengthening on Healthy Male Volunteers - Randomized Clinical Trial.* [Journal (On-line/Unpaginated)]

Abstract

Objective & Background: To determine the effect of the dynamic platform lateral step-up and stable platform lateral step-up weight bearing standing exercise in strengthening of hip abductor. Many researchers have reported that strengthening of hip muscles as important component especially hip abductors in lower extremity rehabilitation program. Study Design: Single blinded randomized comparative clinical trial. Methodology: Sixty five healthy college going male subjects (Age group of 18 – 24 years) volunteered for this study. They were randomly assigned to one of the 2 groups. One group received the dynamic platform lateral step-up and the other received stable platform lateral step-up weight bearing standing exercise. The strength measurements were recorded using hand held dynamometer. Results: The results indicate that both groups had a positive effect on the outcome measures. The strength of hip abductors in dynamic platform group improved from a mean value (SD) of 19.47(3.59) to 26.93(3.19) and in stable platform group from 19.07(2.32) to 22.67(2.46). Significant difference is also observed between the two groups at p value .05. Conclusion: The study shows that dynamic platform lateral step-up exercise is more beneficial than stable platform lateral step-up weight bearing standing exercise in improving hip abductor muscle strength.

Item Type: Journal (On-line/Unpaginated)

Keywords: Hip Strength; Hip Abduction; Strengthening Exercises; Dynamic Platform

Subjects: JOURNALS > Online Journal of Health and Allied Sciences

ID Code: 7972

Deposited By: Kakkilaya Bevinje, Dr. Srinivas

Deposited On: 09 Nov 2012 17:37

Last Modified: 09 Nov 2012 17:37

References in Article

Select the SEEK icon to attempt to find the referenced article. If it does not appear to be in cogprints you will be forwarded to the paracite service. Poorly formated references will probably not work.

1. Kisner C, Colby LA. Kisner. Therapeutic exercise: Foundations and techniques. 5th ed. Philadelphia, PA: FA Davis Company. 2007. p149. Seek

2. McArdle WD, Katch FI, Katch VL. Exercise physiology energy, nutrition and performance. 5th ed. Philadelphia, PA: Lippincott Williams & Wilkins. 2001. p8. Seek

3. McArdle WD, Katch FI, Katch VL. Exercise physiology energy, nutrition and performance. 5th ed. Philadelphia, PA: Lippincott Williams & Wilkins. 2001. pp458-499. Seek

4. Gottschalk F, Kourosh S, Leveau B. The functional anatomy of tensor faciae latae and gluteus medius and minimus. Journal of Anatomy 1989;166:179-189. Seek

5. Neumann DA, Cook TM. Effect of load and carrying position on the electromyographic activity of the gluteus medius muscle during walking. Phys Ther 1985;65:305-311. Seek

6. Neumann DA, Cook TM, Sholty RL, Sobush DC. An electromyographic analysis of hip abductor activity when the subjects are carrying loads in one or both hands. Phys Ther 1992;72:207-217. Seek

7. Hase AD, Neumann DA. An electromyographic analysis of hip abductors during load carriage: Implications for hip joint protection. J Orthop Sports Phys Ther 1994;19(5):296-304. Seek

8. Fulkerson JP. Diagnosis and treatment of patients with patellofemoral pain. Am J Sports Med 2002;30(3):447-456. Seek

9. Sommer HM. Patellar chondropathy and apicitis, and muscle imbalances of the lower extremities in competitive sports. Sports Med 1988;5(6):386-394. Seek

10. Ireland ML, Davis IS et al. Hip strength in females with and without patellofemoral pain. J Orthop Sports Phys Ther. 2003;33(11):671-676. Seek

11. Fredericson M, Cookingham CL, Chaudhari AM, Dowdell BC, Oestreicher N, Sharmann SA. Hip abductor weakness in distance runners with illiotibial band syndrome. Clin J Sports Med 2000;10:169-175. Seek

12. Beckman SM, Buchanan TS. Ankle inversion injury and hypermobility: Effect on hip and ankle muscle electromyography onset latency. Arch Phys Med Rehabil. 1995;76(12):1138-1143. Seek

13. Bolgla LA, Uhl TL. Electromyographic analysis of hip rehabilitation exercises in a group of healthy subjects. J Orthop sports Phys Ther Aug 2005;35(8):487-494. Seek

14. Mascal CL, Landel R, Powers C. Management of Patello femoral pain targeting hip,pelvis and trunk muscle function, 2 case reports. J Orthop Sports Phys Ther 2003;33:642-660. Seek

15. Sahrmann SA. Diagnosis and treatment of movement impairment syndromes. St. Louis MO: Mosby : 2002. Seek

16. Bohannon RW. Test-retest reliability of hand-held dynamometry during a single session of strength assessment. Phys Ther. 1986;66(2):206-209. Seek

17. Bohannon RW, Andrews AW. Interrater reliability of Hand-held dynamometry. Phys Ther. 1987;67(6):931-933. Seek

18. Click Fenter P, Bellew JW, Pitts TA, Kay RE. A comparison of 3 hand-held dynamometers used to measure hip abduction strength. J Strength Cond Res 2003;17(3):531-535. Seek

19. Krause DA, Schlagel SJ, Stember BM, et al. Influence of lever arm and stabilization on measures of hip abduction and adduction torque obtained by hand-held dynamometry. Arch Phys Med Rehabil. 2007 Jan;88(1):37-42. Seek

20. Wang CY, Olson SL, Protas EJ. Test-retest strength reliability : Hand-held dynamometry in community-dwelling elderly fallers. Arch Phys Med Rehabil. 2002;83(6):811-815. Seek

21. Bohannon RW, Saunders N. Hand-Held Dynamometry: a single trial may be adequate for measuring muscle strength in healthy individuals. Physiother Can. 1990;42(1):6-9. Seek

22. Kimura IF, Jefferson LM, Gulick DT et al. Intra and inter tester reliability of chatillon and microfet Hand Held Dynamometers in measuring force production. J Sport Rehabil. 1996;5 (3):197-205. Seek

23. Click Fenter P, Bellew JW, Pitts TA, Kay RE. Reliability of stabilized commercial dynamometers for measuring hip abduction strength. A Pilot study. Br J Sports Med 2003;37:331-334. Seek

24. Nadler SF, DePrince ML, Hauesien N, et al. Portable dynamometer anchoring station for measuring strength of the hip extensors and abductors. Arch Phys Med Rehabil. 2000;81(8):1072-1076. Seek

25. Mackinnon CD, Winter DA. Control of whole body balance in the frontal plane during human walking. J Biomech 1993;26(6):633-644. Seek

26. Trudelle – Jackson E, Smith SS. Effects of a late-phase exercise programme after total hip arthroplasty: A randomized controlled trial. Arch Phys Med Rehabil, 2004;85(7):1056-1062. Seek

27. Friel K, Mchean N, Myers C, et al. Ipsilateral hip abductor weakness after inversions ankle sprain. J Athl Train. 2006;41(1):74-78. Seek

28. Chimera NJ, Swanik KA, Swanik CB, Straub SJ. Effects of plyometric training on muscle activation strategies and performance in female athletes. J Athl Train 2004;39(1):24-31. Seek

Metadata

- EndNote
- HTML Citation
- ID Plus Text Citation
- JSON
- METS
- MODS
- MPEG-21 DIDL
- OpenURL ContextObject
- OpenURL ContextObject in Span
- RDF+N-Triples
- RDF+N3
- RDF+XML
- Refer
- Reference Manager
- Search Data Dump
- Simple Metadata
- YAML

Repository Staff Only: item control page