

PEDS 335 (W09) – Assigned Readings

Lectures 1 & 2 – Training Principles

1. Courbon, A., P. Calmels, F. Roche, J. Ramas, and I. Fayolle-Minon. Relationship between walking capacity and maximal exercise capacity, strength and motor deficiency in adult hemiplegic stroke patients. **Annales de Réadaptation et de Médecine Physique**. 49:614-620. 2006.
2. Nielsen, J.B., and L.G. Cohen. The Olympic brain. Does corticospinal plasticity play a role in acquisition of skills required for high-performance sports? **Journal of Physiology**. 586:65-70. 2008.
3. Jensen, J.L., P.C.D. Marstrand, and J.B. Nielsen. Motor skill training and strength training are associated with different plastic changes in the central nervous system. **Journal of Applied Physiology**. 99:1558-1568. 2005.
4. Tomioka, M., T.M. Owings, and M.D. Grabiner. Lower extremity strength and coordination are independent contributors to maximum vertical jump height. **Journal of Applied Biomechanics**. 17:181-187. 2001.
5. McNitt-Gray, J.L., P.S. Requejo, and H. Flashner. Multijoint control strategies transfer between tasks. **Biological Cybernetics**. 94:501-510. 2006.
6. Garhammer, J., and R. Gregor. Propulsion forces as a function of intensity for weightlifting and vertical jumping. **Journal of Applied Sport Science Research (now Journal of Strength and Conditioning Research)**. 6(3):129-134. 1992.

Lecture 3 – Strength and Performance

1. Nagano, A., Gerritsen, K.G.M. Effects of neuromuscular strength training on vertical jumping performance – a computer simulation study. **Journal of Applied Biomechanics**. 17:113-128. 2001.
2. Wisløff, U., C. Castagna, J. Helgerud, R. Jones, and J. Hoff. Strong correlation of maximal squat strength with sprint performance and vertical jump height in elite soccer players. **British Journal of Sports Medicine**. 38:285-288. 2004.
3. Hirsch, M.A. T. Toole, C.G. Maitland, and R.A. Rider. The effects of balance training and high-intensity resistance training on persons with idiopathic Parkinson's disease. **Archives of Physical Medicine and Rehabilitation**. 84:1109-1117. 2003.

Lectures 4 & 5 – Neuromuscular Adaptations

1. Fry, A.C. The role of resistance exercise intensity on muscle fibre adaptations. **Sports Medicine**. 34(10):663-679. 2004.
2. Holm, L., S. Reitelsheder, T.G. Pedersen, S. Doessing, S.G. Petersen, A. Flyvbjerg, J.L. Andersen, P. Aagaard, and M. Kjaer. Changes in muscle size and MHC composition in response to resistance exercise with heavy and light loading intensity. **Journal of Applied Physiology**. 105:1454-1461. 2008.
3. Staron, R.S., D.L. Karapondo, W.J. Kraemer, A.C. Fry, S.E. Gordon, J.E. Falke, F.C. Hagerman, and R.S. Hikida. Skeletal muscle adaptations during early phase of heavy-resistance training in men and women. **Journal of Applied Physiology**. 76(3):1247-1255. 1994.

Lecture 6 – Energy Systems

1. Larsen, H.B. Kenyan dominance in distance running. **Comparative Biochemistry and Physiology Part A**. 136:161-170. 2003.
2. Conley, K.E., W. F. Kemper, and G.J. Crowther. Limits to sustainable muscle performance: interaction between glycolysis and oxidative phosphorylation. **The Journal of Experimental Biology**. 204:3189-3194. 2001.

Lectures 7 & 8 – Energy Systems Adaptations

1. Helgerud, J., K. Høydal, E. Wang, T. Karlsen, P. Berg, M. Bjerkaas, T. Simonsen, C. Helgesen, N. Hjorth, R. Bach, and J. Hoff. Aerobic high-intensity intervals improve VO_{2max} more than moderate training. **Medicine and Science in Sports and Exercise**. 39(4):665-671. 2007.
2. Burgomaster, K.A., S.C. Hughes, G.J.F. Heigenhauser, S.N. Bradwell, and M.J. Gibala. Six sessions of sprint interval training increases muscle oxidative potential and cycle endurance capacity in humans. **Journal of Applied Physiology**. 98:1985-1990. 2005.
3. Gibala, M.J., J.P. Little, M. Van Essen, G.P. Wilkin, K.A. Burgomaster, A. Safdar, S. Raha, and M.A. Tarnopolsky. Short-term sprint interval *versus* traditional endurance training: similar initial adaptations in human skeletal muscle and exercise performance. **Journal of Physiology**. 575(3):901-911. 2006.
4. Burgomaster, K.A., K.R. Howarth, S.M. Phillips, M. Rakobowchuk, M.J. MacDonald, S.L. McGee, and M.J. Gibala. Similar metabolic adaptations during exercise after low volume sprint interval and traditional endurance training in humans. **Journal of Physiology**. 586(1):151-160. 2008.

Lecture 9 & 10 – Neuromuscular Training

1. Weiss, L.W., H.D. Coney, and F.C. Clark. Differential functional adaptations to short-term low-, moderate-, and high-repetition weight training. **Journal of Strength and Conditioning Research**. 13(3):236-241. 1999.
2. Cormie, P., G.O. McCaulley, and J.M. McBride. Power versus strength-power jump squat training: influence on the load-power relationship. **Medicine and Science in Sports and Exercise**. 39(6):996-1003. 2007.
3. Harris, G.R., M.H. Stone, H.S. O'Bryant, C.M. Proulx, and R.L. Johnson. Short-term performance effects of high power, high force, or combined weight-training methods. **Journal of Strength and Conditioning Research**. 14(1):14-20. 2000.

Lecture 11 – Energy Systems Adaptations

1. Hansen, A.K., C.P. Fischer, P. Plomgaard, J.L. Andersen, B. Saltin, and B.K. Pedersen. Skeletal muscle adaptation: training twice every second day vs. training once daily. **Journal of Applied Physiology**. 98:93-99. 2005.
2. Impellizzeri, F.M., S.M. Marcora, C. Castagna, T. Reilly, A. Sassi, F.M. Iaia, and E. Rampinini. Physiological and performance effects of generic versus specific aerobic training in soccer players. **International Journal of Sports Medicine**. 27:483-492. 2006.
3. Hoff, J., Wisløff, U., L.C. Engen, O.J. Kemi, and J. Helgerud. Soccer specific aerobic endurance training. **British Journal of Sports Medicine**. 36:218-221. 2002.

Lecture 12 – Transfer of Training

1. Hawley, J.A. Specificity of training adaptation: time for a rethink? **Journal of Physiology**. 586:1-2. 2008.
2. Canavan, P.K., G.E. Garrett, and L.E. Armstrong. Kinematic and kinetic relationships between an Olympic-style lift and the vertical jump. **Journal of Strength and Conditioning Research**. 10(2):127-130. 1996.
3. Tricolo, V., L. Lamas, R. Carnevale, and C. Ugrinowitsch. Short-term effects on lower-body functional power development: weightlifting vs. Vertical jump training programs. **Journal of Strength and Conditioning Research**. 19(2):433-437. 2005.

Lecture 13 – Exercise Biomechanics

1. Fry, A.C., J.C. Smith, and B.K. Schilling. Effect of knee position on hip and knee torques during the barbell squat. **Journal of Strength and Conditioning Research**. 17(4):629-633. 2003.
2. Garhammer, J. A review of power output studies of Olympic and powerlifting: methodology, performance prediction, and evaluation tests. **Journal of Strength and Conditioning Research**. 7(2):76-89. 1993.
3. Reiser, II, R.F., D.T. Mackey, and J.W. Overman. Between the beginning and end of a repetition: how intrinsic and extrinsic factors influence the intensity of a biceps curl. **Strength and Conditioning Journal**. 29(5):64-76. 2007.

Lecture 14 – Long Term Training Process

1. Chiodera, P., E. Volta, G. Gobbit, M.A. Milioli, P. Mirandola, A. Bonetti, R. Delsignore, S. Bernasconi, A. Anedda, and M. Vitale. Specifically designed physical exercise programs improve children's motor abilities. **Scandinavian Journal of Medicine & Science in Sports**. 18:179-187. 2008.
2. Erceg, M., N. Zagorac, and R. Katić. The impact of football training on motor development in male children. **Collegium Antropologicum**. 32(1):241-247. 2008.
3. Golby, J., and P. Hope. Effects of "Soviet" and western coaching methodologies on the acquisition of gymnastic skills. **Perceptual and Motor Skills**. 72:348-350. 1991.

Lectures 15 & 16 – Periodization

1. Chiu, L.Z.F., and J.L. Barnes. The fitness-fatigue model revisited: implications for planning short- and long-term training. **Strength and Conditioning Journal**. 25(6):42-51. 2003.
2. Issurin, V. Block periodization *versus* traditional training theory: a review. **Journal of Sports Medicine and Physical Fitness**. 48:65-75. 2008.
3. Willoughby, D.S. The effects of mesocycle-length weight training programs involving periodization and partially equated volumes on upper and lower body strength. **Journal of Strength and Conditioning Research**. 7(1):2-8. 1993.
4. Ebben, W.P., A.G. Kindler, K.A. Chirdon, N.C. Jenkins, A.J. Polichnowski, and A.V. Ng. The effect of high-load vs. high-repetition training on endurance performance. **Journal of Strength and Conditioning Research**. 18(3):513-517. 2004.

- Hoffman, J.R., M. Wendell, J. Cooper, and J. Kang. Comparison between linear and nonlinear in-season training programs in freshman football players. **Journal of Strength and Conditioning Research**. 17(3):561-565. 2003.
- Bosquet, L., J. Montpetit, D. Arvisais, and I. Mujika. Effects of tapering on performance: a meta-analysis. **Medicine and Science in Sports and Exercise**. 39(8):1358-1365. 2007

Lectures 17 & 18 – Periodization (Applied)

- Stone, M.H., G.D. Wilson, D. Blessing, and R. Rozenek. Cardiovascular responses to short-term Olympic style weight-training in young men. **Canadian Journal of Applied Sport Sciences**. 8(3):134-139. 1983.
- O’Bryant, H.S., R. Byrd, and M.H. Stone. Cycle ergometer performance and maximum leg and hip strength adaptations to two different methods of weight-training. **Journal of Applied Sport Science Research (now Journal of Strength and Conditioning Research)**. 2(2):27-30. 1988.
- Other training programs will be distributed in class.

Lecture 19 – Overtraining

- Nindl, B.C., B.R. Barnes, J.A. Alemany, P.N. Frykman, R.L. Shippee, and K.E. Friedl. Physiological consequences of U.S. Army Ranger training. **Medicine and Science in Sports and Exercise**. 39(8):1380-1387. 2007.
- Fry, A.C., B.K. Schilling, L.W. Weiss, and L.Z.F. Chiu. β_2 -Adrenergic receptor downregulation and performance decrements during high-intensity resistance exercise overtraining. **Journal of Applied Physiology**. 101:1664-1672. 2006.
- Moore, C.A., and A.C. Fry. Nonfunctional overreaching during off-season training for skill position players in collegiate American football. **Journal of Strength and Conditioning Research**. 21(3):793-800. 2007.
- Raastad, T., T. Glomsheller, T. Bjørro, and J. Hallén. Recovery of skeletal muscle contractility and hormonal responses to strength exercise after two weeks of high-volume strength training. **Scandinavian Journal of Medicine & Science in Sports**. 13:159-168. 2003.

Lecture 20 – Nutrition

- Burke, L.M., G.R. Cox, N.K. Cummings, and B. Desbrow. Guidelines for daily carbohydrate intake: do athletes achieve them? **Sports Medicine**. 31(4):267-299. 2001.
- Phillips, S.M. Dietary protein for athletes: from requirements to metabolic advantage. **Applied Physiology, Nutrition, and Metabolism**. 31(6):647-654. 2006.
- Volek, J.S., W.J. Kraemer, J.A. Bush, T. Incledon, and M. Boetes. Testosterone and cortisol in relationship to dietary nutrients and resistance exercise. **Journal of Applied Physiology**. 82(1):49-54. 1997.

Lecture 21 – Functional Training

Lecture 22 – Core Training

Lecture 23 – Return to Activity

Lecture 24 – Weightlifting Exercises