REFERENCES

Bass A, Brdiczka D, Eyer P, Hofer S, Pette D. Metabolic differentiation of distinct muscle types of the level of enzymatic organization. Eur J Biochem 1969; 10: 198-206.

Bigland-Ritchie B, Johansson R, Lippold OC, Woods JJ. Contractile speed and EMG changes during fatigued sustained maximal voluntary contractions. J Neurophysiology 1983; 50: 313-24.

Brooks GA, Mercier J. Balance of carbohydrate and lipid utilization during exercise: the "crossover" concept. J Appl Physiol 1994; 76: 2253-61.

Burke LM, Hawley JA, Schabort EJ, St Clair Gibson A, Mujika I, Noakes TD. Carbohydrate loading failed to improve 100-km cycling performance in a placebo-controlled trial. J Appl Physiol 2000 ; 88: 1284-90.

Campbell PJ, Carlson MG, Hill JO, Nurjhan N. Regulation of free fatty acid metabolism by insulin in humans: role of lipolysis and reesterification. Am J Physiol 1992 ; 263: E1063-9.

Campbell SE, Febbraio MA. Effect of ovarian hormones on mitochondria enzyme activity in the fat oxidation pathway of skeletal muscle. Am J Physiol 2001; 281: E803-E808.

Carter SL, Rennie C, Tarnopolsky MA. Substrate utilization during endurance exercise in men and women after endurance training. Am J Physiol Endocrinol Metab 2001; 280: E898-907.

Cheng B, Karamizrak O, Noakes TD, Dennis SC, Lambert EV. Time course of the effects of a high-fat diet and voluntary exercise on muscle enzyme activity in Long-Evans rats. Physiol Behav 1997; 61: 701-5.

Coggan AR, Kohrt WM, Spina RJ, Bier DM, Holloszy JO. Endurance training decreases plasma glucose turnover and oxidation during moderate-intensity exercise in men. J Appl Physiol 1990; 68: 990-6.

Coggan AR, Spina RJ, Kohrt WM, Holloszy JO. Effect of prolonged exercise on muscle citrate concentration before and after endurance training in men. Am J Physiol 1993; 264: E215-20.

Conlee RK, Hammer RL, Winder WW, Bracken ML, Nelson AG, Barnett DW. Glycogen repletion and exercise endurance in rats adapted to a high fat diet. Metabolism 1990; 39: 289-94.

Coyle EF, Jeukendrup AE, Wagenmakers AJ, Saris WH. Fatty acid oxidation is directly regulated by carbohydrate metabolism during exercise. Am J Physiol 1997; 273: E268-75.

Essen-Gustavsson B, Tesch PA. Glycogen and triacylglycerol utilization in relation to muscle metabolic characteristics in men performing heavy-resistance exercise. Eur J Appl Physiol Occup Physiol 1990; 61: 5-10.

Fisher EC, Evans WJ, Phinney SD, Blackburn GL, Bistrain BR, Young VR. Changes in keletal muscle metabolism induced by eucaloric ketogenic diet. In: Biochemistry of Exercise. IL: Human Kinetics; 1983.

Fitts RH, Courtright JB, Kim DH, Witzmann FA. Muscle fatigue with prolonged exercise: contractile and biochemical alterations. Am J Physiol 1982; 242: C65-73.

Fitts RH, Holloszy JO, Rennie MJ. Effects of fatty acids and contraction on rat soleus muscle metabolites [proceedings]. J Physiol 1976; 263: 160P-161P.

Flatt JP. The difference in the storage capacities for carbohydrate and for fat, and its implications in the regulation of body weight. Ann N Y Acad Sci 1987; 499: 104-23.

Frayn KN, Coppack SW, Fielding BA, Humphreys SM. Coordinated regulation of hormone-sensitive lipase and lipoprotein lipase in human adipose tissue in vivo: implications for the control of fat storage and fat mobilization. Adv Enzyme Regul 1995; 35: 163-78.

Frayn KN, Maycock PF. Skeletal muscle triacylglycerol in the rat: methods for sampling and measurement, and studies of biological variability. J Lipid Res 1980; 21: 139-44.

Gollnick PD, Saltin B. Significance of skeletal muscle oxidative enzyme enhancement with endurance training. Clin Physiol 1982; 2: 1-12.

Green HJ, Jones S, Ball-Burnett ME, Smith D, Livesey J, Farrance BW. Early muscular and metabolic adaptations to prolonged exercise training in humans. J Appl Physiol 1991; 70: 2032-8.

Hambleton PL, Slade LM, Hamar DW, Kienholz EW, Lewis LD. Dietary fat and exercise conditioning effect on metabolic parameters in the horse. J Anim Sci 1980; 51: 1330-9.

Hammel EP, Kronfeld DS, Ganjam VK, Dunlap HL Jr. Metabolic responses to exhaustive exercise in racing sled dogs fed diets containing medium, low, or zero carbohydrate. Am J Clin Nutr 1977; 30: 409-18.

Harkins JD, Kamerling SG, Church G. Effect of competition on performance of thoroughbred racehorses. J Appl Physiol 1992; 72: 836-41.

Havel V, Erben J, Elias J. Clinical importance of exercise tests in assessing the functional activity of patients on long-term dialysis program. Cas Lek Cesk 1976; 115: 111-5.

Helge JW, Ayre K, Chaunchaiyakul S, Hulbert AJ, Kiens B, Storlien LH. Endurance in high-fat-fed rats: effects of carbohydrate content and fatty acid profile. J Appl Physiol 1998; 85: 1342-8.

Helge JW, Kiens B. Muscle enzyme activity in humans: role of substrate availability and training. Am J Physiol 1997; 272: R1620-4.

Helge JW, Richter EA, Kiens B. Interaction of training and diet on metabolism and endurance during exercise in man. J Physiol. 1996; 492 : 293-306.

Holloszy JO, Booth FW. Biochemical adaptations to endurance exercise in muscle. Annu Rev Physiol 1976; 38: 273-91.

Holloszy JO, Coyle EF. Adaptations of skeletal muscle to endurance exercise and their metabolic consequences. J Appl Physiol 1984; 56: 831-8.

Holloszy JO, Kohrt WM, Hansen PA. The regulation of carbohydrate and fat metabolism during and after exercise. Front Biosci 1998; 3: D1011-27.

Holloszy JO, Kohrt WM. Regulation of carbohydrate and fat metabolism during and after exercise. Annu Rev Nutr 1996; 16: 121-38.

Holloszy JO. Biochemical adaptations to exercise: aerobic metabolism. Exerc Sport Sci Rev 1973; 1: 45-71.

Hurley BF, Nemeth PM, Martin WH 3rd, Hagberg JM, Dalsky GP, Holloszy JO. Muscle triacylglycerol utilization during exercise: effect of training. J Appl Physiol 1986; 60: 562-7.

Jacobs I, Lithell H, Karlsson J. Dietary effects on glycogen and lipoprotein lipase activity in skeletal muscle in man. Acta Physiol Scand 1982; 115: 85-90.

Jansson E, Kaijser L. Effect of diet on the utilization of blood-borne and intramuscular substrates during exercise in man. Acta Physiol Scand 1982; 115: 19-30.

Jansson E, Kaijser L. Substrate utilization and enzymes in skeletal muscle of extremely endurance-trained men. J Appl Physiol 1987; 62: 999-1005.

Jansson E. Diet and muscle metabolism in man with reference to fat and carbohydrate utilization and its regulation. Acta Physiol Scand Suppl 1980; 487: 1-24.

Jansson E. On the significance of the respiratory exchange ratio after different diets during exercise in man. Acta Physiol Scand 1982; 114: 103-10.

Jensen MD. Fate of fatty acids at rest and during exercise: regulatory mechanisms. Acta Physiol Scand 2003; 178: 385-90.

Jeukendrup AE. Regulation of fat metabolism in skeletal muscle. Ann N Y Acad Sci 2002 ; 967: 217-35.

Kaoien P. Impact of dietary carbohydrate-fat proportions on efficacy of skeletal muscle activity in exercised rats. A thesis submitted to the graduate school in partial fulfillment of requirements for the degree of master science in physiology. Graduate school. Chiang Mai university, April 2003.

Karlsson J, Saltin B. Diet, muscle glycogen, and endurance performance. J Appl Physiol 1971; 31: 203-6.

Kiens B, Essen-Gustavsson B, Gad P, Lithell H. Lipoprotein lipase activity and intramuscular triacylglycerol stores after long-term high-fat and high-carbohydrate diets in physically trained men. Clin Physiol 1987; 7: 1-9.

Kiens B, Kristiansen S, Jensen P, Richter EA, Turcotte LP. Membrane associated fatty acid binding protein (FABPpm) in human skeletal muscle is increased by endurance training. Biochem Biophys Res Commun 1997; 231: 463-5.

Kim CH, Youn JH, Park JY, Hong SK, Park KS, Park SW, Suh KI, Lee KU. Effects of high-fat diet and exercise training on intracellular glucose metabolism in rats. Am J Physiol Endocrinol Metab 2000; 278: E977-84.

Krieger DA, Tate CA, Mcmillin J, Booth FW. Populations of rat skeletal muscle mitochondria after exercise and immobilization. J Appl Physiol 1980; 48: 23-28.

Kronfeld DS, Ferrante PL, Grandjean D. Optimal nutrition for athletic performance, with emphasis on fat adaptation in dogs and horses. J Nutr 1994; 124: 2745S-2753S.

Kronfeld DS, Hammel EP, Ramberg CF Jr, Dunlap HL Jr. Hematological and metabolic responses to training in racing sled dogs fed diets containing medium, low, or zero carbohydrate. Am J Clin Nutr 1977; 30: 419-30.

Lapachet RA, Miller WC, Arnall DA. Body fat and exercise endurance in trained rats adapted to a high-fat and/or high-carbohydrate diet. J Appl Physiol 1996; 80:1173-9.

Leddy J, Horvath P, Rowland J, Pendergast D. Effect of a high or a low fat diet on cardiovascular risk factors in male and female runners. Med Sci Sports Exerc 1997; 29: 17-25.

Martin WH 3rd. Effects of acute and chronic exercise on fat metabolism. Exerc Sport Sci Rev 1996; 24: 203-31.

Martin WH, Dalsky GP, Hurley BF, Mathews DE, Bier BM, Hagberg JM, *et al.* Effect of endurance training on free fatty acid turnover and oxidation during exercise. Am J Physiol 1994; 265: E708-E714.

Maughan R, Gleeson M, Greenhaff PL. Biochemistry of exercise and training. New York : Oxford Medical Publications; 1997.

McArdle WD, Katch FT, Katch VL. Sports and Exercise Nutrition. Philadelphia: Lippincott Williams and Wilkins; 1999.

Mercier JG, Hokanson JF, Brooks GA. Effects of cyclosporine A on skeletal muscle mitochondrial respiration and endurance time in rats. Am J Respir Crit Care Med 1995; 151: 1532-1536.

Miller WC, Bryce GR, Conlee RK. Adaptations to a high-fat diet that increase exercise endurance in male rats. J Appl Physiol 1984; 56: 78-83.

Mokelke EA, Palmer BM, Cheung JY, Moore RL. Endurance training dose not affect intrinsic calcium current characteristics in rat myocardium. Am J Physiol 1997; 273: H1193-H1197.

Morgan TE, Short FA, Cobb LA. Effect of long-term exercise on skeletal muscle lipid composition. Am J Physiol 1969; 216: 82-6.

Muoio DM, Leddy JJ, Horvath PJ, Awad AB, Pendergast DR. Effect of dietary fat on metabolic adjustments to maximal VO2 and endurance in runners. Med Sci Sports Exerc 1994; 26: 81-8.

Murrey RK, Granner DK, Mayes PA, Rodwell VW. Oxidation of Fatty Acids:Ketogenesis. In: Dolan J, editor. Harper's biochemistry. 23 rd ed. Norwalk : Appleton&Lange Publishing; 1993. p. 220-231.

Oakes ND, Bell KS, Furler SM, Camilleri S, Saha AK, Ruderman NB, Chisholm DJ, Kraegen EW. Diet-induced muscle insulin resistance in rats is ameliorated by acute dietary lipid withdrawal or a single bout of exercise: parallel relationship between insulin stimulation of glucose uptake and suppression of long-chain fatty acyl-CoA. Diabetes 1997; 46: 2022-8.

Oldham SB, Sipe F. An experiential training program and medical students' attitudes toward patients with chemical dependency. Acad Med 1990; 65: 421-2.

Orme CE, Harris RC, Marlin DJ, Hurley J. Metabolic adaptation to fat-supplemented diet by the thoroughbred horse. Br J Nutr 1997; 78: 443-58.

Oscai LB, Brown MM, Miller WC. Effect of dietary fat on food intake, growth and body composition in rats. Growth 1984 ; 48: 415-24.

Oscai LB, Essig DA, Palmer WK. Lipase regulation of muscle triacylglycerol hydrolysis. J Appl Physiol 1990; 69: 1571-7.

Oscai LB, Miller WC, Arnall DA. Effects of dietary sugar and of dietary fat on food intake and body fat content in rats. Growth 1987; 51: 64-73.

Passonneau JV, Lauderdale VR. A comparison of three methods of glycogen measurement in tissues. Anal Biochem 1974; 60: 405-412.

Phillips SM, Green HJ, Tarnopolsky MA, Heigenhauser GF, Hill RE, Grant SM. Effects of training duration on substrate turnover and oxidation during exercise. J Appl Physiol 1996 ; 81: 2182-91.

Phinney SD, Bistrian BR, Evans WJ, Gervino E, Blackburn GL. The human metabolic response to chronic ketosis without caloric restriction: preservation of submaximal exercise capability with reduced carbohydrate oxidation. Metabolism 1983; 32: 769-76.

Phinney SD, Bistrian BR, Wolfe RR, Blackburn GL. The human metabolic response to chronic ketosis without caloric restriction: physical and biochemical adaptation. Metabolism 1983; 32: 757-68.

Pitsiladis YP, Smith I, Maughan RJ. Increased fat availability enhances the capacity of trained individuals to perform prolonged exercise. Med Sci Sports Exerc 1999 ; 31: 1570-9.

Randle PJ, Garland PB, Hales CN, Newsholme EA. The glucose fatty-acid cycle. Its role in insulin sensitivity and the metabolic disturbances of diabetes mellitus. Lancet 1963; 1: 785-9.

Rennie MJ, Winder WW, Holloszy JO. A sparing effect of increased plasma fatty acids on muscle and liver glycogen content in exercising rat. Biochem J 1976; 156: 647-55.

Romijn JA, Coyle EF, Sidossis LS, Gastaldelli A, Horowitz JF, Endert E, Wolfe RR. Regulation of endogenous fat and carbohydrate metabolism in relation to exercise intensity and duration. Am J Physiol 1993; 265: E380-91.

Romijn JA, Coyle EF, Sidossis LS, Zhang XJ, Wolfe RR. Relationship between fatty acid delivery and fatty acid oxidation during strenuous exercise. J Appl Physiol 1995; 79: 1939-45.

Romijn JA, Klein S, Coyle EF, Sidossis LS, Wolfe RR. Strenuous endurance training increases lipolysis and triacylglycerol-fatty acid cycling at rest. J Appl Physiol 1993; 75: 108-13.

Saha AK, Kurowski TG, Ruderman NB. A malonyl-CoA fuel-sensing mechanism in muscle: effects of insulin, glucose, and denervation. Am J Physiol 1995; 269: E283-9.

Schrauwen P, van Marken Lichtenbelt WD, Saris WH, Westerterp KR. The adaptation of nutrient oxidation to nutrient intake on a high-fat diet. Z Ernahrungswiss 1997; 36: 306-9.

Schrauwen P, van Marken Lichtenbelt WD, Westerterp KR. Fat and carbohydrate balances during adaptation to a high-fat diet. Am J Clin Nutr 2000; 72: 1239-41.

Schrauwen P, Wagenmakers AJ, van Marken Lichtenbelt WD, Saris WH, Westerterp KR. Increase in fat oxidation on a high-fat diet is accompanied by an increase in triacylglycerol-derived fatty acid oxidation. Diabetes 2000; 49: 640-6.

Sherman WM. Metabolism of sugars and physical performance. Am J Clin Nutr 1995; 62: 228S-241s.

Sidossis LS, Stuart CA, Shulman GI, Lopaschuk GD, Wolfe RR. Glucose plus insulin regulate fat oxidation by controlling the rate of fatty acid entry into the mitochondria. J Clin Invest 1996; 98: 2244-50.

Simi B, Sempore B, Mayet MH, Favier RJ. Additive effects of training and high-fat diet on energy metabolism during exercise. J Appl Physiol 1991; 71: 197-203

Spriet LL, Watt MJ. Regulatory mechanisms in the interaction between carbohydrate and lipid oxidation during exercise. Acta Physiol Scand 2003; 173: 443-52.

Srere, PA. Citrate synthase. Methods Enzymol 1969; 13: 3-6.

Starling RD, Trappe TA, Parcell AC, Kerr CG, Fink WJ, Costill DL. Effects of diet on muscle triacylglycerol and endurance performance. J Appl Physiol 1997; 82: 1185-9.

Straczkowski M, Kowalska I, Dzienis-Straczkowska S, Kinalski M, Gorski J, Kinalska I. The effect of exercise training on glucose tolerance and skeletal muscle triacylglycerol content in rats fed with a high-fat diet. Diabetes Metab 2001; 27: 19-23.

Swislocki ALM, Kinney TL, Khuu DT, Fann KY, Tait M, Rodnick KJ. Metabolic, hemodynamic, and cardiac effects of captopril in young, spontaneously hypertensive rats. Am J Hypertens 1999; 12: 581-589.

Turcotte LP, Hespel P, Richter EA. Circulating palmitate uptake and oxidation are not altered by glycogen depletion in contracting skeletal muscle. J Appl Physiol 1995; 78: 1266-72.

Turcotte LP. Role of fats in exercise. Types and quality. Clin Sports Med 1999; 18: 485-98.

Veerapun O, Pongchaidecha A, Khausuwan U. Endurance performance : effects of proportion of dietary carbohydrate to fat. Thai J Physiol Sci 2002; 15: 13-26.

Venkatraman JT, Rowland JA, Denardin E, Horvath PJ, Pendergast D. Influence of the level of dietary lipid intake and maximal exercise on the immune status in runners. Med Sci Sports Exerc 1997; 29: 333-44.

Webb SP, Potter GD, Evans WJ. Physiologic and metabolic responses of racing and cutting horses to added dietary fat. Proc Equine Nutr Physiol Soc 1987; 10: 115-20.

William E, Garrett JR, Kirkendall DT. Exercise and Sport Science. Philadelphia: Lippincott Williams and Wilkins; 2000.

Winder WW, Arogyasami J, Barton RJ, Elayan IM, Vehrs PR. Muscle malonyl-CoA decreases during exercise. J Appl Physiol 1989; 67: 2230-3.