

## 文献 (References)

- Aitken, J. C., Bennet, W. M. and Thompson, J. (1989) The effects of high intensity training upon respiratory gas exchanges during fixed term maximal incremental exercise in man. Eur. J. Appl. Physiol., 58 : 717-721.
- Aitken, J. C. and Thompson, J. (1989) The effects of dietary manipulation upon respiratory exchange ratio as a maximum oxygen uptake during fixed term maximal incremental exercise in man. Eur. J. Appl. Physiol., 58 : 722-727.
- 阿久津邦男・杉靖三郎 (1964) Running選手の最大酸素摂取量と最大酸素負債量. 体育学研究, 8 : 361.
- 青木積之介 (1976) 長距離走. 金原勇編著, 陸上競技のコーチング (I). 大修館書店 : 東京, pp.443-513.
- 青木純一郎 (1989) 運動と呼吸循環. 石河利寛・杉浦正輝編著, 運動生理学. 建帛社 : 東京, pp.145-182.
- 有吉正博 (1987) 長距離・マラソン・駅伝. 成美堂 : 東京, pp.124-138.
- Astrand, P. O. and Saltin, B. (1961) Oxygen uptake during the first minutes of heavy muscular exercise. J. Appl. Physiol., 16 : 971-976.
- Bailey, S. P. and Pate, P. P. (1991) Feasibility of improving running economy. Sports Med., 12 : 228-236.
- Bahr, R. (1992) Excess post exercise oxygen consumption - magnitude, mechanisms and practical implications -. Acta. Physiol.

Scand., 144, Suppl., 605 : 3-70.

Billat, V., Renoux, J. C., Pinoteau, J., Petit, B. and Koralsztein, J. P. (1994) Reproducibility of running time to exhaustion at  $\dot{V}O_{2\text{max}}$  in subelite runners. Med. Sci. Sports Exerc., 26 : 254-257.

Billat, V. and Koralsztein, J. P. (1996) Significance of the velocity at  $\dot{V}O_{2\text{max}}$  and time to exhaustion at this velocity. Sports Med., 22 : 90-108.

Bishop, P. and Martino, M (1993) Blood lactate measurement in recovery as an adjunct to training. -Practical considerations- Sports Med., 16 : 5-13.

Brandon, L. J. and Boileau, R. A. (1992) Influence of metabolic mechanical and physique variables on middle distance running. J. Sports Med., 32 : 1-9.

Brandon, L. J. (1995) Physiological factors associated with middle distance running performance. Sports Med., 19 : 268-277.

Bulbulian, R., Wilcox, A.R. and Darabos, B.L. (1986) Anaerobic contribution to distance running performance of trained cross-country athletes. Med. Sci. Sports Exerc., 18 : 107-113.

Coetzer, P., Noakes, T. D., Sanders, B., Lambert, M. I., Bosch, A. N., Wiggins, T. and Dennis, S. C. (1993) Superior fatigue resistance of elite black south african distance runners. J. Appl. Physiol., 75 : 1822-1827.

Conley, D. L. and Krahenbuhl, G. S. (1980) Running economy and distance running performance of highly trained athletes. Med. Sci. Sports Exerc., 12 : 357-360.

Conley, D. L., Krahenbuhl, G. S., Burkett, L. M., and Millar, A. L. (1984) Following Steve Scott : Physiological changes accompanying training. *Phys. Sportsmed.*, 12 : 103-106.

Costill, D. L., Hoffman, W. M., Kehoe, F., Miller, S. J. and Meyers, W. C. (1968) Maximum anaerobic power among college football players. *J. Sports Med.*, 8 : 103-106.

Costill, D. L. and Fox, E. L. (1969) Energetics of marathon running. *Med. Sci. Sports*, 1 : 81-86.

Costill, D. L. and Winrow, E. (1970) A Comparison of two middle aged ultramarathon runners. *Res. Quart.*, 41 : 135-139.

Costill, D. L., Thomason, H. and Roberts, E. (1973) Fractional utilization of the aerobic capacity during distance running. *Med. Sci. Sports*, 5 : 248-252.

Coyle, E. F. (1995) Physiological factors in endurance performance. *Exerc. Sports Sci. Rev.*, 23 : 25-63.

Crielaard, J. M. and Pirnay, F. (1981) Anaerobic and aerobic power of top athletes. *Eur. J. Appl. Physiol.*, 47 : 295-300.

Cunningham, D. A. and Faulkner, J. A. (1969) The effect of training on aerobic and anaerobic metabolism during a short exhaustive run. *Med. Sci. Sports*, 1 : 65-69.

Cunningham, D. A., Van Waterschot, B. M., Paterson, D. H. Leforce, M. and Sangal, S. P. (1977) Reliability and reproducibility of maximal oxygen uptake measurement in children. *Med. Sci. Sports*, 9 : 104-108.

Daniels, J. (1974) Physiological characteristics of champion male athletes. Res. Quart., 45 : 342-348.

Davies, C. T. M. and Thompson, M. W. (1979) Aerobic performance of female marathon and male ultramarathon athletes. Eur. J. Appl. Physiol., 41 : 233-245.

Dawson, B., Fitzsimous, M., Green, S., Goodman, C., Carey, M. and Cole, K. (1998) Changes in performance, muscle metabolites, enzymes and fibre types after short sprint training. Eur. J. Appl. Physiol., 78 : 163-169.

Edington, D. W. and Edgerton, V. R. : 大平充宣訳 (1988) 運動生理学の基礎. ベースボール・マガジン社：東京, pp.173-202.

Eriksson, B. O. (1972) Physical training, oxygen supply and muscle metabolism in 11-13 years old boys. Act. Physiol. Scand. Suppl., 384 : 1-48.

Farrell, P. A., Wilmore, J. H., Coyle, E. F., Billing, J. E. and Costill, D. L. (1979) Plasma lactate accumulation and distance running performance. Med. Sci. Sports, 11 : 338-344.

Fox, E. L. (1979) Sports physiology. W.B. Saunders company : Philadelphia. pp.18-33.

深代千之 (1991) 競技スポーツに科学をどのように生かすか? ⑨長距離選手に対するタイプ別アドバイス. コーチング・クリニック10月号, ベースボール・マガジン社：東京, pp.62-65.

Gaesser, G. A. and Brooks, G. A. (1984) Metabolic bases of excess post-exercise oxygen consumption : a review. Med. Sci. Sports Exerc., 16 : 29-43.

Gaesser, G. A. and Poole, D. G. (1996) The slow component of oxygen uptake kinetics in humans. *Exerc. Sport Sci. Rev.*, 24 : 35-70.

参考文献

Girandola, R. N. and Henry, F. M. (1974) Individual differences in O<sub>2</sub> deficit and O<sub>2</sub> debt. *Res. Quart.*, 45 : 239-246.

Gore, C. J. and Withers, R. T. (1990) The effect of exercise intensity and duration on the oxygen deficit and excess post-exercise oxygen consumption. *Eur. J. Appl. Physiol.*, 60 : 169-174.

Grant, S., Craig, I., Wilson, J. and Aitchison, T. (1997) The relationship between 3 km running performance and selected physiological variables. *J. Sports Sci.*, 15 : 403-410.

Green, S. and Dawson, B. (1993) Measurement of anaerobic capacities in humans. Definitions, limitations and unsolved problems. *Sports Med.*, 15 : 312-327.

Hagerman, F. C. and Staron, R. S. (1983) Seasonal variations among physiological variables in elite oarsmen. *Can. J. Appl. Sport Sci.*, 8 : 143-148.

八田秀雄 (1997) 乳酸. ブックハウスHD : 東京.

Hewson, D. J. and Hopkins, W. G. (1996) Specificity of training and its relation to the performance of distance runners. *Int. J. Sports Med.*, 17 : 199-204.

Hill, D. W. and Rowell, A. L. (1996) Running velocity at V̄O<sub>2max</sub>. *Med. Sci. Sports Exerc.*, 28 : 114-119.

Holmgren, A. and Astrand, P.-O. (1966) DI and the dimensions and

functional capacities of O<sub>2</sub> transport system in humans. J. Appl. Physiol., 21 : 1463-1470.

Honig, C. R., Connett, R. J. and Gayeski, T. E. J. (1992) O<sub>2</sub> transport and its interaction with metabolism ; a systems view of aerobic capacity. Med. Sci. Sports Exerc., 24 : 47-53.

Houmard, J. A., Costill, D. L., Michell, J. B., Park, S. H. and Chenier, T. C. (1991) The role of anaerobic ability in middle distance running performance. Eur. J. Appl. Physiol., 62 : 40-43.

石河利寛 (1962) スポーツとからだ. 岩波新書：東京, p108.

岩垣丞恒 (1989) 運動と代謝・栄養. 石河利寛・杉浦正輝編著, 運動生理学. 建帛社：東京, pp.130-132.

Johnson, R. L. Jr., Spicer, W. S., Bishop, J. M. and Foster, R. E. (1960) Pulmonary capillary blood volume, flow and diffusing capacity during exercise. J. Appl. Physiol., 15 : 893-902.

Joyner, M. J. (1991) Modeling : optimal marathon performance on the basis of physiological factors. J. Appl. Physiol., 70 : 683-687

Katch, V. L. and Henry, F. M. (1972) Prediction of running performance from maximal oxygen debt and intake. Med. Sci. Sports, 4 : 187-191.

Katch, V. L. and Weltman, A. (1979) Interrelationship between anaerobic power output, anaerobic capacity and aerobic power. Ergonomics, 22 : 325-332.

Katch, V. L., Sady, S. S. and Freedson, P. (1982) Biological variability in maximum aerobic power. Med. Sci. Sports Exerc., 14

: 21-25.

勝田茂・宮田浩文・麻場一徳・原田健・永井純 (1986) 中長距離選手におけるランニング効率とパフォーマンスとの関係について. 筑波大学体育科学系紀要, 8 : 45-52.

Keul, J. (1973) The relationship between circulation and metabolism during exercise. Med. Sci. Sports, 5 : 209-219.

Kindermann, W. and Keul, J. (1977) Lactate acidosis with different forms activities. Can. J. Appl. Sport Sci., 2 : 177-182.

金原勇・高松薰・阿江通良・伊藤静夫 (1973) トレーニング目標とする全身持久性のとらえ方に関する実験的研究. 東京教育大学体育学部スポーツ研究所報, 11 : 15-37.

Komi, P. V., Rusko, H., Vos, J. and Vihko, V. (1977) Anaerobic performance capacity in athletes. Acta. Physiol. Scand., 100 : 107-114.

黒田善雄・伊藤静夫・塙越克己・雨宮輝也・鈴木洋児 (1973) 日本人一流競技選手の最大酸素摂取量並びに最大酸素負債量－第2報－. 昭和48年度日本体育協会スポーツ科学研究報告, IX : 1-27.

黒川隆志・富樫泰一・野村武男・池上晴夫 (1985) 最大酸素摂取量、最大酸素負債量および酸素需要量と水泳記録との関係. 体育学研究, 29 : 295-305.

Lacour, J. R., Padilla-Magunacelaya, S., Barthelemy, J. C. and Dormois, D. (1990a) The energetics of middle-distance running. Eur. J. Appl. Physiol., 60 : 38-43.

Lacour, J. R., Bouvat, E. and Barthelemy, J. C. (1990b) Post-

competition blood lactate concentrations as indicators of anaerobic energy expenditure during 400-m and 800-m races. *Eur. J. Appl. Physiol.*, 61 : 172-176.

LaFontaine, T. P., Londeree, B. R. and Spath, W. K. (1981) The maximal steady state versus selected running events. *Med. Sci. Sports Exerc.*, 13 : 190-192.

Lindsay, F. H., Hawley, J. A., Myburgh, K. H., Schomer, H. H., Noakes, T. D. and Dennis, S. C. (1996) Improved athletic performance in highly trained cyclists after interval training. *Med. Sci. Sports Exerc.*, 28 : 1427-1434.

Mackova, E. V., Bass, A., Spruhaarova, S., Teisinger, J., Vondra, K. and Bojanovsky, I. (1982) Enzyme activity patterns of energy metabolism in skiers of different performance levels (M. Quadriceps Femoris). *Eur. J. Appl. Physiol.*, 48 : 315-322.

Maffulli, N., Capasso, G. and Lancia, A (1991) Anaerobic threshold and performance in middle and long distance running. *J. Sports Med.*, 31 : 332-338.

Margaria, R., Aghemo, P. and Rovelli, E. (1966) Measurement of muscular power (anaerobic) in man. *J. Appl. Physiol.*, 21 : 1662-1664.

Maughan, R. J. (1992) Aerobic function. *Sports Science Review*, 1 : 28-42.

Mckenzie, D. C., Parhouse, W. A. and Hearst, W. E. (1982) Anaerobic performance characteristics of elite canadian 800 meter runners. *Can. J. Appl. Sport Sci.*, 7 : 158-160.

Metzger, J. and Moss, R. (1990) Effects on tension and stiffness due to reduced pH in mammalian fast- and slow-twitch skinned skeletal muscle fibres. *J. Physiol.*, 428 : 737-750.

満園良一・丸山敦夫・四元清治 (1985) 中長距離ランナーの酸素摂取能および酸素負債量と走強度との関係. 久留米大学論叢, 34 : 145-152.

宮原清彰・豊岡示朗・吉川潔・足立哲司 (1995) 100mから1万mまでのレース後の血中乳酸濃度. 第7回ランニング学会大会号, p23.

Monod, H. and Scherrer, J. (1965) Work capacity of synergic muscular group. *Ergonomics*, 8 : 329-338.

Morgan, D. W., Baldini, F. D., Martin, P. E. and Kohrt, W. M. (1989) Ten kilometer performance and predicted velocity at  $\dot{V}O_{2\text{max}}$  among well-trained male runners. *Med. Sci. Sports Exerc.*, 21 : 78-83.

Moritani, T., Nagata, A., deVries, H. A. and Muro, M. (1981) Critical power as a measure of physical work capacity and anaerobic threshold. *Ergonomics*, 24 : 339-350.

Mygind, E., Anderson, L.B. and Rasmussen, B. (1994) Blood lactate and respiratory variables in elite cross-country skiing at racing speeds. *Scand. J. Med. Sci. Sports*, 4 : 243-251.

永井 純 (1989) 中・長距離・障害. ベースボールマガジン社：東京, pp.9-10.

中村好男・山本義春 (1993) ATその変遷と新しい理解. ブックハウスHD : 東京.

Noakes, T. D. (1988) Implications of exercise testing for prediction

of athletic performance : a contemporary perspective. Med. Sci. Sports Exerc., 20 : 319-330.

Noakes, T. D., Myburgh, K. H. and Schall, R. (1990) Peak treadmill running velocity during the  $\dot{V}O_{2\text{max}}$  test predicts running performance. J. Sports Sci., 8 : 35-45.

Noakes, T. D. (1991) Lore of running. Human Kinetics Publishers, Inc., Champaign, IL.

沼尻幸吉 (1959) 労働の強さと適正作業量. 労働科学研究所：東京, p.250.

尾縣貢・福島洋樹・大山圭悟・安井年文・鍋倉賢治・宮下憲・関岡康雄・永井純 (1998) 下肢の筋持久性と400m走中の疾走速度遞減との関係. 体育学研究, 42 : 370-379.

Osnes, J. and Hermansen, L. (1972) Acid-base balance after maximal exercise of short duration. J. Appl. Physiol., 32 : 59-63.

Pate, R. R., Sparling, P.B., Wilson, G. E., Cureton, K. J. and Miller, B. J. (1987) Cardiorespiratory and metabolic responses to submaximal and maximal exercise in elite women distance runners. Int. J. Sport Med., 8 : 91-95.

Pate, R. R. and Branch, J. D. (1992) Training for endurance sport. Med. Sci. Sports Exerc, 24 : 340-343.

Pollock, M. L., Bohannon, R. L., Cooper, K. H., Ayres, J. J., Ward, A., White, S. R. and Linnerud, A. C. (1976) A comparative analysis of four protocols for maximal treadmill stress testing. Am. Heart J., 92 : 39-46.

- Powers, S. K., Dodd, S., Denson, R., Byrd, R. and McKnight, T. (1983) Ventilatory threshold, running economy and distance running performance of trained athletes. *Res. Quart.*, 54 : 179-182.
- Ramsbottom, R., Williams, C., Kerwin, D. G. and Nute, M. L. G. (1992) Physiological and metabolic responses of men and women to a 5-km treadmill time trial. *J. Sports Sci.*, 10 : 119-129.
- Robinson, D. M., Robinson, S. M., Hume, P. A. and Hopkins, W. G. (1991) Training intensity of elite male distance runners. *Med. Sci. Sports Exerc.*, 23 : 1078-1082.
- Roca, J., Hogan, M. C., Story, D. and Bebout, D. E. (1989) Evidence for tissue diffusion limitation of  $\dot{V}O_{2\text{max}}$  in normal humans. *J. Appl. Physiol.*, 67 : 291-299.
- Rusko, H., Havu, M. and Karvinen, E. (1978) Aerobic performance capacity in athletes. *Eur. J. Appl. Physiol.*, 38 : 151-159.
- Sahlin, K. (1986) Muscle fatigue and lactic acid accumulation. *Acta Physiol. Scand.*, 128, Suppl., 556 : 83-91.
- Saltin, B., Nazar, K., Costill, D. L., Stein, E., Jansson, E., Essen, B. and Gollnick, P. D. (1976) The nature of the training response : peripheral and central adaptations to one-legged exercise. *Acta Physiol. Scand.*, 96 : 289-305.
- Saltin, B. and Strange, S. (1992) Maximal oxygen uptake : "old" and "new" arguments for a cardiovascular limitation. *Med. Sci. Sports Exerc.*, 24 : 30-37.

沢木啓祐・高岡郁夫(1993)マラソン. ベースボール・マガジン社：東

京, pp.34-36.

Schnabel, A. and Kindermann, W. (1983) Assessment of anaerobic capacity in runners. *Eur. J. Appl. Physiol.*, 52 : 42-46.

Scrimgeour, A. G., Noakes, T. D., Adams, B. and Myburgh, K. (1986) The influence of weekly training distance on fractional utilization of maximum aerobic capacity in marathon and ultramarathon runners. *Eur. J. Appl. Physiol.*, 55 : 202-209.

Scott, C. B., Roby, F. B., Lohman, T. G. and Bunt, J. C. (1991) The maximally accumulated oxygen deficit as indicator of anaerobic capacity. *Med. Sci. Sports Exerc.*, 23 : 618-624.

Scott, B. K. and Houmard, J. A. (1994) Peak running velocity is highly related to distance running performance. *Int. J. Sports Med.*, 15 : 504-507.

Serresse, O., Simoneau, J. A., Bouchard, C. and Boulay, M. R. (1991) Aerobic and anaerobic energy contribution during maximal work output in 90s determined with various ergocycle workloads. *Int. J. Sports Med.*, 12 : 543-547.

Sjodin, B. and Svedenhag, J. (1985) Applied physiology of marathon running. *Sports Med.*, 2 : 83-99.

Skinner, J. S. and Morgan, D. W. (1985) Aspects of anaerobic performance. In: *Limits of human performance*, ed by Clarke, D. H. and Eckert, H. M., Human Kinetics Publishers, Inc. Champaign, IL, pp.31-44.

Stamford, B. A. (1976) Step increment versus constant load tests for determination of maximal oxygen consumption. *Eur. J. Appl.*

Physiol., 35 : 89-93.

Stringer, W., Wasserman, K., Casaburi, R., Porszasz, J., Maehara, K. and French, W. (1994) Lactic acidosis as a facilitator of oxyhemoglobin dissociation during exercise. *J. Appl. Physiol.*, 76 : 1462-1467.

Sutton, J. R. (1992) Limitations to maximal oxygen uptake. *Sports Med.*, 13 : 127-133.

Svedenhag, J. and Sjodin, B. (1984) Maximal and submaximal oxygen uptake and blood lactate levels in elite male middle- and long-distance runners. *Int. J. Sports Med.*, 5 : 255-261.

Svedenhag, J. and Sjodin, B. (1985) Physiological characteristics of elite male runners in and off-season. *Can. J. Appl. Sport Sci.*, 10 : 127-133.

Tanaka, K., Matsuura, Y., Matsuzaka, A., Hirakoba, K., Kumagai, S., Sun-O, S. and Asano, K. (1984) A longitudinal assessment of anaerobic threshold and distance running performance. *Med. Sci. Sports Exerc.*, 16 : 278-282.

Tanaka, H. and Swensen, T. (1998) Impact of resistance training on endurance performance. *Sports Med.*, 25 : 191-200.

Taunton, J. E., Maron, H. and Wilkinson, J. G. (1981) Anaerobic performance in middle and long distance runners. *Can. J. Appl. Sport Sci.*, 6 : 109-113.

Taylor, H. L., Buskirk, H. and Henshel, A. (1955) Maximal oxygen intake as an objective measure of cardio-respiratory performance. *J. Appl. Physiol.*, 8 : 73-80.

Verstappen, F. T. J., Janssen, G. M. E. and Does, R. J. M. M. (1989) Effects of endurance training and competition on exercise tests in relatively untrained people. Int. J. Sports Med., 10 : S126-S131.

Wasserman, K. and McIlroy, M. B. (1964) Detecting the threshold of anaerobic metabolism in cardiac patients during exercise. Am. J. Cardiol., 14 : 844-852.

Wasserman, K., Beaver, W. and Whipp, B. (1986) Mechanisms and patterns blood lactate increase during exercise. Med. Sci. Sports Exerc., 18 : 344-352.

Weltman, A., Moffatt, R. J. and Stamford, B. A. (1978) Supramaximal training in females : Effects on anaerobic power output, anaerobic capacity, and aerobic power. J. Sports Med., 18 : 237-244.

Wilcox, A. R. and Bulbulian, R. (1982) The effect of a cross-country season on running economy (abstract). Med. Sci. Sports Exerc., 14 : 142-143.

Wilmore, J. and Costill, D. L. (1994) Energy for movement. In : Physiology of sport and exercise, ed by Wilmore, J. and Costill, D. L., Human Kinetics Publishers, Inc. Champaign, IL, pp.104-107.

山地啓司・宮下充正 (1976) 安静及び作業時の肺拡散能力、肺胞膜拡散容量及び肺毛細血管量. 体力科学, 25 : 159-167.

山地啓司 (1990) 最大酸素摂取量から陸上中長距離走、マラソンレースの競技記録を占うことが可能か. ランニング学研究, 1 : 7-14.

山地啓司 (1992) 最大酸素摂取量の科学. 杏林書院：東京, pp.14-15, 208-225.

山地啓司 (1998) 最高有酸素的ランニング速度 ( $\dot{V}O_{2\max}$ ) の意義と評価. 日本運動生理学雑誌, 5 : 89-99.

山崎省一・青木純一郎 (1977) 長距離走者の競技記録と無酸素的能力. 体力科学, 26 : 87-95.

山本正嘉 (1989) 筋のエネルギー出力. 田畠泉・山本正嘉共著, 身体運動のエナジエティクス. 高文堂: 東京, pp.113-205.

矢野徳郎 (1985) 長・中・短距離走者の無気的作業閾値, 酸素債および酸素摂取量の反応時間. 体力科学, 34 : 176-182.

吉田敬義 (1989) 運動開始時の酸素摂取量の動態とシステム同定. 体育の科学, 39 : 871-876.

Yoshida, T., Udo, M., Iwai, K., Chida, M., Ichioka, M., Nakadomo, F. and Yamaguchi, T. (1990) Significance of the contribution of aerobic and anaerobic components to several distance running performances in female athletes. Eur. J. Appl. Physiol., 60 : 249-253.