THOMAS JACKSON BARSTOW

CURRICULUM VITA
(10/20/08)

ADDRESS (Work): Department of Kinesiology
1A Natatorium
Kansas State University
Manhattan, KS 66506-0302

Telephone: (785) 532-0712

CITIZENSHIP: USA

EDUCATION: B.S. (with Honors) in Nutrition, University of California, Davis, 1974

M.A. in Physical Education, University of California, Davis, 1978. Thesis: "A Comparison of the Kinetics of Oxygen Uptake Between Diabetics and Nondiabetics."

Ph.D. in Physiology (Major cardiorespiratory physiology, minor nutrition), University of California, Davis, 1985. Dissertation: "Dynamics of Pulmonary Gas Exchange During Unsteady States of Exercise."

PROFESSIONAL EXPERIENCE:

2002-2007	Head, Dept. Kinesiology, Kansas State University, Manhattan, KS
2002-2003	Visiting Professor, The Manchester Metropolitan University, Manchester, UK
2000-	Professor, Dept. Kinesiology, Kansas State University, Manhattan, KS
1996-2000	Associate Professor, Dept. Kinesiology, Kansas State University, Manhattan, KS
1996	Adjunct Associate Professor, Dept. Medicine, Harbor-UCLA Medical Center, Torrance, CA.
1993-1996	Research Physiologist, Dept. Physical Medicine Rehab., V. A. Wadsworth Medical Center, Los Angeles, CA.
1989-1996	Adjunct Assistant Professor, Dept. Medicine, Harbor-UCLA Medical Center, Torrance, CA
1988-1996	Director, Respiratory Physiology Research Laboratory, Harbor-UCLA Medical Center, Torrance, CA
1988-1989	Adjunct Assistant Professor, Dept. Pediatrics, Harbor-UCLA Medical Center, Torrance, CA
1986-1989	Postdoctoral Research Fellow in Nutrition, Dept. Pediatrics, and Division of Respiratory Physiology and Medicine, Dept. Medicine, Harbor-UCLA Med. Ctr.
1984-1985	Associate in Physiology, Dept. Animal Physiology, U.C. Davis
1979-1980	Associate in Physiology, Dept. Animal Physiology, U.C. Davis
1977-1978	Postgraduate Researcher, Dept. Cardiology, School of Medicine, U.C. Davis
1976-1977	Director, Adult Fitness Program, Dept. Physical Education, U.C. Davis
1975-1976	Nutritionist and Exercise Physiologist, National Athletic Health Institute, Inglewood, California

CERTIFICATION: Exercise Specialist, American College of Sports Medicine, 1978.

PROFESSIONAL ACTIVITIES:

Professional memberships:

1977-	American College of Sports Medicine
1986-	American Heart Association, Cardiopulmonary Council
1989-	American Physiological Society

Editorial/Reviewer, Scientific Journals:

1989-	Reviewer, Amer. Rev. Respir. Dis.
	Reviewer, J. Appl. Physiol.
1990-	Reviewer, Eur. J. Appl. Physiol.
	Reviewer, Am. J. Physiol.
	Reviewer, Med. Sci. Sports Exerc.
1991-	Reviewer, Modeling Forum, Am. J. Physiol.
1994-	Reviewer, J. Physiol. (London)
	Reviewer, Anal. Biochem.
	Reviewer, Can. J. Appl. Physiol.
1995	Reviewer, Am. J. Cardiol.
1996	Reviewer, J. Auton. Nervous System
1999-2002	Editorial Board, Eur. J. Applied Physiology
2000-	Editorial Board, J. Applied Physiology
2000-	Editorial Board, Med. Sci. Sports Exerc.
2005	Reviewer, Clin. Physiol. Func. Imaging

Reviewer, Funding Agencies:

1991	Research proposal, Ministry of Science and Technology, Republic of Slovenia
1997	Large Project Intramural Grant Program, Allegheny University of the Health Sciences, PA
1999	VA/DOD Physical Performance and Combat Readiness, Collaborative Research Program
1999	NIH Special Emphasis Panel
2000	"
2004	"
2006-7	Natural Sciences and Engineering Research Council of Canada
2008	California Tobacco Related Disease Research Program
	Oak Ridge Associated Universities: Pennsylvania Performance Review

Consulting service:

1987-88	Computer program design, Dept. Phys. Ed., U.C. Davis.

Community service:

4/88-4/95	Science Fair judge, First Lutheran School, Torrance, CA
9/87-6/90	7th grade Confirmation Sunday School class, First Lutheran Church, Torrance, CA
4/90-6/90	Coach, Little League baseball
7/90-6/93	Chair, Staff Support Committee, First Lutheran Church
10/90-9/91	Senior Pastor Search Committee, First Lutheran Church
1/91-3/91	Coach, Torrance Recreation basketball program
9/92-12/92	Assistant coach, AYSO soccer Division 5
1/94-9/95	Senior Pastor Search Committee, First Lutheran Church

	9/98-6/99	member, Stewardship Committee, Peace Lutheran Church, Manhattan KS
	9/97-	Worship Assistant, Peace Lutheran Church, Manhattan, KS
	4/04-	Personnel Committee, Peace Lutheran Church, Manhattan, KS
	5/06-	Council, Peace Lutheran Church, Manhattan, KS
	1/08 -	Building Solutions problem solving group, Peace Lutheran Church
HONORS:	1981	Graduate Student Research Award, $500, U.C. Davis
	1981-2	NIH Training Grant, "Integrative Functions of Higher Organisms", Dept. Human Physiology, School of Medicine, U.C. Davis
	1982-3	Jastro-Shields Graduate Fellowship, U.C. Davis
	1982	Graduate Student Travel Award, $531, U.C. Davis
	1983-4	Graduate Student Research Award, $1325, U.C. Davis
	1983-4	U.C. Regent's Fellowship in Physiology, U.C. Davis
	1986-9	NIH Training Fellowship in Nutrition and Metabolism, Dept. Pediatrics, Harbor-UCLA Medical Center
	1989	Finalist, Ph.D. Research Prize Competition, Harbor-UCLA, $150.
	1994	Fellow, American College of Sports Medicine
	2001	Doctoral Student Research Award (Barbara Lutjemeier), Central States chapter, American College of Sports Medicine
	2005	Making a Difference Award, Women in Science and Engineering, KSU.
	2006	First Place, Developing Scholars Program research presentation, KSU, Sammy Ornelas. Mentor.
	2007	Exemplary Teaching Award, Sigma Lambda Beta Fraternity, KSU.
	2007	Professorial Award, KSU

RESEARCH GRANTS (Funded) AND FELLOWSHIPS:

3/86-2/89	NIH Postdoctoral Training Fellowship in Nutrition and Metabolism, Dept. Pediatrics, Harbor-UCLA Medical Center
7/89-6/90	Am. Heart Assoc., Greater Los Angeles Affiliate, $20,000 (PI) "Mechanisms of Blood Glucose Regulation during Exercise."
6/89-5/91	Ciba-Geigy Corp., $461,689. (co-invest.) "Effect of Benezapril on Congestive Heart Failure during Exercise"
12/89-11/91	Ciba-Geigy, $260,970. (co-invest.) "Exercise Testing in Coronary Artery Disease".
7/89-6/90	Arthritis Found., $50,000. (co-invest.) "Exercise, Activity and Pain in Patients with PFS".
6/90-5/91	Harbor Collegium, $10,000. (PI) "Oxygen Delivery during Exercise in Congestive Heart Failure".
4/92-3/94	NIH-NICHD, $261,915 (co-invest.) "Integrated Anabolic Mechanisms of Exercise, Diet and Puberty."
7/93-6/96	NIH-NIAID, $451,072 (co-invest.) "Exercise Intolerance in Chronic Fatigue Syndrome."
4/93-4/94	REI Research Grant, Harbor-UCLA Medical Center, $4000 (PI). "Muscle Fiber Composition and Exercise Energetics."

4/95-3/00	NIH-NICHD, $1,798,619 (co-invest) "Mechanisms of Exercise Modulation of Human Growth."
9/95-8/98	VA B2002-RC, $400,000 (co-invest) "Functional Electrical Stimulation on Spinal Cord Injured Patients: Effects on Muscle Blood Flow and Metabolism."
7/96-8/01	NIH-NHLBI $641,167 (PI) "Control of Muscle PCr, H+ and $\dot{V}O_2$ Kinetics."
7/98-6/00	Fellowship in Pulmonary Medicine, Parker B. Francis Family Foundation $72,000 (sponsor for Craig Harms, Ph.D.)
7/99-6/01	Am. Heart Assoc. $69,050 (co-invest; CA Harms, PI) "Mechanisms of Interaction Between Hyperpnea and Cardiovascular Function"
9/99-8/01	Fellowship, Medical Research Council of Canada $66,000 (sponsor for Barry Scheuermann, Ph.D.)
7/01-6/04	Am. Heart Assoc. (Heartland Affiliate) $110,000 (PI) "Model of Muscle Blood Flow Incorporating Oscillations from Muscle Pump and Impedance to Flow"

STUDENT RESEARCH ADVISING (Major Professor MP)

Post-doctoral Fellows

Andrew Jones, 1993-94
Barry Scheuermann, 1997-2001
Akira Miura, 2000-01

Doctoral Students

Casey Kindig, 2001
Brad Behnke, 2000-2004
Timothy Bauer, 1999-2005 (MP)
Barbara Lutjemeier, 2001- 2006 (MP)
Leonardo Ferreira, 2003- 2006 (MP)
Dana Townsend, 2001- 2007 (MP)
Christopher Bopp, 2007 - (MP)

Master's Students

Scott Gadeken, report, 1997 (MP)
Casey Kindig, thesis, 1997
Heather Vidrickson, report, 1998 (MP)
Christian Larson, report, 1998
Brian Hoelting, thesis, 1997-99 (MP)
Tim Benson, thesis, 1999
Heather Brady, thesis, 2000
Bradley Behnke, thesis, 2000
Barbara Lutjemeier, thesis, 2001 (MP)
Jill Murphy, thesis, 2001
Maria DeBoer, thesis, 2002 (MP)
Serina McEntire, thesis, 2002
Tyler Barker, thesis, 2003 (MP)
Christa Eskridge, report, 1997
Lori Krueger, report, 1998 (MP)
Christine Jones, report, 1998
Melanie Mason, report, 1998
Mark Oberkrom, exam, 1999
Jamie Stark, thesis, 1999
Joyce McConnel, exam, 2000
Kristen Meadows, thesis, 2000 (MP)
Emily Diederich, thesis, 2001
Kim Davis, examination, 2001 (MP)
Patricia Marteney, thesis, 2002 (MP)
John Russell, thesis, 2002
Allison Harper, thesis, 2005 (MP)

Renee' Wicker, thesis, 2007 (MP) Megan Kelly, thesis, 200

Undergraduate Research Supervision

Jill Murphy, 1998
Lindsay Mallory, McNair Scholar, 1997-99
Tyson McBride, 1999-2002
Matthew Stanley, Howard Hughes Medical Institute Undergraduate Research Scholar, 1999-2002
Adrienne Williams, KSU Developing Scholar Program 2001-2002
Angela Nichols, McNair Summer Scholar, 2004
Suzanne Steffens, Howard Hughes Medical Institute Undergraduate Research Scholar, 2004-6
Katie Schmidt, SUROP Scholar, 2005
Sammy Ornelas, Bridges Scholar (2005), Developing Scholar, McNair Scholar, 2005-
Curtis McClain, Bridges Scholar (2007), Developing Scholar (2007-)
Rosemary Almeda, Bridges Scholar (2007), Developing Scholar (2007-)

Extra-KSU External Examiner

Maureen MacDonald, University of Waterloo, Ontario, Canada, Dissertation, 1998
Glen Wadley, Deakin University, Geelong, Australia, Master's Thesis, 1999
Christopher Bell, University of Western Ontario, Ontario, Canada, Dissertation, 2000
Katrien Koppo, University of Gent, Belgium, Dissertation, 2002
Jamie Pringle, Manchester Metropolitan University, UK, Dissertation, 2002
Jan Boone, University of Gent, Belgium, Dissertation, 2007-

INVITED LECTURES AND PRESENTATIONS:

"Changing lifestyles: Focus on nutrition and weight control." Sports Medicine Seminar, Postgraduate Division, University of Southern California, 11/75.

"Body composition and fitness in the exceptional child." Symposium on the Exceptional Child, Los Angeles, CA., 11/75.

"Nutrition and athletic performance." Sports Medicine Seminar, Orange County Podiatric Association, Los Angeles, CA., 3/76.

"Preventative health measures: The do's and don'ts of dying on the job." 10th Annual Southern California Personnel Management Association Relations Workshop, Anaheim, CA., 3/76.

"Nutrition and athletic performance," and "Preseason conditioning and heat adaptation." Sports Medicine Workshop for Coaches, Trainers, and Physicians, Kern High School District, Fresno, CA., 4/76.

"Nutrition and the professional athlete." Los Angeles Lakers professional basketball team, Los Angeles, CA., 4/76.

"Coronary heart disease." Kiwanis International, Davis, CA chapter, 11/76.

"Exercise and weight control." SCALEDOWN workshops in Sacramento and Modesto, CA., 1/77-5/77.

"The effects of nutrition on performance in track athletes." Coaches Clinic, American River College, Sacramento, CA., 3/77.

"Nutrition and wrestling." High school wrestling camp, U.C. Davis, 8/77.

"Circulatory determinants of pulmonary gas exchange." Division of Respiratory Physiology and Medicine, Harbor-UCLA Medical Center, 11/84.

"Measurement of pulmonary gas exchange with each breath." Metabolic Research Group, U.C. Davis, 5/85.

"Changes in natural enrichment of CO_2 with moderate exercise." Southern California Pulmonary Research Conference, 1/86.

"Lactate metabolism during exercise." Res. Seminar in Nutrition, Harbor-UCLA Medical Center, 4/86.

"Carbon dioxide transport." Principles of Respiratory Physiology Lecture Series, Division of Respiratory Physiology and Medicine, Harbor-UCLA Medical Center, 9/86.

"Changes in natural enrichment ($^{13}C/^{12}C$) of breath CO_2 due to hypoxia and/or exercise." Research Seminar in Nutrition, Harbor-UCLA Medical Center, 4/87.

"Glucose utilization during exercise." Graduate Group in Physiology, U.C. Davis, 4/89

"Calculation of pulmonary gas exchange." Pulmonary Fellows Conference, Division of Respiratory Critical Care Physiology and Medicine, Harbor-UCLA Medical Center, 7/89

"Calibration of laboratory gas exchange systems." Pulmonary Fellows Conference, Division of Respiratory Critical Care Physiology and Medicine, Harbor- UCLA Medical Center, 7/89

"Control of oxidative metabolism during exercise." Division of Respiratory Critical Care Physiology Medicine, Harbor-UCLA Medical Center, 7/89

"Diffusion and convection of respiratory gases." Principles of Respiratory Physiology Lecture Series, Division of Respiratory Physiology and Medicine, Harbor-UCLA Medical Center, 10/89

"Central rhythm generation and central chemoreception." Principles of Respiratory Physiology Lecture Series, Division of Respiratory Critical Care Physiology and Medicine, Harbor-UCLA Medical Center, 11/89

"Principles of thoracic mechanics." UC Riverside Medical School 260, Pathophysiology, Harbor-UCLA Medical Center, 11/89-95.

"Dynamics of muscle and pulmonary oxygen uptake during exercise." Department of Anatomy and Physiology, Cal. State Univ. Long Beach, 11/90

"Does lactate production spare oxygen uptake kinetics?" Pulmonary Physiology Research Conference, Division of Respiratory Critical Care Physiology and Medicine, Harbor-UCLA Medical Center, 3/91

"Review of Exercise Physiology." Exercise and Disability, Rehabilitation Medicine Service, VA Medical Center, West Los Angeles, 5/93.

"Muscle Oxygenation during Moderate and Heavy Exercise Measured with Near-InfraRed Spectroscopy." Research Seminar Series, Divisions of Pulmonary, Cardiology and Infectious Diseases, Harbor-UCLA Medical Center, 7/93.

"Models of Respiratory Control: Evidence from in vivo studies in humans using ^{31}P magnetic resonance spectroscopy." Research Seminar Series, Divisions of Pulmonary, Cardiology and Infectious Diseases, Harbor-UCLA Medical Center, 11/93.

"Balance Between Muscle Oxygen Extraction and O_2 Delivery. Studies with Near Infrared Spectroscopy." Research Seminar Series, Harbor-UCLA Medical Center, 11/94.

A Practicum: Cardiopulmonary Exercise Testing. Gunma Prefectural Cardiovascular Center, Maebashi, Japan. Lectures included: "Validation of Gas Exchange Measurements", "Exercise Testing Protocols and Preparation of Patient", and "Physiological Basis of Exercise Training." 5/95.

"Oxygen Uptake Kinetics During Heavy Exercise: Methodology and Physiological Implications." Third International Congress on Physiological Anthropology, Nara, Japan, 9/96.

"Role of Muscle Heterogeneity in Energetics of Exercise". Department of Exercise Science and Physiology, Hiroshima Women's University, Hiroshima, 9/96.

"Muscle Fiber Type Influences Cardiorespiratory Responses to Exercise." Central States Chapter, ACSM, 1997 Annual Meeting, Kansas City, 10/97.

"Studies on the Kinetic Coupling of Cardiorespiratory Adjustments to Cellular Respiration During Exercise." 3rd Annual Congress of the European College of Sport Science, Manchester, UK, 7/98.

"Influence of Muscle Fiber Type on Cardiopulmonary Responses during Heavy Exercise." Annual Meeting of the Biomedical Engineering Society, Cleveland, 10/98.

"Assessment of Training Adaptations with FES in Spinal Cord Injured Patients." Annual Meeting of the Biomedical Engineering Society, Cleveland, 10/98.

"Intensite de l'Exercice Caracterisee par la Cinetique de Debit de Prelevement d'Oxygene." Research Seminar series on the Physiology of Muscular Exercise and in Sports Medicine, Universite Pierre et Marie Curie Paris VI, France, 5/99.

"Role of Fitness and Muscle Fiber Type Heterogeneity on the O_2 Cost of Exercise." Seminar Series, Department of Exercise Science, U. California-Davis, 6/99.

"Role of Phosphorylation State in Control of Cellular Respiration." SouthWest-ACSM, San Jose, CA, 11/99.

“Are Children Better Biological Machines than Adults? Power and Capacity” ACSM, Baltimore 6/01.

“Symposium honoring the Work of Paul A. Mole’”, SouthWest ACSM, Salt Lake City, UT, 11/01

“Current Approaches to Measuring Muscle Blood Flow in Humans”, Central States ACSM, Kansas City, MO, 11/02.

“Modeling Oxygen Uptake Kinetics”, 8th Annual Congress of the European College of Sport Sciences, Salzburg, Austria, 7/04.

“Muscle contraction-blood flow interactions during exercise.” Keynote speaker, Graduate Research Symposium, Dept. Kinesiology, Univ. Toledo, 4/05.

"Oxygen Flux from Capillary to Mitochondria: Integration of Metabolic and Cardiovascular Control", symposium organizer, ACSM, Denver, 6/06.

"Hemoglobin desaturation and capillary blood flow dynamics in humans during exercise." ACSM, Denver, 6/06.

"Coupling of microvascular O2 delivery and Control of Oxidative Phosphorylation." ACSM Conference, Integrative Physiology of Exercise." Indianapolis, 9/06.

"Consequences of Muscle Contraction on Control of Circulation & Microvascular Gas Exchange." Noll Laboratory Research Seminar, Penn. State University, 10/06.

PUBLICATIONS:

RESEARCH PAPERS, PEER REVIEWED

1. Wilmore, J.H., R.B. Parr, P. Ward, P.A. Vodak, T.J. Barstow, T.V. Pipes, G.Grimditch, and P. Leslie. Energy cost of circuit weight training. Med. Sci. Sports 10:75-78, 1978.

2. Wilmore, J.H., R.B. Parr, R.N. Girandola, P. Ward, P.A. Ward, P.A. Vodak, T.J. Barstow, T.V. Pipes, G.T. Romero, and P. Leslie. Physiological alterations consequent to circuit weight training. Med. Sci. Sports 10:79-84, 1978.

3. Mole', P.A., R.L. Coulson, J.R. Caton, B.G. Nichols and T.J. Barstow. In vivo ^{31}P NMR in human muscle: Transient patterns with exercise. J. Appl. Physiol.:Respirat. Environ. Exer. Physiol. 59:101-104, 1985.

4. Tyler, W.S., N.K. Tyler, G.A. Last, T.J. Barstow, D.J. Magliano, and D.M. Hinds. Effect of ozone on lung and somatic growth. Pair-Fed rats after ozone exposure and recovery periods. Toxicology 46:1- 20, 1987.

5. Barstow, T.J. and P.A. Mole'. Simulation of pulmonary oxygen uptake during exercise in humans. J. Appl. Physiol. 63:2253-2261, 1987.

6. Tyler, W.S., N.K. Tyler, J.A. Last, M.J. Gillespie, and T.J. Barstow. Comparison of daily and seasonal exposures of young monkeys to ozone. Toxicology 50:131-144, 1988.

7. Barstow, T.J., D.M. Cooper, S. Epstein, and K. Wasserman. Changes in breath $^{13}CO_2/^{12}CO_2$ consequent to exercise and hypoxia. J. Appl. Physiol. 66:936-942, 1989.

8. Springer, C., T.J. Barstow, and D.M. Cooper. Effect of hypoxia on ventilatory control during exercise in children and adults. Pediatr. Res. 25:285-290, 1989.

9. Cooper, D.M., T.J. Barstow, A. Bergner, and W-N.P. Lee. Blood glucose turnover during high and low intensity exercise. Am. J. Physiol. 257 (Endocrin. Metab. 20):E405-E412, 1989.

10. Casaburi, R., T.J. Barstow, and K. Wasserman. Influence of work rate on ventilatory and gas exchange kinetics. J. Appl. Physiol. 67:547- 555, 1989.

11. Barstow, T.J., N. Lamarra and B.J. Whipp. Modulation of muscle and pulmonary oxygen uptakes by circulatory dynamics. J. Appl. Physiol. 68:979-989, 1990.

12. Cooper, D.M., J. Poage, T.J. Barstow, and C. Springer. Are obese children truly unfit? Minimizing the confounding effect of body size on the exercise response. J. Pediatr. 116:223-230, 1990.

13. Barstow, T.J., D.M. Cooper, E. Sobel, E.M. Landaw and S. Epstein. Influence of increased metabolic rate on [^{13}C]bicarbonate washout kinetics. Am. J. Physiol. (Regulatory, Integrative Comp Physiol. 28):R163-R171, 1990.

14. Armon, Y., D.M. Cooper, C. Springer, T.J. Barstow, H. Rahimizadeh, E. Landaw, and S. Epstein. Oral [^{13}C]bicarbonate measurement of CO_2 stores and dynamics in children and adults. J. Appl. Physiol. 69:1754-1760, 1990.

15. Springer, C.S., T.J. Barstow, K. Wasserman and D.M. Cooper. Oxygen uptake and heart rate responses during hypoxic exercise in children and adults. Med. Sci. Sports Exerc. 23:71-79, 1991.

16. Armon, Y., D.M. Cooper, R. Flores, S. Zanconato and T.J. Barstow. Oxygen uptake dynamics during high-intensity exercise in children and adults. J. Appl. Physiol. 70:841-848, 1991.

17. De Cort, S.C., J.A. Innes, T.J. Barstow, and A. Guz. Cardiac output, oxygen consumption and arteriovenous oxygen difference following a sudden rise in exercise level in man. J. Physiol. (London). 441:501-512, 1991.

18. Barstow, T.J. and P.A. Mole'. Linear and nonlinear characteristics of oxygen uptake kinetics during heavy exercise. J. Appl. Physiol. 71(6):2099-2106, 1991.

19. Barstow, T.J., E.M. Landaw, C.S. Springer and D.M. Cooper. Increase in bicarbonate stores with exercise. Respir. Physiol. 87:231-242, 1992.

20. Casaburi, R., T.J. Barstow, T. Robinson and K. Wasserman. Dynamic and steady-state ventilatory and gas exchange responses to arm exercise. Med. Sci. Sports Exercise 24:1365-1374, 1992.

21. Zanconato, S., D.M. Cooper, T.J. Barstow and E. Landaw. $^{13}CO_2$ washout dynamics during intermittent exercise in children and adults. J. Appl. Physiol. 73:2476-2482, 1992.

22. Zanconato, S., S.B. Buchthal, T.J. Barstow and D.M. Cooper. ^{31}P Magnetic resonance spectroscopy of leg muscle metabolism during exercise in children and adults. J. Appl. Physiol. 74:2214-2218, 1993.

23. Barstow, T.J., R. Casaburi and K. Wasserman. Oxygen uptake kinetics and the O_2 deficit as related to exercise intensity and blood lactate. J. Appl. Physiol. 75:755-762, 1993.

24. Zhang, J.J., K. Wasserman, K.E. Sietsema, T.J. Barstow, G. Mizumoto and C.S. Sullivan. O_2 uptake kinetics in response to exercise: A measure of tissue anaerobiosis in heart failure. Chest 103:735-741, 1993.

25. Barstow, T.J., S.B. Buchthal, S. Zanconato, and D.M. Cooper. Muscle energetics and pulmonary oxygen uptake kinetics during moderate exercise. J. Appl. Physiol. 77:1742-1749, 1994.

26. Barstow, T.J., S.B. Buchthal, S. Zanconato, and D.M. Cooper. Changes in potential controllers of human skeletal muscle respiration during incremental calf exercise. J. Appl. Physiol. 77:2169-2176, 1994.

27. J. Porszasz, T.J. Barstow, and K. Wasserman. Evaluation of a pitot tube flowmeter for measuring ventilation during exercise. J. Appl. Physiol. 77(6):2659-2665, 1994.

28. Belardinelli, R., T.J. Barstow, J. Porszasz and K. Wasserman. Changes in skeletal muscle oxygenation during

incremental exercise measured with near infrared spectroscopy. Eur. J. Appl. Physiol. 70:487-492, 1995.

29. Belardinelli, R., T.J. Barstow, J. Porszasz and K. Wasserman. Skeletal muscle oxygenation during constant work rate exercise. Med. Sci. Sports Exerc. 27:512-519, 1995.

30. Bailey, R.R., T.J. Barstow, and D.M. Cooper. The level and tempo of children's physical activities: an observational study. Med. Sci. Sports Exerc. 27:1033-1041, 1995.

31. Barstow, T.J., A.M.E. Scremin, D.L. Mutton, C.F. Kunkel and T.G. Cagle. Gas exchange kinetics during functional electrical stimulation in subjects with spinal cord injury. Med. Sci. Sports Exerc. 27:1284-1291, 1995.

32. Belardinelli, R., D. Georgiou and T.J. Barstow. Near infrared spectroscopy and changes in skeletal muscle oxygenation during incremental exercise in chronic heart failure: A comparison with healthy subjects. Giornale Italiano di Cardiologia 25:715-724, 1995.

33. Belardinelli, R., D. Georgiou, V. Scocco, T.J. Barstow, and A. Purcaro. Low-intensity exercise training in patients with chronic heart failure. J. Am. Coll. Cardiol. 26:975-982, 1995

34. Wang, C., D.R. Eyre, R. Clark, D. Kleinberg, C. Newman, A. Iranmanesh, J. Veldhuis, R.E. Dudley, N. Berman, T. Davidson, T.J. Barstow, R. Sinow, G. Alexander and R.S. Swerdloff. Sublingual testosterone replacement improves muscle mass and strength, decreases bone resorption and increases bone formation markers in hypogonadal men--A Clinical Research Center study. J. Clin. Endocrinol. Metab. 81:3654-3662, 1996.

35. Barstow, T.J., A.M.E. Scremin, D.L. Mutton, C.F. Kunkel, T.G. Cagle and B.J. Whipp. Changes in gas exchange kinetics with training in patients with spinal cord injury. Med. Sci. Sports Exerc. 28:1221-1228, 1996.

36. Barstow, T.J., A.M. Jones, P.H. Nguyen and R. Casaburi. Influence of muscle fiber type and pedal frequency on oxygen uptake kinetics of heavy exercise. J. Appl. Physiol. 81:1642-1650, 1996.

37. Engelen, M., J. Porszasz, M. Riley, K. Wasserman, K. Maehara and T.J. Barstow. Effects of hypoxic hypoxia on O_2 uptake and heart rate kinetics during heavy exercise. J. Appl. Physiol. 81:2500-2508, 1996.

38. Eliakim, A., T.J. Barstow, J.A. Brasel, H. Ajie, W.-N.L. Lee, R. Renslo, N. Berman and D.M. Cooper. Effect of exercise training on energy expenditure, muscle volume, and maximal oxygen uptake in adolescent females. J. Pediatr. 129:537-543, 1996.

39. Eliakim, A., J.A. Brasel, S. Mohan, T.J. Barstow, N. Berman and D.M. Cooper. Physical fitness, endurance training, and the growth hormone-insulin-like growth factor I system in adolescent females. J. Clin. Endocrinol. Metab. 81:3986-3992, 1996.

40. Maehara, K., M. Riley, P. Galasetti, T.J. Barstow and K. Wasserman. Effect of hypoxia and carbon monoxide on muscle oxygenation during exercise. Am. J. Respir. Crit. Care Med. 155:229-235, 1997.

41. Riley, M., K. Maehara, J. Porszasz, M.P.K.J. Engelen, T.J. Barstow, H. Tanaka, and K. Wasserman. Association between the anaerobic threshold and the break-point in the double product/work rate relationship. Eur. J. Appl. Physiol. 75:14-21, 1997.

42. Mutton, D.L., A.M.E. Scremin, T.J. Barstow, M.D. Scott, C.F. Kunkel and T.G. Cagle. Physiologic responses

during functional electrical stimulation leg cycling and hybrid exercise in spinal cord injured subjects. Arch. Phys. Med. Rehabil. 78:712-718, 1997.

43. Leaf, D.A., M.T. Kleinman, M. Hamilton and T.J. Barstow. The effect of exercise intensity on lipid peroxidation. Med. Sci. Sports Exerc. 29:1036-1039, 1997.

44. Coppoolse, R., T.J. Barstow, W.W. Stringer, E. Carithers and R. Casaburi. Effect of acute bicarbonate administration on exercise responses of COPD patients. Med. Sci. Sports Exerc. 29:725-732, 1997.

45. Langsetmo,I., G.E. Weigle, M.R. Fedde, H.H. Erickson, T.J. Barstow, and D.C. Poole. $\dot{V}o_2$ kinetics in the horse at moderate and heavy exercise. J. Appl. Physiol. 83:1235-1241, 1997.

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