

CURRICULUM VITAE

GARY WAYNE MACK

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Education:

1977 B.S. University of California, Davis, CA. (Animal Physiology)
1981 M.A. University of California, Davis, CA. (Physical Education)
1984 Ph.D. University of Hawaii, Department of Physiology, John A. Burns School of Medicine, Honolulu, Hawaii (Biomedical Sciences)

Career:

9/85-9/88 Postdoctoral Fellow, Department of Epidemiology and Public Health, Yale University School of Medicine and John B. Pierce Foundation Laboratory
10/88-6/94 Assistant Fellow, John B. Pierce Laboratory, New Haven, CT
9/90-6/95 Assistant Professor, Environmental Health Sciences Division, Department of Epidemiology and Public Health, Yale University School of Medicine
7/94-6/30/99 Associate Fellow, John B. Pierce Laboratory, New Haven, CT
7/95-12/31/03 Associate Professor, Environmental Health Sciences Division, Department of Epidemiology and Public Health, Yale University School of Medicine
7/96 –12/31/03 Faculty member, Biomedical Engineering Program, Yale College.
7/1/99 –12/31/03 Associate Fellow, John B. Pierce Laboratory, New Haven, CT (tenure)
1/1/04 – present Adjunct Faculty, John B. Pierce Laboratory, New Haven, CT
1/1/04 – 9/1/08 Professor, Department of Exercise Sciences, Brigham Young University
9/1/08 - present Professor, Department of Exercise Sciences, Brigham Young University (tenure)
8/1/10 – 8/31/2016 Chair, Department of Exercise Sciences, Brigham Young University

Memberships:

1981 American College of Sports Medicine (FACSM - 1991)
1987 American Physiological Society

University Teaching Responsibilities:

Exercise Physiology (ExSc 463), Undergraduate course in the Department of Exercise Sciences, Brigham Young University

Advanced Exercise Physiology (ExSc 666), Graduate course in the Department of Exercise Sciences, Brigham Young University

Laboratory Methods in Exercise Science (ExSc 667), Graduate course in the Department of Exercise Sciences, Brigham Young University

Advanced Cardiorespiratory Physiology (ExSc 766), Graduate course in the Department of Exercise Sciences, Brigham Young University

Scientific Writing (ExSc 750), Graduate course in the Department of Exercise Sciences, Brigham Young University

Grant Writing (ExSc 751), Graduate course in the Department of Exercise Sciences, Brigham Young University

Administrative Responsibilities

University/College/Department

Chair of Department of Exercise Sciences (2010-2016)
College of Life Sciences

Department of Exercise Science
Chair, Rank and Status Committee (2016 – present)

University of Utah School of Medicine
Medical School Admissions Committee member (2018- present)

Scholarly Activities:

Associate Editor, *Frontiers in Physiology – Exercise Physiology*. Aug. 2016 to present.

Reviewer: *Journal of Applied Physiology*, *Journal of Physiology*, *PLOS ONE*, *American Journal of Physiology*, *European Journal of Nutrition*, *Experimental Physiology*

Editorial Board, *Journal of Applied Physiology*. July 1, 1993 to June 30, 1996 and July 1, 1998 to 2006.

Reviewer, Institute of Medicine, Dietary Reference Intakes for water, potassium, sodium, chloride, and sulfate. 2005.

American College of Sports Medicine Research Review Committee, 1998-2004.

NASA Life and Biomedical Sciences Peer Review, Integrative Physiology Panel member 1995-present.

Department of the Army, Defense Women's Health Research Peer Review Panel, November 1994.

American College of Sports Medicine. Position Stand Committee member, Exercise and Fluid Replacement. July 1, 1993 to 1996.

Journal Reviewer: 1989- present. *Journal of Applied Physiology*, *American Journal of Physiology* (Heart and Circulatory Physiology; Endocrinology & Metabolism), *Microcirculation*, *Pediatric Research*, *International Journal of Sports Nutrition*, *Journal of the Autonomic Nervous System* and *Medicine and Science in Sport and Exercise*.

RESEARCH FUNDING

Recent Grant Applications:

Agency: USDA

Title: CHANGE: Childhood Health Advocacy for Nutrition, Growth, and Education

P.I. Jane H. Lasseter, PhD, RN. Collaborating Investigator: Gary W Mack.;

Annual Direct costs: \$524,494.00.

Specific aims: Supporting objectives are to maintain appropriate growth velocity in children of healthy weights and decrease growth velocity in overweight or obese children as measured by BMI, triceps skinfold calibrations, and waist circumferences.

Original Submission date: Spring 2015 (not funded)

Previous research support

Agency: NIH R01 HL071159 (2003 – 2012)

Title: Estrogen & progesterone effects on orthostatic tolerance.

Principal Investigator: Nina Stachenfeld., Investigator: Gary Mack;

Costs: Annual Direct \$250,000; Project Direct \$1,250,000.

Specific Aims of this project are: 1) To determine estrogen and progesterone modulation of extracellular fluid and protein distribution, and renal mechanisms controlling water retention over the menstrual cycle and to determine estrogen and progesterone effects on peripheral vascular resistance. (7/01/03 – 6/30/12)

Agency: NIH Grant R01 HL39818 (1995-2006)

Title: Interaction of cardiovascular reflexes in thermal strain

P.I. Gary Mack

Annual Direct Costs \$200,000; Project Direct Costs \$1,492,812.

Specific aims: This grant examined control of skin blood flow during thermal stress, specifically examining the cause-effect relationship between directly measured skin sympathetic nerve activity and active vasodilator responses in the skin.

Agency: NIH Grant R01 HL20634-28 (1978 -2006)

Title Blood Volume and Venous Return in Thermal Strain

P.I. Ethan R. Nadel (1978-1997) and Gary W. Mack (1998-2006)

Annual Direct Costs \$250,000, Project Direct Costs \$1,486,558.

Specific aims: This grant examined the contribution of albumin synthesis and its distribution in the process of plasma volume expansion induced by exercise (human model) or plasmapheresis (animal model).

Agency: Center for Naval Analysis Grant (2003-2005)

Title: Posttraumatic stress disorder and neuropeptide Y

P.I. Ann Rasmusson, M.D.; Gary W. Mack, Co-Investigator

Annual Direct Costs \$150,000, Project Direct Costs \$750,000.00

Specific aims: Specific aims of this project are: To examine the relationship between traumatic stress-induced alterations in baseline and stimulated plasma neuropeptide Y levels and long-term cardiovascular, autonomic, and mental responses to physical and mental stress.

Agency: NIA AG 09872-05A2. (1999-2003)

Title: Cutaneous Sensitivity with aging

P.I. Barry G. Green, Principal Investigator; Gary W. Mack, Investigator

Annual direct costs \$162,300, Project direct costs, \$649,200.00.

Specific Aims: The specific aim of this project is to reach a comprehensive understanding of aging in human somatosensation

Agency NIH Grant T32 HL 07272

Title: Research training grant for critical care fellows at Yale University School of Medicine.

P.I. George Lister, M.D., Investigator; Gary Mack

Annual Direct Costs \$196,003, Project Direct Costs \$980,015

Specific aims – provide research experience for critical care fellows at Yale University School of Medicine

- 1 Interstitial pressure and its effect on venous capacitance in postoperative Fontan patients. Stephanie Sudikoff, M.D. and George Lister, M.D., Department of Pediatric (Critical Care), Yale University School of Medicine, 1997-2000.
- 2 Influence of Lasix treatment on fluid balance and cardiovascular control in Fontan patients. Jon Love, M.D., John Fahey, M.D., and George Lister, M.D., Department of Pediatric (Cardiology), Yale University School of Medicine, 1995-1999.
- 3 Diminished venous capacitance in patients with univentricular hearts after Fontan's operation. John Kelley M.D., John Fahey, M.D., and George Lister, M.D., Department of Pediatric (Cardiology), Yale University School of Medicine, 1993-1995.

Agency: NIA RO1 AG009872 (1992-1996)

Title: BODY FLUID REGULATION IN AGING ADULTS WITH EXERCISE

P.I. Ethan R. Nadel, Co-investigator, Gary W. Mack

Annual Direct Costs \$300,000; Project Total Direct Costs \$1,200,000.00

Specific Aims: To understand the contribution of thirst and renal osmoregulation in body fluid regulation in healthy older adults.

Agency: Gatorade Sports Science Institute Grant (1991-2000):

Title: The physiological correlates of taste & thirst during dehydration & exercise;

P.I.: Gary W. Mack & Ethan R. Nadel

Annual Direct Costs ≈ \$60,000

Specific aims of this project were to study the effects of drink electrolyte composition on rehydration after exercise

Agency: NASA NAGW-4056 (1994-1998)

Title: Influence of hydrostatic pressure gradients on regulation of plasma volume following exercise.

P.I. Gary W. Mack

Annual Direct Costs \$92,000; Project Total Direct Costs \$286,000

Specific Aims: This grant examined the impact of posture on plasma volume regulation following high intensity exercise.

Agency: NIH R29 HL039818 (1991-1993)

Title: Interaction of cardiovascular reflexes in Exercise

PI: Gary W. Mack

Annual Direct Costs \$70,000; Project Total Direct Costs \$280,000

Specific Aims: This grant examined the role of cardiopulmonary baroreflexes in control of skin blood flow during exercise

Collaborative Research Projects:

Mechanism of hypertension in obstructive sleep apnea. Vahid Mohsenin, M.D, Department of Internal Medicine, Pulmonary Division, Director of the Sleep Disorder Clinic, Yale University School of Medicine, 1999-present. American heart Association Grant-in aid. Annual Direct Costs \$65,000

Pathogenesis of TS, OCD, and related Conditions: Influence of thermal stress on Tourette's syndrome. James Leckman and Paul Lombroso, M.D., Departments of Child Psychiatry and Pediatrics, Child Study Center, Yale University School of Medicine (NIMH Program Project) 1995- 2004.

Invited Participation:

10th Hydration for Health Scientific Conference, Evian-Les-Bains, France. "History of Hydration Research" June 26-27, 2018.

Annual Northwest ACSM Chapter meeting, Tacoma, WA. Keynote speaker. "Peripheral and Central Mechanisms of Thermoregulation", April 15th, 2016.

Experimental Biology 2016, San Diego, Ca. "History of Thermoregulation", Symposium speaker, April 5th, 2016.

33rd Annual Southwest ACSM Chapter, Orange County CA, "Body fluid balance and exercise in the heat". Oct 18th, 2014.

29th annual Southwest ACSM Chapter meeting, San Diego, Calif. "Sweat gland function during exercise in the heat: Role of nitric oxide". Oct 23-24, 2009.

7th Annual USADA Symposium on Anti-Doping Science, Colorado Springs, CO. "Effects of Intensity and duration of exercise on the redistribution of fluid between tissue spaces." October 17-19, 2008

New England Chapter of ACSM annual meeting, Providence, RI. Featured lecture entitled "Exercise-induced plasma volume expansion: Osmotic and oncotic regulation". Nov. 6, 2003

International Sports Science Network Forum. "Altered body fluid regulation with aging." Nagano, JAPAN. October 17, 2001.

Baroreceptor modulation of thermoregulatory function during exercise, presented at ACSM, Indianapolis, IA June, 2, 2000. Symposium F-28, The research contributions of Ethan R. Nadel.

Baroreceptor modulation of thermoregulatory function during exercise. Symposium at Experimental Biology 2000, "Interaction of body fluid balance and thermal strain" sponsored by the American Physiological Society, San Diego, CA April 1, 2000.

Featured Topic at Experimental Biology 1999, "Pain and Autonomic Integration" sponsored by the American Physiological Society, Washington DC. April 19, 1999.

Space Biomedical Investigator's Workshop, "Renal sodium handling after exercise induced plasma volume expansion." Sponsored by the National Aeronautics and Space Administration and the Division of Life Sciences of the Universities Space Research Association. Houston, Texas, January 11-13, 1999.

Workshop on Health Effects of Climate Change. "Cardiovascular Adaptations to Thermal Stress".

Sponsored by the National Institutes of Environmental Health Sciences, the National Heart, Lung and Blood Institute and the Electric Power Research Institute. Washington, D.C. October 27-29, 1998.

Contributing author: "Endurance in Hot and Cold Environments" for second edition of The Encyclopedia of Sports Medicine: Endurance in Sport. Edited by Roy J. Shephard. Sponsored by IOC Medical Commission.

International Conference: Hydration throughout Life. "Altered osmotic and volume control of thirst with aging." Sponsored by Institute de L'Eau, Perrier Vittel. Vittel, France. June 9-12, 1998.

Dehydration and Aging. Current Comment, American College of Sports Medicine, 1998.

Nagano Symposium on Sports Science for the Winter Olympic Games '98. "Baroreceptor modulation of thermoregulatory function in humans" & "The role of albumin in the hypervolemia of exercise". Sponsored by Japanese Olympic Committee and IOC Medical Commission. Matsumoto, Japan, October 15-17, 1997.

The Integrative Biology of Exercise. An APS Intersociety Meeting. Symposium: Adaptations in Body Fluid Regulation to Physical Activity, Vancouver, British Columbia, October 1996.

International Symposium on Dehydration and Rehydration in Exercise and Sports. "Factors affecting fluid replacement after exercise." Sponsored by the Gatorade Sports Science Institute. Rosario, Argentina, May 1996.

International Conference on Dehydration, Rehydration, and Exercise in the Heat. "Recovery after exercise in the heat: Factors influencing fluid intake." Sponsored by the Gatorade Sports Science Institute and Isostar Sports Nutrition Foundation. Nottingham, England. November 1995.

Fluids and Electrolytes in Heat Stress (co-author E. R. Nadel). Contributing chapter to Handbook of Physiology, Section 4, and "Adaptation to the Environment". Chapter 10, Editors Clark M Blatteis and Melvin J. Fregly (to be published in 1995)

Naval Medical Research and Development Command sponsored (BUMED) scientific meeting on hyperhydration, November 5-6, 1990, San Diego, CA.

Effects of physical activity on cardiopulmonary mechanoreceptor sensitivity and vascular control, presented at 37th Annual Meeting of the ACSM, Salt Lake City, Utah, May 22, 1990. Symposium A-1, Exercise training and blood pressure regulation during orthostatic challenge by lower body negative pressure.

Publications:

Peer Reviewed Research Articles, Monographs, Reviews, and Book Chapters:

G.W. Mack -BOLD, Author = Graduate student, Author = Undergraduate student

1. Bernauer, E.M., **G.W. Mack**, V.A. Convertino, R.W. Stremel, and R.S. O'Brian. A Manual of Laboratory Experiments for Exercise Physiology. 3rd Edition. University of California, Davis, 1979.
2. Lin, Y.C., **G.W. Mack**, D.K. Watanabe, and K.K. Shida. Experimental attempts to influence the bubble threshold from saturation dive in animal. In: Underwater Physiology VIII, Eds. A.J. Bachrach and M.M. Matzen, Bethesda, MD: Undersea Medical Society, 1984, p. 259-268.
3. Lin, Y.C., N. Kakitsuba, D.K. Watanabe, and **G.W. Mack**. Influence of blood flow on cutaneous permeability of inert gases. J. Appl. Physiol. 57: 1306-1311, 1984.

4. **Mack, G.W.** and Y. C. Lin. Isoproterenol infusion promotes nitrogen washout in rats under normobaric conditions. J. Appl. Physiol. 57:1306-1311, 1984.
5. **Mack, G.W.** and Y.C. Lin. Hypothermia impairs but hyperthermia does not promote inert gas elimination in the rat. Undersea Biomed. Res. 13: 133-145, 1986.
6. **Mack, G.W.**, **L.M. Shannon**, and E.R. Nadel. The influence of beta-adrenergic blockade on the control of sweating in humans. J. Appl. Physiol. 61: 1701-1705, 1986.
7. **Pescatello, L.M.**, **G.W. Mack**, C.N. Leach, Jr., and E.R. Nadel. The effect of beta-adrenergic blockade on thermoregulation during exercise. J. Appl. Physiol. 62: 1448-1452, 1987.
8. **Mack, G.W.**, **X. Shi**, H. Nose, A. Tripathi, and E.R. Nadel. Diminished baroreflex control of forearm vascular resistance in physically fit humans. J. Appl. Physiol. 63: 105-110, 1987.
9. Nadel, E.R., **G.W. Mack**, H. Nose, and A. Tripathi. "Tolerance to severe heat and exercise: Peripheral vascular responses to body fluid changes", in J.R.S. Hales and D.A.B. Richards, Transactions of the Menzies Foundation. Vol. 14, pp. 69-76, Melbourne: Menzies Foundation, 1987.
10. Nose, H., **G.W. Mack**, **X. Shi**, and E.R. Nadel. Shift in the body fluid compartments following dehydration in humans. J. Appl. Physiol. 65: 318-324, 1988.
11. Nose, H., **G.W. Mack**, **X. Shi**, and E.R. Nadel. Role of osmolality and plasma volume during rehydration in humans. J. Appl. Physiol. 65: 325-331, 1988.
12. Nose, H., **G.W. Mack**, **X. Shi**, and E.R. Nadel. Involvement of sodium retention hormones during rehydration in humans. J. Appl. Physiol. 65: 332-336, 1988.
13. **Mack, G.W.**, H. Nose, and E.R. Nadel. Role of cardiopulmonary baroreflexes during dynamic exercise. J. Appl. Physiol. 65: 1827-1832, 1988.
14. Tripathi, A, **G. W. Mack**, and E.R. Nadel. Peripheral vascular reflexes elicited during lower body negative pressure. Aviation, Space and Environmental Medicine, 60: 1187-1193, 1989.
15. **Pescatello, L.S.**, **G.W. Mack**, C.N. Leach, Jr., and E.R. Nadel. Thermoregulation in mildly hypertensive men during β -adrenergic blockade. Med. Sci. Sport Exerc. 22: 222-228, 1990.
16. Tripathi, A., **G. W. Mack**, and E.R. Nadel. Cutaneous vascular reflexes during exercise in the heat. Med. Sci. Sport Exerc. 22(6): 796-803, 1990.
17. Convertino, V. A., C. A. Thompson, D. L. Eckberg, J. M. Fritsch, **G. W. Mack** and E. R. Nadel. Baroreflex responses and LBNP tolerance following exercise training. Physiologist 33: S40-S41, 1990.
18. Nose, Hiroshi, **Gary W. Mack**, Xiangrong **Shi**, Keiko Morimoto, and Ethan R. Nadel. Effect of saline infusion during exercise on thermal and circulatory regulation. J. Appl. Physiol. 69(2): 609-616,

19. 1990.
20. Takamata, Akira, Hiroshi Nose, **Gary W. Mack**, and Taketoshi Morimoto. Control of total peripheral resistance during hyperthermia in rats. J. Appl. Physiol. 69(3): 1087-1092, 1990.
21. Nadel, E.R., **G.W. Mack**, and H. Nose. "Influence of fluid replacement beverages on body fluid homeostasis during exercise and recovery", in C. V. Gisolfi and D. R. Lamb, Perspectives in Exercise Science and Sports Medicine. Vol. 3, Fluid Homeostasis during exercise. Carmel, IN: Benchmark Press, 1990.
22. Convertino, Victor A., **Gary W. Mack**, and Ethan R. Nadel. Elevated venous pressure: a consequence of exercise training-induced hypervolemia? Am. J. Physiol. 260 (Reg., Integ., and Comp. Physiol.): R273-R277, 1991.
23. Nose, Hiroshi, Akira Takamata, **Gary W. Mack**, Yoshinobu Oda, Tadashi Okuno, Duk-ho Kang, and Taketoshi Morimoto. Water and electrolyte balance in the vascular space during graded exercise in humans. J. Appl. Physiol. 70(6):2757-2762, 1991.
24. Nishiyasu, Takeshi, [Xiangrong Shi](#), Gary W. Mack, and Ethan R. Nadel. Effect of hypovolemia on forearm vascular resistance control during exercise in the heat. J. Appl. Physiol. 71(4):1382-1386, 1991
25. **Mack, G. W.**, C. A. Thompson, D.F. Doerr, E.R. Nadel, and V. A. Convertino. Cardiopulmonary baroreflex control of forearm vascular resistance is diminished following exercise training in humans. Med. Sci. Sport Exercise. 23:1367-1374, 1991.
26. **Mack, Gary W.**, Brian M. Quigley, Takeshi Nishiyasu, [Xiangrong Shi](#), and Ethan R. Nadel. Attenuated baroreflex control of forearm vascular resistance following acute blood volume expansion in humans. Aviation, Space and Environmental Medicine 62:938-943, 1991.
27. [Gillen, C. M.](#), [R. Lee](#), **G. W. Mack**, C. M. Tomaselli, T. Nishiyasu, and E. R. Nadel. Plasma volume expansion in humans after a single intense exercise protocol. J. Appl. Physiol. 71(5): 1914-1920, 1991.
28. Lombroso, P.J., **G. Mack**, L. Scahill, R.A. King, and J.F. Leckman. Exacerbation of Gilles de la Tourette's Syndrome associated with thermal stress: A family study. Neurology 41:1984-1987, 1991.
29. Nishiyasu, Takeshi, [Xiangrong Shi](#), [Christopher M. Gillen](#), **Gary W. Mack**, and Ethan R. Nadel. Comparison of the forearm and calf blood flow response to thermal stress during dynamic exercise. Med. Sci. Sport Exercise 24: 213-217, 1992.
30. Adams, W.C., **G.W. Mack**, [G.W. Langhans](#), and E.R. Nadel. Effects of varied air velocity on sweating and evaporative rates during exercise. J. Appl. Physiol. 73(6):2668-2674, 1992
31. Nishiyasu, Takeshi, [Xiangrong Shi](#), [Christopher M. Gillen](#), **Gary W. Mack**, and Ethan R. Nadel. Effects of dynamic exercise on cardiovascular regulation during lower body negative pressure. Aviation, Space and Environmental Medicine 64: 517-521, 1993.

32. Nishiyasu, Takeshi, [Xiangrong Shi](#), **Gary W. Mack**, and Ethan R. Nadel. Forearm vascular responses to baroreceptor unloading at the onset of dynamic exercise. J. Appl. Physiol. 75 (2): 979-985, 1993.
33. **Mack, Gary W.**, Victor A. Convertino, and Ethan R. Nadel. Effect of exercise training on cardiopulmonary baroreflex control of forearm vascular resistance in humans. Med. Sci. Sport Exercise 25:722-726, 1993.
34. Nadel, E. R., **G. W. Mack**, and A. Takamata. Thirst, Exercise, and Thermoregulation: Interrelationships. Perspective in Exercise Science and Sport Medicine, Volume 6, Exercise, Heat, and Thermoregulation, Editors C.V. Gisolfi, D.R. Lamb, and E.R. Nadel., Benchmark Press; Carmel, IN, 1993, Vol. 8, pp. 225-256.
35. **Mack, Gary W.**, Hiroshi Nose, Akira Takamata, Tadashi Okuno, and Taketoshi Morimoto. Influence of exercise intensity on thermoregulatory control of skin blood flow in humans. Med. Sci. Sport Exercise, 26 (2):209-216, 1994.
36. [Gillen, C.G.](#), Akira Takamata, **Gary W. Mack**, and Ethan R. Nadel. Measurement of plasma volume in rats using fluorescent-labeled albumin molecules. J. Appl. Physiol., 76 (1): 485-489, 1994.
37. **Mack, G.W.**, [C. A. Weseman](#), [G. W. Langhans](#), H. Scherzer, and E. R. Nadel. Restoration of fluid balance in dehydrated healthy older men: Thirst and renal osmoregulation. J. Appl. Physiol., 76(4):1615-1623,1994.
38. Takamata, Akira, **Gary W. Mack**, [Christopher M. Gillen](#), and Ethan R. Nadel. Body fluid balance in humans during rehydration without sodium replacement: sodium appetite and thirst. Am. J. Physiol. (Regulatory Integrative and Comp. Physiol. 35), R1493-R1502, 1994.
39. Nose, Hiroshi, Akira Takamata, **Gary W. Mack**, Takeshi Kawabata, Satoru Hashimoto, Munetake Hirose, Eiichi Chihara, and Taketoshi Morimoto. Right atrial pressure and ANP release during prolonged exercise in a hot environment, J. Appl. Physiol.,76(5): 1882-1887, 1994.
40. Nose, Hiroshi, Akira Takamata, **Gary W. Mack**, Yoshinobu Oda, Satoru Hashimoto, Munetake Hirose, Eiichi Chihara, and Taketoshi Morimoto. Right atrial pressure and forearm blood flow during prolonged exercise in the heat. Pflügers Archive, 426:177-182, 1994.
41. [Gillen, C.M.](#), T. Nishiyasu, [C. A. Weseman](#), [G.L. Langhans](#), **G.W. Mack**, and E. R. Nadel. Cardiovascular and renal function during exercise-induced blood volume expansion in humans. J. Appl. Physiol., 76(6): 2602-2610, 1994.
42. **Mack, Gary**, Takeshi Nishiyasu, and Xiangrong Shi. Baroreceptor modulation of active cutaneous vasodilator and sudomotor responses to thermal stress in humans. Journal of Physiology 483 (2):437-447, 1995.
43. Takamata, A., **G. W. Mack**, [C. M. Gillen](#), [A. C. Jozsi](#), and E. R. Nadel. Osmoregulatory modulation of thermal sweating in humans: reflex effects of drinking. Am. J. Physiol. 268 (Regulatory Integrative and Comp. Physiol. 37): R414-R422, 1995.

44. Kelley, J., **G. W. Mack**, C. S. Kleinman, and J. T. Fahey. Diminished venous capacitance in patients with univentricular hearts after Fontan's operation. Am. J. Cardiology. 76:158-163, 1995.
45. Takamata, A., **G. W. Mack**, N.S. Stachenfeld, and E. R. Nadel. Body temperature modification of osmotically induced vasopressin secretion and thirst in humans. Am. J. Physiol. 269 (Regulatory Integrative and Comp. Physiol. 38): R874-R880, 1995.
46. DiPietro L, Stachenfeld N, **Mack G**, Nadel E. Adaptations to exercise training in healthy older people. Med Sci Sports Exerc. Jun;27(6):941-5, 1995
47. Stachenfeld, N. S., **G. W. Mack**, A. Takamata, L. DiPietro, and E. R. Nadel, Thirst and fluid regulatory responses to hypertonicity in older adults. Am. J. Physiol. (Regulatory Integrative and Comp. Physiol.:1996.
48. Convertino, V. A., L. E. Armstrong, E. F. Colye, **G. W. Mack**, M. N. Sawka, L. C. Senay, W. M. Sherman. American College of Sports Medicine. Position Stand on Exercise and Fluid Replacement. Med. Sci. Sports. Exerc. 28 (1): i -vii, 1996.
49. **Mack, G. W.** and E. R. Nadel. Body fluid balance during heat stress in humans. Handbook of Physiology, Section 4, Adaptation to the Environment. Chapter 10, Editors Clark M Blatteis and Melvin J. Fregly. American Physiol. Soc.: Bethesda, MD, 1996.
50. **Gary W. Mack** and Michael F. Bergeron. Hydration and Physical Activity: Scientific Concepts and Practical Applications: Roundtable Discussion, in the Sports Science Exchange Vol. 7 Number 4, Gatorade Sports Science Institute, 1996.
51. Stachenfeld, N. S., L. DiPietro, E. R. Nadel, and **G. W. Mack**. Mechanism of attenuated thirst in aging: Role of central volume receptors. Am. J. Physiol. 272 (Regulatory Integrative and Comp. Physiol. 41): R148-R157, 1997.
52. **Wemple, R. D.**, **T. S. Morocco**, and **G.W. Mack**. Influence of sodium replacement on fluid ingestion following exercise-induced dehydration. Intern. J. Sports Nutr. 7: 1-13, 1997.
53. **Figaro, M. K.** and **G.W. Mack**. Control of fluid intake in dehydrated humans: Role of oropharyngeal stimulation. Am. J. Physiol. 272 (Regulatory Integrative and Comp. Physiol. 41): R1740- R1746, 1997.
54. Peters, J. K., G. L. Lister, E. R. Nadel, and **G.W. Mack**. Venous and arterial reflex responses to positive pressure breathing and lower body negative pressure. J. Appl. Physiol. 82(6):1889-1896, 1997.
55. **Haskell, A.**, E. R. Nadel, N.S. Stachenfeld, K. Nagashima, and G. W. Mack. Forces governing transcapillary protein and fluid flux in human muscle and skin twenty-four hour after intense exercise. J. Appl. Physiol. 83(2):407-413, 1997.
56. Stachenfeld, N. S., **G. W. Mack**, L. DiPietro, **T. S. Morocco**, **A. C. Jozsi**, and E. R. Nadel. Regulation of blood volume during training in post-menopausal women. Med. Sci. Sports. Exerc. 30(1):92-98,1998.

57. [Yang, Roger C.](#), **Gary W. Mack**, Robert R. Wolfe, and Ethan R. Nadel. Albumin synthesis after intense intermittent exercise in human subjects. J. Appl. Physiol. 84(2):584-592, 1998.
58. Adair, E. R., S. A. Kelleher, **G. W. Mack**, and [T. S. Morocco](#). Thermophysiological responses of human volunteers during controlled whole-body radio frequency exposure at 450 MHz. Bioelectromagnetics 19:232-245, 1998.
59. Nishiyasu, T., K. Nagashima, E. R. Nadel, and **G. W. Mack**. The effects of posture on the cardiovascular responses during lower body positive pressure at rest and during dynamic exercise. J. Appl. Physiol. 85(1): 160-167, 1998.
60. **Mack, Gary W.** Recovery after exercise in the heat - factors influencing fluid intake. Intern. J. Sports Med.,19:S139-S141, 1998.
61. **Mack, G.W.** Assessment cutaneous blood flow using topographical perfusion mapping. J. Appl. Physiol. 85(1): 353-359, 1998.
62. **Mack, G.W.**, N.S. Stachenfeld, and L. DiPietro. Altered osmotic and volume control of thirst with aging. In: Hydration throughout Life. Editor M.J. Arnaud. John Libby Eurotext, France, 1998, pp.127-136.
63. **Mack, G. W.**, [Roger Yang](#), and [Andrew Haskell](#). Influence of hydrostatic pressure gradients on regulation of plasma volume following exercise. J. Appl. Physiol. 85(2) 667-675, 1998
64. [Haskell, A.](#), [C. M. Gillen](#), **G. W. Mack**, and E. R. Nadel. Albumin infusion in humans does not model exercise induced hypervolemia after twenty-four hours. Acta Physiol. Scand. 164:277-284, 1998.
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