



JOURNAL OF APPLIED PHYSIOLOGY

AUGUST 2009/Volume 107, Number 2

INVITED EDITORIALS

- Improving the prediction of sweat losses during exercise (see "Expanded prediction of human sweat loss and water needs," page 379)
O. Jay and P. Webb 375
- Setting the "tone" for aging in the skeletal muscle microcirculation (see "Aging and muscle fiber type alter K^+ channel contributions to the myogenic response in skeletal muscle arterioles," page 389)
C. R. Woodman 377
-
- Expanded prediction equations of human sweat loss and water needs
R. R. Gonzalez, S. N. Cheuvront, S. J. Montain, D. A. Goodman, L. A. Blanchard, L. G. Berglund, and M. N. Sawka 379
- Aging and muscle fiber type alter K^+ channel contributions to the myogenic response in skeletal muscle arterioles
L. S. Kang, S. Kim, J. M. Dominguez II, A. L. Sindler, G. M. Dick, and J. M. Muller-Delp 389
- Rat Achilles tendon healing: mechanical loading and gene expression
P. Eliasson, T. Andersson, and P. Aspenberg 399
- Mechanical effects of obesity on airway responsiveness in otherwise healthy humans
R. Torchio, A. Gobbi, C. Gulotta, R. Dellacà, M. Tinivella, R. E. Hyatt, V. Brusasco, and R. Pellegrino 408
- Tissue memory in healing tendons: short loading episodes stimulate healing
T. Andersson, P. Eliasson, and P. Aspenberg 417
- In vivo strain of the medial vs. lateral quadriceps tendon in patellofemoral pain syndrome
N. A. Wilson, J. M. Press, and L.-Q. Zhang 422
- Skeletal muscle blood flow responses to hypoperfusion at rest and during rhythmic exercise in humans
D. P. Casey and M. J. Joyner 429
- The effect of denervation on protein synthesis and degradation in adult rat diaphragm muscle
H. M. Argadine, N. J. Hellyer, C. B. Mantilla, W.-Z. Zhan, and G. C. Sieck 438
- Cardiac output and systemic transit time dispersion as determinants of circulatory mixing time: a simulation study
M. Weiss 445
- NADPH oxidase-derived reactive oxygen species in skeletal muscle modulates the exercise pressor reflex
H.-J. Wang, Y.-X. Pan, W.-Z. Wang, I. H. Zucker, and W. Wang 450
- Effect of prior exercise on pulmonary O_2 uptake and estimated muscle capillary blood flow kinetics during moderate-intensity field running in men
M. Buchheit, P. B. Laursen, and S. Ahmaidi 460

(Continued)

Cover: The July through September 2009 Highlighted Topics series examines Respiratory Muscles in Chronic Obstructive Pulmonary Disease in a series of review articles written by a panel of international experts. This series was conceived and edited by Guest Editor Martin Tobin and Coordinating Associate Editor Andre De Troyer. We acknowledge Steve Graepel, illustrator of the cover design. This illustration is copyrighted by Steve Graepel and reproduced with permission.

This Journal is printed on "acid-free" paper.

(Contents continued)

Role of the hypoglossal nerve in equine nasopharyngeal stability <i>J. Cheatham, J. H. Pigott, J. W. Hermanson, L. Campoy, L. V. Soderholm, L. M. Thorson, and N. G. Ducharme</i>	471
Differential modeling of anaerobic and aerobic metabolism in the 800-m and 1,500-m run <i>V. Billat, L. Hamard, J. P. Koralsztejn, and R. H. Morton</i>	478
Relationship between body mass index and adiposity in prepubertal children: ethnic and geographic comparisons between New York City and Jinan City (China) <i>K. P. Navder, Q. He, X. Zhang, S. He, L. Gong, Y. Sun, R. J. Deckelbaum, J. Thornton, and D. Gallagher</i>	488
Bronchodilator effects of exercise hyperpnea and albuterol in mild-to-moderate asthma <i>M. Milanese, R. Saporiti, S. Bartolini, R. Pellegrino, M. Baroffio, V. Brusasco, and E. Crimi</i>	494
Effect of compliance and hematocrit on wall shear stress in a model of the entire coronary arterial tree <i>Y. Huo and G. S. Kassab</i>	500
Initial orthostatic hypotension is unrelated to orthostatic tolerance in healthy young subjects <i>K. N. Thomas, J. D. Cotter, S. D. Galvin, M. J. A. Williams, C. K. Willie, and P. N. Ainslie</i>	506
Sympathetic neural responses to mental stress during acute simulated microgravity <i>J. J. Durocher, C. E. Schwartz, and J. R. Carter</i>	518
Training-induced changes in structural and mechanical properties of the patellar tendon are related to muscle hypertrophy but not to strength gains <i>O. R. Seynnes, R. M. Erskine, C. N. Maganaris, S. Longo, E. M. Simoneau, J. F. Grosset, and M. V. Narici</i>	523
Pressor responses to isometric biting are evoked by somatosensory receptors in periodontal tissue in humans <i>Y. Okada, Y.-i. Kamijo, K. Okazaki, S. Masuki, M. Goto, and H. Nose</i>	531
Bone marrow fat accumulation after 60 days of bed rest persisted 1 year after activities were resumed along with hemopoietic stimulation: the Women International Space Simulation for Exploration study <i>G. Trudel, M. Payne, B. Müdler, N. Ramachandran, M. Lecompte, C. Wade, G. Biolo, S. Blanc, R. Hughson, L. Bear, and H. K. Uthoff</i>	540
A transient antioxidant stress response accompanies the onset of disuse atrophy in human skeletal muscle <i>L. D. Libera, B. Ravara, V. Gobbo, E. Tarricone, M. Vitadello, G. Biolo, G. Vescovo, and L. Gorza</i>	549
Hyperbaric oxygen pretreatment according to the gas micronuclei denucleation hypothesis reduces neurologic deficit in decompression sickness in rats <i>K. Katsenelson, R. Arieli, Y. Arieli, A. Abramovich, M. Feinsod, and D. Tal</i>	558
Deep inspirations protect against airway closure in nonasthmatic subjects <i>D. G. Chapman, N. Berend, G. G. King, B. E. McParland, and C. M. Salome</i>	564
Subcellular movement and expression of HSP27, α B-crystallin, and HSP70 after two bouts of eccentric exercise in humans <i>G. Paulsen, F. Lauritzen, M. L. Bayer, J. M. Kalkhovde, I. Ugelstad, S. G. Owe, J. Hallén, L. H. Bergersen, and T. Raastad</i>	570
Three-dimensional measurement of alveolar airspace volumes in normal and emphysematous lungs using micro-CT <i>H. Parameswaran, E. Bartolák-Suki, H. Hamakawa, A. Majumdar, P. G. Allen, and B. Suki</i>	583
Exercise capacity is related to calcium transients in ventricular cardiomyocytes <i>T. N. Prímola-Gomes, L. A. Campos, S. Lauton-Santos, C. H. Balthazar, S. Guatimosim, L. S. A. Capettini, V. S. Lemos, C. C. Coimbra, D. D. Soares, M. A. Carneiro-Júnior, J. F. Quintão-Júnior, M. O. Souza, J. S. Cruz, and A. J. Natali</i>	593

(Continued)

Evaluation of individual skeletal muscle activity by glucose uptake during pedaling exercise at different workloads using positron emission tomography
Y. Gondoh, M. Tashiro, M. Itoh, M. M. Masud, H. Sensui, S. Watanuki, K. Ishii, H. Takekura, R. Nagatomi, and T. Fujimoto 599

Temporal pattern of skeletal muscle gene expression following endurance exercise in Alaskan sled dogs
E. P. Brass, M. A. Peters, K. W. Hinchcliff, Y. D. He, and R. G. Ulrich 605

INNOVATIVE METHODOLOGY

A device for simultaneous live cell imaging during uni-axial mechanical strain or compression
A. Gerstmaier, G. Fois, S. Innerbichler, P. Dietl, and E. Felder 613

HIGHLIGHTED TOPIC

The Respiratory Muscles in Chronic Obstructive Pulmonary Disease

Review: Respiratory muscle function and activation in chronic obstructive pulmonary disease
D. K. McKenzie, J. E. Butler, and S. C. Gandevia 621

VIEWPOINT

Perspectives: Current evidence does not support an anticipatory regulation of exercise intensity mediated by rate of body heat storage
O. Jay and G. P. Kenny 630

Letter to the Editor: Commentaries on Viewpoint: Current evidence does not support an anticipatory regulation of exercise intensity mediated by rate of body heat storage
F. E. Marino, L. Nybo, C. R. Abbiss, S. M. Marcora, S. S. Cheung and T. D. Noakes 632

Last Word on Viewpoint: Current evidence does not support an anticipatory regulation of exercise intensity mediated by rate of body heat storage
O. Jay 635

LETTERS TO THE EDITOR

Strength training combined with plyometric jumps in adults: sex differences in fat-bone axis adaptations
M. Martyn-St. James and S. Carroll 636

Reply to Martyn-St. James and Carroll
Guadalupe-Grau A, Perez-Gomez J, Olmedillas H, Chavarren J, Dorado C, Santana A, Sarrano-Sanchez JA, and Calbet JAL 637

CORRIGENDUM

Corrigendum for Lande B and Mitzner W. Volume 101, September 2006, p. 926-933 638