

Interdisciplinary Biomedical Research Symposium

September 26, 2009
ATSU-Kirksville Campus

Poster Session Presentations

HUMAN SUBJECTS

Deficits in health-related quality of life following sport-related musculoskeletal injury in adolescent athletes. Curt Bay, Ph.D., Alison Snyder, Ph.D., John Parson, Ph.D., Eric Sauers, Ph.D., Tamara Valovich McLeod, Ph.D.

[Musculoskeletal Disease]

[PDF of Abstract-1](#)

The influence of cervical manipulation on autonomic function. Eric Bluml, B.S., Eric Snider, D.O., Karen Snider, D.O., Kelly Halma, D.O., Edwin Purcell, Ph.D.

[Musculoskeletal Disease/Therapy]

[PDF of Abstract-2](#)

Feasibility and effectiveness of whole-body intensive rehabilitation in chronic stroke survivors. Pamela R. Bosch, P.T., Ph.D., James V. Lynskey, P.T., Ph.D., M. Katherine Wing, P.T., D.P.T.

[Neurological Disease (Stroke)]

[PDF of Abstract-3](#)

Resting electromyographic activity of deep thoracic transversospinalis muscles identified as abnormal with palpation. Gary Fryer, B.Sc.(Osteopathy), Ph.D., Michael Bird, Ph.D., Barry Robbins, D.O., Christian Fossum, D.O. (Norway), Jane C. Johnson, M.A.

[Musculoskeletal Disease/Diagnosis]

[PDF of Abstract-4](#)

Interprofessional geriatric visits: learning teamwork for improved patient safety. Janet A. Head, RN, MS, Ed.D., Stephanie A. Powelson, RN, MPH, Ed.D., Brenda K. Wheeler, RN, MSN

[Patient Safety]

Enhanced cutaneous sensation mitigates vibration induced postural sway. Jeremy J. Houser, Ph.D.

[Musculoskeletal Disease/Therapy]

Evidence of microscopic clusters of neuronal cell bodies along the spinal accessory nerve.

Michelle S. Hovorka, M.S., Nandor J. Uray, Ph.D.

[Neural Development (Pain & Headache)] [PDF of Abstract-5](#)

The influence of life priorities on weekly physical activity in a sample of U.S. adults. Jennifer R. Hurst, Ed.D., Amanda J. Visek, Ph.D., Morgan Clennin, B.S.

[Health Behavior]

[PDF of Abstract-6](#)

Inhalation-to-exhalation ratio affects HRV training success. Fred Shaffer, Ph.D., BCIAC, Jonathon Grant, Chris Wally (Presented by Igor Korenfeld)

[Respiratory Disease]

The effect of resonant diaphragmatic breathing on physiological correlates of stress. Michael Urlakis, B.S., Fredric Shaffer, Ph.D., Edwin Purcell, Ph.D.

[Psychological Disease (Stress)]

[PDF of Abstract-7](#)

Adolescent athletes with a self-report history of sport-related concussion demonstrate lower health-related quality of life. Tamara C. Valovich McLeod, Ph.D., ATC, R. Curtis Bay, Ph.D., Alison R. Snyder, Ph.D., ATC
[Neurological Disease (Concussion)]

TISSUE CULTURE MODELS

Cystatin C over-expression helps protect B16 melanoma cells from cell death. James L. Cox, Ph.D.
[Cancer Biology] [PDF of Abstract-8](#)

Quantitative network descriptors of endothelial tubulogenesis on matrigel. David M. Hayes, Bo M. Forrester, Jason E. Miller, Ph.D., Robert W. Baer, Ph.D.
[Cancer Biology] [PDF of Abstract-9](#)

Quantitative analysis of Feulgen-stained tissue. James A. Rhodes, Ph.D.
[Biomedical Methodology] [PDF of Abstract-10](#)

Melanoma migratory behavior is modulated by ET-1 and the Rho family small GTPases. Kristi M. Teal, M.S., Robert W. Baer, Ph.D.
[Cancer Biology] [PDF of Abstract-11](#)

ANIMAL MODELS

Expression of TrkB in neuronal maturation in newborn cells and more mature neurons. Jennifer Bubel, B.S., Michelle Hovorka, M.S., David Middlemas, Ph.D.
[Neural Development] [PDF of Abstract-12](#)

***Caenorhabditis elegans* as a model host for *Staphylococcus aureus* virulence.** Terin Budine, Neal Chamberlain, Ph.D., Vineet Singh, Ph.D., Tim Walston, Ph.D.
[Infectious Disease] [PDF of Abstract-13](#)

Factors influencing immature *Dermacentor variabilis* load on the white-footed mouse (*Peromyscus leucopus*). Tad Dallas, B.S., Stephanie Foré, Ph.D., Hyun-Joo Kim, Ph.D., Mary Peng, B.S., Georgia Mueller, B.S., Laura Fielden, Ph.D.
[Infectious Disease]

Relief of nociceptive pain in the rat by manual therapy. Katie Davenport, B.S., Eric Snider, D.O., Christian Fossum, D.O. (Norway), Brian F. Degenhardt, D.O., Jane C. Johnson, M.A., Vineet K. Singh, Ph.D., Neil J. Sargentini, Ph.D.
[Musculoskeletal Disease/Therapy] [PDF of Abstract-14](#)

The effect of hawthorn extract on coronary flow. Kenneth P. Dood, Timothy P. Geisbuhler, Ph.D.
[Heart Disease/Therapy] [PDF of Abstract-15](#)

The effect of chronic antidepressant treatment on neurogenesis in a juvenile rat model. David Ewing, B.S., Michelle Hovorka, M.S., Erin Klatt, M.S., Elizabeth Piel, David Middlemas, Ph.D.
[Neural Development (Antidepressant Drugs)] [PDF of Abstract-16](#)

Calcium flux in urinary bladder smooth muscle cells. Jeff Gaffney, B.S., Robert J. Theobald, Ph.D., Yingzi Chang, M.D., Ph.D.
[Bladder Disease] [PDF of Abstract-17](#)

The effect of *in vivo* administration of gossypol on p65 expression in dystrophic (mdx) muscle.

Katherine Kuhn, Emily Smith, Ph.D., Andrea Cottey, B.S., Elizabeth Cottey, B.S., C. George Carlson, Ph.D.

[Muscular Dystrophy]

[PDF of Abstract-18](#)

Influence of fluvastatin treatment on skeletal muscle contractile function and blood flow in the rat.

Jason Losee, B.S., Tyler J. Smith, B.S., William L. Sexton, Ph.D.

[Drug Therapy]

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Establishing *Caenorhabditis elegans* as a model for neural tube defects. Celle King Porter, B.S.,

Timothy D. Walston, Ph.D.

[Neural Development (Birth Defects)]

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Interaction of femoral artery ligation and exercise training on microvascular PO₂ in rat soleus muscle. William L. Sexton, Ph.D., Kyra Carpenter, M.S., Marietta Squire, M.S., Neja Valeja, M.S., Matthew Wessner, M.S., Carl Giacchi, M.S.

[Sports medicine]

[PDF of Abstract-21](#)

Impact of diabetes on microvascular PO₂ and blood flow during contractions in rat skeletal muscle.

Tyler J. Smith, B.S., Nicholas Quinn, B.S., Jason T. Losee, B.S., William L. Sexton, Ph.D.

[Diabetes]

[PDF of Abstract-22](#)

Microvascular PO₂ kinetics in hindlimb skeletal muscle of obese diabetic Zucker rats. Marietta M. Squire, M.S., Carl Giacchi, M.S., Kyra Carpenter, M.S., Neha Valeja, M.S., Matthew Wessner, M.S., William L. Sexton, Ph.D.

[Diabetes]

[PDF of Abstract-23](#)

VEGF expression in skeletal muscles of the rat hindlimb after voluntary running. Neha Valeja, M.S.,

Matthew Wessner, M.S., Patricia S. Sexton, D.H.Ed., William L. Sexton, Ph.D.

[Sports Medicine]

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Involvement of the cholinergic system of the posterior hypothalamic nucleus (PHN) during the reflex compensatory response to hemorrhage. Zachary Webb, M.S., and John R. Martin, Ph.D.

[Neurological Disease (Hemorrhage)]

[PDF of Abstract-25](#)

Isolation of ganglioside unique to the water-insoluble membrane fraction of ocular lens. Joseph K.

Whitman, M.S., Charles R. Fleschner, Ph.D., Melissa K. Stuart, Ph.D.

[Cataracts]

A cool down period after a bout of dynamic exercise does not attenuate PEH in treadmill trained rats. Bart D. Worthington, D. Fred Peterson, Ph.D.

[Wellness]

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A Glazier-Granier-Hogeweg model of early embryogenesis in *Caenorhabditis elegans*. Chris

Zittnan, Corey Johnson, Scott Thatcher, Ph.D., Tim Walston, Ph.D.

[Embryogenesis]

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BACTERIAL MODELS

Is the *nadR* gene co-regulated with *serB* and *radA* in *Escherichia coli*? Nadira A. Adatia, B.S., Vineet K. Singh, Ph.D., Neil J. Sargentini, Ph.D.

[DNA Repair (Cancer)]

[PDF of Abstract-28](#)

Gene expression in x-irradiated *Escherichia coli*. Deshala L. Castille, B.S., Neil J. Sargentini, Ph.D.

[DNA Repair (Cancer)]

[PDF of Abstract-29](#)

Role and mechanisms of DNA repair in *Escherichia coli* sensitivity to antibiotics. Deborah A. Hudman, M.S., Neil J. Sargentini, Ph.D.
[Antibiotic Therapy] [PDF of Abstract-30](#)

Production of monoclonal antibodies to the *Escherichia coli* DNA repair protein, RadA. Nastassia C. Richardson, B.S., Neil J. Sargentini, Ph.D., Melissa K. Stuart, Ph.D.
[DNA Repair (Cancer)] [PDF of Abstract-31](#)

Significance of zinc-finger, RecA and Lon domains of RadA/Sms protein for UV radiation survival of *Escherichia coli*. Jin Seo, Ph.D., Samuel J. Pullen, D.O., Neil J. Sargentini, Ph.D.
[DNA Repair (Cancer)] [PDF of Abstract-32](#)

Survival of planktonic and sessile *Staphylococcus epidermidis* cultures treated with levofloxacin. Julie A. Shapiro, M.S., Valerie Nguyen, B.A., Neal R. Chamberlain, Ph.D.
[Antibiotic Therapy] [PDF of Abstract-33](#)

MOLECULAR OR COMPUTER MODELS

An epidemiological agent-based model of tuberculosis. Ngoc Thai, Phil Ryan
[Infectious Disease] [PDF of Abstract-34](#)

Crystal and 3-dimensional molecular structures of creatinine-based ureas for use as potential pharmaceuticals. Laura M. Tvedte, Phuong T. Nguyen, B.S., Kenneth L. Smith, Ph.D., Russell G. Baughman, Ph.D.
[Antiviral Therapy (Drug Design)]

INVESTIGATIVE TOOLS

Confocal laser scanning microscopy at KCOM. Michelle S. Hovorka, M.S., David E. Ewing, B.S., David S. Middlemas, Ph.D.
[Biomedical Methodology] [PDF of Abstract-35](#)

Development of a model to assess spinal segmental motion testing. Judy Hsu, B.S., Roy Turner, Jane Johnson, M.A., Ken Pamperin, M.S., Brian Degenhardt, D.O.
[Musculoskeletal Disease/Therapy] [PDF of Abstract-36](#)

Development of models for assessing the accuracy of positional asymmetry palpatory tests. Kenneth Pamperin, M.S., Brian F. Degenhardt, D.O., Eric Snider, D.O., Roy Turner, Jane C. Johnson, M.A., Christian Fossum, D.O. (Norway), Gary Fryer, Ph.D.
[Musculoskeletal Disease/Therapy] [PDF of Abstract-37](#)

Creation of a database template for performing a retrospective chart review of an OMM hospital consultation service. Karen T. Snider, D.O., Eric J. Snider, D.O., Allison Bukowski, D.O., Jane C. Johnson, M.A., Brett DeGooyer, D.O.
[Hospital Studies] [PDF of Abstract-38](#)