



June 1-5, 2021 • Washington, D.C. USA

2021 Call for Scientific Abstracts and Clinical Case Papers

Submission Deadline: January 6, 2021

ACSM understands the many challenges researchers are facing due to the COVID-19 pandemic. In response, ACSM leadership decided to extend the 2021 ACSM scientific abstract and clinical case submission deadline. ACSM hopes the deadline extension gives submitters ample time to prepare research for the 2021 ACSM Annual Meeting.

www.acsm.org/annual-meeting/present



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ePosters

If your scientific abstract/clinical case is accepted for presentation, you are required to present in-person at the Annual Meeting or in a virtual format (ePoster) should the Annual Meeting be changed to a virtual offering. The ePoster format includes presentations from slide, rapid fire, clinical case slide, and poster sessions. If the Annual Meeting is in-person, you will have the option of presenting an ePoster in addition to the on-site presentation.

Rules for Submission

1. Each person is permitted to submit and be first author on one scientific and one clinical case abstract for the Annual Meeting (which includes the World Congress on the Basic Science of Exercise in Regenerative Medicine), and one scientific abstract for the World Congress on Exercise is Medicine®. You may co-author as many other abstracts as desired. If a person submits, as first author, on more than one abstract per meeting, only one abstract will be accepted; all others will be rejected. If submitting an abstract for both the Annual Meeting (or World Congress on the Basic Science of Exercise in Regenerative Medicine) and World Congress on Exercise is Medicine®, each submission must be two different abstracts/studies.
 2. The first named author must present the abstract. To ensure proper citation in the *Medicine & Science in Sports & Exercise*® (MSSE®) author index, list your name consistently throughout all abstracts on which you appear as an author.
 3. All authors must approve the submitted abstract.
 4. All Fellows of the College (FACSM) who author or co-author a submitted abstract, also accept responsibility as a sponsor for that abstract, as described in Rule 5, below.
 5. Abstracts can be recommended for acceptance by having a Fellow of the College (FACSM) attest to the scientific, medical, or educational merit of the work. Abstracts received without Fellow endorsement will undergo formal review. A Fellow may sponsor as many abstracts as desired. You will be required to provide the Fellow's name and e-mail address when submitting. **The final acceptance decision is the exclusive right of the Program Committee.** This may include a formal review even though an ACSM Fellow is an author or sponsor. Fellow endorsement does not automatically imply acceptance.
 6. The primary focus and substance of the submitted abstract/case must be novel. The abstract must not have been published as an abstract or as a full paper in a scientific, medical, or professional publication at the time of submission. Abstract data may not be presented prior to the Annual Meeting. The only exception to this policy concerns abstracts presented at an ACSM Regional Chapter meeting.
 7. Human studies must comply with the ACSM statement regarding the use of human subjects and informed consent. (MSSE®, Vol. 30, No. 7, July 1998, "Policy Statement Regarding the Use of Human Subjects and Informed Consent.") Animal studies must comply with the NIH guidelines regarding the use of animals. To access the policy, [click here](#) and scroll down to "Human & Animal Experimentation Policy Statements."
 8. To ensure consistency and clarity, it is directed that authors use the terms as defined by MSSE®, "Information for Authors," while utilizing the units of measurement of the Systeme International de'Unite (SI). [Click here](#) and scroll down to "Technical Guidelines."
 9. Researchers and clinicians may be employed, affiliated with, or have financial interest in commercial entities that may have a relevant bearing on the subject matter of an abstract/case presentation. The prospective audience must be made aware of the affiliation/financial interest by an acknowledgment in the final program, as well as acknowledgment in writing on posters, and in the beginning of slide presentations. If there is nothing to disclose, that must be reported by including "no relationships reported." Presentations regarding commercial products must focus on basic or applied science and not on the product or on the commercial aspects of the discovery. In addition, the format of the presentation must permit full discussion of the scientific validity and/or therapeutic benefits and risks of the discovery. The intent of this policy is not to prevent a speaker from making a presentation, but to identify any potential conflict of interest so that the listeners may form their own judgments about the presentation. If the disclosure should be noted, please check the appropriate box on the electronic abstract submission form so that it may be noted in the final program. A notation in this box will not affect whether an abstract is accepted for presentation at the meeting. Failure to comply with the published disclosure policy will result in exclusion from the Annual Meeting for two years.
 10. Abstract submission fee: \$50. A **nonrefundable** fee must accompany each abstract submitted. Do not submit the same abstract more than once or a scientific abstract on the clinical case submission site (or vice versa). **Abstract fees will not be refunded for duplicate submissions, submissions using the wrong submission site (i.e., scientific abstract on clinical case site) or for an abstract that has to be withdrawn.**
 11. Abstract submissions are only being accepted electronically and must be submitted no later than 11:59 p.m. (Pacific time zone) Jan. 6, 2021.
- 12. Abstract/case presenters must pay the conference registration fee and any other costs associated with presenting, regardless of the meeting delivery method of the 2021 Annual Meeting.**
13. Presenters who fail to provide notice of a reason acceptable to the Program Committee for not delivering an accepted paper will be prohibited from presenting at future Annual Meetings. A written notification should be e-mailed to Danielle Apostolidis at dapostolidis@acsm.org by the primary author.

General Information

Notification of Programming

You will be notified electronically of the acceptance/rejection of your abstract/case by March 1, 2021.

If you do not receive your notification by mid-March, you should contact the ACSM Education Department at dapostolidis@acsm.org.

Accessing the Abstract Submission Site

To access the submission site, visit www.acsm.org/annual-meeting/present. If you have previously submitted an abstract or session proposal, please use your established login and password. Contact support@abstractsonline.com if you need your login or password. NOTE: The login and password are not the ones used to access your account on www.acsm.org.

Withdrawals

You can withdraw your abstract on-line prior to Jan. 6, 2021 by going to the electronic submission site in the "Review My Work" page. Click on the "Delete this submission" button at the bottom of this page. After that date, withdrawals must be made in writing. Email a letter stating the reason for withdrawal to dapostolidis@acsm.org.

Scientific Abstract Submission Information

Preparing the Abstract

Accepted abstracts will be published in the May supplement issue of *MSSE*[®], and limited to 2,000 characters (not including spaces, title, or author block). Including a table, chart or graph uses 300 characters of that limit.

Do not use brand names in the abstract.

Indicate grant funding information at the bottom of the abstract.

Title: The title should be brief (limit to 15 words).

Authors: The first and last names of the authors will be included in the author block. **Do not include degrees**, as this affects online search functions.

Institutions: Institutions of all authors will be included. **Do not include departments**.

Sponsored Fellow Notation: If a Fellow sponsors without authoring or co-authoring the abstract, you will need to provide the Fellow's name and email address in your on-line submission.

Text: The abstract must be informative, including a statement of the study's specific PURPOSE, METHODS, summary of RESULTS, and CONCLUSION statement using these headings. It is unsatisfactory to state, "The results will be discussed."

Abstracts of experimental, observational, and meta-analytic studies must include data to substantiate the conclusions being drawn. Systematic reviews without meta-analyses are not acceptable. It is not satisfactory to simply describe what was

found (such as, "the treatment group increased their fitness more than the control group") or to only include statistical results (such as, "associations were significant at $p < .05$)." **The lack of inclusion of experimental data may result in the abstract being rejected.** This applies to abstracts that are sponsored by fellows, as well as those that undergo full review.

The abstract must be written in English and grammatically correct.

Do not include abstract title or author information in the abstract body.

See the example on page 5.

Abstract Category

Abstract review and program fit is largely determined by the category you select. Select the category that represents the intended focus of your abstract. These categories are listed below:

Topical Categories for Abstracts

(Approved by Topical Representatives – Updated July 2019)

Fitness Assessment, Exercise Training, and Performance of Athletes and Healthy People

- 101 fitness assessment of healthy people
- 102 exercise training interventions in healthy people
- 103 sport science
- 104 disability
- 105 pregnancy/prenatal/post-partum
- 106 other

Cardiovascular, Renal and Respiratory Physiology

- 201 cellular/molecular
- 202 cardiac
- 203 vascular function
- 204 acute exercise
- 205 disease
- 206 blood flow
- 207 rehabilitation
- 208 renal
- 209 respiratory
- 210 disability
- 211 oxygen uptake kinetics
- 212 other

Skeletal Muscle, Bone and Connective Tissue

- 301 skeletal muscle physiology
- 302 physiology and mechanics of bone and connective tissue
- 303 cellular and molecular physiology related to these systems
- 304 disability
- 305 other

(Topical categories for abstracts continued on next page)

Biomechanics and Neural Control of Movement

- 401 gait analysis
- 402 sport biomechanics
- 403 musculoskeletal mechanics/modeling
- 404 sports equipment
- 405 motor control
- 406 movement disorders
- 407 posture/balance
- 408 other

Epidemiology and Biostatistics

- 501 epidemiology of physical activity and health
- 502 epidemiology of injury and illness
- 503 physical activity assessment
- 504 population-based surveillance
- 505 biostatistics/research methodology
- 506 disability
- 507 meta-analysis
- 508 other

Physical Activity/Health Promotion Interventions

- 5501 physical activity interventions
- 5502 physical activity promotion programming
- 5503 intervention strategies
- 5504 disability
- 5505 pregnancy/prenatal/post-partum
- 5506 other

Metabolism and Nutrition

- 601 carbohydrate metabolism
- 602 fat metabolism
- 603 protein and amino acid metabolism
- 604 energy balance and weight control
- 605 dietary analysis
- 606 nutritional intervention – micro and macronutrients
- 607 supplements, drugs and ergogenic aids
- 608 disability
- 609 obesity/diabetes/cardiovascular disease
- 610 pregnancy/prenatal/post-partum
- 611 other

Psychology, Behavior and Neurobiology

- 701 mental health
- 702 cognition and emotion
- 703 perception (RPE, pain, fatigue)
- 704 behavioral aspects of exercise (correlates, predictors)
- 705 behavioral aspects of sport
- 706 neuroscience
- 707 pedagogy related to exercise physiology
- 708 disability
- 709 other

Environmental and Occupational Physiology

- 801 heat stress and fluid balance
- 802 cold stress
- 803 hyperbaria
- 804 altitude and hypoxia
- 805 space physiology and microgravity
- 806 occupational or military physiology and medicine
- 807 disability
- 808 other

Immunology/Genetics/Endocrinology

- 901 exercise immunology
- 902 exercise immunology – supplement use
- 903 endocrinology, not including reproductive
- 904 reproductive endocrinology and physiology
- 905 genetics
- 906 other

Athlete Care and Clinical Medicine

- 1001 athlete medical evaluation and care
- 1002 athlete trauma evaluation and care
- 1003 age group and gender issues
- 1004 chronic illness and special populations
- 1005 adaptive sports/disability
- 1006 clinical translation - sessions in this category should focus on improving health outcomes through the integration of evidence-based medicine and quality improvement initiatives
- 1007 other

Clinical Exercise Physiology

- 1101 clinical exercise testing
- 1102 cardiovascular diseases
- 1103 pulmonary/respiratory diseases
- 1104 obesity/diabetes
- 1105 musculoskeletal/neuromuscular diseases
- 1106 disability
- 1107 other

Exercise is Medicine

- 1200 Exercise is Medicine focuses on the impact of physical activity on health and the prevention and treatment of disease and disability for clinical application.

Basic Science World Congress

- 1400 World Congress on the Basic Science of Exercise in Regenerative Medicine

Cancer

- 1501 implementation science
- 1502 epidemiology, surveillance, survival
- 1503 mechanisms and biomarkers
- 1504 risk prevention (primary and secondary)
- 1505 exercise programming and prescriptions
- 1506 cancer biology (tumor microenvironment)
- 1507 triage and referral into exercise programming
- 1508 symptoms, side effects, and adverse effects of treatment (short and long term)
- 1509 psychosocial and behavioral research
- 1510 health economics/health services research
- 1511 disability
- 1512 other

Health Equity

- 1601 aging
- 1602 pediatric
- 1603 rural/urban
- 1604 race/ethnicity
- 1605 socioeconomic status
- 1606 ability status
- 1607 other

Scientific Abstract Example

Mechanisms Underlying Age-Related Changes in Skin Vasodilation During Local Heating

Christopher T. Minson, Lacy A. Holowatz, W. Larry Kenney, FACSM, Brett J. Wong, Brad W. Wilkins.
University of Oregon, Eugene, OR, Penn State University, University Park, PA

The skin blood flow (SkBF) response to local heating is reduced in healthy older (O) vs. young (Y) subjects; however, the mechanisms that underlie these age-related changes are unclear. Local skin heating causes a bimodal rise in SkBF involving at least two independent mechanisms: an initial peak mediated by axon reflexes and a secondary slower rise to a plateau which is mediated by the local production of nitric oxide (NO).

PURPOSE: To determine the altered mechanism(s) underlying the attenuated SkBF response to local heating in aged skin. **METHODS:** Two microdialysis fibers were placed in the ventral skin of the forearm of 10 Y (22±2 yrs) and 10 O (77±5 yrs) subjects. SkBF over each site was measured by laser-Doppler flowmetry as the skin over both sites was heated to 42° C for -60 min. At one site, 10mM L-NAME was infused throughout the protocol to inhibit NO-synthase (NOS). At the second site L-NAME was infused after 40 min of local heating. Cutaneous vascular conductance (CVC) was calculated as flux/mean arterial pressure and scaled as % maximal CVC (infusion of 50mM sodium nitroprusside). Age comparisons were made using two-way ANOVA with repeated measures.

RESULTS: Maximal CVC was reduced in the O (156±15 vs. 192±12 mV/mmHg, p<0.05), as were the initial peak (46±4 vs. 61±2% max, p<0.05) and plateau (82±5 vs. 93±2%, p<0.05) responses. The decline in CVC with NOS inhibition during the plateau phase was similar in the Y and O groups but the initial peak was significantly lower in O when NOS was inhibited prior to local heating (38±5 vs. 52±4%, p<0.05). **CONCLUSION:** Age-related changes in both axon reflex-mediated and NO-mediated vasodilation contribute to the diminished vasodilator response to local heating in aged skin. Supported by NIH Grant ROI AG07004.

TITLE HAS A 15 WORD LIMIT

ABSTRACT TITLE AND AUTHOR BLOCK IS NOT TO BE INCLUDED IN ABSTRACT BODY AT TIME OF SUBMISSION

ABSTRACT BODY HAS A 2,000 CHARACTER COUNT LIMIT (NOT INCLUDING SPACES, TITLE, OR AUTHOR BLOCK)

THIS EXAMPLE IS ONLY FOR VISUAL REFERENCE OF A COMPLETED ABSTRACT. YOU WILL BE PROMPTED FOR REQUIRED FIELDS DURING THE ON-LINE DATA ENTRY PROCESS.

Clinical Case Abstract Submission Information

Preparing the Case Abstract

Case abstracts are limited to 2,000 characters (not including spaces, title or author block). Accepted case abstracts will be published in the May supplement issue of *MSSE*®.

Your clinical case abstract should include a synopsis of your case which includes the History and Physical Exam of the case to be discussed, an outline of the Differential Diagnosis, Test and Results, Final/Working Diagnosis, and Treatment/Outcomes as it pertains to the case. Clinical case presentations will be presented in discussion format. It is recommended that the necessary data (i.e., EKG, X-rays, ECHOS, etc.) be in slide form.

Do not use brand names in the case abstract.

Indicate grant funding information at the bottom of the case abstract.

Title: The title should be brief (limited to 15 words) and should be succinct and descriptive. The first part of the title should reflect the area of the problem and the second part, the sport or activity of the athlete, but should not include the diagnosis (example: Neck Injury—Football).

Authors: First and last names of authors will be listed on the case abstract. If a Fellow sponsors without authoring or co-authoring the case abstract, the Fellow's name and e-mail address must be provided in the on-line submission.

The presenting author must have been involved with significant evaluation and treatment of the patient and have a thorough understanding of the entire case and the outcome. Do not include degrees, as this affects online search functions.

Institutions: Institutions of all authors will be included. Do not include departments.

Text: The first paragraph should state the history of the case; the second paragraph should outline the physical exam, then list:

- Differential Diagnosis
- Final/Working Diagnosis
- Tests and Results
- Treatment and Outcomes

See clinical case abstract example on the following page.

Case Topical Categories

There are five types:

- Cardiovascular
- General Medicine
- Head, Neck and Spine
- Musculoskeletal
- Age and Gender Specific Issues

Note: Clinical case abstracts may be chosen by the Program Committee for either slide or poster presentation.

Clinical Case Abstract Example

Neck Injury — Football

Suzanne M. Tanner, University of Colorado Sports Medicine Center, Denver, CO. (Sponsor: William O. Roberts, FACSM)

HISTORY: A 17-year-old senior high school football defensive cornerback sustained a neck injury while tackling. During the third quarter of a midseason game, he unintentionally used a spearing technique for a successful tackle. As he drove his head into a ball carrier's chest, his neck was forced into flexion and he developed moderate posterior neck pain. There was no numbness, tingling, weakness or radiation of pain into his upper extremities. Three tackles later, 11 plays later, and during the fourth quarter, he reported his neck pain to the athletic trainer.

PHYSICAL EXAMINATION: Examination on the sidelines revealed moderate tenderness over the spinous processes of C6-T1, mild tenderness of the adjacent paraspinal muscles bilaterally and normal sensation, reflexes and strength of his upper extremities. There was full active range of motion of his neck but flexion and extension were painful. Over the next hour, his neck progressively became stiffer, but he had no neurological symptoms or signs.

DIFFERENTIAL DIAGNOSIS:

1. Strain of cervical paraspinal muscles
2. Fracture of cervical spine
3. Cervical sprain

TEST AND RESULTS:

Cervical spine anterior-posterior and lateral radiographs:

— obliquely horizontal fracture of C7 spinous process with 1/2 cm displacement of fracture fragments

— 2 mm of forward subluxation of C6 vertebral body relative to C7 vertebral body

Lateral cervical spine radiographs with neck actively flexed and extended:

— no further subluxation of C6 vertebrae

— increased distraction of spinous fracture fragments with neck flexion

Cervical spine oblique radiographs:

— normal orientation of facets and pedicles

FINAL/WORKING DIAGNOSIS:

Clay-shoveler's fracture (avulsion fracture of spinous process of C7)

TREATMENT AND OUTCOMES:

1. Immobilization with Philadelphia collar for 6 weeks.
2. Repeat active extension and flexion radiographs at 3 and 6 weeks post injury showed no delayed increase in stability.
3. Neck isometric exercises started 3 weeks post injury.
4. Range of motion and neck strengthening exercises started 6 weeks post injury.
5. Returned to sports 3 months post injury when he had full, painless ROM, normal strength and able to meet the demands of his sport.

AREA OF PROBLEM
SPORT OR ACTIVITY

ABSTRACT TITLE AND AUTHOR BLOCK IS
NOT TO BE INCLUDED IN ABSTRACT BODY
AT TIME OF SUBMISSION

CLINICAL CASE ABSTRACT BODY HAS A 2,000 CHARACTER COUNT
LIMIT (NOT INCLUDING SPACES, TITLE, OR AUTHOR BLOCK)

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2021 Annual Meeting Highlighted Symposia

Athlete Care and Clinical Medicine

Keeping Up with the Joneses: Examining Evidence Behind Popular Treatments

Biomechanics and Neural Control of Movement

The Aging Neuromuscular System and the Protective Effects of Physical Activity

Cancer

Making Exercise Standard Practice in Cancer

Cardiovascular, Renal and Respiratory Physiology

Understanding Breathlessness During Exercise: Mechanisms and Consequences

Clinical Exercise Physiology

Exercise and Medications in the Treatment of CVD Risk Factors

Environmental and Occupational Physiology

Environmental Pollution, Climate Change and Human Health

Epidemiology and Biostatistics/ Physical Activity/Health Promotion Interventions

Leveraging Big Data: Using the Cloud to Advance Exercise Science

Exercise is Medicine®

Exercise and Dementia: Current Evidence and Opportunities in Prevention and Treatment

Fitness Assessment, Exercise Training, and Performance of Athletes and Healthy People

Military Human Performance Optimization and Injury Prevention: International Perspectives

Health Equity

Harnessing the Power of Physical Activity to Achieve Health Equity

Immunology/Genetics/Endocrinology

The Genetic Control of Physical Activity: From Molecules to Application

Metabolism and Nutrition

Novel Dietary Approaches to Appetite Regulation, Health, and Performance

Psychology, Behavior and Neurobiology

New Findings on the Science of Pacing in Physical Activity and Sport Performance

Skeletal Muscle, Bone and Connective Tissue

Macronutrients and Muscle Protein Turnover During Weight Loss