

**MIDWEST CHAPTER OF THE AMERICAN COLLEGE OF SPORTS
MEDICINE (MWACSM)
DIRECTIONS FOR ABSTRACT SUBMISSION***

Directions:

1. There is no fee to submit an abstract for the MWACSM annual meeting.
2. Abstract submissions are only being accepted electronically and must be submitted no later than September 10, 2010.
3. Abstract narratives are limited to 350 words (not including spaces, title, author names, or institutional affiliations).
4. The title should be succinct and informative.
5. The first and last names of the authors should be included with Fellows denoted by FACSM. Please do not include authors' titles or degrees.
6. Institutional affiliations of all authors should also be identified.
7. The abstract must be informative, and should include the specific subheadings of **PURPOSE:**, **METHOD:**, **RESULTS:**, and **CONCLUSION:** in **BOLD** within the body of the abstract.
8. Please see the sample abstract below.

How to Submit the Abstract:

1. Fill in all required information on the MWACM Abstract Submission Form for the 2010 MWACSM Annual Meeting to be held October 29-30, 2010 at University Place, IUPUI, Indianapolis, IN.
2. Please email abstracts to the mwacsm@bgsu.edu email address and copy to ldarby@bgsu.edu.
3. Please note in the Subject line MWACSM Abstract Submission – Name of lead author.
4. Abstracts should be emailed no later than Friday, September 10, at 11:59 p.m.

Confirmation of Receipt of the Abstract, and Acceptance of the Abstract:

1. The MWACSM office will notify the lead author by email of receipt of the abstract.
2. Abstracts will be forwarded to the Past-President and Abstract Review Committee for the Annual Meeting. This Committee will review the abstracts and make decisions concerning the presentation format (oral communication or poster), and acceptance of the abstract for presentation.
3. As soon as the Abstract Review Committee has completed its work, the lead author will be emailed concerning the acceptance of the abstract and presentation format.
4. Please note that student awards will be determined from abstract as well as oral and poster information.

Questions? Please email the MWACSM Office at mwacsm@bgsu.edu or call (419) 372-2129.

*Adapted from ACSM abstract instructions

1 inch margins on each side.

Indent two spaces. Not all caps.

TITLE: All CAPS, BOLD.

Denote Fellow status

THE ROLE OF AGE-ASSOCIATED CHANGES IN SKELETAL MUSCLE ON BLOOD PRESSURE IN STANDING

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Thirty percent of people aged 65 years and older living independently have experienced a fall. Muscle weakness, postural instability, and orthostatic hypotension (OH) have been identified as contributing factors to falls. However, the age-associated differences in these factors and the relationship between them is not clear. **PURPOSE:** Therefore, the purpose of this study was to investigate the differences in lower extremity (LE) muscle activity, LE volumetric measurements, blood pressure (BP), heart rate (HR), and postural sway between young and old individuals upon assuming an upright position. **METHOD:** Two groups of 10 healthy males (20-24 yrs. and 65-82 yrs.) volunteered for this study. BP and HR were measured during supine resting and LE volumetric measurements were obtained immediately after supine rest. Electromyographic (EMG) activity of bilateral gastrocnemius and tibialis anterior muscles was recorded during a one-repetition maximal isometric contraction, followed by a second resting period. Subjects then stood quietly for 15 minutes while BP, HR, EMG, and postural sway on a force platform were measured for 20 seconds each minute. **RESULTS:** Systolic, diastolic, and mean arterial BP of both groups significantly increased from supine values within one minute of standing (mean arterial BP: young = 86.5 to 96.9 mmHg, old = 100.3 to 114.0 mmHg). The BP variables remained elevated during the 15 minutes of standing with no instances of OH, despite a significantly attenuated HR response in the older group relative to the younger group (greatest mean HR recorded during 15 minutes of standing: young = 85 bpm, old = 73 bpm). There were no differences in EMG activity or postural sway between the two groups. **CONCLUSIONS:** Older subjects did not exhibit an increased incidence of OH, despite an attenuated HR response, nor did they demonstrate changes in postural sway or EMG activity. Therefore, it appears that BP is maintained by mechanisms other than changes in HR or LE muscle activity. Further research is needed to develop a better understanding of how LE muscle activity, BP maintenance, and postural instability interact as individuals age in order to develop effective interventions to reduce the incidence of falls in the older population.

(Include Grant Support Here if appropriate)

Check Word Count:
Do not exceed 350 words.