Rules for Submission:

1. MWACSM invites you to submit a Research Abstract or a Clinical Case Abstract (guidelines provided below). You may only appear as first author on one abstract.
2. There is no fee to submit an abstract for the MWACSM annual meeting.
3. Adhere to the guidelines provided below and complete the MWACSM Abstract Submission Form found on the website.
4. The final submission deadline is September 15th by 11:59pm (EST).
5. Abstracts will not be accepted after the deadline.
6. Abstracts will not be “switched out” if the author submitted an incorrect version.
7. Abstracts submitted by student authors MUST list the faculty sponsor on the submission.
8. Faculty members are responsible for reviewing their student’s abstract submissions.
9. It is not acceptable to submit an abstract that has been previously presented at another professional conference. Abstracts submitted to MWACSM may also be submitted/presented at the national ACSM annual meeting; however, each abstract review is independent and there is no guarantee of acceptance to either or both.

General Formatting Guidelines: (sample abstracts may be viewed on the following pages)

1. Type the abstract using 12-pt Times New Roman font.
2. The title of the abstract must be typed in UPPERCASE.
3. The title must be succinct and informative.
4. Please denote ACSM Fellows by using FACSM after their name. Do not include authors’ titles or degrees.
5. Do not use brand names within the abstract.
6. Indicate any grant funding information that helped support the research being presented.
7. Abstracts must contain the proper headings (see details below).

***If the abstract does not follow the formatting requirements, it will be rejected without review.***
Thirty percent of people aged 65yrs and older living independently have experienced a fall. Muscle weakness, postural instability, and orthostatic hypotension (OH) have been identified as contributing factors. However, age-associated differences in these factors and the relationship between them is not clear. **PURPOSE:** 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. **METHODS:** 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. Repeated measures ANOVA were used to determine differences across time and between groups. **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. **CONCLUSION:** 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.
**SAMPLE CLINICAL CASE ABSTRACT**

**HISTORY:** A 13-year-old middle school baseball player noticed insidious onset of bilateral posterior thigh pain at the end of spring baseball season. He played through the remaining week of the season. After taking the summer off from baseball, he reported worsening bilateral posterior thigh pain (R > L) during the first week of fall practice, especially with running. Of note, parents note that patient had grown over 7 inches during the past 6 months.

**PHYSICAL EXAMINATION:** Gait was mildly antalgic, favoring left leg. No swelling, erythema, or ecchymosis of bilateral thighs. Tenderness to palpation on bilateral ischial tuberosities, as well as bilateral proximal- to mid-hamstrings (R > L). Tight hamstrings, with popliteal angle measuring 130 degrees on right and 140 degrees on left. Also tender to palpation within bilateral distal quadriceps (R > L). Full ROM about bilateral hips and knees. Strength limited due to pain in knee flexion. Neurovascularly intact.

**DIFFERENTIAL DIAGNOSIS:** The differential diagnosis includes ischial avulsion / apophysitis, hamstring strain / contusion, and bony tumor.

**TESTS AND RESULTS:** Initial bilateral AP/lateral femur radiographs revealed abnormal increased density in the anterior cortex of the right distal femoral metaphysis, with irregular margins anteriorly, and with no obvious soft tissue mass or intramedullary destruction. Also noted were mild cortical irregularities seen at the bilateral ischial tuberosities. Subsequent MRI imaging of the femur with and without contrast revealed irregular cortical thickening of the anterior, distal femur with a benign imaging appearance.

**FINAL WORKING DIAGNOSIS:** Our final working diagnosis was benign bony tumor (likely osteochondroma vs. osteoid osteoma), with unrelated bilateral ischial apophysitis.

**TREATMENT AND OUTCOMES:** The patient was advised to refrain from physical activity while limping and in pain. He was started twice-weekly formal physical therapy for core stabilization, hamstring/quadriceps strengthening, stretching, and flexibility. Finally, he was functionally progressed back to sport-specific activity with full resolution of pain and no limp.
Review of Abstracts:

Submissions that do not adhere to the above formatting guidelines and/or specific instructions mentioned above will be rejected without being sent out for review.

Abstracts will be reviewed by a member of the Presidents’ Council and the Abstract Review Committee. This is the first round of review for student presentation awards. The second round will take place at the Annual Meeting. This committee will determine the acceptability of the abstract and presentation format (poster or slide session).

Each section of the abstract will be evaluated using a rubric similar to the example provided below. This rubric should be used as a guide in preparing the abstract. To be accepted for presentation, each section of the abstract will be considered by the reviewers to be “Acceptable” or “Good” and the reviewer will designate whether the abstract should be accepted as is, if revisions are needed, or if the abstract should be rejected. If the reviewer believes that the abstract needs to have revisions made, the first author will be given a short period of time to make those revisions. If the revisions are not made within the given time period or not made at all, the abstract will be rejected.

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<th>Purpose</th>
<th>Good</th>
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<td>The formation of a testable research question/hypothesis(es) and why it is important (if not evident)</td>
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<td>Methods</td>
<td>A brief description of the protocol and design including subjects and how the experimental variables were collected. Specify the statistical analyses.</td>
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<td>Results</td>
<td>Objectively stated key findings with supporting comparative data, pictures, tables or charts where appropriate. Uses appropriate statistical analyses.</td>
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<td>Conclusion</td>
<td>Evidence-based interpretation, culminating statement of what new understanding or information was gained based on the data.</td>
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The lead author will be notified by email concerning the acceptance of the abstract, the presentation format, and the date/time of the session.

The first author must present the abstract; however, under special circumstances with written permission, other arrangements may be made.

Abstract Submission Checklist (students and faculty sponsors should review this)
- All authors, especially faculty mentors, have reviewed and approved the abstract.
- Confirm ALL formatting requirements are satisfied.
- Statistical analyses and data that support the conclusions are provided.
- The abstract does NOT exceed the word count limit
- If the first author is a student, faculty sponsor(s) MUST be listed on the submission form