MEMORANDUM FOR SGOZ

ATTN: CAPT BRYANT J. WEBBER

FROM: 59 MDW/SGVU/CC

SUBJECT: Professional Presentation Approval

1. Your presentations, entitled Preventing Exertional Collapse and Death in Military Training have been approved to be presented to Preventive Medicine 2016 (Am Coll Prev Med annual conference), Crystal City, VA, 26 Feb 16 for release in accordance with MDW1 41-108, and has been assigned local file #16074.

2. Pertinent biographic information (name of author(s), title, etc.) has been entered into our computer file. Please advise us (phone or mail) that your article was published. At that time, we will need the name of the publishing company, month and year, issue volume of your published paper. It is important to update this information so that we can provide quality support for you, your department, and the Medical Center Commander. This information is used to document the scholarly activities of our professional staff and students, which is an essential component of Wilford Hall Ambulatory Surgical Center’s (WHASC) internship and residency programs.

3. Please know that the 59th Clinical Research Division cannot pay for reprints ordered from the journal by the authors. In addition, publisher’s charges, as well as any charges for color photos, covers for your reprints, or any distinctive specifications, must be coordinated with your department for funding.

4. Congratulations, and thank you for your efforts and time to contribute to the body of medical knowledge. Your contributions directly impact the success of the military mission.

5. We look forward to assisting you in your future publication/presentation efforts.

LINDA STEEL-GOODWIN, Col, USAF, BSC
Director, Clinical Investigation & Research Support

Partners in a high-performance health system, dedicated to excellence in global care
PROCESSING OF PROFESSIONAL MEDICAL RESEARCH PUBLICATIONS/PRESENTATIONS

TO: Clinical Research Division/SGVU
(59th CSPG/SGVU)

FROM: Bryant J. Webber, Capt, USAF, MC
559 THLS/SGOZ

PROTOCOL NUMBER: N/A

PROTOCOL TITLE
N/A (review presentation; no original research)

1. TITLE OF MATERIAL TO BE PUBLISHED OR PRESENTED
Preventing Exertional Collapse and Death in Military Training

2. IS THIS MATERIAL CLASSIFIED? □ YES ☑ NO

3. IS THIS MATERIAL SUBJECT TO ANY LEGAL RESTRICTIONS FOR PUBLICATION OR PRESENTATION THROUGH A COLLABORATIVE RESEARCH AND DEVELOPMENT AGREEMENT (CRADA), MATERIAL TRANSFER AGREEMENT (MTA), INTELLECTUAL PROPERTY RIGHTS AGREEMENT, ETC.? □ YES ☑ NO (NOTE: If the answer is 'YES' then attach a copy of the Agreement to the Publications/Presentations Request Form)

4. MATERIAL IS FOR (Check appropriate box or boxes for approval with this request.) (ATTACH COPY OF MATERIAL TO BE PUBLISHED/PRESENTED)
☐ PUBLICATION/JOURNAL (List intended publication/journal)
☐ PUBLISHED ABSTRACT (List intended journal)
☐ POSTER (To be demonstrated at meeting/Name of Meeting, City, State, and Date of Meeting)
☐ PLATFORM PRESENTATION (At civilian institutions/Name of Meeting, City, State, and Date of Meeting)
☑ Preventive Medicine 2016 (Am Coll Prev Med annual conference), Crystal City, VA, 26 Feb 16
☐ OTHER (Describe: Name of Meeting, City, State, and Date of Meeting)

POINT OF CONTACT
5. WHO IS THE PRIMARY WHASC POINT OF CONTACT? (Last, First, M.I.) (Include email)
Webber, Bryant J. (bryant.webber@us.af.mil)

DUTY PHONE/PAGER No. 671-4087

AUTHORSHIP AND CO-AUTHOR(S) (List in the order they will appear in the manuscript)

LAST NAME, FIRST NAME AND MI.

a. Primary/Corresponding author
WEBBER, BRYANT J.
O-3
559 THLS/ 559 MDG/ SGOZ

I CERTIFY ANY HUMAN OR ANIMAL RESEARCH RELATED STUDIES WERE APPROVED AND PERFORMED IN STRICT ACCORDANCE WITH 32 CFR 219, AFMAN 40-401_IP AND 59 MDW 41-108. I HAVE READ THE FINAL VERSION OF THE ATTACHED MATERIAL AND CERTIFY THAT IT IS AN ACCURATE MANUSCRIPT FOR PUBLICATION AND/OR PRESENTATION.

AUTHOR'S PRINTED NAME/RANK/GRADE
Bryant Webber, Capt

COMMANDER'S PRINTED NAME, RANK
Gwendolyn Foster, Maj

AUTHOR'S SIGNATURE
WEBBER, BRYANT J. 1270119938

COMMANDER'S SIGNATURE
FOSTER, GWENDOLYN A. 1087836902

DATE
17 Nov 2015
20 Nov 2015

59 MDW Form 3039, 20131018 (Supersedes WHMC IMT 3039, 20020301, V1) (Page 1 is Instruction Page) Page 2 of 3 Pages
### 1st Indorsement (SGVU Use Only)

**TO:** Clinical Research Division  
**59TH CSPG/SGVU**  
(Contact 292-7141 for email instructions)

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**3. DATE REVIEWED**  
27 Jan 2016

**5. AUTHOR CONTACTED FOR RECOMMENDED OR NECESSARY CHANGES**  
☑ NO  □ YES (if yes, give date)  □ N/A

**6. COMMENTS**  
☑ APPROVED  □ DISAPPROVED  
The presentation is approved.

---

**PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER**  
Rocky Calicote, PhD  
Clinical Research Administrator

**SIGNATURE OF REVIEWER**  
CALICOTE.ROCKY.D.1178245844

**DATE**  
27 Jan 2016

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**2nd Indorsement (PA Use Only)**

**TO:** OFFICE OF PUBLIC AFFAIRS (PA)

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**3. COMMENTS**  
☑ APPROVED (in compliance with security and policy review directives)  □ DISAPPROVED

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**PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER**  
Christopher Carwile, TSgt/E-6, NCOIC, PA

**SIGNATURE OF REVIEWER**  
CARWILE.CHristopher.STEWARD.1280477229,

**DATE**  
28 Jan 2016

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**3rd Indorsement (SGVU Use Only)**

**TO:** 59 CSPG/SGVU

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2. SENIOR AUTHOR NOTIFIED BY PHONE OF APPROVAL OR DISAPPROVAL  
☑ YES  □ NO  □ COULD NOT BE REACHED  □ LEFT MESSAGE

3. DATE WRITTEN NOTICE OF APPROVAL AND CLEARANCE MAILED TO AUTHOR:

**4. COMMENTS**  
☐ APPROVED  ☑ DISAPPROVED

---

**PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER**  
SIGNATURE OF REVIEWER

**DATE**
Preventing Exertional Collapse and Death in Military Training

Bryant Webber, MD, MPH
Captain, USAF, MC
Trainee Health Surveillance
Joint Base San Antonio – Lackland, TX

26 February 2016

Learning Objectives

1. List the primary causes of recruit mortality in the U.S. armed forces.
2. Describe the impact of sickle cell trait on health outcomes in terms of relative and absolute risk.
3. Prioritize the response to a collapsed recruit based on the epidemiology and severity of potential causes.

Disclaimers

The views expressed herein are those of the presenter and do not reflect the official policy or position of Joint Base San Antonio, the Department of the Air Force, the Department of Defense, or the U.S. Government.

I or my spouse do not have, and have not had, in the last 12 months, any relevant financial or other relationship with any proprietary entity producing, marketing, re-selling or distributing health care goods or services including the manufacturer of any commercial product or device I will discuss during my presentation.

Annual Recruit Population

<table>
<thead>
<tr>
<th></th>
<th>33,000</th>
<th>37,000</th>
<th>35,500</th>
<th>110,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>8 weeks</td>
<td>8 weeks</td>
<td>13 weeks</td>
<td>10 weeks</td>
</tr>
<tr>
<td>Location</td>
<td>One location</td>
<td>One location</td>
<td>Two locations</td>
<td>Four locations</td>
</tr>
</tbody>
</table>


Agenda

- Learning Objectives
- Population
- Air Force Recruit Health Priorities
- Recruit Mortality
- Working Group
  - Risk Factors for Exertional Collapse
  - Sickle Cell Trait
  - Collapsed Recruit Algorithms for First Responders

AF Recruit Health Priorities

1. Prevent & Improve Care for Exertional Collapse
2. Deliver Timely Mental & Behavioral Healthcare
3. Reduce Lower Extremity Overuse Injuries
4. Prevent & Improve Care for Exertional Collapse
5. Optimize Nutrition & Performance
6. Counter Biologic & Vector-Borne Threats
**Risk Factors for Collapse (2)**

- Poor cardiovascular fitness
- Inadequate medical assets
- Update heat stroke policies; build cold-water immersion stations; hire athletic trainers
- Recent blood donation
- Change timing of voluntary blood donation (from before the final fitness test until after)

**Risk Factors for Collapse (3)**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Pre-Training</th>
<th>Training</th>
<th>At Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sickle cell trait</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Poor cardiovascular fitness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor health and fitness knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underlying medical condition</td>
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<td></td>
<td></td>
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<tr>
<td>Inadequate medical assets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsafe training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overexertion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent blood donation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dehydration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritional supplement use</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Current stress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of heat acclimatization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of exercise acclimatization</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Improper fit</td>
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</table>

**Sickle Cell Trait**

- Heterozygotic carrier state (HbA/HbS)
- Affects ~3 million people in U.S. and ~1% of Air Force recruits
- Associated with increased risk of morbidity and mortality in some populations
  - Sudden death among military recruits (RR 30.5) and Div 1 football players (RR 37)
  - Renal dysfunction among Air Force recruits (RR 5; PAF 4.2%)
- U.S. military services have different screening and education policies
- Topics addressed by working group
  - Screening
  - Identification and education of SCT+ recruits
  - Management of collapsed SCT+ recruits
  - Workup/ written to training determinations following collapse
  - Critical knowledge gaps

**Algorithms**

- Master algorithm that funnels into three sub-algorithms
  1. Cardiac Care Algorithm
  2. Hyperthermia Algorithm
  3. Exertional Collapse Algorithm
- Standardizes approach to managing a collapsed recruit, removing guesswork and saving time
- Prioritizes the potential cause of collapse, based on the immediacy of needed treatment and the latest science
- Unlike other algorithms, accounts for sickle cell trait

**Questions?**