



**AMERICAN COLLEGE  
of SPORTS MEDICINE®  
LEADING THE WAY**



**An ACSM/DOD Roundtable Conference**  
**Exertional Heat Stroke: Return to Play/Duty Issues**  
**...in collaboration with AMSSM and NATA**

**Abstract:** Heat illness, in particular exertional heat stroke, has received considerable attention in the lay press as each year many athletes succumb to this environmental injury. Unfortunately, exertional heat stroke continues to claim lives in this venue, frequently as a result of either a lack early recognition or timely intervention. Heat injuries have additionally been a major focus of military medical providers and commanders for centuries, as successful prevention and treatment have often meant the difference between success and failure on the battlefield. Heat illness has also been major problems during peacetime with considerable morbidity during recruit training, remaining a common cause of preventable non-traumatic exertional death in the United States military.

Despite the frequency of this condition, as well as the considerable associated morbidity and mortality, there is little if any evidence-based guidance to assist clinicians and athletic trainers in returning heat illness victims to play and/or duty. The purpose of this roundtable discussion would be to discuss relevant issues related to exertional heat stroke and return to play/duty, and generate a consensus document for publication that outlines the relevant issues, needed research, and consensus guidance.

**Educational Objectives**

1. Review the definition, epidemiology, and pathophysiology of heat stroke.
2. Review the diagnosis and management of exertional heat stroke.
3. Describe current civilian and military guidelines that discuss return to duty/play as pertaining to heat stroke.
4. Discuss the roles of thermal tolerance testing, genetic and biomarker evaluation in return to duty/play as pertaining to heatstroke.
5. Describe the process of rehabilitation, clearance and prevention in return to duty/play as pertaining to heat stroke.
6. Construct a group consensus document that identifies current concepts with regards to return to duty/play as pertaining to heat stroke, and outlines required areas for further research.

The format for the two-day conference will be focused on seven one hour topic blocks. Each block will have one speaker and two discussants. Each speaker will be allotted 20 minutes; each discussant 10 minutes; 20 minutes of the balance would be designated for discussion. The seven blocks would include the following sessions. After the concluding session, James Whitehead, the executive director of the ACSM will lead the roundtable in formation of consensus as well as outline a strategy for the future.

## **Wednesday October 22**

**Roundtable commences: Building A, Lecture Room C**

### **Welcome Reception**

**1300 – 1345 (1:00 – 1:45pm)**

**Foyer outside of Building A, Lecture Room C**

**1400 – 1415 (2:00 – 2:15pm)**

**Introductory Comments – Chairs O’Connor/Casa**

**1415 - 1430 (2:15 – 2:30pm)**

**Opening Comments MG Weightman Commander,  
U.S. Army Medical Research and Materiel Command**

**Introduced by Dr. Rice, USUHS President**

### **1. EXERTIONAL HEAT STROKE: DEFINITION AND BASIC EPIDEMIOLOGY (1430-1530; 2:30 – 3:30pm)**

Speaker: Robert Carter

Discussants: Bill Roberts and John Gardner

### **BREAK (1530-1545; 3:30 – 3:45pm)**

### **2. EXERTIONAL HEAT STROKE; PATHOPHYSIOLOGY (1545-1645; 3:45 – 4:45pm)**

Speaker: Mike Sawka

Proposed Discussants: Mike Bergeron and Steve Blivin

### **3. EXERTIONAL HEAT STROKE: RECOGNITION AND TREATMENT (1700-1800; 5:00 – 6:00pm)**

Speaker: Bill Roberts

Discussants: Doug Casa and Rodney Gonzalez

### **DINNER on site (1830-1930; 6:30-7:30pm)**

### **Special Invited Lecture**

**Heat Stroke and Sick Cell Trait: Current Controversies Dr. John Kark (1930 – 2000; 7:30-8:00pm)**

**Thursday October 23**

**Roundtable resumes:**                      **Light continental breakfast served outside of Building A, Lecture Room C (0700-0800; 7:00 – 8:00am)**

**Special Invited Lecture 0715 – 0745 (7:15 – 7:45am)**

**Recovery from Exertional Heat Stroke: Physiologic Systems**

Speaker: Brendon McDermott

**BREAK 0745-0800 (7:45-8:00am)**

**4. THE ROLE OF THERMAL TOLERANCE TESTING IN RECOVERY AND RETURN TO PLAY/DUTY (0800-0900; 8:00-9:00am)**

Speaker: Yuval Heled

Proposed Discussants: Rebecca Lopez and Robert Carter

**5. THE ROLE OF GENETIC AND BIOMARKER TESTING IN RECOVERY AND RETURN TO PLAY/DUTY (0915-1015; 9:15-10:15pm)**

Speaker: Lisa Leon

Proposed Discussants: Yuval Heled and John Capacchione

**6. PREVENTION OF AN ENSUING INCIDENT OF EXERTIONAL HEAT STROKE (1030-1130; 10:30 – 11:30am)**

Speaker: Karen O'Brien

Discussants: Michael Ferrara and Thomas Hustead

**LUNCH on your own (1145-1245; 11:45am-12:45pm) (Suggestions provided)**

**Opening Comments** by LTG Kearney, Deputy Commander USSOCOM

Introduced by Dr. Rice, USUHS President (1300 – 1315; 1:00 -1:15pm)

**Roundtable resumes:**      **Building E, Lecture Room F (Note Change!)**

**7. EXERTIONAL HEAT STROKE: CURRENT CIVILIAN AND MILITARY GUIDELINES FOR RETURN TO PLAY/DUTY (1330-1430; 1:30 -2:30pm)**

Discussant(s): Casa/O'Connor and Pyne/Heaney

**(1445 -1730; 2:45 – 5:30pm)**

**Summary Discussion: Lead by James R. Whitehead, CEO - American College of Sports Medicine**

1. Definition of Exertional Heat Illness
2. Return to Duty Consensus (Appendix 1 Casa/O'Connor Proposal)
3. Research Agenda
4. Future Initiatives and Products

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**Guidelines for Return to Duty/Return to Play:**  
**A Consensus Panel Statement**

**Introduction:** Exertional heat illness (EHI) is a common clinical problem, affecting both recreational and elite athletes, as well as military service members. Despite a number of preventive efforts in the civilian and military communities to prevent EHI, overall heat injury rates remain largely unchanged. Operational activities in hot and humid environments, changes in the global temperature cycles, and increased athletic participation, warrant continued clinical and research efforts targeting optimal prevention and treatment of EHI.

Currently there are no evidence-based recommendations regarding the return of athletes or soldiers to activity following an episode of exertional heat illness (EHI). Wide variation exists in guiding clinical decision-making, with most return to play and duty recommendations coming from anecdotal observations, relatively small case series, and consensus opinion. The past several years, however, have seen a proliferation of potential new technologies to assist providers in guiding return to play. The purpose of this statement is to recognize the key steps thought necessary for providers to implement when guiding return to play/duty decisions, and to highlight consensus recognizing important consideration points. The panel recognized four key decision points for guiding return to play/duty: establishing a proper diagnosis; assessment of clinical recovery; assessment of future risk for EHI; and graduated individualized return to activity. This statement is intended to form a framework for an individualized return to play/duty plan, not a rigid guideline. **(Goal of roundtable is to be reach consensus on what falls in the framework!)**

- I. ESTABLISHING A PROPER DIAGNOSIS**
- II. ASSESSMENT OF CLINICAL RECOVERY**
- III. ASSESSMENT AND MITIGATION OF FUTURE RISK FOR EHI**
- IV. GRADUATED INDIVIDUALIZED RETURN TO ACTIVITY**