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ROUTINE
R 101338Z MAY 19
FM CNO WASHINGTON DC
TO NAVADMIN
INFO CNO WASHINGTON DC
BT
UNCLAS

NAVADMIN 108/19

PASS TO OFFICE CODES:
FM CNO WASHINGTON DC//N1//
INFO CNO WASHINGTON DC//N1//
MSGID/GENADMIN/CNO WASHINGTON DC/N1/MAY//

SUBJ/UNIVERSAL TRAINING PRECAUTIONS TO REDUCE THE RISK OF EXERCISE-RELATED
COLLAPSE AND DEATH//

REF/A/DOC/OPNAV/11JUL11//
NARR/REF A IS OPNAVINST 6110.1J, PHYSICAL READINESS PROGRAM.//

RMKS/1. This NAVADMIN alerts all personnel of the importance of universal training precautions (UTP) to reduce the risk of exercise- related collapse and death and directs modifications to reference (a), the procedures for conducting the Navy Physical Readiness Test (PRT). Tragically, in the past year, four Sailors have passed away during seemingly normal physical fitness exercise. One loss is too many and it is critical that every Sailor understands the risk factors for exercise-related death and the strategies to minimize those risks. Commanders and key leadership personnel, including Command Fitness Leaders (CFL), must foster an exercise culture that promotes these UTPs, recognizes the early signs of distress and permits prompt termination of exertional activity when clear signs of distress are present.

2. Risk factors associated with exercise-related collapse and death can be personal, environmental or external. Personal risk factors include lack of appropriate environmental or exercise acclimatization, dehydration, recent or current illness, accumulated fatigue, poor baseline conditioning, a predisposing or underlying cardiac condition, exercise-induced asthma, sickle cell trait (SCT), excess body fat (BMI > 30) and prior poor PRT performance. Excessive motivation, is equally important to recognize as a risk factor, as an individual can push to work hard, while ignoring the onset of physical

signs and symptoms of distress. Environmental or external risk factors include: exercise at altitude, high ambient temperature and humidity and dietary supplements containing stimulants to include thermogenic and energy shots or drinks.

3. It is critically important to recognize an emergency during training evolutions, with a timely and accurate response. Some syndromes can result in rapid collapse while others may slowly evolve to an initial conscious collapse. Understanding the syndromes that can lead to exercise-related collapse can assist in guiding treatment.

a. Sudden Cardiac Arrest (SCA). SCA from cardiovascular collapse is generally abrupt with an immediate loss of consciousness, sometimes with brief seizure-like movements. After confirming a lack of responsiveness and absence of a pulse, it is critical to begin high-quality cardiopulmonary resuscitation (CPR), deploy an Automated Electronic Defibrillator (AED) and activate Emergency Medical Services (EMS).

b. Exertional Collapse Associated with SCT (ECAST). An ECAST victim may have been a front runner, or off to a strong start, but will be noted somewhere before the collapse as slowing down, falling behind and struggling. They begin to lose smooth coordination, they evolve into an awkward running posture and gait, with legs that may look wooden or wobbly. The victim may complain of progressive weakness, pain, cramping or shortness of breath. Distinct from the cramping of exercise associated muscle cramping, in ECAST, there is generally no visible muscle twitching and the muscles do not "lock up." The pain of muscle cramping is generally excruciating, whereas the predominate symptom of ECAST is weakness over pain. The ECAST victim will initially be mentally clear, before the onset of confusion and loss of consciousness.

c. Exertional Heat Stroke. Heat stroke can have a similar progression to ECAST, but the hallmark that defines heat stroke is not only an elevated temperature, but an altered mental status.

d. Continued exertional effort in both ECAST and heat stroke will eventually lead to collapse, that in the absence of prompt intervention can be life threatening.

4. All personnel present during a training evolution or PRT can encourage good performance, but should also be on guard for signs that a participant is struggling and be ready to terminate the evolution. The Navys PRT portion of the Physical Fitness Assessment (PFA) is intended as a measure of long-term health and wellness not of individual athletic prowess. No one should risk their life by pushing through life-threatening conditions during a PRT. At the first sign of distress, conduct an initial evaluation on the participant and determine whether to call EMS for rapid transport to a capable medical

facility. Service Members who report signs of distress described above shall seek immediate medical attention and must be evaluated by a medical provider prior to returning to exercise.

5. Effective immediately, commanding officers (CO) and officers-in- charge (OIC) are encouraged to exercise a liberal Bad Day makeup PRT policy for those impacted by any signs of distress, and allow the individual to prioritize health safety over a score by authorizing a Bad Day makeup PRT prior to failing or completing the event. In line with reference (a) enclosure (2), the following guidelines pertain to Sailors who:

a. Do not complete any portion of the PRT, fail or demonstrate any early signs of exercise distress. These Sailors are authorized, at CO or OIC discretion, a Bad Day makeup PRT and are required to be screened by medical. Sailors must be cleared by medical to participate in the Bad Day makeup PRT.

b. Are medically cleared. They must conduct the Bad Day makeup PRT within 7 days from medical clearance, within 45 days of the BCA date and within the current Navy PFA cycle.

c. Participate, but do not complete the Bad Day makeup PRT. They must be screened by medical again, and if medically cleared (no medical waiver), the Sailor will receive a failure for the PRT and will be enrolled in Fitness Enhancement Program (FEP).

d. Participate in the Bad Day makeup PRT. They will have only their final PRT scores entered in PRIMS. CFLs are no longer required to enter initial PRT scores in PRIMS (e.g., 59:59) for Bad Day makeup PRT participation.

6. The following UTP must be applied to all fitness tests or other training evolutions that are expected to require at least moderate exertion (heavy breathing but able to talk in full sentences, sweating within a few minutes of start):

a. Allow acclimatization, outside of the new accession training environment, giving 2 to 4 weeks, to adapt to a warmer environment or higher altitude. The wet bulb globe temperature (WGBT) is the gold standard to measure environmental heat stress at https://www.hprc-online.org/articles/wet-bulb-globe-temperature-devices-measure-heat-stress. Commands may rely on heat stress meters to provide WBGT information when available.

b. Ensure progressive and graduated increases in exercise duration and intensity to the greatest extent possible in the training environment.

c. Adhere to current guidelines for hydration, promote water consumption when thirsty and to maintain clear or light-yellow urine color as described at https://www.hprc- online.org/articles/hydration-basics.

d. Follow DoD guidelines for rest-work cycles as described at

https://home.army.mil/lee/application/files/3615/3808/9560/H20-Consumption-Table.pdf.

e. Prior to and during exercise, avoid stimulants, alcohol, energy shots or drinks, antihistamines, diuretics, pre-workout products, weight loss and performance enhancing supplements.

f. After PFA testing, participants should be observed for no less than 10 minutes post exertion, during an active cool down period.

g. At the early signs of distress, provide prompt medical attention, and when deemed necessary, transfer to an appropriate level of medical care.

7. Our Sailors are expected to maintain a high level of fitness, as part of military readiness. Failure to do so puts the individual and unit at risk. We must all embrace this culture of fitness while still safely applying UTP. To minimize the risk of injury, we should all limit our activity to light exercise the day before a graded event. If a Sailor reports poor conditioning before an event with high exertion, efforts should be made to provide time to acclimate to an appropriate level of exercise before the evolution.
A meaningful FEP, as outlined in reference (a), using the recommended spot checks, is intended to do this.

8. All personnel with SCT should review the video in para 13 below. SCT is common, present in 1 per 10-12 African Americans, 1 per 183 Hispanic/Latinos and 1 per 625 Caucasians. Because SCT disproportionately affects African Americans, any African American who does not know their sickle cell status should engage with medical to determine their status and understand the risk.

9. To ensure safe conduct of physical training:

a. All CFLs, first responders, corpsmen, recruit division commanders and supervisors should watch the first responder videos listed in para 13 below. CFLs must understand the predisposing conditions that are risk factors for exercise-related injuries.

b. All medical treatment facility providers should watch the provider video listed in para 13 below.

c. All PRT evolutions shall be monitored by personnel trained in CPR.

d. All training evolutions (e.g., command physical training, FEP, Sailor 360, etc) involving at least moderate exercise shall occur within the Emergency Medical Service (base or 911) response area of an ambulance equipped with a defibrillator, oxygen and hydration.

e. Activities conducting high-risk training involving physical exertion shall incorporate SCA, ECAST and heat stroke signs, symptoms, prevention and response protocol, including UTP, into Core Unique Instructor Training and

instructor sustainment programs.

10. ECAST Treatment. Though formal treatment guidelines have not been developed, National Collegiate Athletic Association (NCAA) and National Athletic Training Association (NATA) recommend the following:

a. Removal from activity upon demonstration of distress

b. Administer high flow oxygen

c. Transport to an emergency department in an EMS vehicle (ideally Advanced Life Support capable) with emergency communication to alert providers about the potential of a profound metabolic collapse event.

11. Return to training. Medical providers should follow evidence- based guidelines that exist for rhabdomyolysis and exertional heat injury. Currently, there are no guidelines for SCT-related injury. Generally, the following criteria must be met: the individual should have no symptoms (muscle ache, fatigue, etc) normal organ function as measured by laboratory markers, and a review by a medical professional to include counseling on progressive return to exercise and application of the UTP.

12. Reference (a) and CFL training will be updated to incorporate these risk factors and outline procedures for preparation, intervention and return to exercise. In the interim, and until the Physical Activity Risk Factor Questionnaire can also be updated, CFLs must add SCT as a risk factor to ask PRT participants about prior to beginning each PRT.

13. Videos and other training resources are available on the Uniformed Services Universitys Consortium for Health and Military Performance (CHAMP) website.

a. Videos for the warfighter with SCT, first responders, and sickle cell awareness for medical personnel can be found at https://www.hprc-online.org/articles/sickle-cell-trait-awareness.

b. Guidance on heat injury prevention and treatment can be found at https://www.hprc-online.org/articles/heat-illness-prevention-treatment-and-recovery.

c. Guidance on supplements are available through the Department of Defense Dietary Supplement Resource https://www.opss.org.

14. Points of contact:

a. OPNAV N17 Policy: AMCS Eric Anderson, (901)874-2210 or via e-mail at eric.anderson(at)navy.mil.

b. BUMED: CAPT Marc Franzos, (703) 681-9085 or via email at marc.a.franzos.mil(at)mail.mil

15. This message was developed in coordination with the Surgeon General of the Navy, Vice Admiral F. Faison and Bureau of Medicine and Surgery Staff.

16. Released by Vice Admiral R. P. Burke, N1.//

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