

**Guide Objective:** Use discussion topic on stress to identify the physical and mental stressors that could decrease energy and degrade endurance. Educate on the affects of stress and how to reduce or control stress.

## ***Discussion:***

### **WHAT IS STRESS**

There are many definitions of stress. Basically, stress is when a force from the outside world affects the individual. How an individual handles this force will determine whether the stress results in a negative or a positive feeling. Unfortunately most stress is a negative rather than a positive feeling and it's often accompanied by the feeling of being out of control.

### **CAUSES OF STRESS**

Stress, whether at work on a vessel, at a shoreside job or at home, can create a constant drain on individuals. The Crew Endurance Management Practices: A Guide For Maritime Operators, and other sources, list the following as some possible causes of stress. These factors increase stress levels and drain energy, even during rest periods.

- **Interpersonal relationships**
  - o Lack of support from coworkers and supervisors
  - o Conflict with others (on or off the job)
  - o Marital problems or divorce
  - o Social isolation
- **Task design**
  - o Heavy workload
  - o Infrequent rest breaks
  - o Long work hours
  - o Shiftwork (work outside normal daytime hours)
  - o Hectic routine tasks
  - o Little sense of control
  - o Environmental factors such as noise, vibration and extreme temperatures
- **Management style**
  - o Authoritative management style
  - o Lack of participation by workers in decision making
  - o Poor communication between management and employees
  - o Ambiguity or conflicting requirements
  - o Lack of family-friendly policies
- **Personal Pressures**
  - o Work-family conflict
  - o Child or elder care
  - o Financial problems

## **CONSEQUENCES OF STRESS**

The human response to stress, millions of years old, is sometimes called “fight or flight”. Whenever humans are stressed, whether physically or psychologically, adrenaline is released into the bloodstream, causing a number of physiological reactions:

- Increased heart rate
- Increased blood pressure
- Shallow, rapid breathing
- Increased blood flow to the muscles
- Increased energy release

Reaction to stress might create or worsen physical, emotional, or behavioral symptoms:

- Physical – high blood pressure, heart disease, ulcers, strokes, rashes, migraine, tension headaches
- Emotional – anxiety, depression, anger, forgetfulness
- Behavioral – overeating, poor appetite, drug abuse, excessive smoking, irritability, social withdrawal, insomnia

For our ancestors this adrenaline producing “fight or flight” response was ideal because their sources of stress were life-threatening: they killed an attacker before they were killed (fight) or they had to out run a predator to safety (flight). Although our bodies still react the same way to stress most of the time it’s not a life-threatening situation. As a result, if an individual is under chronic stress, and always in this fight or flight mode, this physical response can be inappropriate and can even be dangerous to our long-term health. To protect ourselves from such harm, we must learn how to manage stress.

## **HOW STRESS DECREASES ENDURANCE**

Chronic stress causes a constant drain on energy stores. The energy used in response to stress reduces the amount of energy personnel have for their work. This means personnel must somehow produce more energy in order to have enough to do their jobs. However, stress inhibits the body’s ability to produce the energy needed by interfering with restorative sleep. Thus, by leaking energy through natural responses to stress, and by preventing the body from fully restoring itself through sleep, chronic stress reduces endurance.

## **HOW TO CONTROL STRESS**

Education and awareness are important elements of any stress management program. Some individuals believe that stress is their problem and it only affects them but it actually affects their crewmembers and families.

The following are tips for vessel crewmembers as well as shoreside workers:

- Use the other Alertness Guides, AWO Lesson Plans and the CEMS process to provide education on risk factors that can cause stress.
- Identify the risk factors on your vessel, at your shoreside job or at home that contribute to stress. Some of these risk factors may not be able to be eliminated or reduced but may be able to be better managed through education.
- Identify stress management resources (company wellness programs, Employee Assistance Programs, etc.)

- The company could provide resources on time management as well as leadership skills.
- Individuals need to make time for exercise, recreation and relaxation.
- Promote participatory troubleshooting and decision making.
- Maintaining good working relationships.
- Allowing contact with family and friends (cell phones, e-mail).
- Providing healthy meals, beverages and snacks.
- Exercise has been shown to increase the efficiency of sleep and increase the body's ability to handle the physiological and psychological effects of stress.

***Summary:***

Each individual that works on a vessel or shoreside operation will have their unique stressors to identify and control. Whether you live on the vessel during your hitch or go home every day your work schedule and working environment can contribute to stress at home as well as stress at home contributing to a stressful work environment. These recommendations can assist you in identifying stressors and how to control them.

**The main sources of information for this Alertness Guide on Stress are the following manuals:**

**Crew Endurance Management Practices - A Guide For Maritime Operators and Version 2.1 of the U.S. Coast Guard Guide for Managing Crew Endurance Risk Factors.**

**Additional resource for information on Stress:**

**Crew Endurance Management Practices - A Guide For Maritime Operations ADDENDUM**

These manuals are available for downloading on the Crew Endurance Management System section of the USCG Human Element & Ship Design Division Web Site:

<http://www.uscg.mil/hq/cg5/cg5211/>