

NAEMT and ACE publish EMS Fitness Guidelines

by Michael Szczygiel

U.S. Department of Labor statistics confirm what EMS practitioners already know: We experience a larger number of work-related injuries than the general population. In addition to being at high risk for vehicle crashes, contagious diseases and violence, mundane, repetitive patient movement tasks put us at risk for serious, career-ending injuries. The very nature of the tasks we perform requires that we use our bodies as tools by lifting, bending, kneeling and twisting to move patients and equipment. Our natural tendency to prioritize the patient over ourselves often makes us focus on expediency, and we don't take the time to choose safe patient movement behaviors that minimize the risk of personal injury. Even if we choose the proper movement behavior, we are still at considerable risk if our bodies are not prepared and conditioned to safely execute the requisite tasks.

In an effort to reduce injuries from patient movement, improve practitioner health and create a safer EMS work environment, NAEMT established a formal relationship with the American Council on Exercise (ACE) to create the *Task Performance and Health Improvement Recommendations for Emergency Medical Service Providers*. The NAEMT Board of Directors endorsed these fitness guidelines on January 18. Common hallmarks of training developed under the aegis of NAEMT are reliability, reproducibility and practicality.

How were these hallmarks achieved? ACE sent a team of exercise physiologists to five sites across the country: Memphis Division of Fire Services, Tenn.; Austin-Travis County EMS, Texas; Charleston County EMS, S.C.; Upper Pine River Fire Protection District, Colo.; and North East Mobile Health Service, Maine. The sites offered a variety of service delivery models, environments, populations served, and geography. Most importantly, a diversity of EMS practitioners was represented. The team used the site visits, ride-along encounters and staff interviews to generate initial observations and a practitioner task analysis. The results of the efforts were found to be consistent from site to site. Consequently, they are reliable and reproducible.

What about practicality? Common concerns, requests, obstacles and possible solutions were uncovered. Work-related injuries, general health issues, the avoidance of a forced retirement, and the desire for a good quality of life post-retirement were concerns for supervisors and staff. They were interested in weight management, stress management, and the promotion of healthy lifestyles. They also identified as important the additional departmental costs from lost time due to injuries and the financial burden on the injured.

Commonly cited was the need for physical competencies and requirements for EMS practitioners - but the feasibility of such standards was questioned. Common obstacles were identified as lack of resources, lack of knowledge, work demands, lack of healthy eating options, and low motivation for beginning and adhering to healthy lifestyle changes.

ACE has helped address these issues with guidance to achieve the following primary outcomes:

- 1) Improve job-related physical capacity;
- 2) Improve overall wellness;
- 3) Create self-reliance.

Improve job-related physical capacity

ACE exercise physiologists observed EMS practitioners bending, twisting, reaching, pushing, pulling and maneuvering while providing patient care. These repetitive motions were often done in tight spaces. ACE personnel also observed the external loads imposed by carrying or moving patients and equipment.

To improve **Job-related physical capacity**, ACE developed specific physical ability assessment and general exercise guidelines as a result of a biomechanical analysis of specific motions required to perform EMS tasks. Physical ability assessment includes waist circumference, standing posture, stability, core function and stability and mobility. Within the EMS Fitness Guidelines, *Appendix A: Physical Assessment* provides detailed instructions for objectives, equipment, test protocol, administration and evaluation, with a "Physical Assessment Score Sheet" for each component. Photographs, rating scales and warnings accompany each assessment. Information is included about fitness testing accuracy, reassessment and using assessment data to guide exercise programming.

Improve overall wellness

For the outcome **Improve overall wellness**, *Appendix B: Exercise Program Recommendations and Guidelines* provides general physical-activity recommendations central to this wellness. The purpose of this assessment is to identify postural deficiencies, physical deficiencies and activities that cause pain. When mobility is compromised, we develop a compensated movement pattern. The goal of the exercise program is to strengthen and lengthen muscle groups to improve the body's structure and function, and concomitantly decrease the risk of injury, pain and dysfunction. ACE uses the health-fitness-performance continuum model to achieve these goals.

In addition to improving our job performance, exercise is a cornerstone of overall wellness. The guidelines enforce the concept that wellness, like safety, is a 24/7 concept - so it's not surprising that this section begins with a state-of-the-art behavioral approach to weight loss, with realistic fitness goals. Cardiorespiratory fitness is described in great detail using the three zone intensity model. Aerobic-efficiency training, core training and movement training have excellent graphics and photographs to supplement the narrative, and links to the various types of exercises are provided. The FIRST acronym (Frequency, Intensity, Repetitions, Sets and Type) can be used to individualize exercise programs, which should be implemented under the supervision of a physician or exercise professional, especially for obese, injured, chronically ill or novice exercisers.

One result of a successful exercise program is that the five primary body movements - bend and lift, single leg, pushing, pulling and rotational - will be performed with proper form. Once these movements are done using proper form, ACE provides a series of exercises that add resistance. Besides regular physical activity, healthy eating and stress-reduction techniques are required to improve overall wellness. ACE provides the USDA 2010 Dietary Guidelines and the MYPlate government's nutrition message in a practical and palatable manner.

Create self-reliance

What do we do with all this information? The third component, **Create self-reliance**, is the critical one. This is not a "workplace program" - it's really a "lifeplace program." What we do with our lives is a function of our powers, capabilities and resources. If we want to work without getting injured or sick, be healthy, and live long enough to have an enjoyable retirement, we must take control. We take control by making good decisions, setting goals and self-monitoring our progress.

ACE provides a process in which goal setting is specific, action-oriented and time sensitive. For example, the goal "I'm going to eat healthy and get skinny" is not as specific and productive as "I'm going to eat three servings of vegetables and do the treadmill for 30 minutes every day." The guidelines delineate methods to promote social connection among EMS personnel, maintain an environment that fosters success and use technology to encourage self-reliance. If we can maintain a healthy lifestyle for six months, we should be self-reliant.

Each EMS practitioner using these fitness guidelines can improve his or her physiological health, which will be evidenced by improvements in body composition, blood pressure and physical fitness. In addition, reducing stress and anxiety will result in an enhanced feeling of well-being. What's great about these guidelines is that they were developed and tailored by experts to meet our specific needs as EMS practitioners.

Culture of caring

Agencies helping their employees implement these changes can achieve significant financial benefit when insurance premiums, overtime, attrition, equipment and training costs all improve. Employee retention will be better when people remain not just because they are uninjured, but because the culture of our organizations is better. Creating a culture of health and fitness creates a culture of caring. We've demonstrated time and again that we care for and about our patients. This document gives us an opportunity to care for ourselves and each other in an organized, measurable manner.

A culture of caring is the platform for a Just Culture which allows us to use crew resource management to communicate our Culture of Safety. We've all heard the saying "a healthy mind in a healthy body." This comes from the Satire X of the Roman poet Juvenal (circa 60-140 AD). The first few lines of the entire work are particularly fitting for what we must achieve:

You should pray for a healthy mind in a healthy body.
Ask for a stout heart that has no fear of death,

and deems length of days the least of Nature's gifts
that can endure any kind of toil.

If we do a better job of caring for ourselves, we'll do a better job of caring for our patients, our families and our industry. Let's get started - together.

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