Occupational HEALTH
A Lexington Medical Center Physician Practice

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Working Well

A HEALTH AND SAFETY INFORMATION PUBLICATION

INSIDE THIS ISSUE:

LEXINGTON MEDICAL CENTER

LexMed.com

Welcome to the inaugural issue of *Working Well*

We hope to provide usable information and articles that may assist you in improving health, safety and management programs for you and your company.

Our goal is to develop interaction and cohesiveness with our client companies to provide cross-talk information on local and current issues relative to health and wellness, safety, human resource management, occupational health and other pertinent or interesting topics.

We will also update information regarding the growth of our practice, including website development, our new facility at Otarre Pointe, introduction of new staff members and future services.

We hope that you enjoy our newsletter and will provide us with your feedback in a letter to the editor or an email with comments, questions or suggestions for future articles.

Thank you!

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Our Providers

Our Occupational Medicine board certified physicians, nurse practitioners and nurses are dedicated to servicing you with expertise and compassion.

(l-r) Dana A. Rawl, MD, MPH, Stacey A. Gallaway, MD, MPH, Alice A. Barker, MD, MPH, Willie C. Floyd, MD, MPH

Shanna Mack, MSN, FNP

Donna Padgett, MSN, ACNP

Carol Upton, ACNP

Heat Illness

By Dana Rawl, MD, MPH

With the long, hot, humid summers in the Midlands of South Carolina, heat-related illness is a common, potentially life-threatening condition. Early recognition of signs and symptoms as well as quick treatment can help reduce morbidity and mortality.

When body core temperature rises, blood flow to the skin increases, pushing blood volume to the periphery of the body. Sweating occurs and the evaporation of sweat from the skin helps cool the skin as well as the blood that flows back to the body's core. Natural responses to increasing body core temperature include turning red, sweating and getting a little lightheaded from the displacement of blood volume to the periphery.

If the above compensatory mechanisms to cool the body fail or become inadequate, the body core temperature will continue to rise. Profuse sweating will lead to dehydration and salt loss, which causes further blood volume depletion and electrolyte abnormalities. This can result in significant muscle cramping and dizziness. With increasing dehydration, the body stops sweating, which accelerates its core temperature causing body organ and brain damage leading ultimately to death.

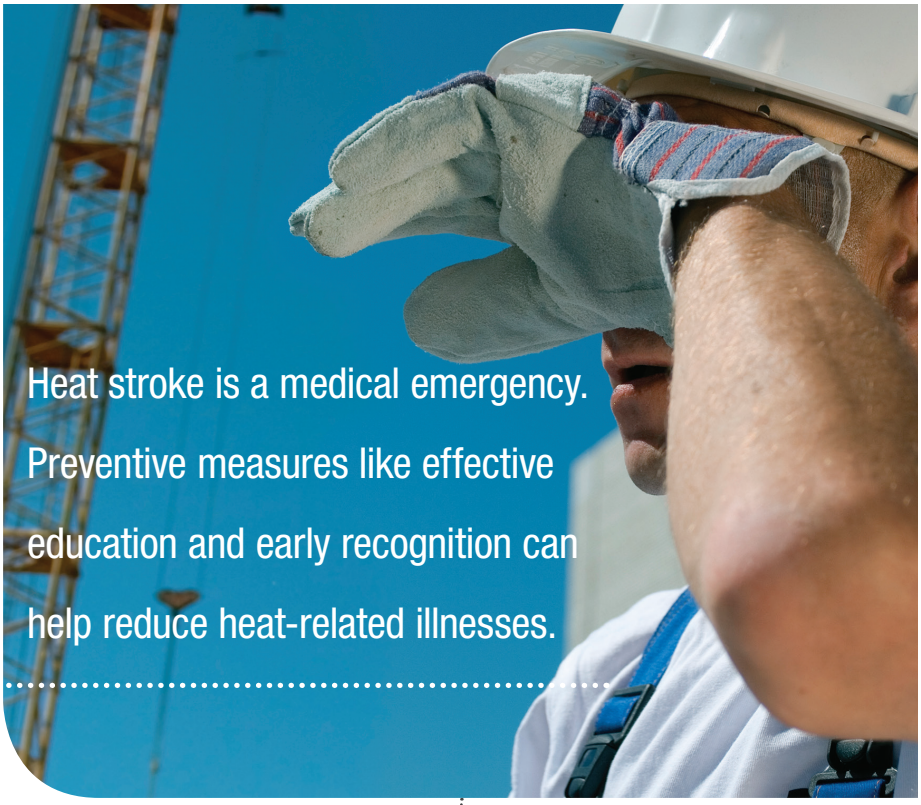
Many factors can affect the severity of heat-related illness, including environment, clothing, conditioning, acclimation and workload. Obviously, the hotter the environment, the greater risk for heat illness; however, more humidity decreases the evaporation cooling process and, therefore, increases heat-illness risk. Lack of air circulation will decrease effective evaporation, and non-breathable clothing will affect the natural cooling process by inhibiting evaporation. Those who are physically fit seem to tolerate heat better, but there is individual variability. Acclimation, or the time it takes to adapt to a hot environment or workplace, tends to increase heat tolerance as well. A greater workload causes a higher metabolic rate with greater heat generation and a higher body core temperature. Other factors that may adversely affect heat-related illness include alcohol use, medical conditions such as hypertension or diabetes, age over 40 and medications.

There are different types of heat-related illness. Characterized by painful muscle cramps in the legs or

abdomen, heat cramps are related mainly to dehydration. Treatment for this type of heat stress is to allow the person to rest in a cool location and increase water and/or electrolyte intake until cramps resolve. If he or she worsens, medical evaluation and treatment are necessary.

Excessive sweating, weakness, dizziness, headache, and hot, wet skin characterize heat exhaustion. A person would need urgent treatment with active skin cooling with cool water and oral hydration in a cool location. Clothing may need to be removed to help cool him or her. Further medical treatment should be initiated with IV fluids, blood analysis and observation.

Heat stroke is a medical emergency. The body is unable to control core temperature. Oral temperature can rise to 105°. This person may be confused or unconscious. His or her skin will be very hot, red and dry. There will be no sweating. Heat stroke can cause organ and brain damage and death. Emergent treatment with active external and internal body cooling in an emergency facility and hospitalization are prudent in improving the chance for a good outcome. Calm the worker and actively cool him or her. Because this person is confused or unconscious, don't attempt to give oral fluids. Call for emergency transport!



Preventive measures are the responsibility of the company, supervisor and worker. Garments should be lightweight, loose and breathable. Personal protective equipment should be appropriate for hazard protection. Light-colored garments will absorb less heat from the sun. Monitor environmental conditions, particularly wet bulb temperature, and formulate work/rest cycles in accordance with the environmental conditions. Supervisors should ask about symptoms as well as fluid intake. They need to observe workers for fatigue and symptoms, and act on any suspicion of heat-related illness. Managers should also consider new worker acclimatization in a hot environment and education on heat-related symptoms.

Effective education, early recognition, timely treatment and appropriate transport are the goals for a solid heat-related illness program. Find a recent CDC article on heat illness at cdc.gov/mmwr/preview/mmwrhtml/mm6331a1.htm.

Stay cool, my friends!

We're Moving!

Occupational Health is moving to Lexington Medical Park – Otarre Pointe this fall. Located in the Congaree area, Otarre Pointe is a new medical office complex located across the street from the SCANA corporate campus on the 12th Street Extension in Cayce. As the latest neighbor in this growing area, we'll be centered in a growing corridor of economic potential and business development that includes SCANA, Amazon.com, Nephron Pharmaceuticals and the Saxe Gotha Industrial Park.

Epilepsy in the Workplace

By Stacey Gallaway, MD, MPH

Epilepsy is a disorder of the central nervous system that results in seizures. There are many kinds of seizures, but all involve abnormal electrical activity in the brain that causes an involuntary change in body movement or function, sensation, awareness or behavior. According to the Centers for Disease Control and Prevention, epilepsy affects more than 2 million adults in the United States and 150,000 people are newly diagnosed each year. Many individuals with epilepsy are successfully treated with medications to reduce the frequency of seizures; however, not all achieve complete control of their condition, which can pose a challenge to both employers and employees.

Employees with epilepsy often find it necessary to inform their employer of their condition in order to request an accommodation. According to the U.S. Equal Employment Opportunity Commission, virtually all people with epilepsy are considered to have a disability under the American with Disabilities Act due to the substantial limitation of a major life activity when seizures occur. Accommodations vary depending on the type and severity of the condition as well as the work being performed. Possible accommodations for persons with epilepsy include:

- breaks to take medication regularly;
- rubber mats and padded edging to prevent injury during a fall;
- equipment such as machine guarding or flicker-resistant screen;
- a private area to recover after a seizure and perform self-care tasks;
- adjustment to work schedule, such as straight versus rotating shifts;
- pairing with a coworker who can drive to meetings;
- reassignment to a vacant position if the employee can no longer perform his or her job;
- permission to work from home.

Have a clear action plan.

When a seizure occurs in the workplace, it can be frightening for coworkers and customers if no one is prepared to handle the situation. Having an action plan with the guidance of the employee's treating physician is the best way to prevent confusion and panic. A clear action plan also greatly reduces unnecessary calls to 911 as it's typically not necessary for individuals with epilepsy to need emergency transport or care when a seizure occurs. The action plan can include:

- emergency contact information;
- designated responders in the workplace;
- warning signs that indicate a seizure is about to occur;
- what to expect during the seizure;
- how to assist during the seizure;
- what the employee will need after the seizure;
- when to call 911.

Be prepared to give first aid.

In the event that a seizure occurs in the workplace without a specific plan in place, apply the following general first aid guidelines as outlined by CDC:

- Keep calm and reassure others who may be nearby.
- Prevent injury by clearing the area around the person of anything hard or sharp.

- Put something soft and flat, such as a folded jacket, under his or her head.
- Remove eyeglasses and loosen ties or anything around the neck that may make breathing difficult.
- Time the seizure with your watch.
- Call 911 if the seizure continues for longer than five minutes without signs of slowing down or if the person has trouble breathing afterwards, appears to be injured or in pain.
- Do not hold the person down or try to stop his or her movements.
- Contrary to popular belief, it is not true that a person having a seizure can swallow his or her tongue. Do not put anything in the person's mouth.
- Turn the person gently onto one side. This will help keep the airway clear.
- Don't attempt artificial respiration except in the unlikely event that a person is not breathing when the seizure stops.
- Stay with the person until the seizure ends naturally and he or she is fully awake.

- Expect the person to appear drowsy after the seizure.
- Be calm and reassuring as consciousness fully returns.

Know when to call 911.

Consider a seizure an emergency and call 911 if any of the following occurs:

- The seizure lasts longer than five minutes.
- The person has another seizure soon after the first one.
- The person has trouble breathing afterwards, or appears to be injured or in pain.
- The person cannot be awakened after seizure activity has stopped.
- The person became injured during the seizure.
- The seizure occurs in water.
- The person has a health condition, such as diabetes or heart disease, or is pregnant.

Excellent Resources for Employers

Epilepsy Foundation - epilepsy.com

Job Accommodation Network - AskJan.org/Media/Epilepsy.html

U.S. Equal Employment Opportunity Commission - EEOC.gov/laws/types/epilepsy.cfm

The work environment may pose many possible hazards for people with epilepsy; however, many jobs can be made safer with modifications. Decisions regarding safety require employers to not act based on fears or generalizations about epilepsy, but instead undertake an individual assessment of risk and possible accommodations to reduce risk. In some cases, it may be determined that the employee cannot perform the job due to the risk of injury to self or others that cannot be reduced with a reasonable accommodation. In these cases, determining that the employee is a "direct threat" must be based on objective, factual evidence and harm must be serious and likely to occur, not remote or speculative.

At Occupational Health, we understand the challenges that employers face in regard to employee health and safety. When fitness-for-duty questions arise, we are here to assist you by evaluating the employee's condition, gathering additional information from the treating physician, and clarifying the employee's functional status and ability to safely carry out the essential functions of his or her job. Please don't hesitate to contact us if we can be of assistance in keeping your workplace well.

Nurse Practitioner Pearls

Respiratory Illness Prevention

by Carol Upton, NP

These steps may help prevent the spread of respiratory illnesses such as the flu:

- Cover your nose and mouth with a tissue when you cough or sneeze and throw the tissue away immediately after you use it. If you have no tissue, cough or sneeze into the bend of your elbow.
- Wash your hands often with soap and water, especially after you cough or sneeze. You can use an alcohol-based (60-95%) hand cleaner if you don't have water and soap available.
- Avoid close contact with people who are sick. When you are sick, keep your distance from others to protect them from getting sick. You can use a surgical mask to help reduce viral exposure to others.
- If you get the flu, stay home from work, school and social gatherings.
- Try not to touch your eyes, nose or mouth. Germs often spread to or from these areas from your hands and fingers.
- Contact your family medical provider if you do get sick. Your provider may be able to prescribe medications that can reduce the severity and/or the duration of your illness.

Stay healthy!

Commercial Driver Medical Examiner Comments

By Dana Rawl, MD, MPH

From a provider perspective, the Federal Motor Carrier Safety Administration's (FMCSA) implementation of the National Registry of Certified Medical Examiners seems to be functioning as expected.

It is still early in the transition, which began on May 21, 2014, whereby National Registry certified providers perform all commercial driver medical examinations. With this new FMCSA rule, all commercial driver medical examiners (CDMEs) have to take a certified training course and pass a written examination to be certified by the National Registry. In addition, the National Registry audits all submitted commercial driver medical examinations at least monthly.

We have seen an increase in commercial driver medical examinations through our practice, and most drivers seem to understand that there is a higher level of evaluation with their physical exam. This is a good thing! It is prudent to ensure that the commercial driver is as medically safe as possible before he or she gets behind the wheel. It's not just the driver's safety with which we are concerned. We are concerned about the safety of other motorists on the highway as well.

Respiratory dysfunction, including obstructive sleep apnea (OSA), has been a recent focus for FMCSA. If a driver has untreated significant sleep apnea, the risk of a crash is elevated. Crashes involving drivers who have been drowsy or who have fallen asleep have demanded heavy media attention and public reaction. Identifying and appropriately treating those drivers who may have significant sleep apnea should help to reduce crashes.

Statistically, people who have a higher body mass index (BMI) may have a higher risk of having OSA. On previous commercial driver medical examinations, the provider would only inquire whether the driver snored or had excessive daytime sleepiness (EDS). Both of those questions are subjective, which means either answer is difficult for the provider to verify or quantify. Using an objective parameter, such as BMI, to help screen drivers for OSA allows for consistency in evaluation. Unfortunately, there are drivers who have significant OSA and are not obese. We have to depend on these drivers to self identify that they have excessive drowsiness in order to evaluate them.

I believe there is a paradigm shift beginning in the commercial driver's perspective of his or her understanding of health and wellness maintenance. Disregarding one's health because he or she is sedentary behind the wheel of a big rig with no access to nutritious foods is no longer an acceptable excuse! The appropriate maintenance of health and active conditioning of one's wellness as a commercial driver not only contributes to a longer career for the driver, but it also promotes a safer career for the driver and the general public.

Good Training and Preparation – Excellent Outcome

In most working industries, weekend hours can be misrepresented as synonymous with low volume and low-intensity evolutions. While this may not always be the case, that is often a mindset associated with this work schedule. On a summer Saturday, many subcontract employees working for a South Carolina utility probably felt this way.

It was the weekend with fewer employees on-site and they (the employees) were set to their tasks. No one would have predicted the events that would befall them that day.

Early in the morning, one of the subcontract employees began experiencing chest pain at his desk. Concerned fellow employees contacted the site medical response team by radio as they had been trained to do in employee orientation. The medical team was mobilized and arrived at the employee's office in three minutes. This mobilization consisted of a safety professional who arrived on the scene first with a first aid kit and an automatic external defibrillator (AED), followed by a site emergency response vehicle with a trained medic and vehicle operator. The medic and safety professional found the employee sitting at his desk bent forward. He presented the classic signs and symptoms of a cardiovascular ischemic event, including sweating, pale skin coloration, shortness of breath and crushing sternal chest pain.

The medic quickly recognized that the employee's condition was poor and radioed the on-site incident commander for immediate dispatch of local emergency medical services. The employee was given four chewable baby aspirin and placed on oxygen via a non-rebreather mask. AED pads that provided a 3-lead electrocardiogram reading were placed on the employee's chest for cardiac rhythm acquisition and in anticipation of cardiac arrest. Approximately six minutes after the site medical team's arrival, the employee seized and entered cardiac arrest.

No one would have predicted the events that would befall them that day.

The employee was repositioned from his desk chair onto the office floor where his airway was maintained. The AED advised a shock as the county EMS arrived on scene. One AED shock was delivered and, upon the AEDs advisement, cardiopulmonary resuscitation (CPR) was initiated. Within seconds of the AED shock and the first few compressions, the employee reverted from cardiac arrest into an unstable rhythm. The employee's airway was maintained while local EMS and the site medical team transported him to the ambulance.

The paramedic-in-charge requested that the site medic accompany him on the ambulance to avoid waiting for an additional ambulance unit as backup. The site medic agreed and the duo proceeded to transport the employee to a Columbia-area hospital. The employee was cardioverted en route to the hospital and arrived there alert and oriented. He was subsequently resuscitated two additional times by emergency room staff. An on-call cardiologist arrived and successfully placed a stent within several hours of the event.

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Occupational HEALTH
A Lexington Medical Center Physician Practice

300 West Dunbar Road
West Columbia, SC 29170
phone: (803) 755-3337
fax: (803) 955-2225

lmcOccHealth.com

Good Training and Preparation

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Follow up with the employee found him discharged within a week with a positive prognosis and no deficits.

Key take-away points from this scenario include all components of the American Heart Association (AHA) basic life support (BLS) chain of survival, which are early recognition of cardiac arrest or its potential, early CPR, early defibrillation, effective advanced life support and integrated post-cardiac arrest care. It is important to note that because the cardiac arrest was witnessed in this scenario, immediate defibrillation was utilized per AHA guidelines and was ultimately credited with patient survivability. Each of the components of the BLS chain of survival were demonstrated in the described scenario, showing us as industry professionals that basic interventions offer patients and coworkers some of the best chances of survivability.

It is also important to note that other than the cardioversion, while en route to the treating facility, no advanced life support interventions were utilized in the management of this patient in the pre-hospital setting. Once again, this is an example of how important and effective the proper administration of BLS interventions, such as CPR and AED use, are to overall patient care and positive cardiac arrest outcomes.

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Editor's Comment: The above article is a true account of a recent local event written by a client company. (Thanks for the submission!) This proves the effectiveness of a primary responder and AED program. It does work! Continue your training realistically and revisit your company's medical response program to make sure it meets and supports your company's population and situation.