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Welcome to *Working Well*, a publication to enhance communication of health and safety information for our client companies and their employees. We welcome feedback on our articles as well as suggestions for future topics. Also, feel free to submit an article or information that you feel would benefit the safety and health of all of us in the workplace.

This publication is the ninth in our series, and it highlights potential health consequences of shift work and ways to combat those ill-effects. Influenza is an annual health issue that can devastate a workforce and reduce production. Stacey A. Gallaway, MD, MPH, presents a comprehensive article on recommendations for influenza prevention. The next article addresses occupational asthma; its mechanism of development in the workplace; and its evaluation, diagnosis and treatment. The "Nurse Practitioner Pearls" section investigates the difference in emergency room compared to urgent care relative to time, money and severity of medical issue.

I hope this issue provides helpful advice. Please distribute and share as you see fit. You can contact me at darawl@lexhealth.org with comments, questions or suggestions on future health and safety subjects. Enjoy!

— Dana Rawl, MD, MPH

Shift Work

By Dana Rawl, MD, MPH

The difference between night and day may depend on the ability to adjust your internal clock. Circadian rhythm is the body's internal clock. Normally, sleep and wake patterns parallel a 24-hour day, which causes people to feel sleepy at night and alert in the day, with an average sleep to wake ratio of 8 to 16 hours. The circadian cycle, however, takes cues from external sources, such as sunlight, eating, routine daily activities, sounds and darkness.

There are millions of shift workers in society, including public service officers, fire fighters, health care workers, pilots, truck drivers, workers in manufacturing and distribution, and many more. All those who perform shift work are subject to circadian rhythm disruption and are at risk for potential health consequences. When your internal clock and external environment misalign, the body's natural tendencies conflict. It's like trying to stay awake when the body is producing chemicals to make you drowsy or trying to sleep when you are alert to daily stimuli and sounds. Such conflict in your internal system can create symptoms of excessive sleepiness or insomnia, unrefreshed sleep, fatigue, poor concentration, irritability or depression, and discord in personal or co-worker relationships. These symptoms can lead to poor production and quality, increased accident risk, poor morale and low worker satisfaction.

In addition to poor performance and increased accident risk, long-term shift workers have been found to have multiple associated health problems, such as certain cancers, heart disease, gastrointestinal issues, ulcers, obesity and metabolic problems. Sleep deprivation studies have shown higher triglycerides in shift workers, as well as poor diets and irregular eating habits that contribute to obesity and metabolic abnormalities, high blood pressure, diabetes and heart disease. Evidence suggests that shift workers may have an increased risk of developing breast cancer, colorectal cancer and prostate cancer over time. Chemical and hormonal imbalances may also occur in female shift workers, affecting fertility and pregnancy.

For many occupations, shift work is a fact of life and can have detrimental consequences to worker health and productivity. There are ways to approach shift work to combat risk. First and foremost, employees should

attain and maintain a level of good health. Those who eat a healthy diet and stay in good physical condition are more suited to tolerate ill effects from shift work. Avoid sleep deprivation, and plan for shift work. Try to get enough sleep before and during periods of shift work. Practice good sleep hygiene by blocking any light in the bedroom using blackout shades or a sleep mask. Remember that exposure to light and dark is a strong factor influencing circadian rhythm. See your doctor if conservative measures don't relieve symptoms of sleep deprivation. Medications such as over-the-counter melatonin may help, or prescription medications may be necessary for treatment.

Employers can help to reduce shift-work risk by manipulating schedules. Some workers may perform better when they consistently stay on night shift, but they should continue their sleep-wake pattern on the weekends. If shift work is mandated, it should be scheduled from day shift to second shift to night shift, which will allow for better, more tolerable circadian transitions for the worker. The recommended transition period ranges from several days to a week.

For more information on shift work, refer to the National Sleep Foundation at SleepFoundation.org/shift-work/content/sleep-and-the-circadian-system or "The Health Risks of Shift Work" at WebMD.com/sleep-disorders/features/shift-work. 🌿



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All those who perform shift work are subject to circadian rhythm disruption and are at risk for potential health consequences.

Centers for Disease Control and Prevention: “Make It Your Business to Fight the Flu”

By Stacey Gallaway, MD, MPH

The Centers for Disease Control and Prevention reports that the flu costs the United States more than \$87 billion annually, and it is responsible for the loss of nearly 17 million workdays each flu season. Tens of thousands of people are hospitalized and thousands die from flu-related illnesses in the United States each year. Infectious disease experts agree that annual influenza vaccination is the best protection against the flu. Employers have the opportunity to be corporate and public health advocates by supporting annual influenza education and vaccination programs for their employees.

Influenza or “the flu” is a contagious disease that spreads around the United States every year, usually between October and May. Flu is caused by influenza viruses and is spread mainly by coughing, sneezing and being in close contact with others. Anyone can get the flu. It strikes suddenly, and symptoms can be severe, including fever and chills, sore throat, muscle aches, fatigue, cough, headache and runny nose.

Influenza infection is more dangerous for some people. Infants and young children, people 65 years of age and older, pregnant women and people with chronic health conditions or a weakened immune system are at greatest risk for hospitalization and death due to the infection. The CDC recommends annual vaccination for everyone 6 months of age and older. It’s especially important for people at high risk for serious complications, such as those with asthma, heart disease or diabetes. Although the flu is more dangerous for individuals with certain medical conditions, healthy people can become very ill or die from contracting the flu.

There are many different influenza viruses, and they are always changing. Each year, a new flu vaccine is made to protect against the viruses most likely to cause disease in the upcoming flu season. Predicting which viruses will be important in the upcoming flu season is not an exact science. Even when the vaccine is not a perfect match to circulating virus strains, it may still afford some protection against infection or reduce the severity of an infection.

Flu vaccines are manufactured to protect against three or four viruses: H1N1; H3N2; and one or two influenza B viruses. The flu vaccine cannot provide complete protection from an influenza infection caused by a virus not included in the vaccine, and it

does not protect against other viral illnesses that have influenza-like symptoms.

This season’s three-component vaccines will contain:

- an A/Michigan/45/2015 (H1N1) pdm09-like virus.
- an A/Hong Kong/4801/2014 (H3N2)-like virus.
- a B/Brisbane/60/2008-like (B/Victoria lineage) virus.

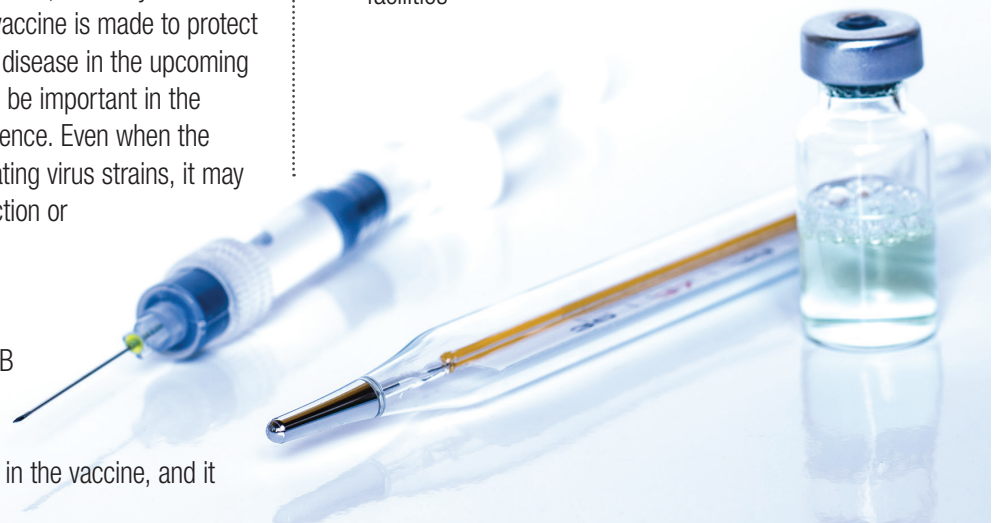
Four-component vaccines will also contain a B/Phuket/3073/2013-like (B/Yamagata lineage) virus.

Supporting wellness in the workplace is an integral part of a successful corporate culture. Seasonal influenza prevention measures aimed at reducing the effect of influenza on the workforce are an essential part of business planning.

Who Should Get Vaccinated?

Routine annual influenza vaccination is recommended for all persons older than 6 months of age. Special emphasis should be placed on vaccination of high-risk groups and their household contacts and caregivers:

- Children age 6 months to 5 years
- Adults 50 years of age and older
- Persons with chronic diseases, such as asthma, diabetes and heart disease
- Persons who have a weakened immune system
- Pregnant women
- Residents of nursing homes and other long-term care facilities





- Persons who are extremely obese (body mass index greater than or equal to 40)
- Health care workers
- Caregivers and household contacts of those at high risk

When Should I Speak to My Doctor About the Influenza Vaccination?

Talk to your doctor if you have any severe, life-threatening allergies. He or she may advise you to not get vaccinated if you ever had a life-threatening allergic reaction after a dose of flu vaccine or have a severe allergy to any part of this vaccine. Most, but not all, types of flu vaccine contain a small amount of egg protein.

If you had Guillain-Barré Syndrome (also called GBS), you may not be able to take the flu vaccine. Discuss these complications with your doctor.

It is okay to get the flu vaccine when you have a mild illness like a cold, but you may be asked to come back when you feel better if you have a moderate to severe illness.

Serious reactions to the vaccine can occur, but they are treatable and rare. The risk of a serious reaction has been estimated at one or two cases per million people vaccinated – much lower than the risk of severe complications from contracting the flu.

What Are the Benefits of Getting the Flu Vaccine?

The CDC has outlined several benefits of getting the flu vaccine. While its effectiveness may vary, there are many reasons to get vaccinated each year.

- Flu vaccination can keep you from getting sick with the flu.
- Flu vaccination can reduce the risk of flu-associated hospitalization.
 - Research indicates that people 50 years of age and older who received a flu vaccine reduced their risk of flu-related hospitalization by more than 50 percent.
- Flu vaccination is an important preventive tool for people with chronic health conditions.
 - Vaccination has been associated with lower rates of some cardiac events among people with heart disease, especially those who had a cardiac event in the past year.
 - Flu vaccination has been associated with reduced hospitalizations among people with diabetes (79 percent) and chronic lung disease (52 percent).
- Vaccination helps protect women during and after pregnancy.
 - A study found that vaccination reduced the risk of flu-associated acute respiratory infection in pregnant women by about one half.
 - Some studies show that flu vaccination in pregnant women can reduce the risk of flu illness in their babies by up to one half. Researchers observed this protective benefit for up to four months after birth.
- Flu vaccination may make your illness milder if you do get sick.
- Vaccination also protects people around you, including those who are more vulnerable to serious flu illness, such as babies and young children, older people and those with certain chronic health conditions.

Can I Get the Flu from the Vaccine?

There is no live flu virus in the vaccination, so flu shots cannot cause the flu. This misconception is common because some people may have a sore arm and a low-grade fever or achiness after getting a flu shot. All these side effects are mild, short-lived and easily alleviated with simple measures, such as a cool compress on the arm or an over-the-counter pain reliever. Symptoms related to vaccination side effects are minor compared to the symptoms of an influenza infection.

Strategies for Businesses and Employers to Help Fight the Flu

Employers can play a key role in protecting employees' health and safety while increasing productivity, reducing absenteeism, lowering health care costs and limiting other negative effects of the flu. Make it your business to fight the flu.

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Make It Your Business to Fight the Flu

(continued from page 5)

- Strategy 1: Host a flu vaccination clinic in the workplace. To minimize absenteeism, employers frequently offer on-site seasonal flu vaccination at no or low cost to their employees.
- Strategy 2: Promote flu vaccination in the community. Make sure your employees know where they and their families can get seasonal flu vaccines in their community. ↻

Resources for Employers

Business Pulse is an online resource that provides businesses and employees with guidance from the CDC on ways to prepare for the flu season.

[CDC.gov/flu/business/index.htm](https://www.cdc.gov/flu/business/index.htm)

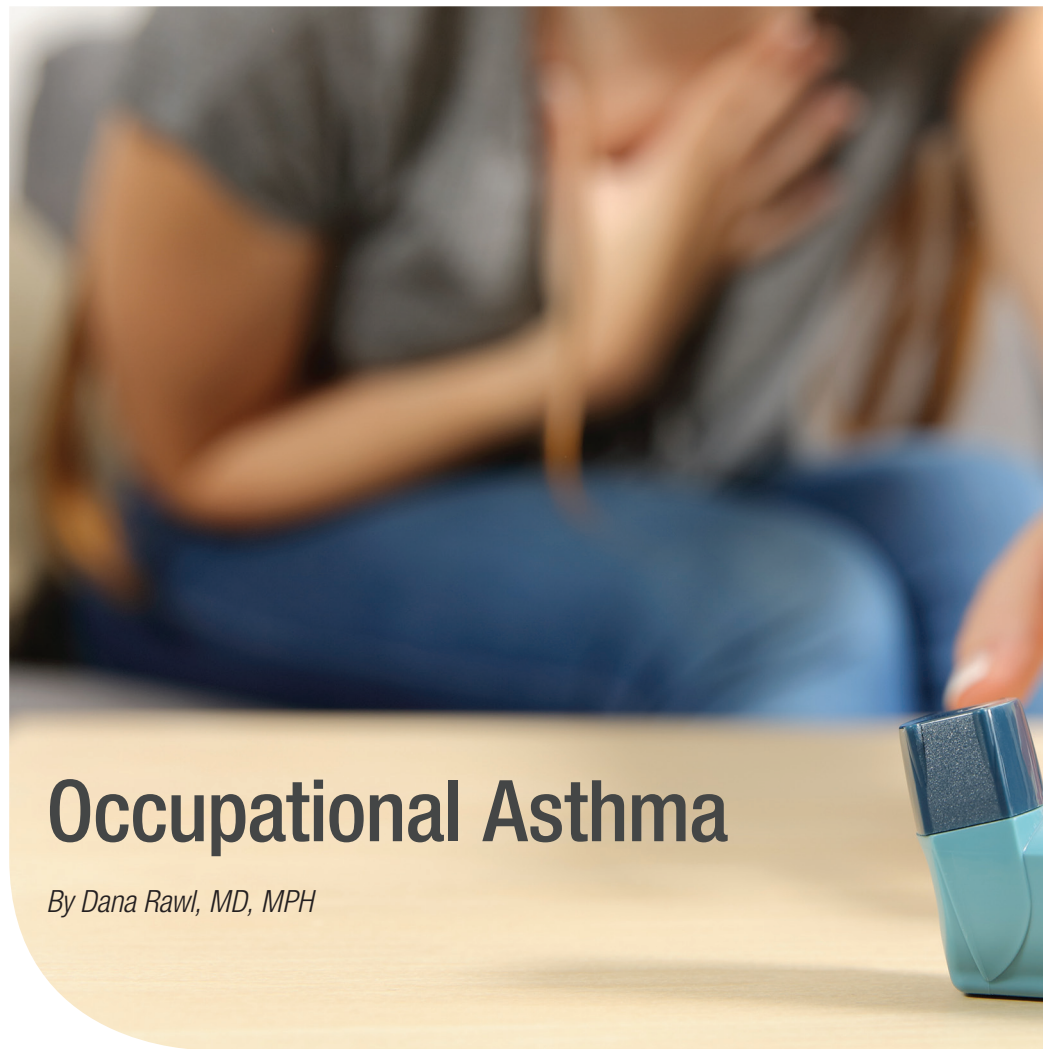
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Occupational Asthma

By Dana Rawl, MD, MPH

Occupational asthma is one of the more common workplace-associated lung diseases. It is a pulmonary response to exposure of a workplace agent. Symptoms include shortness of breath and wheezing that is usually accompanied by a dry cough.

Many people have a propensity for asthma that develops during childhood and may continue through adulthood. The onset mechanism for this disease is related to exposure to an allergen or irritant substance at home or in the environment, but some asthmatics may have a genetic cause or predisposition for the disease.

Work-aggravated asthma occurs in people with pre-existing, non-occupational asthma. They develop

reactive airways from exposure to irritant aerosols, such as dusts, fumes, vapors, gases and certain odors or perfumes. Occupational asthma is a new onset asthma caused by exposure to an allergen or irritant found in the workplace.

Diagnosing occupational asthma begins with an index of suspicion that the employee has been exposed to an agent from which there is a temporally associated airway reaction. There



could be an immediate reaction or a delayed response usually occurring within 24 hours. Further, the employee should have some degree of symptom resolution after removal of the offending agent and a recurrence of symptoms when re-exposed. Objective results with pulmonary function testing will confirm specific function deficits from asthma and function improvements with treatment. Peak flow measurements throughout a work shift can identify if the disease is related to work. A pulmonologist or an allergist may be beneficial in diagnosis and treatment.

Immediate reactive airway disease is an acute onset of asthma due to exposure to an irritant or caustic substance. There is no allergy

sensitization with exposure to these agents. The mechanism is thought to be related to inflammation of the bronchioles from direct chemical injury or reflex bronchoconstriction. Substances that can be agents for “irritant-induced” occupational asthma include acids, ammonia, chlorine, dusts, fumes, vapors and cold exposure.

induced occupational asthma. Those employees who have sensitized-induced occupational asthma will have to be removed from any further exposure as re-exposure may produce more severe reactions and even death.

Occupational asthma is a compensable work-related disease. Compensation is based on an

Asthma related to an allergic response is known as “sensitizer-induced” occupational asthma, and it involves an immunologic mechanism where the employee must first be exposed to an agent.

Asthma related to an allergic response is known as “sensitizer-induced” occupational asthma, and it involves an immunologic mechanism where the employee must first be exposed to an agent. Subsequent exposure leads to an immune-mediated cascade of physiological events that cause airway inflammation. Many of these patients have a delayed asthma response after exposure. Known sensitizing agents include animal and plant proteins, molds, antibiotics, anhydrides, dyes and diisocyanates.

Medical treatment for occupational asthma is the same for non-occupational asthma and consists of bronchodilators and steroid medications. From an employer point-of-view, treatment for occupational asthma depends on removing or reducing the offending agent from the work site. A good example in reducing exposure is to use wet techniques to lower dust exposure. If removing a substance is not practical, personal protective equipment (respirator) may help reduce exposure for irritant-

impairment assessment performed within the impairment rating guides published by the American Medical Association. Employers having potentially irritating or sensitizing substances on-site should have a higher awareness of possible airway reactions. Employees who have respiratory symptoms at work should be medically evaluated to properly diagnose disease and reduce any long-term consequences. ☺

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Nurse Practitioner Pearls

By Donna Padgett, ACNP

Should I Go to the Emergency Room or Urgent Care?

Unfortunately, you can't schedule illnesses and injuries. It is important to seek appropriate and timely care if you feel sick or become injured. But where do you go if your primary care doctor is not available or you don't have a doctor? While the answer is not always simple, understanding the difference between urgent care and emergency care, and knowing where to seek treatment can save you time, money and, most importantly, your life in an emergency.

The terms "emergency" and "urgent care" imply a medical need that requires quick attention; however, there are distinct differences between hospital emergency rooms and traditional urgent care centers, specifically the level of care provided at each facility.

Urgent care centers are same-day clinics where providers see patients with medical problems that need to be treated right away; however, these problems are not considered true emergencies. Urgent care centers address issues typically handled by your primary doctor. Common conditions treated at urgent care include coughs, sore throat, earache, painful urination, fever, vomiting, diarrhea, stomach pain, injuries (cuts and sprains), etc. Most urgent care centers are open after normal business hours, including nights, weekends and holidays. They are staffed by physicians and nurse practitioners, and offer lab work, X-rays and other diagnostic testing. In most situations, patients will save time and money by going to an urgent care center instead of an emergency room.

An emergency room is the best place for treating severe and life-threatening conditions. Unlike urgent care centers, they are equipped and staffed for the most

complex and critical needs, such as chest pain, difficulty breathing, weakness or pain in a leg or arm, severe headache, head injuries, eye injuries, seizures, deep wounds, broken bones, serious burns, etc. Emergency rooms are open 24 hours a day, seven days a week. Because emergency rooms offer the widest range of services, including diagnostic tests and access to specialists, the care is more expensive. Also, patients can expect longer wait times in an emergency room, especially if they go for a non-emergent problem.

Everyone should know where to find their closest emergency room and urgent care center. Lexington Medical Center has five urgent care centers located in Batesburg-Leesville, Chapin, Irmo, Lexington

and Swansea. The Lexington and Irmo urgent care centers have CT scan and MRI capability, in addition to X-ray and laboratory services. Lexington Medical Center's Emergency department is located at its main campus in West Columbia, near the I-26 and Highway 378 interchange. 📍

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