



"Safety Comes First"

Case Western Reserve University Environmental Health and Safety

March/April
2018

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CDC Tips for Avoiding the Flu

In the United States, the flu season spans October to May and usually peaks in February. The flu can knock you out of commission both at work and at home. The U.S. Centers for Disease Control and Prevention (CDC) urges people to take the following actions to protect themselves and others from it.

1. Get a flu shot. Getting an annual flu vaccine is the first and most important step. The flu vaccine protects against the flu viruses expected to be most common and is recommended for everyone 6 months of age and older. The CDC says you should get your shot before the end of October every year, so, if you haven't already gotten yours, now is the time.

2. Stop the spread of germs. Avoid close contact with sick people, and, when sick yourself, limit your contact with others. If you have flu symptoms (fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills, and fatigue), stay home at least 24 hours after your fever is gone.

3. Take your prescribed flu antiviral drugs. Antiviral drugs can make the flu milder and reduce the duration of illness. They also can prevent serious complications. Follow your doctor's instructions.



Source: Safety.BLR

What's New for the 2017-2018 Flu Season?



“For the first time, a cell-grown H3N2 vaccine reference virus was used to produce the H3N2 component of the cell-based vaccine, Flucelvax.”

1. Only injectable flu shots are recommended for use again this season.
2. The H1N1 component of 2017-2018 flu vaccines was updated.
3. There is a quadrivalent recombinant influenza vaccine that is new for the 2017-2018 flu season. (Last season, only trivalent recombinant influenza vaccine was available.)
4. For the first time, a cell-grown H3N2 vaccine reference virus was used to produce the H3N2 component of the cell-based vaccine, Flucelvax. (The remaining Flucelvax vaccine components were manufactured using egg-grown reference viruses.)

What flu vaccines are recommended this season?

This season, only injectable flu vaccines (flu shots) should be used. Options this season include:

- Standard dose flu shots. Most are given into the muscle (usually with a needle, but two can be given to some people with a jet injector). One is given into the skin.
- A high-dose shot for people 65 and older.
- A shot made with adjuvant for people 65 and older.
- A shot made with virus grown in cell culture.
- A shot made using a vaccine production technology (recombinant vaccine) that does not require the use of flu virus or eggs.

Live attenuated influenza vaccine (LAIV) – or the nasal spray vaccine – is not recommended for use during the 2017-2018 season because of concerns about its effectiveness.

Are there new flu vaccines this season?

A new quadrivalent vaccine (“Afluria Quadrivalent” IIV) was licensed last season after the annual recommendations were published.

A quadrivalent recombinant influenza vaccine (“Flublok Quadrivalent” RIV) is newly available this season.

Source: CDC

Workplace Fatalities on The Rise

Recently, the federal government reported a total of 5,190 fatal work injuries in the United States in 2016, a 7% increase from 2015. It's the third consecutive rise in fatalities, and the first time since 2008 that the number of deaths has topped 5,000. The fatality rate increased to 3.6 per 100,000 full-time equivalent workers, up from 3.4 in 2015.

The Bureau of Labor Statistics (BLS) reports that injuries involving transportation incidents remained the most common type in 2016, accounting for 40%. Violence and other injuries by persons or animals increased 23%, the second most common cause in 2016. Deaths caused by exposure to harmful substances or environments rose 22%, while those attributed to fires and explosions declined 27%.

The BLS survey also found that:

- Fatalities from falls, slips, or trips increased 6% to 849 in 2016, up 25% since 2011.
- Overdoses from nonmedical use of drugs or alcohol while on the job increased by 32%.
- Fatalities in transportation and material-moving increased by 7% and accounted for more than a quarter of all job deaths.
- Workers aged 55 and over had 1,848 fatalities.



Source: Safety.BLR



"...injuries involving transportation incidents remained the most common type.... accounting for 40%."

Understanding Hypothermia



Learn. Comply. Succeed.

“You should seek medical help for all cases of hypothermia, even mild ones.”

Know the signs and what to do

As winter drags on, it’s important to understand and recognize the signs of hypothermia. “Hypothermia” is the loss of body heat from exposure to cold conditions. If you are wet because of sweat, high humidity, or working in a damp environment, or if your clothing becomes wet, hypothermia can happen more quickly. It doesn’t need to be very cold for you to experience hypothermia; most cases happen in air temperatures between 30 degrees Fahrenheit (°F) and 50°F, and hypothermia can happen in air temperatures as high as 65°F or water temperatures as warm as 72°F.

What are the signs of hypothermia?

If you have mild hypothermia, you will shiver uncontrollably, and your lips and fingers may turn blue. You may also have poor coordination. You may become confused and disoriented. Your heart rate and breathing will slow down, and your speech may be slurred. Severe hypothermia is very dangerous. You may lose consciousness, your heart rate may be so slow that it is difficult to find a pulse, you will stop shivering, and you may seem not to be breathing. Seek medical help immediately!

What should you do?

You should seek medical help for all cases of hypothermia, even mild ones. While you wait for medical help to arrive, give the following first aid:

- Remove the affected person from the cold environment to a warm shelter.
- Remove wet and cold clothing.
- Wrap the affected person in dry, non-heated blankets.
- Warm the internal areas (neck, chest, abdomen, groin) first. Limbs should be warmed last.

DO NOT place the affected person in front of a hot fire or apply heated blankets or pads.

Working in the cold exposes you to the risk of hypothermia. Prevent hypothermia with these practices:

- Dress in several layers of loose, warm clothing. Choose synthetic materials that wick moisture away from your skin over cotton materials.
- If your clothing becomes wet, remove it and change into dry clothing

Understanding Hypothermia, cont

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as soon as possible.

- Consume warm, high-calorie foods while working in cold conditions.
- Avoid alcohol and caffeine.
- If possible, avoid activities that lead to heavy sweating.
- Avoid long periods of sitting and standing still. Keep moving.

In very cold weather, take periodic breaks in a warm, sheltered area.

Understanding hypothermia Quiz: Questions

1. It has to be very cold for you to have hypothermia. **True or False**
2. If you have mild hypothermia, your lips may turn blue. **True or False**
3. Which of the following should you *not* do to help someone with hypothermia?
 - A. Place the affected person in front of a fire to warm up.
 - B. Remove wet and cold clothing.
 - C. Wrap the affected person in dry, non-heated blankets.
4. Prevent hypothermia by drinking alcoholic or caffeinated beverages. **True or False**
5. Wear tight clothing in several layers when working outside in the cold. **True or False**

Understanding hypothermia Quiz: Answers

1. **False.** It does not need to be very cold for you to get hypothermia. Hypothermia can occur in air temperatures as high as 65 degrees Fahrenheit (°F).
1. **True.** Your lips and fingers can turn blue when mild hypothermia sets in. You may also suffer poor coordination.
2. **A. Place the person in front of a fire.** You should not place a person in front of a fire or apply heated blankets. Warm the person gently until help arrives.
3. **False.** Avoid drinking alcohol and caffeine. Drink water and consume warm, high-calorie foods while working in cold conditions.
4. **False.** Make sure you dress for cold, outdoor work appropriately with several layers of loose, warm clothing. Use synthetic materials that wick moisture away from your skin over cotton clothing.

Source: Safety:BLR

“Prevent hypothermia by drinking alcoholic or caffeinated beverages.”

Environmental Monitoring at Nuclear Power Plants



“Reactor operators also measure radiation levels in the environment.”

Nuclear power plants may give off a small amount of radiation while they are operating. The plants may also release small amounts of material that emit radiation. The NRC has strict rules to keep radiation levels in the environment very low and protect public health and safety. When it reviews a reactor license application, the NRC analyzes the possible impacts to people, animals, plants and sea life. This analysis is part of an Environmental Impact Statement the NRC publishes that also addresses ways to minimize the impacts. The NRC requires nuclear power plants to be designed in a way that keeps radioactive material releases as low as reasonably achievable. Plant operators must also:

- Comply with radiation dose limits for the public
- Monitor both what they release and the environment around the plant
- Report their results annually to the NRC. These reports are posted on the NRC website

Regulations

Radiation is all around us. Most of it comes from natural sources such as cosmic rays, radon gas, and uranium and other elements in the ground. All Americans receive an average dose from natural sources of about 300 millirem each year. At most reactor sites, radiation from the plant cannot be detected at all. Radiation from a reactor generally cannot be detected further than one mile away. Within one mile, it could be a small fraction of the background dose. Power reactors must comply with specific limits on doses to the public set by both the NRC and the Environmental Protection Agency (EPA). EPA’s rules can be found in 40 CFR Part 190. The NRC rules are in 10 CFR Part 20. The NRC’s rules define “as low as is reasonably achievable” (ALARA). Each reactor license specifies ALARA levels and requires the licensee to make a report any time a level is exceeded. By complying with these rules, most reactors have kept doses to the public so small that they are difficult to distinguish from background radiation.

Monitoring Releases and the Environment

Reactor operators must monitor the release of any radioactive materials in liquid or the air, as well as any direct radiation from the plant. They must track their releases so they can report them to the NRC each year. If there is a release above ALARA levels, the plant must make a special report to the NRC. Plants have been very effective in controlling their releases. To date, there have been no releases above the ALARA levels.

Reactor operators also measure radiation levels in the environment. They must collect samples from the air, surface water (such as ponds, streams and lakes), groundwater, drinking water, milk, fish, and shoreline sediment. The licensee regularly has the accuracy of its measuring system verified by an independent lab. Licensees must report their results every year to the NRC.

The NRC posts these annual reports online. Radioactive releases (called effluents) appear in a plant’s Effluent Report. How much radiation was measured in the environment appears in the Environment Report.

The NRC has on-site inspectors that live near the plants and work there every day. They check regularly to make sure plants are monitoring their releases and keeping them below ALARA levels. Other NRC inspectors who are radiation experts go to the sites for Technicians process soil samples routine radiation inspections. The NRC documents the results of its inspections in reports available to the public.

Tritium in Groundwater at Nuclear Plants

Several nuclear power plants have had leaks or spills of tritium that have been found on-site in wells used to monitor groundwater. Tritium is a mildly radioactive form of hydrogen made in a reactor. In these cases, the NRC expects each licensee to find the source of contamination (often leaks from buried pipes). The licensee must also have a program to prevent leaks, which the NRC reviews. Tritium leaks have not resulted in any drinking water supplies having tritium levels above the EPA’s safe drinking water standards. In most cases, the tritium cannot be detected in groundwater samples off-site.

Chemical spotlight: Barium

Barium is a silvery-white metal that exists in nature only in ores containing mixtures of elements. The oil and gas industries use barium compounds to make drilling muds.

Barium compounds do not dissolve well in water and can last a long time in the environment. Barium gets into the air through mining and refining, through the production of barium compounds, and through burning coal and oil.

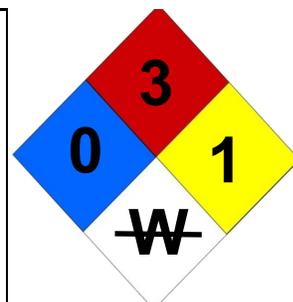
Barium compounds that do not dissolve well are harmful to you. When you are exposed to barium at levels above the EPA drinking water standards for relatively short periods of time, it can cause gastrointestinal disturbances and muscular weakness.

Barium reacts violently with water and moist air to generate flammable and explosive hydrogen gas. Store barium in tightly closed containers away from air, heat, and light. Do not store barium near sources of ignition.

If barium is spilled:

- Evacuate everyone, and control the entrance to the area.
- Eliminate all ignition sources.
- Absorb liquids in vermiculite, dry sand, earth, or a similar material, and place in sealed containers for disposal.
- Ventilate and wash the area after the cleanup is finished. Do not wash barium into a sewer.

Barium may need to be contained and disposed of as a hazardous waste. Contact your state environmental department or EPA regional office for questions about proper disposal.



“Barium reacts violently with water and moist air to generate flammable and explosive hydrogen gas.”

Source: Safety.BLR



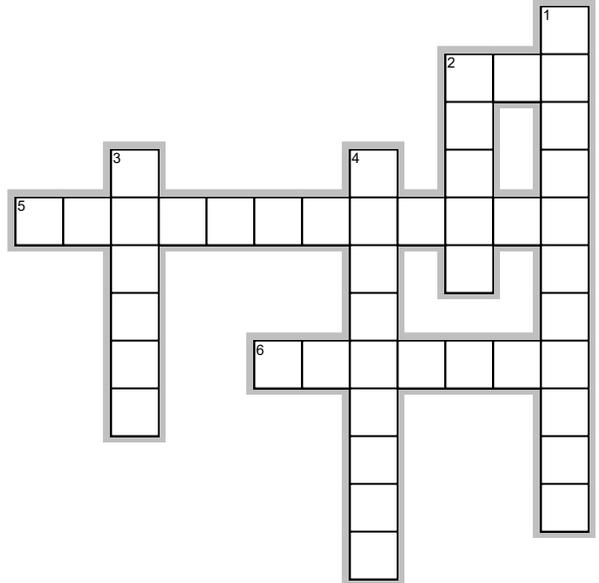
Fun Page

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E

Across

2. EHS Specialist featured in this issue.
5. There is a _____ recombinant influenza vaccine that is new for the 2017-2018 flu season.
6. Fatalities in transportation and material-moving accounted for more than a _____ of all job deaths.



Down

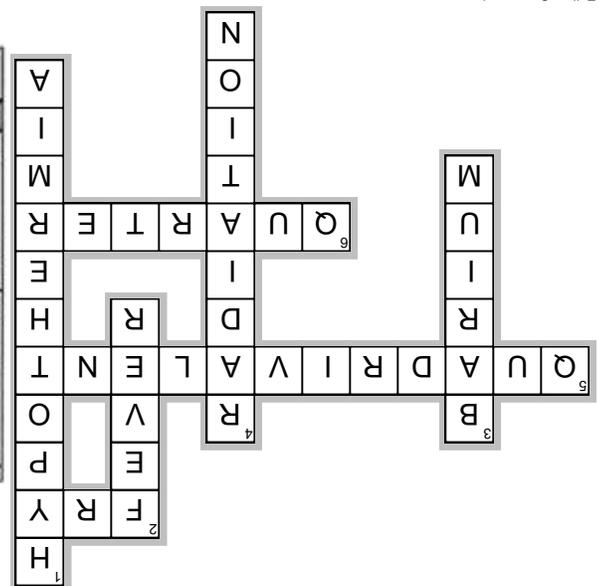
1. Uncontrollable shivering and blue lips and fingers may be a sign of _____.
2. If you have flu symptoms, stay home at least 24 hours after your _____ is gone.
3. _____ can cause gastrointestinal disturbances and muscular weakness.

Funny Corner



“Okay, okay, we’ll turn up the thermostat.”

Puzzle Answers



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with questions
concerning
fire safety,
including hot
work, red tag
permits,
extinguishers
and fire safety
training.*

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