



"Safety Comes First"

Case Western Reserve University Environmental Health and Safety

March/April
2020

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Keep an eye on impact hazards

An employee tried to force a flare disk onto a flaring machine spindle by striking the disk with a metal hammer. The impact sent a metal fragment into the employee's eye that required hospitalization and surgery. The employee was wearing safety glasses, but the fragment hit the eye from an angle that was unprotected by the glasses. Do you know the best type of eye protection against impact hazards at your worksite? Before you begin a job that exposes you to impact hazards, consider which type of eye protection will provide your eyes with the best defense.

Impact hazards

The majority of impact injuries to the eye are caused by flying or falling objects, such as chips, fragments, particles, sand, dirt, or sparks. These objects can cause punctures, scratches, and bruises. Work operations like chipping, grinding, masonry, riveting, woodworking, drilling, and sanding can generate these hazards. To protect against impact injuries, always wear safety glasses with side shields, and/or safety goggles, and even a face shield depending on the type and severity of exposure to hazards.

Safety glasses

Safety glasses are designed to shield the eyes from frontal impact by flying fragments, objects, large chips, and particles. Side shields provide impact protection from left or right angles. Safety glasses without side shields are unacceptable eye protection for impact hazards. Frames can be fitted with impact-resistant vision corrective lenses. But safety glasses alone do not protect against impacts from under or around the glasses.

Safety goggles

Safety goggles form a protective seal around the eyes. This prevents objects from entering under or around the goggles. The frame must fit properly to your face to form the correct seal. Safety goggle lenses are designed and tested to resist moderate impact and may incorporate prescription lenses mounted behind protective lenses if you need vision correction. Goggles are also available with different levels of ventilation.

Safety shields

A face shield protects the entire face and is used with safety glasses and goggles. When worn alone, face shields *do not* protect employees from impact hazards. Use face shields in combination with safety glasses or goggles, even in the absence of dust or potential splashes, for additional protection beyond that offered by glasses or goggles alone.

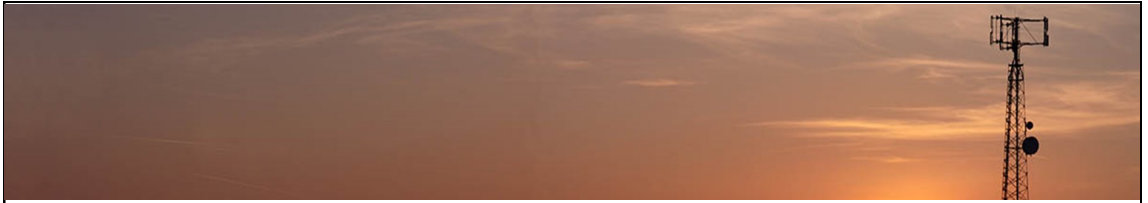
Follow these guidelines and you can save your sight from the dangers of workplace impact hazards.

Source: Safety.BLR

Non-Ionizing Radiation



Non-ionizing radiation includes the spectrum of UV, visible light, IR, MW, RF, and ELF.



Non-ionizing radiation is described as a series of energy waves composed of oscillating electric and magnetic fields traveling at the speed of light. Non-ionizing radiation includes the spectrum of ultraviolet (UV), visible light, infrared (IR), microwave (MW), radio frequency (RF), and extremely low frequency (ELF). Lasers commonly operate in the UV, visible, and IR frequencies. Non-ionizing radiation is found in a wide range of occupational settings and can pose a considerable health risk to potentially exposed workers if not properly controlled.

Extremely Low Frequency Radiation (ELF)

Extremely Low Frequency (ELF) radiation at 60 HZ is produced by power lines, electrical wiring, and electrical equipment. Common sources of intense exposure include ELF induction furnaces and high-voltage power lines.



Radiofrequency and Microwave Radiation

Microwave radiation (MW) is absorbed near the skin, while Radiofrequency (RF) radiation may be absorbed throughout the body. At high enough intensities both will damage tissue through heating. Sources of RF and MW radiation include radio emitters and cell phones.



(Continued on page 3)

Non-Ionizing Radiation, cont.

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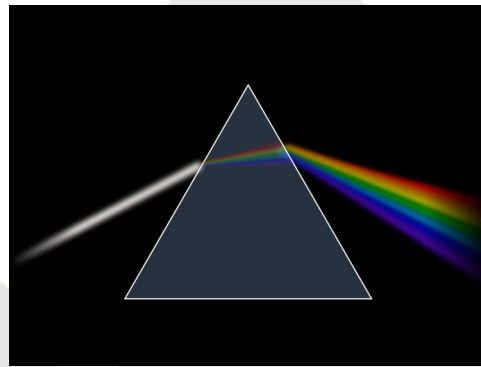
Infrared Radiation (IR)

The skin and eyes absorb infrared radiation (IR) as heat. Workers normally notice excessive exposure through heat sensation and pain. Sources of IR radiation include furnaces, heat lamps, and IR lasers.



Visible Light Radiation

The different visible frequencies of the electromagnetic (EM) spectrum are "seen" by our eyes as different colors. Good lighting is conducive to increased production, and may help prevent incidents related to poor lighting conditions. Excessive visible radiation can damage the eyes and skin.



Ultraviolet Radiation (UV)

Ultraviolet radiation (UV) has a high photon energy range and is particularly hazardous because there are usually no immediate symptoms of excessive exposure. Sources of UV radiation include the sun, black lights, welding arcs, and UV lasers.



Laser Hazards

Lasers typically emit optical (UV, visible light, IR) radiations and are primarily an eye and skin hazard. Common lasers include CO₂ IR laser; helium - neon, neodymium YAG, and



“Lasers typically emit optical (UV, visible light, IR) radiations ...”

Be Aware of Slips, Trips, and Falls

Be aware of...

Slips 

Trips 

Falls 

To avoid slips, trips, and falls:

- Walk carefully on wet and waxed floors.
- Clean up or report all spills.
- Wipe your feet when coming in from the rain or snow.
- Pick up ANYTHING you see on the floor.
- Don't carry a stack of objects too tall to see over.
- Use a safe stepladder to reach tall objects, not a box, chair, or countertop.
- Keep cords away from pathways.
- As you walk, check your path for anything sticking out—drawers, supplies, trash cans, brooms, and mops.
- Watch out for uneven floors and changes in floor level.
- Keep your hands at your sides, not in your pockets.

Stairway Safety

DO:

- Use handrails.
- Watch out for loose or worn flooring.
- Watch out for loose, torn, or worn carpet.
- Report burned-out bulbs or poor lighting.
- Pick up any foreign objects.
- Pay attention to where you're going.
- WALK!

DON'T:

- Store or throw anything on steps or stairways.
- RUN!

Note:

Call Customer Service at 216.368.2580 to report any maintenance problems.

*“Keep
cords
away
from
path-
ways.”*

Job Hazard Analysis

A job hazard analysis (JHA) is a way of breaking down a job or task into its basic steps to find the potential hazards. Hazards can result in injuries and illnesses. JHA focuses on the relationship between you, the worker; the task or job; the tools; and the environment. There are six basic parts to understanding JHA.

Part 1: Analyzing jobs or tasks. Not every single job or task will be the subject of a JHA. Generally, the most hazardous jobs or the jobs that have caused injuries in the past are scrutinized the most. Managers are in charge of this, but if you think a job or task that hasn't been selected for a JHA needs one, suggest it to your supervisor or manager.

Part 2: Observing the job or task. Once a job has been selected for JHA, all the steps it involves will be considered carefully and listed in the JHA form. The manager will pay attention not only to the obvious steps of the job but also to start-up, shutdown, and any necessary maintenance steps.

Part 3: Describing the hazards in each step. For each step listed in the JHA form, hazards associated with it will be considered, and the hazards that correspond to each step in the JHA form will be recorded. The following are some of the common types of hazards:

- Heavy lifting, repetitive motion, or awkward postures or movements
- Chemical exposure
- Hot or cold conditions
- Electrical hazards
- Burn hazards
- Fire or explosion hazards
- Dangerous machinery or equipment
- Slips, trips, and falls
- Workplace conditions like lighting, noise, and ventilation
- Human-related hazards like vulnerability to crime or violence

Part 4: Developing corrective measures. For each hazard identified, the manager will think about what could be done to reduce the risk. Should machine guarding be installed? Would changing the setup of a work area or modifying the process make the job safer? Is personal protective equipment (PPE) needed? Suggested corrective measures for each step will be recorded in the JHA form.

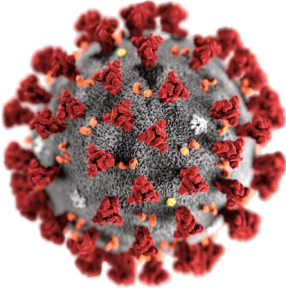
Part 5: Writing safe job procedures. A safe job procedure that takes hazards and corrective measures into account will then be written for the task. These safe job procedures are an important resource. They should be clear and easy to understand. These procedures should be written in a step-by-step format, implement simple language, and include any necessary special equipment or PPE.

Part 6: Keeping records. Records of all the JHAs performed at the facility will be kept and maintained so that they can be updated and revised as needed.



*"Sug-
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JHA
form."*

2019 Novel Coronavirus



*“Corona-
viruses
are a
large
family of
viruses
that are
common
in many
different
species
of ani-
mals...”*

2019 Novel Coronavirus (2019-nCoV) is a virus (more specifically, a coronavirus) identified as the cause of an outbreak of respiratory illness first detected in Wuhan, China. Early on, many of the patients in the outbreak in Wuhan, China reportedly had some link to a large seafood and animal market, suggesting animal-to-person spread. However, a growing number of patients reportedly have not had exposure to animal markets, indicating person-to-person spread is occurring. At this time, it’s unclear how easily or sustainably this virus is spreading between people.

How 2019-nCoV Spreads

Much is unknown about how 2019-nCoV, a new coronavirus, spreads. Current knowledge is largely based on what is known about similar coronaviruses. Coronaviruses are a large family of viruses that are common in many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with MERS, SARS, and now with 2019-nCoV.

Most often, spread from person-to-person happens among close contacts (about 6 feet). Person-to-person spread is thought to occur mainly via respiratory droplets produced when an infected person coughs or sneezes, similar to how influenza and other respiratory pathogens spread. These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs. It’s currently unclear if a person can get 2019-nCoV by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes.

Typically, with most respiratory viruses, people are thought to be most contagious when they are most symptomatic (the sickest). With 2019-nCoV, however, there have been reports of spread from an infected patient with no symptoms to a close contact.

It’s important to note that how easily a virus spreads person-to-person can vary. Some viruses are highly contagious (like measles), while other viruses are less so. There is much more to learn about the transmissibility, severity, and other features associated with 2019-nCoV and investigations are ongoing.

Symptoms

For confirmed 2019-nCoV infections, reported illnesses have ranged from people with little to no symptoms to people being severely ill and dying. Symptoms can include:

- Fever
- Cough
- Shortness of breath

CDC believes at this time that symptoms of 2019-nCoV may appear in as few as 2 days or as long as 14 after exposure. This is based on what has been seen previously as the incubation period of MERS viruses.

Prevention

There is currently no vaccine to prevent 2019-nCoV infection. The best way to prevent infection is to avoid being exposed to this virus. However, as a reminder, CDC always recommends everyday preventive actions to help prevent the spread of respiratory viruses, including:

- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing.
- If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol. Always wash hands with soap and water if hands are visibly dirty.
- Avoid touching your eyes, nose, and mouth with unwashed hands.

2019 Novel Coronavirus , Cont.

(Continued from page 6)

- Avoid close contact with people who are sick.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.

Treatment

There is no specific antiviral treatment recommended for 2019-nCoV infection. People infected with 2019-nCoV should receive supportive care to help relieve symptoms. For severe cases, treatment should include care to support vital organ functions.

People who think they may have been exposed to 2019-nCoV should contact your healthcare provider immediately.

2019-nCoV: What the Public Should Do

The current outbreak of 2019 novel coronavirus (2019-nCoV) originated in China but has now spread internationally, impacting an increasing number of countries. Sustained community spread is occurring in China. Limited person-to-person spread, most associated with close contact with a patient with confirmed 2019-nCoV has been seen outside of China. No community spread of 2019-nCoV has been identified in the United States at this time. In the coming days and weeks, we expect more confirmed cases in the United States, including some person-to-person spread. The goal of CDC's aggressive ongoing public health response is to prevent spread of 2019-nCoV in the United States.

What You Should Do

- Stay informed – CDC is updating its website daily with the latest information and advice for the public. (www.cdc.gov/ncov)
- Remember to take everyday preventive actions that are always recommended to prevent the spread of respiratory viruses.
 1. Avoid close contact with sick people.
 2. While sick, limit contact with others as much as possible.
 3. Stay home if you are sick.
 4. Cover your nose and mouth when you cough or sneeze. Avoid touching your eyes, nose and mouth. Germs spread this way.
 5. Clean and disinfect surfaces and objects that may be contaminated with germs.
 6. Wash your hands often with soap and water for at least 20 seconds. If soap and water are not available, use an alcohol-based hand rub with at least 60% alcohol.
- If you feel sick with fever, cough, or difficulty breathing, and have traveled to China or were in close contact with someone with 2019-nCoV in the 14 days before you began to feel sick, seek medical care. Before you go to a doctor's office or emergency room, call ahead and tell them about your recent travel and your symptoms.

What You Should Not Do

- Do not travel to China.
- Do not use facemasks. CDC does not recommend the use of facemasks for the **general public** to prevent the spread of 2019-nCoV.
- Do not show prejudice to people of Asian descent, because of fear of this new virus. Do not assume that someone of Asian descent is more likely to have 2019-nCoV.

“(As of this publication date), there is no specific antiviral treatment recommended for 2019-nCoV infection.”



Caught-in Hazards



“If a trench cave-in occurs, workers can be trapped, buried, or crushed by the soil.”

Don't get caught: Protect yourself from caught-in hazards

The construction industry's "Fatal Four" (falls, struck-by object, electrocutions, and caught-in) account for most worker deaths in the industry. If you are exposed to these hazards at work, you should know how to recognize them and what safe work practices can keep you injury-free.

Let's take a closer look at common situations where there are caught-in hazards, which is when a worker is caught inside or between different objects or is caught inside the parts of an object or equipment.

Heavy equipment. Never enter the area between a large piece of equipment, such as a backhoe, bulldozer, or excavator, and an immovable object, like a wall. For rotating equipment, like a crane, never enter the area that the load carried by the equipment may swing into (i.e., the swing radius). In both of these situations, you may become pinned between the equipment and the wall or other immovable objects. Before beginning the job, you should define zones that workers should not enter using barricades. Additionally, when approaching heavy equipment, be sure that the operator can see you and that the equipment is turned off completely.

Tools. Many tools have guards, and larger equipment may have machine guards installed that protect the operator from getting caught in moving parts or being pulled into the machinery. These guards should never be removed. You should also never use equipment that has missing or damaged guards. When working with tools, work at a safe distance from moving parts, being careful that your fingers, gloves, jewelry, clothing, and long hair do not get too close to the moving parts. If a tool or equipment must be serviced, you should follow the proper lockout/tagout procedures.

Material handling. When manually moving materials, you can potentially pinch or crush your toes or fingers when unloading the object to the ground, a shelf, or another location. Before you unload, make sure your fingers and toes are not underneath the object. When stacking large pieces of material, you might become trapped between the material; or, if you stack objects in an unstable manner, you can be caught under a fallen load.

Trenches and excavation. If a trench cave-in occurs, workers can be trapped, buried, or crushed by the soil. Protective systems should be put in place. These systems may include trench shoring to prevent the movement of soil and trench shielding to prevent the worker from being crushed if there is a cave-in. There can also be other caught-in hazards, depending on the work being done in the trench, such as laying pipe. Always use caution when working in and around trenches or other excavations.

By being aware of the caught-in hazards present at your jobsite and implementing safe work practices, you can prevent yourself from becoming another casualty from one of the "Fatal Four."

Source: Safety BLR

Chemical Spotlight: Methanol

Methanol (also called methyl alcohol) is a colorless, flammable liquid. Methanol is volatile and its odor is similar to ethanol (i.e., drinking alcohol). Methanol is most commonly used to manufacture other chemicals, notably formaldehyde and acetic acid. Methanol is also used in many applications as a solvent, in antifreeze, in windshield washer fluid, and as a fuel in some camping stoves and boats.

Methanol and its vapor are flammable. Keep it away from heat, hot surfaces, flames, and other sources of ignition. Use nonsparking tools and prevent static discharge when working with it.

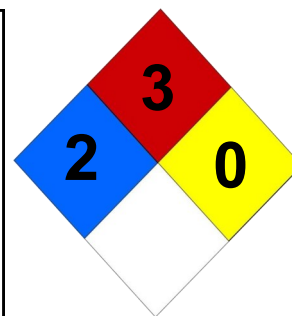
Methanol is very toxic if ingested. Wash your hands immediately after handling and before eating, drinking, or smoking. Also, avoid contact with your skin, clothing, and eyes.

If there is a spill:

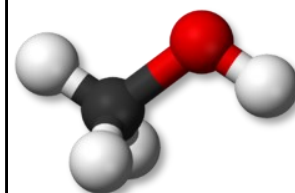
- Be aware that vapors can accumulate low to the ground and can form explosive concentrations.
- Wear respiratory protection to avoid breathing vapors.
- If safe to do so, prevent further leakage or spillage—don't let the chemical enter a drain.

Clean up with an absorbent material (e.g., sand, earth, vermiculite).

It may be required to contain and dispose of methanol as a hazardous waste. Contact your state environmental department or U.S. Environmental Protection Agency (EPA) regional office to inquire about proper disposal.



“...vapors can accumulate low to the ground and can form explosive concentrations.”



Fun Page

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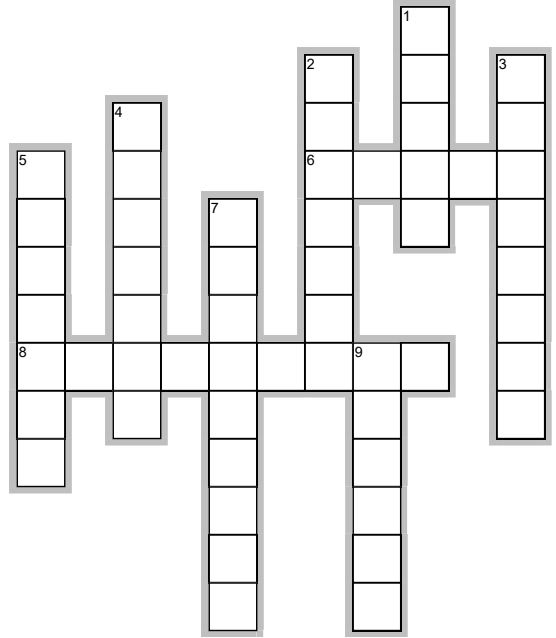
P
A
G
E

Across

6. The current outbreak of 2019 novel coronavirus (2019-nCoV) originated in _____.
8. _____ Low Frequency radiation at 60 HZ is produced by power lines.

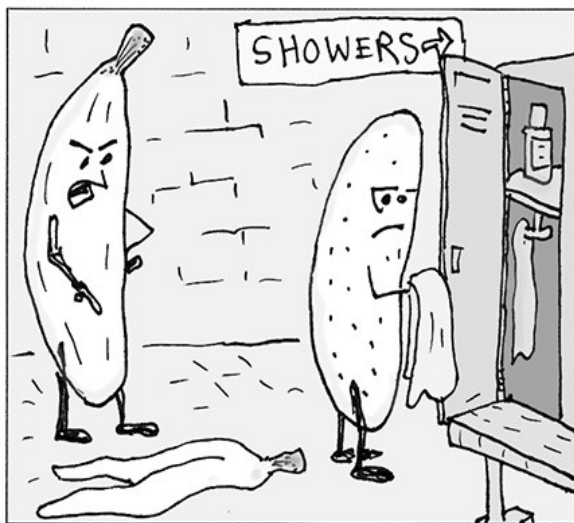
Down

1. Unlike ethanol, which is flammable, methanol is both flammable and very _____.
2. At the time of this article, there is currently no _____ to prevent 2019-nCoV infection
3. A job hazard _____ is a way of breaking down a job or task into its basic steps to find the potential hazards.
4. The majority of impact injuries to the eye are caused by flying or falling _____.
5. (When walking), keep your hands at your sides, not in your _____.
7. Protective systems in trenching include shoring and _____.
9. _____ typically emit optical (UV, visible light, IR) radiations.



EclipseCrossword.com

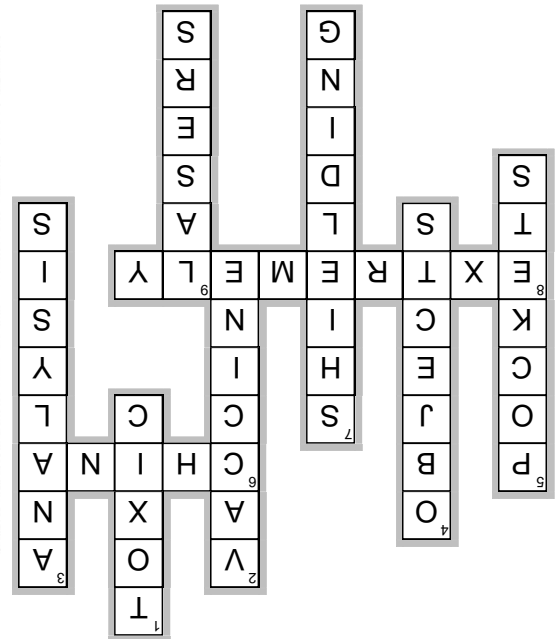
Funny Corner



“Hey, man, you can’t just leave it there!”

Puzzle Answers

EclipseCrossword.com



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Safety Quotes

*Out of
this
nettle,
danger,
we pluck
this
flower,
safety.*

*~William
Shakespeare*

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