



"Safety Comes First"

Case Western Reserve University Environmental Health and Safety

June-July
2017

2220 Circle Drive, Service Building, 1st Floor

Phone: (216) 368-2906/2907

FAX: (216) 368-2236

Website: case.edu/ehs

In this issue:

National Safety Month

<i>National Safety Month</i>	1
<i>Ultraviolet Radiation: Part V</i>	2
<i>Respiratory Infection Control: Respirators Versus Surgical Masks</i>	3
<i>New Hepatitis C Infections</i>	4
<i>Chemical Spotlight: Iodine</i>	7
<i>Fun Page</i>	8
<i>Staff</i>	9
2017-3	

June is National Safety month! Mark your calendars. The National Safety Month weeks are broken out into awareness topics:

- Week 1: Stand Up to Falls
- Week 2: Recharge to Be in Charge (Focusing on Fatigue)
- Week 3: Prepare for Active Shooters
- Week 4: Don't Just Sit There (Focusing on Ergonomics)

According to OSHA, falls account for nearly 25% of all seriously disabling work injuries. Put up some posters around work to promote being conscious of proper fall protection.

Risking less sleep means risking more injury. A NIOSH study notes that night shift workers reported having less sleep more frequently compared to daytime workers. Are you catching enough Z's? Set a goal to hit the sheets a little earlier every night this month and going forward.

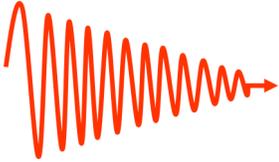
Learn your office evacuation plan this month. Are you prepared in the event of workplace violence?

Ergonomics isn't just about the right chair. It's about the science of fitting a job to you. Health problems associated with ergonomics compose the most prevalent lost-time injuries and illnesses in almost every industry. Talk to your management this month if you're at risk.

Get involved! Strike up a conversation with coworkers about these topics and others during National Safety Month. Or, send out a tweet or post your safety awareness tips on Facebook or social media.

Source: Safety.BLR

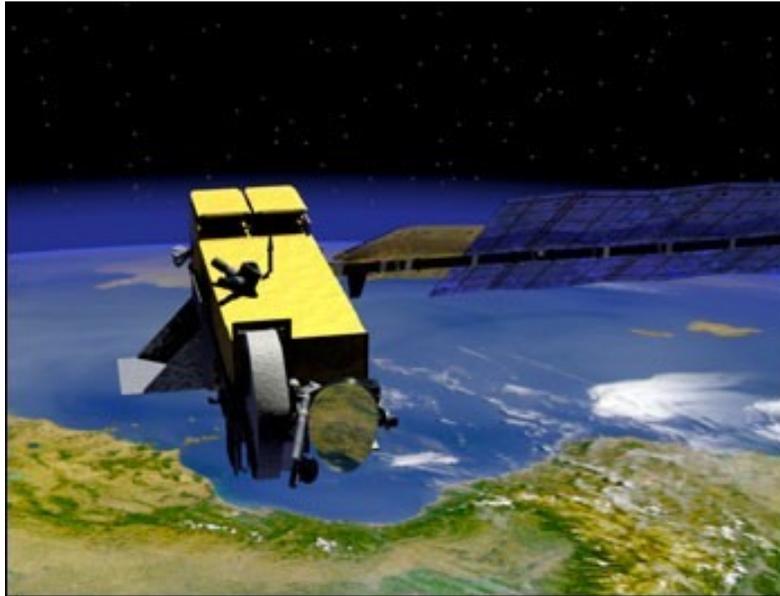
Ultraviolet Radiation: (Part V)



“Ozone levels in the stratosphere are predicted to recover in around 50 years at the earliest.”

Predictions and Monitoring

Our best predictions of the amounts of UV-B we should experience in the near future are based on our predictions of the extent of ozone recovery, as well as on cloud cover. Ozone levels in the stratosphere are predicted to recover in around 50 years at the earliest. This expected recovery depends on full compliance by all national signatories to the international agreement known as "The Montreal Protocol" and subsequent amendments, which limit the production of chemicals that deplete stratospheric ozone. Greenhouse gas emissions may delay the recovery of ozone by 15 to 20 years beyond 2050. Although greenhouse gases warm the lower atmosphere, they cool the stratosphere. Cooling increases cloud formation in the stratosphere, and ozone-depleting chemical reactions take place on ice crystal surfaces in those clouds.



Instruments aboard NASA's EOS-Aura satellite will measure the amount of UV radiation that reaches the Earth's surface. They will also help to determine whether the stratospheric ozone layer is now recovering, as predicted by scientific models. (Image courtesy Jesse Allen, NASA)

Data from NASA's satellites, coupled with observations on the ground, are essential to resolve critical questions about the impacts of increased ultraviolet radiation due to ozone depletion. The suite of TOMS (Total Ozone Mapping Spectrometer) missions will provide us with ozone and UV-B surface exposure data. NASA's Aura mission, to be launched in 2003, will monitor the status of stratospheric ozone and will enable the scientific community to determine whether or not the ozone layer is recovering as scientific models predict. Until the ozone layer recovers, Aura will help us to better predict how much UV-B exposure we can expect to receive at the surface.

Source: NASA

Respiratory Infection Control: Respirators Versus Surgical Masks

It is important that employers and workers understand the significant differences between these two types of personal protective equipment. The decision whether or not to require workers to use either surgical masks or respirators must be based upon a hazard analysis of the workers' specific work environments and the different protective properties of each type of personal protective equipment.

The use of surgical masks or respirators is one practice that may reduce the risk of infectious disease transmission between infected and noninfected persons. Since there is limited historical information on the effectiveness of surgical masks and respirators for the control of influenza during any previous pandemics, the effectiveness of surgical masks and respirators has been inferred on the basis of the mode of influenza transmission, particle size and professional judgment.

To offer protection, both surgical mask and respirators need to be worn correctly and consistently. If used properly, surgical masks and respirators both have a role in preventing different types of exposures. During an influenza pandemic, surgical masks and respirators need to be used in conjunction with interventions that are known to prevent the spread of infection, such as engineering and administrative controls (e.g., installing sneeze guards, teleworking) and work practices (e.g., cough etiquette, hand hygiene, and avoiding large gatherings).

Respirators

Respirators are designed to reduce a worker's exposure to airborne contaminants. Respirators come in various sizes and must be individually selected to fit the wearer's face and to provide a tight seal. A proper seal between the user's face and the respirator forces inhaled air to be pulled through the respirator's filter material and not through gaps between the face and respirator.

Respirators offer the best protection for workers who must work closely (either in contact with or within 6 feet) with people who have influenza-like symptoms. These generally include those workers who work in occupations classified as *very high exposure risk* or *high exposure risk* to pandemic influenza. For additional information on very high and high exposure risk occupations, please refer to OSHA Publication No. 3327, entitled *Guidance on Preparing Workplaces for an Influenza Pandemic*, which can be found at <http://www.osha.gov/SLTC/pandemicinfluenza/index.html>.

Where workers are required by employers to wear respirators, they must be NIOSH-certified, selected, and used in the context of a comprehensive respiratory protection program, (see OSHA standard 29 CFR 1910.134, or www.osha.gov/SLTC/respiratoryprotection/index.html). It is important to medically evaluate workers to ensure that they can perform work tasks while wearing a respirator. For many workers, medical evaluation may be accomplished by having a physician or other licensed healthcare provider review a respiratory questionnaire completed by

“Respirators are designed to reduce a worker's exposure to airborne contaminants.”



New Hepatitis C Infections



Over just five years, the number of new hepatitis C virus infections reported to CDC has nearly tripled, reaching a 15-year high, according to new preliminary surveillance data released today by the Centers for Disease Control and Prevention (CDC).

Because hepatitis C has few symptoms, nearly half of people living with the virus don't know they are infected and most new infections go undiagnosed. Further, limited surveillance resources have led to underreporting, meaning the annual number of hepatitis C virus cases reported to CDC (850 cases in 2010 and 2,436 cases in 2015) does not reflect the true scale of the epidemic. CDC estimates about 34,000 new hepatitis C infections actually occurred in the U.S. in 2015.

Hepatitis C kills more Americans than any other infectious disease reported to CDC. The data released today indicate that nearly 20,000 Americans died from hepatitis C-related causes in 2015, and the majority of deaths were people ages 55 and older.

"By testing, curing, and preventing hepatitis C, we can protect generations of Americans from needless suffering and death," said Jonathan Mermin, M.D., director of CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. "We must reach the hardest-hit communities with a range of prevention and treatment services that can diagnose people with hepatitis C and link them to treatment. This wide range of services can also prevent the misuse of prescription drugs and ultimately stop drug use – which can also prevent others from getting hepatitis C in the first place."

Hepatitis C spreading rapidly in new generations, but boomers bear biggest burden

New hepatitis C virus infections are increasing most rapidly among young people, with the highest overall number of new infections among 20- to 29-year-olds. This is primarily a result of increasing injection drug use associated with America's growing opioid epidemic.

However, the majority (three-quarters) of the 3.5 million Americans already living with hepatitis C are baby boomers born from 1945 to 1965. Baby boomers are six times more likely to be infected with hepatitis C than those in other age groups and are at much greater risk of death from the virus. While surveillance data do not accurately capture hepatitis C infection rates among infants, other recent CDC studies indicate that hepatitis C virus infections are growing among women of childbearing age – putting the youngest generation of Americans at risk. Hepatitis C treatment not only cures the vast majority of people living with the virus, but also prevents transmission to their partners and children.

"Hepatitis C kills more Americans than any other infectious disease reported to CDC."

New Hepatitis C Infections, cont

(Continued from page 4)

Urgent need for expanded testing, treatment, and prevention

Comprehensive approaches are needed to combat the dual epidemics of opioid addiction and injection-related infectious diseases. The U.S. Department of Health and Human Services (HHS) has brought five specific strategies to fight against the opioid epidemic that will save lives and reduce the impact of injection-related infectious diseases. These are: improving access to treatment and recovery services, promoting use of overdose-reversing drugs, strengthening our understanding of the opioid epidemic through better public health surveillance, providing support for cutting-edge research on pain and addiction, and advancing better practices for pain management. Comprehensive syringe service programs (SSPs) are one of many tools that communities can use to prevent hepatitis and other injection-related infectious diseases. These programs also help link people to treatments to stop drug use, testing for infectious diseases that can be spread to others, and medical care.

Two recent CDC analyses provide data to support communities in expanding access to SSPs, should they decide to implement this tool, where it is consistent with local laws. One study indicates that 80 percent of young people with hepatitis C live more than 10 miles from an SSP. Another study published in today's issue of CDC's Morbidity and Mortality Weekly Report (MMWR), examines the range of state laws that can influence access to both SSPs and curative treatment for hepatitis C. The study finds that only three states have laws that support full access to both comprehensive SSPs and hepatitis C-related treatment and preventive services for people who inject drugs.

While new medicines can now cure hepatitis C virus infections in as little as two to three months, many people in need of treatment are still not able to get it. HHS recently released the National Viral Hepatitis Action Plan, 2017-2020 that sets goals for improving prevention, care, and treatment of viral hepatitis and puts the nation on a course toward eliminating new hepatitis infections. The importance of this effort was underscored by the National Academies of Sciences, Engineering and Medicine, which in a recent report concluded that eliminating hepatitis C as a public health threat in the United States is feasible if the right steps are taken.

"Stopping hepatitis C will eliminate an enormous disease and economic burden for all Americans," said John Ward, M.D., director of CDC's Division of Viral Hepatitis. "We have a cure for this disease and the tools to prevent new infections. Now we need a substantial, focused, and concerted national effort to implement the National Viral Hepatitis Action Plan and make effective prevention tools and curative treatment available to Americans in need."

"...eliminating hepatitis C as a public health threat in the United States is feasible if the right steps are taken."



Respiratory Infection Control, cont.



“Surgical masks are not designed or certified to prevent the inhalation of small airborne contaminants.”

the worker (found in Appendix C of OSHA's Respiratory Protection standard, 29 CFR 1910.134) to determine if the worker can be medically cleared to use a respirator. Employers who have never before needed to consider a respiratory protection plan should note that it can take time to choose an appropriate respirator to provide to workers; arrange for a qualified trainer; and provide training, fit testing and medical evaluation for their workers. If employers wait until an influenza pandemic occurs, they may be unable to implement an adequate respiratory protection program in a timely manner.

Surgical Masks

Surgical masks are used as a physical barrier to protect the user from hazards, such as splashes of large droplets of blood or body fluids.

Surgical masks also protect other people against infection from the person wearing the surgical mask. Such masks trap large particles of body fluids that may contain bacteria or viruses expelled by the wearer.

Surgical masks are used for several different purposes, including the following:

- Placed on sick people to limit the spread of infectious respiratory secretions to others.
- Worn by healthcare providers to prevent accidental contamination of patients' wounds by the organisms normally present in mucus and saliva.
- Worn by workers to protect themselves from splashes or sprays of blood or bodily fluids; they may also keep contaminated fingers/hands away from the mouth and nose.

Surgical masks are not designed or certified to prevent the inhalation of small airborne contaminants. These particles are not visible to the naked eye but may still be capable of causing infection. Surgical masks are not designed to seal tightly against the user's face. During inhalation, much of the potentially contaminated air can pass through gaps between the face and the surgical mask and not be pulled through the filter material of the mask. Their ability to filter small particles varies significantly based upon the type of material used to make the surgical mask, so they cannot be relied upon to protect workers against airborne infectious agents. Only surgical masks that are cleared by the U.S. Food and Drug Administration to be legally marketed in the United States have been tested for their ability to resist blood and body fluids.

Source: CDC

Chemical Spotlight: Iodine

Iodine is a purple to black crystalline solid with a sharp, strong odor.

Iodine is a natural element found in seawater and certain rocks or sediments. This chemical can be both nonradioactive and radioactive.

Iodine can be used as a disinfectant. For the most part, radioactive iodine is man-made and can be used to treat certain diseases. Iodine can be both helpful and harmful to your health.

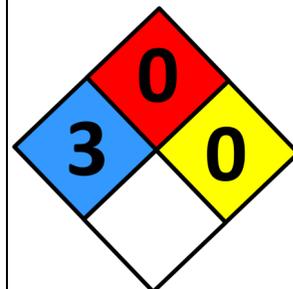
Nonradioactive iodine comes mainly from the ocean. When nonradioactive iodine is released into the air from sea spray or as a gas, it can combine with water or particles in the air and can enter soil or surface water. Iodine can remain in soil for a long time.

Radioactive iodine is typically released from nuclear power plant operations in small amounts. Rarely, large amounts can be released in a power plant accident. Atomic bomb explosions also release iodine into the environment.

If iodine is spilled:

- Evacuate the area and control the entrances.
- Eliminate all ignition sources.
- Moisten the spilled iodine before sweeping the chemical into sealed containers for disposal.
- Do not use a sawdust or other combustible material to absorb the spill.
- Do not wash the spill down the sewer.
- Contact your state environmental department or EPA regional office to find out if iodine should be disposed of as a hazardous waste.

Source: Safety.BLR



*“Iodine
can remain
in soil for
a long.”*



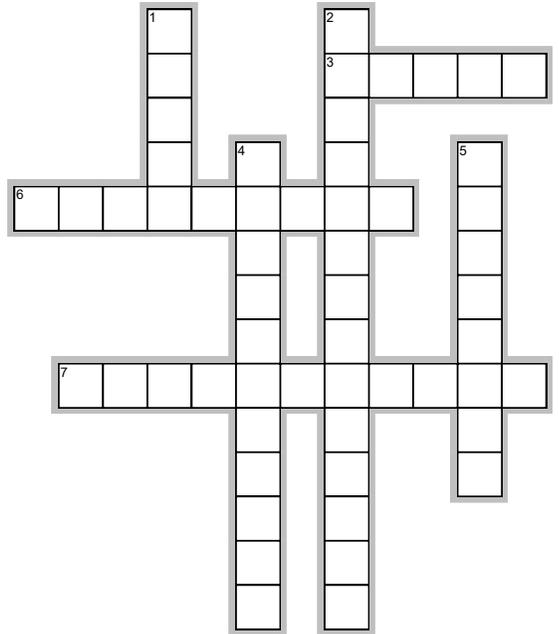
Fun Page

F
U
N

P
A
G
E

Across

- _____ levels in the stratosphere are predicted to recover in around 50 years at the earliest.
- EHS Safety Associate featured in this newsletter.
- _____ are designed to reduce a worker's exposure to airborne contaminants.



Down

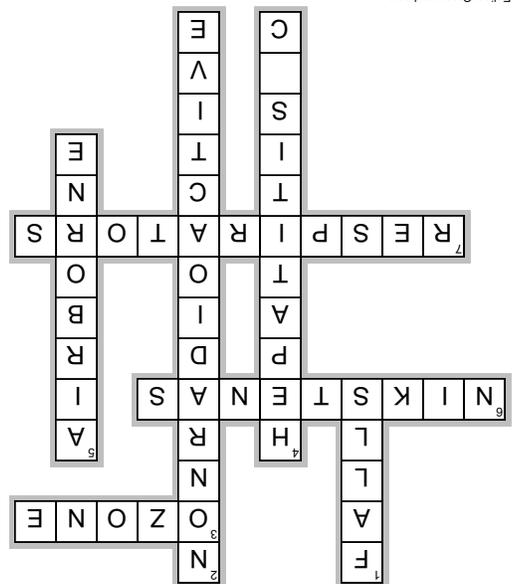
- According to OSHA, _____ account for 25% of all seriously disabling work injuries. EclipseCrossword.com
- _____ iodine comes mainly from the ocean.
- _____ kills more Americans than any other infectious disease reported to CDC.
- Surgical masks are not designed or certified to prevent the inhalation of small _____ contaminants.

Funny Corner



"Respirator? Oh, *this* respirator... I didn't even realize I was wearing one."

Puzzle Answers



Environmental Health and Safety Staff

Victoria COOK (vmr6), Health Physics Specialist II
Gwendolyn COX-JOHNSON (gxc13), Department Assistant II
Anna DUBNISHEVA (agd), Safety Services Specialist II
Brad FYE (jxf308), Asbestos and Lead Specialist I
Charles GREATHOUSE (cxg118), Business Analyst II
Tyler JENKINS (tsj5), Student Safety Specialist
Brandon KIRK (bxk230), Manager of Plant and Construction Safety
Kumudu KULASEKERE (kck40), Health Physics Specialist II
Robert LATSCH (rnl2), Safety Services Specialist II
Tom L. MERK (tln8), Assistant Director of Safety Services, CSO
Yelena NEYMAN (yxt13), Health Physics Specialist II
Joe NIKSTENAS (jen), Safety Specialist II and LSO, Interim Fire and Life Safety Specialist
Heidi PAGE (hep14), Assistant Director of Biosafety, BSO
Marc RUBIN (mdr6), Director of Safety Services
Dr. Mary Ellen SCOTT (mas35), Safety Services Specialist II
Dr. W. David SEDWICK (wds), Director of Radiation Safety, RSO
Felice THORNTON-PORTER (fst2), Assistant Director of Radiation Safety, ARSO
Kelci WILLIAMS (klw84), Department Assistant II



*Meet
Joe Nikstenas*

*Safety Specialist II,
LSO,
Interim Fire and
Life Safety
Specialist
368-8591
(jen)*

*Contact Joe
with your
questions
regarding laser
safety and fire
safety.*

All back issues of the EHS Newsletter can be found online at case.edu/ehs. Click on the "Newsletter" link at the bottom of each page.

Environmental Health and Safety
Case Western Reserve University
(216) 368-2906/2907 FAX: (216) 368-2236
(email) cwruehs@gmail.com (www) case.edu/ehs