



AMERICAN SOCIETY OF SAFETY ENGINEERS NORTH FLORIDA CHAPTER

APRIL 2017 NEWSLETTER

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How Light Affects You The Basics of High-Energy Visible Light

The American Optometric Association (AOA) encourages everyone to be aware of the hazards of light. But before we go any further, you should know that we're not talking about the intense ultraviolet light that causes welder's flash; nor are we talking about the concentrated beam of a laser. What we're talking about is much more ordinary

light. We're speaking of the blue light that is part of the visible spectrum of natural and artificial light.

Natural sunlight, or *white light*, includes the full spectrum of visible wavelengths from the low-energy reds, oranges, yellows, and greens to the higher-energy blues, violets, and turquoises. The visible blues, which make up about one-third of the visible spectrum of light, are sometimes called *high energy visible* (HEV) light, and can be further subdivided into the blue-violet and blue-turquoise wavelengths. These are the wavelengths of visible light that make the sky so very blue on a pretty day. And just beyond the visible spectrum at the blue end is the *ultraviolet light* that we've heard so much about, the type of light that can cause skin cancer and cataracts.

So why, you may ask, is it essential to understand the various colors and wavelengths of light? It is important because blue light reaches the back of the eye, the retina, very easily.

Whereas, the cornea and lens of the eye block almost all ultraviolet light; approximately 1% of it reaches the retina.

However, it is important to be aware that ultraviolet light can cause problems with the eyes near their surface. These problems include cataracts, snow blindness, and thickening or discoloration of the cornea.

The fact that blue light easily reaches the retina does have some benefits. For example, blue-violet light exposure regulates the pupillary reflex. This action opens or closes the pupil to regulate the amount of light entering the eye. Blue-violet light also helps to regulate the body's hormonal



circadian rhythm. And exposure to blue light in the range of 470 nanometers is an effective treatment for seasonal affective disorder (SAD). All good things, right?

But the same light that orders our sleep-wake patterns can also *disorder* them. When this happens, it is more difficult to fall asleep and you will likely get less-restful sleep when you do go into a slumber. And when the highest-energy wavelengths of visible light, the blue-turquoise part of the spectrum, reach the back of the eye, harm can occur in the form of damaged or destroyed retinal cells.

Humans are adapted to natural patterns of sunlight; mild, short-term exposures to natural light are not generally harmful. But ever since Thomas Edison developed the first incandescent light bulb, our exposure to light has become increasingly unnatural and more skewed toward the blue end of the spectrum. Incandescent

bulbs produce the warmest light of any bulb, and halogen bulbs come the closest to natural daylight. However, bulbs that are more energy-efficient, including fluorescent bulbs and LEDs, produce higher levels of blue light. And adding insult to injury, our digital device screens give off more blue than natural light.

Any light exposure, even to the warm light of an incandescent bulb, has the potential to throw off our circadian rhythm. And nighttime exposure to light has reportedly been linked to cancer and other health effects, especially in shift workers. Blue light exposure, in particular, is reportedly linked to both acute and chronic health effects. So, while light is necessary in everyday life, being needed by all of us for various reasons, we must have a good understanding of exactly what kind of light we are being exposed to.

Next month, we'll take a closer look at the potential health effects of blue light

and how to reduce exposure.

Adapted from an article written by Jennifer Busick.

EHS Daily Advisor

Online Edition

March 23, 2017

[EHS Daily Advisor](#)

Research Shows that Delayed Dispensing of Vending Machine Food Could Prompt Healthier Choices Shock

It's mid-afternoon and you could go for a snack, so you visit the office vending machine. Will you choose a healthy option – perhaps a cheese stick or a fruit cup? Or will you select a candy bar, a bag of potato chips or something similar?

A time delay might help you make a smarter choice, according to a study from researchers at Rush University Medical Center.

The researchers examined purchases from six vending machines in



three locations. Certain vending machines featured a system, developed by the researchers, that separated healthy snacks from less healthy options and alerted customers that the machines would dispense the less healthy selections after a 25-second delay. Those machines featured an LED countdown clock that gave customers the opportunity to change their selection to a healthier option. The other machines offered users discounts on healthy selections but no delay.

To qualify as “healthy,” snacks needed to meet five of seven criteria: less than 250 calories per serving, 35 percent or fewer calories from fat, less than 350 milligrams of sodium per serving, no trans fats, less than 5 percent of daily value of saturated fat per serving, more than 1 gram of dietary fiber per serving, and less than 10 grams of added sugar per serving.

Results showed that customers were not as likely to select less nutritious

options if the vending machine indicated the items would arrive after a 25-second delay. The same vending machine let consumers know that healthier options would be delivered immediately.

Healthy snack purchases improved between 2 percent and 5 percent in machines with the delay, researchers said.

“Vending machines are conveniently located, have a broad reach and are the most prevalent source of high-calorie, nutrient-poor foods in the U.S.,” lead researcher Brad Appelhans said in a press release. “They are not going anywhere anytime soon, so this new vending machine system could be an effective and financially viable strategy that can shift individuals’ choices toward healthier options.”

Safety+Health Magazine
Online Edition
April 4, 2017
[Safety and Health Magazine](#)

OSHA NEWS

OSHA Delays Enforcement of the Silica Standard for Construction

Washington, D. C. – OSHA is delaying enforcement of its updated [standard on worker exposure to crystalline silica](#) in the construction industry.

Enforcement had been set to begin June 23 but has been delayed to Sept. 23. OSHA commented in an April 6 press release that the delay is necessary “to conduct additional outreach and provide educational materials and guidance for employers.”

Despite the delay, OSHA said that it expects employers in the construction industry to take steps toward implementing the [standard’s requirements](#). The rule’s new permissible exposure limit for respirable crystalline silica is 50 micrograms per cubic meter of air averaged during an 8-hour shift; this is the level that NIOSH recommended



more than four decades ago. The updated PEL is 5 times lower than the previous limit for construction.

Crystalline silica is a known carcinogen that is found in commonly used construction materials such as sand, concrete, brick, stone and mortar. Exposure to silica dust can lead to silicosis, a chronic disease that involves scarring of the lungs. OSHA estimates that 2.3 million workers are exposed to the dust, including 2 million construction workers.

The rule has drawn [praise, criticism and legal challenges](#) since OSHA published it on March 25, 2016. At the time of the rule's publication, OSHA estimated it would save more than 600 lives and prevent more than 900 cases of silicosis each year.

In February 2017, former OSHA administrator Dr. David Michaels, members of the American Industrial Hygiene Association, and other experts participated in a [congressional briefing](#) on

the final rule. Dr. Michaels disputed the allegation that the final rule would strain employers and ultimately lead to job losses.

"This will not kill jobs," Dr. Michaels said. "But every time OSHA issues a standard, there's always the [retort], 'This is going to kill jobs, and we're not going to be able to work anymore.' Anyone here go to a dentist recently where they didn't use gloves?"

Safety+Health Magazine
Online Edition
April 6, 2017
[Safety and Health Magazine](#)

Poisonous Air in A Confined Space Claims Three Lives

A situation that began as one unconscious worker in an underground hole turned into three deaths, plus a rescuer in critical condition.

How did this incident in the Florida Keys happen? The local sheriff's department says that a utility worker, who was investigating a section of paved street that was not

settling properly, plus complaints of sewage backup, removed a manhole cover and descended into a 15-foot deep hole.

Moments later, there was no sound from the hole. A second utility worker, believing that his co-worker was in danger, then entered the manhole. When the second worker didn't respond, a third then went into the hole to assist the first two.

Now, all three men, employees of roadwork contractor Douglas N. Higgins, are deceased. The victims were aged 24, 34 and 49 years. Reportedly, none of the men utilized the appropriate PPE.

A Key Largo firefighter also made entry into the manhole without appropriate PPE, a mask and an air pack, because the entry was too narrow for him to go in with it on. He also became unconscious within seconds of entry. When he was pulled out by a rescuer who was able to squeeze into the hole with the proper equipment, the firefighter



wasn't breathing and had to be revived using CPR.

Air quality tests indicated that the manhole was filled with hydrogen sulfide and methane gas that had been created from years of rotting vegetation. Additionally, the percent of oxygen in the manhole was low.

Three sheriff's deputies who were on the scene were also taken to area hospitals for dizziness.

[The Miami Herald](#) reports that in April 2002, OSHA issued citations to Mr. Higgins regarding another project in Florida with a final fine of \$1,875. The violations issued at the time included:

- atmospheric testing wasn't performed
- a confined space entry program wasn't implemented
- confined space entry permits weren't implemented by a qualified person
- a rescue plan wasn't implemented
- rescue services weren't available in a timely manner, and

- rescue equipment wasn't available at the site.

A woman who lives near the manhole told a local news channel that this area had smelled for the past couple of months. "It smells like rotten eggs," Barbara Guerra said. As anyone who has attended or facilitated confined space entry training knows, that aroma typically indicates the presence of hydrogen sulfide.

Safety|NewsAlert

Online edition
January 26, 2017
[Safety|NewsAlert](#)

The Washington Post

Online edition
January 18, 2017
[The Washington Post](#)

Job Market Links

- [ASSE](#)
- [BCSP](#)
- [EHS Careers](#)

ASSE Chapter Links

- Find us on the web at:
[ASSE NFL](#)
- Find us on Facebook at:
[ASSE NFL](#)

Local Chapter Officers and Chairs

- Dan Hemsall – President
- TBA – President Elect
- Anne Rogers – Past President
- Steve Wilson – Secretary
- Yaniv Zagagi – Treasurer
- Paul Thomas – Delegate
- Eric Gray – Membership Chair
- Bob Dooley – Newsletter Chair
- Steve Brown – SPY Chair
- Tom Drygas – Program Chair
- Vernon Adams – Social Media Chair

Local Chapter Meeting Schedule

May 18 from 11:30 a.m. until 1:00 p.m. will be will be the last meeting before summer break. Details for this meeting are forthcoming. After break, we will reconvene in September.

Please RSVP to Steve Wilson for all meetings at steven_wilson1@me.com.
Cost: Members: \$15
Non-Members: \$20