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Happy New Year!

A winter edition of *Working Well* is a little unusual because of holiday time constraints, but ideas and motivation flowed to generate another publication.

Occupational cancer has been a concern in the workplace since Sir Percivall Pott identified cancer in chimney sweeps in 1775. The article on occupational cancer highlights the enormous problem of cancer in the workplace and the relative paucity of knowledge known about workplace agents and potential cancer causation. The “Culture of Safety (Health)” article is an editorial to encourage and prioritize the development of a culture of health in the workplace as has been done with safety. Such a change would improve employee health and job satisfaction and improve business outcomes.

On a legal note, the AARP® challenged the wellness program incentive rules and will no longer be valid as discussed in the “Employer Wellness Program Incentives” article. The final article on “Juuling” explains the hazards of e-cigarettes and re-enforces recent television public service announcements describing the potential for nicotine addiction.

Lexington Medical Center Occupational Health looks forward to this new year of assisting our client companies with their occupational health needs. Please contact us if we may be of service. If you wish to contribute to *Working Well* or have a topic of interest that we can discuss, contact me at darawl@lexhealth.org.

– Dana Rawl, MD, MPH

Occupational Cancer

By Dana Rawl, MD, MPH

From 2012 world estimates, doctors diagnose 12.7 million people with cancer every year with cancer being the leading cause of death in developed countries. Causative factors that can influence cancer development include personal characteristics such as age, ethnicity and gender; family history of cancer; diet; social habits, such as tobacco and alcohol use; certain medical conditions and past treatments; environmental exposures, such as sunlight and radon gas; and workplace exposures to cancer-causing agents or chemicals.

Millions of workers in the United States are exposed to hazardous substances, but less than 2 percent of chemical or physical agents manufactured or processed in the U.S. have been evaluated by the International Agency for Research on Cancer for carcinogenicity. (As of November 9, 2018, IARC has classified a total of 1,013 chemicals, groups of chemicals, occupational exposures, industrial processes, lifestyle factors, biological agents and physical agents of which 513 have been found to be possibly carcinogenic, probably carcinogenic or carcinogenic to humans.)

Based on incidence numbers, researchers estimate there were 45,000 to 91,000 new cancer cases in the U.S. caused by exposure to workplace agents in 2012. This number is probably an underestimate of the true number of new cancer diagnoses caused or implicated from workplace exposure because other agents may be found to be cancer causing from ongoing studies. Establishing causation of cancer by a specific agent is difficult because of the latent time from exposure to the development of cancer. An exposure to a workplace carcinogen may take 20 or more years to develop a cancer. Most cancer-causing carcinogens are also expressed by a dose-response effect, which is difficult to ascertain in hindsight. Furthermore, since cancer is

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a multifactorial process, exposure to a known or potential carcinogen does not consequently predict the development of a cancer.

Occupational cancers are caused by exposure to carcinogens in the workplace. There are three types of carcinogens categorized as: biological carcinogens, like hepatitis C or human papilloma virus; chemical carcinogens, such as vinyl chloride or polycyclic aromatic hydrocarbons; and physical carcinogens, such as ultraviolet radiation and radon. IARC has also identified certain occupations or circumstances that can cause cancer, such as working as a welder, painter or hairdresser, or working with wood dusts or silica.

Globally, the International Labour Office estimates 666,000 deaths occur from occupational cancer every year. Occupational exposures cause 5.3 to 8.4 percent of all cancers, and lung cancer counts for 54 to 75 percent of occupational cancers with asbestos counting for 55 to 85 percent of occupational lung cancer. Types of occupational

cancers and some known and probable causes include the following:

- **Bladder cancer:** arsenic; aromatic amines; coal tars; diesel engine exhaust; work as hairdresser or barber; metalworking fluids and mineral oils; work as a painter; work in rubber industry
- **Bone cancer:** ionizing radiation
- **Brain and other central nervous system cancers:** ionizing radiation
- **Breast cancer:** ionizing radiation; ethylene oxide
- **Colon and rectal cancers:** asbestos; ionizing radiation
- **Esophageal cancer:** tetrachloroethylene; soot exposure
- **Kidney cancer:** arsenic; cadmium; coke production; trichloroethylene
- **Laryngeal cancer:** asbestos; work in rubber industry; strong inorganic acid mists

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Culture of Safety (Health)

By Dana Rawl, MD, MPH

I was checking out safety topics when I saw an article on “Funny Safety Quotes” from SafetyToolboxTopics.com/General/funny-safety-quotes.html. Notably, knowledge and education on proper safety techniques are not the same as practicing safe work habits. Implementing what one learns from safety training is what saves lives in the workplace. I believe the same can be said for good health. Knowing what you should do to improve your health is not the same as consistently performing good health habits.

I thought about how employers have changed their culture to prioritize safety as the number one concern for the workplace. The culture of safety has no doubt decreased workplace accidents, decreased worker morbidity and improved costs related to injuries. Since the culture of safety in the workplace has produced such industry changing results, why shouldn't implementing a culture of health not have the same industry changing outcome?

As with a culture of safety, instituting a culture of health would have to be a priority for the company in order to invest dollars to create change. Over time, however, that change would see great returns in improved employee health, improved job satisfaction, improved productivity, reduced insurance costs, less absenteeism and a greater financial bottom line. Creating a culture of health must start from the top and be a complete paradigm change to permanently affect a culture for good health.

Safety is no joke, and neither is health. Substituting “health” for “safety” in some of the funny safety quotes may be a start in helping transform the workplace into a culture of health.

- Safety (Health)... Did it, done it, doing it tomorrow.
- Those who work the safest (healthiest) way – live to see another day.
- Get in high speed pursuit of safety (health).

- Work safe (healthy) today – heaven can wait.
- Safety (Health) is a mission – not an intermission.
- Safety (Health) doesn't happen by accident.
- Safety (Health) isn't a hobby; it's a living.



- Safety (Health) – a small investment for a rich future.
- Safety (Health) is a cheap and effective insurance policy.
- When you gamble with safety (health), you bet your life.
- Safety (Health) isn't expensive; it's priceless.

Employees should at least be encouraged to have and routinely see a primary care provider. The best medical and preventive medicine evaluations and practices are emphasized in primary care to benefit the overall health of patients. Health coaches also guide patients to good health.

Establishing health care or outcome incentives may improve employee health as well. Creating healthy choices for eating and exercise opportunities can contribute to improving employee health.

Company executives who exemplify good health practices go a long way in helping to change the culture of health in a company. Occupational health, wellness professionals and primary care providers can help suggest programs for individuals or companies to improve their health. 🌱

**SMALL STEPS
CAN MAKE A
BIG
DIFFERENCE**

FOR EXAMPLE:
If each American
cut back just
100
calories a day
for
3 Years
we would prevent over
57 Million
potentially fatal cases of
**Heart Disease, Cancer
and Diabetes.**



HEALTHCARE WORKERS CAN:

-  ▶ Screen for risk factors
-  ▶ Counsel, treat and monitor patients
-  ▶ Encourage them to take their medicines and make healthier choices
- ▶ Connect patients to community resources

 U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

Occupational Cancer

(Continued from page 3.)

- **Leukemia:** benzene; ethylene oxide; formaldehyde; ionizing radiation; non-arsenical pesticides
- **Liver and biliary cancer:** ionizing radiation; trichloroethylene; vinyl chloride
- **Lung cancer:** arsenic; asbestos; beryllium; cadmium; chromium; coal tar; coke production; cobalt; diesel engine exhaust; dioxins; inorganic lead; nickel; mineral oils; iron and steel foundry work; work as a painter; radon; ionizing radiation; rubber production; silica; work as a welder
- **Melanoma of the eye:** welding work
- **Mesothelioma:** asbestos
- **Nasal and sinus cancer:** chromium; formaldehyde; nickel; leather and wood dust; textile work
- **Non-Hodgkin's lymphoma:** work as a painter, hairdresser or barber; non-arsenical pesticides; tetrachloroethylene; trichloroethylene
- **Non-melanoma skin cancer:** solar radiation; coal tar; mineral oils
- **Pharyngeal cancer:** asbestos
- **Stomach cancer:** asbestos

Occupational cancer is a major work-related health risk that can be prevented. Eliminating exposure to occupational carcinogens would be the ultimate goal. A stepwise process to engineer out known or probable carcinogenic agents, substances, processes or jobs through national and international collaboration and education could markedly reduce the morbidity, mortality and financial costs associated with occupational cancers. For an individual company, instilling local engineering processes; instituting best work practices; reducing, substituting or eliminating carcinogens; ensuring proper wear and compliance of personal protective equipment; emphasizing hazard communication education and a culture of health and safety for employees; and providing recommended Occupational Safety and Health Administration evaluations and surveillance can help minimize carcinogenic exposures and help prevent occupational cancers in the future. 🌱

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Employer Wellness Program Incentives

By Dana Rawl, MD, MPH

An article written on December 14, 2018, by attorneys Mathew A. Parker and Melissa Shimizu with Fisher Phillips (“3 Options for Providing Wellness Program Incentives In 2019 ... And Beyond,” *On the Front Lines of Workplace Law, Legal Alert*, www.fisherphillips.com) explains how the federal rules that influenced wellness program incentives will be invalid on January 1, 2019.

The Equal Employment Opportunity Commission’s final rule regarding volunteer wellness programs published in May 2016 allowed an incentive or penalty of up to 30 percent of the cost of self-only coverage to encourage employer-sponsored wellness program participation without making the program “involuntary” in violation of the Americans with Disabilities Act and the Genetic Information Nondiscrimination Act. In effect, this rule allowed employers to lower insurance costs for wellness program participants or raise costs for non-participants as an incentive to participate in the program.

EEOC rules were to take effect January 1, 2017, but they were blocked because of a lawsuit filed by AARP®. With this suit, a federal court agreed with AARP that such an incentive or penalty was great enough to force employees to participate, making it an involuntary program. The current EEOC rules became invalid as of January 1, 2019.

Employers will be faced with a nebulous decision based on risk of being considered an involuntary program by the ADA or GINA. A high-risk option would be to continue using the 30 percent incentive/penalty that has already been ruled

an involuntary program and violates the ADA and GINA. A moderate-risk approach would be to decrease the incentive/penalty to a level that employees’ participation would be considered voluntary and predictably fall within the EEOC future rules on wellness program incentives and, hopefully,

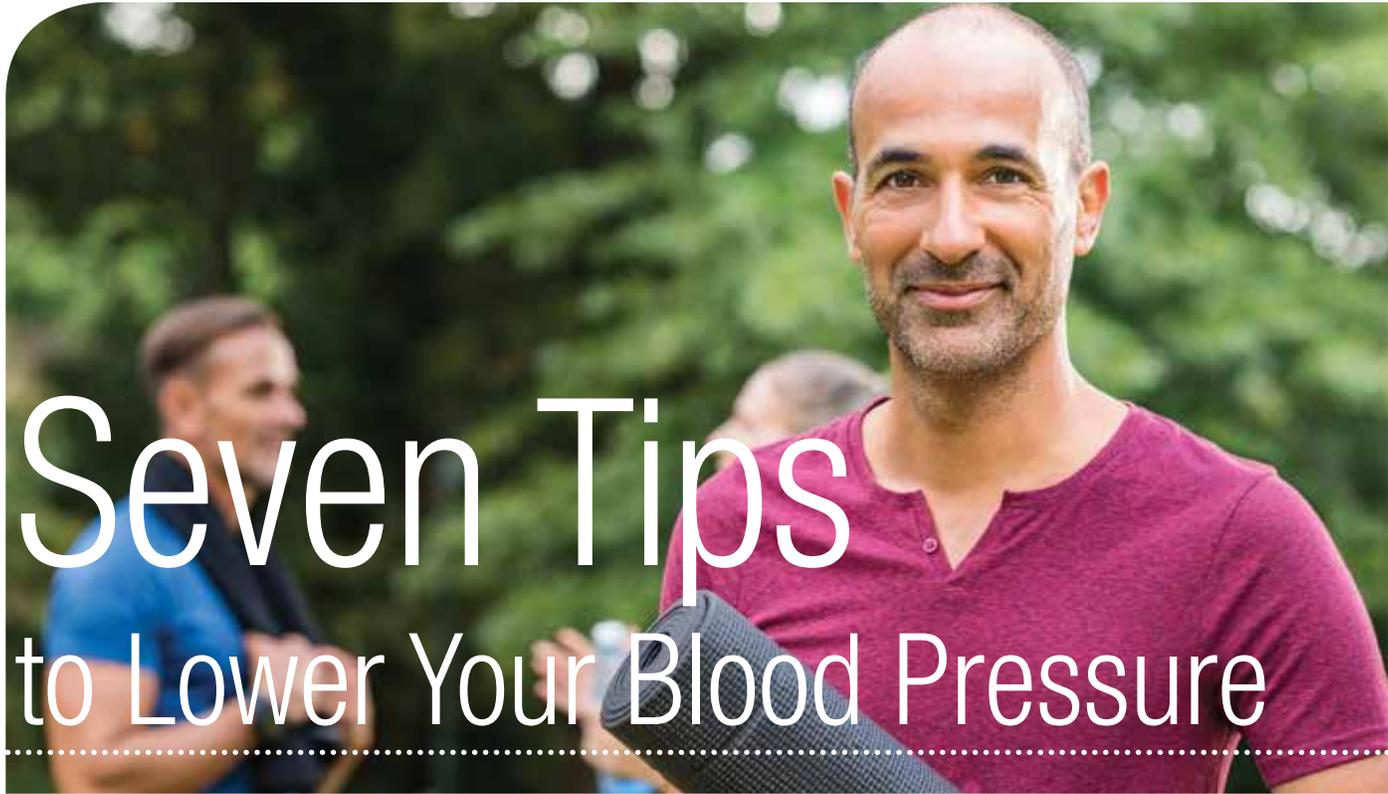
not in violation of the ADA and GINA. A low- to no-risk option would be to eliminate any wellness incentive/penalty and wait for rulemaking from the EEOC.

The AARP v. EEOC ruling only affects those wellness components subject to ADA and GINA, such as programs that request health information to develop a health risk assessment or biometric screening. Programs can still provide incentives or penalties for promoting healthier habits that are not subject to ADA or GINA, such as gym memberships and lunch-and-learns; however, these could be subject to Health Insurance Portability and

Accountability Act and Affordable Care Act laws and/or be considered taxable fringe benefits.

The best advice is to discuss options and consult with your labor attorney. 🌱





Seven Tips to Lower Your Blood Pressure

High blood pressure affects more than one in three people in South Carolina. Thousands more have high blood pressure and don't even know it. Because there are usually no symptoms of high blood pressure, it's called the silent killer. Consequently, most people don't consider it a serious health issue—but it can be deadly.

Left untreated and unchecked, high blood pressure can lead to heart attack, stroke, heart failure, vision problems, kidney disease and sexual dysfunction. In fact, people with uncontrolled blood pressure are four times more likely to die of a stroke and three times more likely to die of heart disease.

Follow these tips to lower your blood pressure and live a healthier life.

- 1. Lose some weight if you're overweight.** Just losing 5 or 10 pounds can reduce your blood pressure.
- 2. Eat right.** Eat a balanced diet low in saturated and trans fat, added sugar and processed meats (such as bacon, sausage and hot dogs). Choose more vegetables, fruits, beans and nuts.
- 3. Get some exercise.** Moderate- to vigorous-intensity exercise can reduce your blood pressure. Regular walking, gardening or even using the stairs can help. Aim for 150 minutes of exercise per week.
- 4. Stop smoking, vaping (e-cigarettes) or using tobacco.** Smoking, vaping and tobacco use cause your blood pressure to rise and make your heart work harder than it should.
- 5. Learn relaxation techniques.** High levels of stress can increase your blood pressure. Develop a relaxation strategy such as breathing exercises, guided imagery, gentle yoga, T'ai Chi, listening to relaxing music, prayer or just quiet personal time.
- 6. Limit the amount of alcohol you drink.** Having more than two or three drinks in a sitting can temporarily raise your blood pressure. Eliminate or limit your alcoholic beverage intake to no more than one drink daily for women and two drinks daily for men.
- 7. Decrease the amount of sodium in your diet.** Avoid cured or smoked meats and high-sodium condiments like soy sauce and chili sauce. Limit salty snacks such as chips, cookies and nuts. And limit or avoid canned, packaged or convenience foods.

When it comes to taking care of your heart, knowledge is power. To test how much you know about high blood pressure and learn more about your risks for heart disease, visit [LexMed.com/Know](https://www.lexmed.com/lexmed-know).



Provider Pearls

Juuling

By Dana Rawl, MD, MPH

If you are not a millennial, you have probably never heard of “juuling.” It is a term synonymous with vaping or using e-cigarettes. An e-cigarette is a device with a battery that heats up a liquid that becomes a vapor inhaled by the user.

The “e-liquid” in the vaping cartridge contains nicotine (even if it is “nicotine free”) mixed with a base, colorings, flavorings and other chemicals. Juul is a \$15 billion company that makes e-cigarettes, hence the name “juuling.” Their marketing targets teens and young adults with e-cigarette designs that look like USB devices and can recharge in a USB port.

Early on, manufacturers touted the e-cigarette as a safe way for cigarette smokers to quit their habit, and some people have quit smoking cigarettes. Almost 60 percent of people who use e-cigarettes, however, also smoke. Vaping is not without hazards. Nicotine in the vape liquid is an addictive substance that can negatively affect brain development in adolescents and young adults. Nicotine increases heart rate and blood pressure, and it has been shown to contribute to lung disease, chronic bronchitis and insulin resistance leading to diabetes.

E-cigarettes are not yet regulated by the U.S. Food and Drug Administration. Studies have found toxic chemicals, such as formaldehyde, and an anti-freeze ingredient, as well as heavy metals such as lead, chromium and cadmium in e-cigarettes. All can have adverse human effects including cancer.

The e-cigarette is no longer a trend. It is an attack on our young generation cloaked in a flavorful, sexy, tech-savvy package intended to addict the user into more sales. It is not a benign addiction. There are health consequences. Be proactive and educate your employees and children about the hazards of vaping. 🌱



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