

# Working Well

A HEALTH AND SAFETY INFORMATION PUBLICATION

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PLUS

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## Working Well

Summer is back, and the heat is on. Heat-related illness should not be unfamiliar to anyone. As a reminder, keep hydrated by drinking water and supplement water with an electrolyte-containing drink at about a 3:1 ratio. Avoid caffeinated fluids and alcohol, and monitor your urine for frequency and color. You should also watch your co-workers for symptoms and signs of heat illness, including lightheadedness, confusion, headaches, nausea and muscle cramps with hot, dry skin. Immediate medical evaluation and treatment are essential for recovery. An informative heat illness chart can be found on the following CDC website at [CDC.gov/Disasters/ExtremeHeat/Warning.html](http://CDC.gov/Disasters/ExtremeHeat/Warning.html).

For this edition of *Working Well*, one of our clients requested information about the subject for the article “Common Hazards in the Office Workplace.” We appreciate the request as it gives us ideas on matters of interest to our readers and clients. “Workplace Headaches” features information on the multiple types of headaches occurring in the workforce and which ones need urgent attention. The “Insulin Resistance” article on insulin activity, pre-diabetes and type 2 diabetes provides essential information in understanding the relationship of obesity and a sedentary lifestyle with diabetes. General employee health and well-being is a goal for providers and employers because it contributes to the overall business health of companies as discussed in “Occupational Health – A Healthy Partnership.” Donna Padgett, ACNP, presents a great article on when someone may need an antibiotic to treat a sinus infection, and I contribute a “fun facts” article on “Angel’s Glow.”

I hope these articles are meaningful to you. Please send any feedback, suggestions or article ideas to [darawl@lexhealth.org](mailto:darawl@lexhealth.org). We enjoy and appreciate the opportunity to be your health partner!

– Dana Rawl, MD, MPH

# Common Hazards in the Office Workplace

By Dana Rawl, MD, MPH

Even though we tend to minimize dangers in comfortable, environmentally controlled office settings, there are still hazards contributing to injury or illness. Recognizing and eliminating or mitigating these office hazards is a primary prevention goal to reduce workplace injury and illness. Three of the common causes for injury in the office setting are slips, trips and falls, ergonomic-related injuries, and eye strain.

Slips, trips and falls are the most common cause of injury in an office setting. Wet floors, uneven floors, exposed electrical cords or computer cables, loose rugs or cluttered areas contribute to most slips, trips and falls. Anticipate icy, snowy or wet weather by placing non-slip matting at door entrances and exits, treating outdoor walkways with ice-melting products or sand, and posting notices for potential hazards, such as washouts or curbs. Clean up spills immediately and use wet floor warning signs. Using skid-resistant carpet on otherwise slick flooring helps reduce falls. Do not stand on chairs, tables or any surfaces other than an appropriate step ladder to reach something at an elevated height. Maintain clutter-free walkways and offices to avoid trips over boxes or stacked files. Keep file drawers closed, and route computer cables and electrical cords out of walkways or rolling chairs. Consider corner mirrors to reduce collisions with other workers coming around a blind corner.

Ergonomic injuries are usually repetitive or positional injuries leading to musculoskeletal strains, tendon or nerve injuries. These injuries are prevalent in the office workplace as most workers are primarily seated during the day as they perform repetitive tasks. Understanding and implementing proper ergonomic design with training can reduce ergonomic-related injury. Adjustable workstations that accommodate body size variations of workers are key in fitting the workstation to the worker. Adjustable chairs with lumbar supports help maintain a neutral posture with both feet on the floor to reduce back fatigue and strain. Positioning of the mouse and keyboard to keep the elbows at a 90-degree angle with the wrists in neutral alignment with the forearms and hands helps reduce hand pain, fatigue and numbness. Neck strain can be reduced by positioning the computer monitor slightly lower than eye level and by



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providing document holders to reduce repeated head and neck movement. Make sure the worker is familiar with how to adjust furniture correctly.

Eye strain is another frequent complaint in the office workplace. Long hours of computer use can contribute to eye strain. Taking a 10-minute break periodically to focus the eyes on more distance objects may help reduce eye strain. Headaches are common with eye strain. Florescent lights may be too bright for computer work and should be dimmed, or desk lamps may be more suitable. Glare from outside lighting should be reduced with window shades and/or computer glare screens, or the monitor should be positioned opposite windows to reduce eye strain. Monitors are optimum for viewing at 20 to 26 inches from the eyes and slightly below eye level. Avoid any squinting to see the computer screen. Change font size if needed and have your eyes examined for accurate vision correction by your eye doctor if necessary.

Reducing injuries and illnesses in the office setting involves an understanding and awareness of potential hazards on the part of supervisors, as well as an active program to provide education and training to employees on hazard recognition, prevention and intervention. Observations and monitoring of the worksite with an honest reporting system can lead to elimination or reduction in workplace hazards and, in turn, work-related injuries and illness. ☺

## References

- Maurer, Roy. "Five Common Office Hazards to Prevent." *Society for Human Resource Management*. Oct 29, 2013.
- Claussen, Lauretta. "Recognizing Hidden Dangers: 25 Steps to a Safer Office." *Safety + Health*. National Safety Council. June 1, 2011.

# Workplace Headaches

By Dana Rawl, MD, MPH

About 17 percent of Americans complain of headaches each year, and more than 8 million of those people seek treatment from their doctor. Research estimates that organizations lose 157 million work hours because of migraine headaches with an economic loss in the billions of dollars.

Tension headaches are the most common type of headache with 80 to 90 percent of the population experiencing this kind of headache within their lifetime. Episodic tension headaches occur less than 15 days a month, while chronic tension headaches occur more than 15 days a month. Symptoms of a tension headache include a band-like pain or pressure that usually onsets gradually and can wax and wane through the day, lasting from 30 minutes to several days. The headache may be present on awakening. Patients may have mild light or noise sensitivity and are usually irritable. The mechanism of pain may be stress related or associated with muscular pain or spasm. Treatment may include over-the-counter pain relievers, biomechanical relaxation techniques and musculoskeletal treatments. Most tension headache sufferers may experience reduced functional performance but not disability.

Migraine headaches are the second most common type of headache disorder. Migraines begin most often at puberty and are more common in females than males at about a 2:1

ratio. Symptoms usually manifest as a one-sided, pulsating, moderate to severe pain that lasts hours to days and is associated with light, sound and sometimes odor sensitivity. Nausea and vomiting are characteristic, and blurred vision can occur. Migraines are made worse with physical activity. Many patients experience a visual aura of flashing lights, blind spots or wavy lines. Migraines are recurrent with frequency anywhere from once a week to once a year. The release of pain-producing substances that affect the nerves and blood vessels in the head activates migraines. Treatment usually includes prescription medications that try to ameliorate symptoms or prevent the onset of a migraine. Identifying and reducing migraine triggers and biofeedback treatments can be helpful. Migraines can be very debilitating in performance of work duties and activities of daily living.

There are multiple other types of headaches, such as cluster headaches, medication-overuse headaches, and sinus headaches, but there are also headaches that require more emergent evaluations and identification. Being aware of and recognizing the “red flags” for headaches can assist in urgently directing an employee to more definitive care. The following symptoms or signs should be indications for immediate medical evaluation: any sudden onset of a headache; headaches beginning after the age of 50; any headache that



progressively increases in severity or frequency; a significant headache with a systemic illness; any focal neurologic deficit, such as change in vision, speech, sensation or movement with or without headache; or any post-trauma headache.

Elaborating on post-trauma headaches, not all head trauma causes intracranial derangement. Any head injury, mild or otherwise, where there is loss of consciousness; amnesia of the event or memory loss; obvious trauma to the head or neck; severe or progressively worsening headache; any focal neurological deficit; vomiting; dizziness; alcohol or drugs on board; age greater than 60 years old; any history of using blood thinners; or involvement of a dangerous mechanism of injury, such as being struck by a vehicle, ejection from a motor vehicle or a fall from higher than 3 feet should be medically evaluated emergently. This list is not inclusive and should not be used to determine if you should send an injured employee for medical evaluation. Traumatic brain injuries and concussions can be difficult to determine and treat, and are best diagnosed and managed by a medical professional. 🌿

## References

[WHO.int/mediacentre/factsheets/fs277/en/](https://www.who.int/mediacentre/factsheets/fs277/en/)

[WebMD.com/migraines-headaches/guide/migraines-headaches-symptoms](https://www.webmd.com/migraines-headaches/guide/migraines-headaches-symptoms)

[IHateHeadaches.org/headache-statistics.html](https://www.ihateheadaches.org/headache-statistics.html)

[AAFP.org/afp/2001/0215/p685.html](https://www.aafp.org/afp/2001/0215/p685.html)

[CDC.gov/traumaticbraininjury/mtbi\\_guideline.html](https://www.cdc.gov/traumaticbraininjury/mtbi_guideline.html)

# Insulin Resistance

By Dana Rawl, MD, MPH

**H**ave you been told that you have “insulin resistance” by your medical provider? If so, you may be on your way to having prediabetes or type 2 diabetes.

To understand insulin resistance, you must understand insulin, a hormone made from beta cells found in the pancreas. Insulin is normally released into the blood stream in response to elevated levels of glucose (blood sugar) that occur from the digestion of foods. Glucose provides the source of energy for the cells in our body, and insulin is necessary for cells to absorb glucose. In a healthy person, the insulin response reduces elevated blood sugars to normal levels as the body’s cells absorb the glucose.

With insulin resistance, the body’s cells do not respond properly to insulin, and the pancreas must produce more insulin for the cells to absorb the glucose. If the beta cells in the pancreas can produce enough insulin to overcome the resistance, the levels of blood glucose remain in a normal range. As beta cells fail to produce enough insulin, blood sugars will be consistently elevated to abnormal ranges, leading to prediabetes and/or type 2 diabetes. Prediabetes indicates higher than normal blood sugars but not high enough to be classified as diabetes.

Major factors contributing to insulin resistance are excess weight and physical inactivity. More specifically, belly fat is believed to produce substances and hormones that cause insulin resistance, as well as high blood pressure, high



## Blood Test Levels for Diagnosis of Diabetes and Prediabetes

	A1C (percent)	Fasting Plasma Glucose (mg/dL)	Oral Glucose Tolerance Test (mg/dL)
Diabetes	6.5 or above	126 or above	200 or above
Prediabetes	5.7 to 6.4	100 to 125	140 to 199
Normal	About 5	99 or below	139 or below

Definitions: mg = milligram, dL = deciliter

For all three tests, within the prediabetes range, the higher the test result, the greater the risk of diabetes.

cholesterol and cardiovascular disease. Physical inactivity is associated with insulin resistance. There are studies that have revealed muscle cells become more sensitive to insulin with exercise thereby essentially reversing insulin resistance. Other causes of insulin resistance include certain diseases, steroid use, hormones, race, medications, age, cigarette smoking and sleep disorders, such as obstructive sleep apnea.

People with insulin resistance usually have no symptoms, but they may have risk factors and should be tested for prediabetes. Testing should be performed on adults 45 years old and older who are overweight or obese (body mass index 25 to 29 and 30 or greater, respectively) or those who have a waist measurement of 40 inches or greater in males and 35 inches or greater in females and who have any of the following risk factors: physical inactivity; a parent or sibling with diabetes; a family background of African American, Alaska Native, Asian American, Hispanic, or Pacific Islander; birth of a child more than 9 pounds; a history of gestational diabetes; high blood pressure; high cholesterol; polycystic ovary syndrome; or cardiovascular disease. Testing may include a hemoglobin A1C test, a fasting glucose test and/or an oral glucose tolerance test. If testing is normal, it is recommended testing should be repeated at least every three years.

Insulin resistance and prediabetes can lead to type 2 diabetes. If you have risk factors, see your provider and discuss whether testing is appropriate for you. You can reduce your risk or even reverse insulin resistance and prediabetes by eating a healthy diet, losing weight to a healthy level, being more physically active, stopping smoking and taking medication prescribed by your provider. To your health! 🌱

## Reference

<https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes/prediabetes-insulin-resistance>

# Occupational Health – A Healthy Partnership

By Dana Rawl, MD, MPH, Occupational Health

Prevention and wellness are terms commonly used to influence health care. All providers, whether primary care or specialty, strive for their patients to be well, free of illness or malady. Even though Ben Franklin referred to fire safety in his quote “an ounce of prevention is worth a pound of cure,” it is a tenet for the health care provider. The same is true for industry.

In industry, preventive care involves adhering to safety practices to prevent work-related injuries or illness. Recognizing hazards and reducing or eliminating exposures are primary prevention tactics to avoid or deter illness or injury. Secondary prevention involves early identification and/or treatment of disease through screening or surveillance of hazards. Tertiary prevention

provides rehabilitative and/or palliative care to reduce or avoid further disability. When partnering with an occupational health practice, companies receive the benefit of implementing all phases of prevention whether consulting on safety issues, treating workers' compensation cases, screening for respiratory disease or surveilling for lead exposure.

Wellness relates to the ability of the worker to physically and mentally perform his or her essential job duties safely. The job description outlines educational, physical and sometimes mental requirements for a specific position. An operating engineer for a nuclear facility may require more education and a stable mental status with not much physical ability, whereas a construction worker may be required to lift heavy weight and be able to balance on beams at heights. Occupational health providers have a working knowledge of essential job functions and can assist employers to fit the job for the employee, not the employee to the job.

Preventing injury and illness, and promoting overall safety, health and wellness of the worker are integral to the overall health of a business.

Preventing injury and illness, and promoting overall safety, health and wellness of the worker are integral to the overall health of a business. Achieving a healthier workforce is not only a goal for the employer but for any provider. We can all contribute to a healthier workforce by advocating lifestyles that promote health and wellness for our patients. ☺



# “I Have a Sinus Infection, and I Need an Antibiotic” (Or Do You?)

By Donna Padgett, ACNP

Rhinosinusitis, commonly known as a sinus infection, is one of the most common conditions for which people seek medical care. The symptoms of rhinosinusitis (congestion, nasal drainage and facial pain or pressure) can make a person feel quite miserable. Historically, clinicians treated many of these infections as bacterial infections because of purulent (yellow, green-colored) nasal drainage, and patients received antibiotics. The signs and symptoms of acute bacterial rhinosinusitis and prolonged viral upper respiratory infection (i.e. cold), however, are very similar.

Purulent drainage of the nose alone does not indicate a bacterial infection and/or need for an antibiotic. According to the Centers for Disease Control and Prevention (CDC), approximately 98 percent of all rhinosinusitis cases are viral, which means they will not respond to an antibiotic. Also, some bacterial infections can be difficult to treat with antibiotics due to antibiotic resistance caused by antibiotic overuse. With antibiotic overuse and resistance becoming more of a problem, it is very important that antibiotics be used appropriately in treating any infection.

**When does a person need an antibiotic?** According to the CDC, the following symptoms suggest possible bacterial rhinosinusitis, and treatment with an antibiotic should be considered:

1. Severe symptoms lasting more than three to four days, such as fever greater than or equal to 102°F and purulent nasal drainage or facial pain.
2. Persistent symptoms lasting more than 10 days without improvement, such as nasal drainage or daytime cough.
3. Worsening symptoms over three to four days, such as worsening or new fever, daytime cough or nasal drainage after improvement from a viral upper respiratory infection lasting five to six days.

So how do we treat 98 percent of miserable, non-bacterial sinus symptoms? Non-severe symptoms (congestion, mild pain, temperature less than 101°F lasting less than seven



days) can be managed with supportive care. As with any illness, adequate rest is needed. Increased fluid intake is recommended. Over-the-counter analgesics such as Tylenol® or

Advil® can be used to relieve pain. Nasal decongestants may provide short-term relief of nasal congestion. Saline nasal irrigation with a Neti pot may be beneficial and can help those with chronic or frequent sinusitis. (Neti pots are available at most pharmacies with instructions.) Antihistamines, such as Benadryl®, Claritin®, Allegra® and Zyrtec®, are not recommended for sinus congestion except in patients with known allergies. These medications may make symptoms worse. See your doctor if symptoms persist or worsen. 🌿

## References

American Family Physician, “Acute Rhinosinusitis in Adults”: [AAFP.org/afp/2011/0501/p1057.html](http://AAFP.org/afp/2011/0501/p1057.html)

Centers for Disease Control and Prevention, “Get Smart About Antibiotics/Adult Treatment Recommendations” [CDC.gov/getsmart/community/for-hcp/outpatient-hcp/adult-treatment-rec.html](http://CDC.gov/getsmart/community/for-hcp/outpatient-hcp/adult-treatment-rec.html)

# The Angel's Glow - If You Wanted to Know

By Dana Rawl, MD, MPH

During the first World War, combatants were more likely to die from a wound infection than from a mortal injury. Soil bacteria, which thrived on damaged avascular tissue, contaminated shrapnel and bullet wounds. History noted, however, that some soldiers did not succumb to their non-lethal wounds and, on close examination, the wounds on those soldiers seemed to fluoresce or glow. People thought that those soldiers had been blessed with survival by a healing touch and thereby the name "Angel's Glow."

Scientists have since theorized that the luminescent phenomenon was related to the bacterium *Photobacterium luminescens*. This microbe inhabits the soil and produces natural substances that can kill competing pathogens, but it is not harmful to humans.

Further studies of this organism have found that it is the only non-marine bacterium capable of fluorescing. During its life cycle, it shares a symbiotic relationship with an insect-eating nematode worm. The *Photobacterium* lives in the nematode's guts. When the nematode invades an insect, it regurgitates the *Photobacterium*, which releases its chemicals that kill the insect. The released substances also inhibit other bacteria growth, allowing the host nematode and the *Photobacterium* to feed unchallenged.

A more practical use for the *Photobacterium* and its host is as an insecticide. In some plant species, the nematodes can be cultured and spread on crops to kill insects in lieu of using chemical pesticides.



## Reference

[TheNakedScientists.com/articles/features/photobacterium-luminescens-angels-glow](http://TheNakedScientists.com/articles/features/photobacterium-luminescens-angels-glow)



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