

Working Well

A HEALTH AND SAFETY INFORMATION PUBLICATION

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Welcome to our 4th issue of *Working Well!*

Occupational dermatitis is an expensive disease that can debilitate a worker. The good news is that it can be prevented in most cases with avoidance techniques and proper protective equipment. Workplace stress, or any stress for that matter, can preoccupy your thoughts, interfere with your focus and contribute to poor production as well as disturb interactions with your co-workers. Identification of significant stressors in the workplace combined with appropriate coping mechanisms can improve overall health of the individual and the company. Thanks to Suzanne Riley Whyte for contributing her article describing tai chi as a health benefit and stress reliever. The article on spider bites should enlighten your knowledge as to the rarity of an actual occurrence. Don't take for granted a good night's sleep! All of us at one time or another has felt the fatigue from lack of restful sleep. It does affect your ability to bring your "A" game. Proper sleep hygiene and habits can help you face the day with vitality!

We hope you enjoy the articles presented in this publication and that you will gain some insight in health and safety management for you and your employees. Please send comments or suggestions for future articles to me at darawl@lexhealth.org or if you would like to share any health or safety tips, we would be glad to edit and anonymously publish for the benefit of our readers.

Thanks for your support!

— Dana Rawl, MD, MPH



Occupational Contact Dermatitis

By Dana Rawl, MD, MPH

Contact dermatitis is defined as an inflammatory skin reaction related to response from an external stimulus on the skin. There are two types: irritant dermatitis, which accounts for about 80 percent of contact dermatitis, and allergic dermatitis. Causes of contact dermatitis can be related to physical, chemical or biological exposures. Physical damage, for example, can occur from fiber glass penetrating the skin causing an irritating rash or solvents that break down the skin's protective layers allowing for skin damage to occur. Chemical exposures from strong alkalis or acids can cause chemical burns. Biological exposures to certain plants such as poison ivy can cause significant dermatitis. Any of these general exposures can produce an irritant or allergic dermatitis, or both.

Irritant dermatitis results when the protective layer of the skin, the outer epidermis, is damaged or removed. The irritant substance can be mild or highly

corrosive. It can range from slight irritation and/or itching to extreme pain. Examples of common irritants include detergents, solvents, cutting oils, cement, acids or alkalis and fiberglass.

Allergic dermatitis occurs after the person is sensitized from an initial exposure to a substance. Subsequent re-exposure to the same substance causes a type IV delayed hypersensitivity reaction. The period of time between initial exposure and the development of an allergic reaction can be days, months or years. Once a person is sensitized to a substance, any exposure, whether large or small, will produce dermatitis, and the reaction may not necessarily be at the site of the exposure. Some common skin sensitizers include nickel, epoxy resins, latex, chromates (found in cement), formaldehyde, wood dust, certain plants and cosmetics.

Any dermatitis should be evaluated for proper diagnosis and assessed for cause and any secondary complications such as infection.

Irritant dermatitis usually will present initially with skin redness, itching, blisters, pain or burning, while chronic irritants may cause scaling, fissures, skin thickening and hyperpigmentation. The skin affected will be those areas most exposed: hands from direct handling of substances; axilla, groin and feet from chemicals that soak into clothing; dust irritants accumulated at the collar, sock or belt line, or in skin folds; and mist irritants affecting the neck or face.

Allergic dermatitis will have similar appearance and symptoms as irritant dermatitis but may present differently. Allergic dermatitis may be delayed for days after exposure, whereas irritant dermatitis usually presents immediately or within 48 hours. The rash that develops may be on skin areas not directly exposed to the allergen. Resolution of the rash may take longer than irritant dermatitis, which usually resolves in 4–5 days after removal of the irritant.

Contact dermatitis, whether irritant or allergic, can be prevented or minimized by control measures. First, removal or substitution of a substance that is known to be highly sensitizing or reactive should be considered. Try to remove any excess substances from the worksite through drainage, vacuuming or exhaust ventilation that can result in inadvertent exposure. Reduce skin contact by washing off any substance exposure as soon as possible. Don't use harsh abrasives

or solvents to wash hands. Use personal protective equipment, such as appropriate gloves, clothing, shoe and head covers, and face barriers. Remember not all gloves or clothing will protect your hands from all substances. Also, wearing impervious gloves can increase hand sweating that can damage the skin and increase susceptibility to developing a reaction. Therefore, using cotton gloves under protective gloves and changing gloves frequently may be helpful.



Note the redness and blisters from acute contact.

Any dermatitis should be evaluated for proper diagnosis and assessed for cause and any secondary complications such as infection. Treatment will be relative to the diagnosis of irritant or allergic dermatitis, but it will mainly consist of topical and/or oral steroids and avoidance of exposure. Difficult cases may require dermatology evaluation including skin testing and aggressive treatment. Prevention from exposure or adequate protection from exposure is the key to reduce occupational contact dermatitis. 🌿



Poison ivy has a linear pattern.



Classic nickel reaction is characterized by rash location.



This chromate rash is from chronic cement exposure.

Workplace Stress

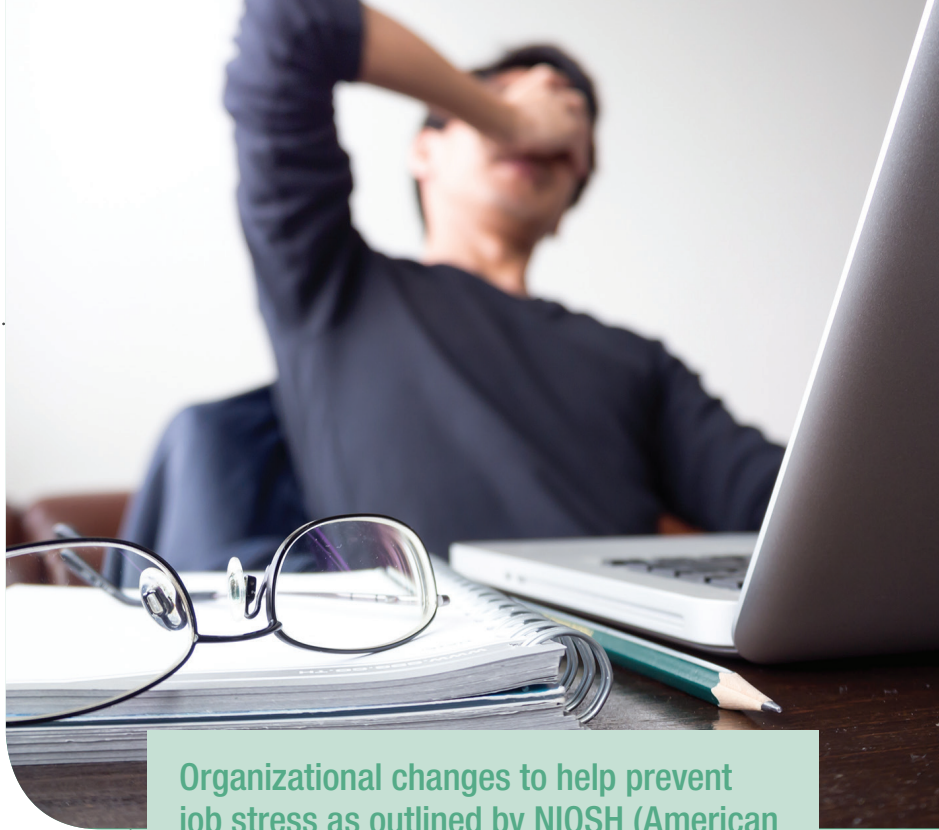
By Dana Rawl, MD, MPH

The National Institute for Occupational Safety and Health defines job stress as the harmful physical or emotional response that occurs when requirements of the job do not match the capabilities, resources or needs of the worker. Job stress can be a contributing cause for poor health and a contributing factor in workplace injury.

Job stress should not be confused with challenges of the job. Job challenges can energize and motivate an employee to achieve goals and generate personal satisfaction relative to accomplishments of a job well done. Job stress physiologically produces hormones in the body that enable the body's flight or fight response. This physiologic response increases pulse and blood pressure, and elevates the senses to help defend against a threatening situation. Short-term symptoms can include nausea and vomiting, intestinal upset, headaches, muscular tension and spasms, mood changes and sleep disturbances, while long-term stimulus can contribute to cardiovascular disease, and musculoskeletal and psychological disorders.

Job stress is relative for individuals. What may be stressful for one person may not be stressful for another. Individual characteristics, such as coping style and personality, may play a role in what job conditions will result in a stress response, but there are certain working conditions that are stressful to most employees, such as excessive workload demand or conflicting expectations. Therefore, strategies to help combat workplace stress may be twofold to address worker characteristics and working conditions.

Stress management training and programs are used to target the individual's ability to cope with work stress. Even though a stress management program is inexpensive and easy to institute, it may not provide long-term solutions because it does not focus on root causes of stress in the work environment. Organizational changes do more to address stressful working conditions. Identification of stressful conditions, designing solutions to reduce or eliminate those conditions, implementing change and evaluating interventions are process steps for achieving a healthier workplace.



Organizational changes to help prevent job stress as outlined by NIOSH (American Psychologist)

[CDC.gov/NIOSH/Topics/Stress](https://www.cdc.gov/niosh/topics/stress)

- Ensure that the workload is in line with workers' capabilities and resources
- Design jobs to provide meaning, stimulation and opportunities for workers to use their skills
- Clearly define workers' roles and responsibilities
- Give workers opportunities to participate in decisions and actions affecting their jobs
- Improve communications, reduce uncertainty about career development and future employment prospects
- Provide opportunities for social interaction among workers
- Establish work schedules that are compatible with demands and responsibilities outside the job

Research has indicated that stressful working conditions are associated with increased absenteeism, tardiness and higher job turnover, which can have a negative economic impact for the employer. A healthy organization is defined as one with low rates of illness, injury and disability, and is competitive in the marketplace. Reducing workplace stress can contribute to a better working environment, improved worker morale, lower incidence of illness and injury, and higher levels of productivity and profit for the employer. What's not to like about that? 🌱

What is Tai Chi?

An Alternative Stress Relief and Health Benefit

By Suzanne Riley Whyte, DIIHom, Tai Chi & Qigong Instructor, MatrixCoaching.com

The ancient martial art of tai chi, literally translates to “grand ultimate.” Tai chi is known as a slow-moving exercise that originated in Wudang China by Chang San Feng (AD 1279–1368) 5,000 years ago. Chang studied Chinese classics Shaolin and Wudang martial arts since the age of 12.

One day, he happened to observe a deadly fight between a snake and a crane. The crane attacked, stabbing and jabbing at the snake. Somehow, the snake managed to evade. The snake fought back with whip-like attacks of its own, but the crane deflected these attacks by fiercely spreading its wings.

Inspired by this scene, Chang San Feng created the soft, internal martial art of tai chi at the age of 67. He included moves inspired directly from the crane and snake. His new fighting style was very different from the external Shaolin Temple gung fu, emphasizing relaxed movements. He also infused it with wisdom, military strategies and longevity methods.

The origin of tai chi as a martial art is grounded in fluid movements, which relax and stimulate every part of your

body. The continuous movements of tai chi are based on the principles that running water never stagnates. These gentle movements relax your muscles and joints while strengthening your body. The calming structured movements counteract the stress of living in today’s fast-paced way of life.

The National Institutes of Health (NIH) reported in 2010, “A Comprehensive Review of Health Benefits of Qigong and Tai Chi,” studied the results of qigong and tai chi in bone density, cardiopulmonary effects and related biomarkers, physical function, falls prevention, balance and related risk factors, general quality of life and patient-reported outcomes, immunity and psychological factors, such as anxiety, depression and self-efficacy. This review identified numerous outcomes with varying levels of evidence for the efficacy for practicing qigong and tai chi.

My personal experience with tai chi has been and continues to be beneficial for my physical, mental and emotional wellbeing over the many years of practice and dedication. I originally found tai chi because of large amounts of stress in my life and a life-threatening health issue. I am grateful to have been given this way of moving, and I am grateful to share with you and our community all of the possible benefits through the practice of tai chi. 🌀



Is it a Spider Bite?

By Stacey Gallaway, MD, MPH



Reports of spider bites have become commonplace in our culture when, in fact, spider bites are rare medical events. Spider bites do occur, but they are the exception and not the rule. A 2011 article in *The Journal of Emergency Medicine* found that out of 182 patients who came to the Emergency department because they believed they had a spider bite, 84 percent had a skin infection with MRSA (methicillin-resistant *Staphylococcus aureus*) and doctors diagnosed 12 percent with other conditions. Out of these 184 patients, doctors only diagnosed seven people (4 percent) with a spider bite.

Patients are not alone in their tendency to over report spider bites. A 2007 article in the *Journal of the American Board of Family Medicine* investigated physician over-reporting of brown recluse spider bites in South Carolina. Interestingly, researchers found that although South Carolina physicians diagnosed 478 brown recluse bites in 1990 and 738 in 2004, only 44 brown recluse spiders have been positively identified in our state since 1953. The brown recluse spider's habitat overlaps the tip of the northwestern part of South Carolina, and they are only very rarely found in our state. Medical providers have been cautioned against a presumptive spider bite diagnosis. They should only confirm a diagnosis of spider bite when the patient observed the spider inflicting the bite, and the spider was collected and properly identified.

There are a variety of other common disorders that can mimic spider bites. Some are more dangerous if they are presumed to be a spider bite and not properly diagnosed and treated. Antibiotic-resistant *staphylococcal* bacterial infection, also known as a MRSA infection, is probably the most commonly misdiagnosed condition presumed to be a spider bite. Without proper diagnosis and treatment, MRSA infections can rapidly progress and spread to others. Signs and symptoms of a MRSA infection can include one or more

painful red bumps on the skin that often increase rapidly in size and can have a pus-filled head or drainage. A medical provider needs to assess skin lesions exhibiting pain, redness, swelling and drainage as soon as possible.

The Centers for Disease Control recommends the following key prevention messages for patients with skin and soft tissue infections:



1. Keep draining wounds covered with clean, dry bandages.
2. Clean hands regularly with soap and water or alcohol-based hand gel.
3. Always clean hands immediately after touching infected skin or any item that has come in direct contact with a draining wound.
4. Maintain good general hygiene with regular bathing.
5. Do not share items that may become contaminated with wound drainage, such as towels, clothing, bedding, bar soap, razors and athletic equipment that touches the skin.

6. Launder clothing that has come in contact with wound drainage after each use and dry thoroughly.
7. If you are not able to keep a draining wound covered with a clean, dry bandage at all times, do not participate in activities where you have skin-to-skin contact with other persons or allow drainage to contaminate commonly shared surfaces.
8. If equipment and other environmental surfaces come in contact with individuals' bare skin, clean the surfaces with an appropriate over-the-counter disinfectant that specifies *Staphylococcus aureus* on the product label. 🌿

Is it a spider bite?

IF YOU THINK YOU HAVE A SPIDER BITE, IT MIGHT ACTUALLY BE AN INFECTION THAT NEEDS MEDICAL ATTENTION.

When in doubt, check it out.

 www.cdc.gov/mrsa 

A Better Way to Fight Insomnia

Submitted by Carol Upton, ACNP

Insomnia is a common sleep disorder that can affect up to 30 percent of the population as a short-term problem or a long-term condition. Symptoms characterizing insomnia include trouble falling asleep, difficulty staying asleep or getting restful sleep if you have the opportunity and time for adequate sleep. Long-term effects of insomnia can be a causal factor for multiple illnesses, such as hypertension, anxiety, depression and diabetes. It can also increase risk for accidents and contribute to low work productivity.

Many people rely on their physicians for help with insomnia and receive medications like Lunesta®, Ambien® or Restoril®. These medications may be beneficial for short-term sleep problems related to current personal issues or highly stressful situations, but they may do little to relieve long-term insomnia. Medications advertised to help you sleep are compared to placebos and, in fact, medications for insomnia are found to be better than placebos in studies. So, in the short term, these medications will treat your symptoms of insomnia; however, they do not address the underlying causes of insomnia.

In several clinical trials, comparative effectiveness studies comparing the use of medications alone to cognitive behavioral therapy for insomnia (CBT-I) have shown that CBT-I is more effective for insomnia

treatment and provides more of a cure for chronic insomniacs. CBT-I is a structured therapy program intended to help the insomniac identify and replace thoughts and behaviors that cause or worsen the sleep disorder with actions and habits that promote healthy sleep. Understanding sleep cycles and what beliefs, behaviors and outside influences affect sleep is critical in promoting changes for healthy, restful sleep.

CBT-I uses techniques such as stimulus control, sleep restriction, sleep hygiene, sleep environment improvement, relaxation training and biofeedback to help improve sleep habits and behaviors. While a professional sleep therapist may teach these techniques through costly therapy sessions, you can find self-taught computer training methods online. Some applications can even be downloaded to your smartphone. eCBTCalm is one app that provides a set of tools to help evaluate a person's level of stress and anxiety, challenge distorted thoughts and learn relaxation skills. This program has been scientifically validated and provides useful information along with step-by-step guides. Other apps designed to promote sleep include Deep Sleep with Andrew Johnson, iSleepEasy and Relax Melodies. When you try one of these apps, you have nothing to lose — except a bad night's sleep! ☺

Reference: www.nytimes.com, June 8, 2015; *Insomnia treatment: Cognitive behavioral therapy instead of sleeping pills*; www.mayoclinic.org/diseases-conditions/insomnia/in-depth/insomnia-treatment, February 11, 2014.

Most people don't practice "good sleep hygiene" like avoiding caffeine or alcohol near bedtime, and reserving one's bed for sleep (not reading or watching TV in bed, for example).





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