Lab Ergonomic Solutions

The effects of ignoring proper ergonomic practices can be severe and lasting.

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Safety / Ergonomics

Mary Ellen had a great retirement party. She worked in the lab as a cytotechnologist for almost 40 years. Her goal was to travel to Europe once she was done working. Now though, three weeks after her party, the doctor told her she needed a spinal fusion to help reduce the pain in her neck and shoulders. The recovery would not be quick, and she would never again have the mobility she once had.

Craig had always been an avid outdoorsman. Hunting, fishing and hiking were his favorite activities. When he could get time off from his second shift lab generalist job, he was doing something outside. His goal was to eventually become a park ranger or a guide for adventure-seeking tourists. But now that he was in his 40s, his knees were really bothering him, and his recently-diagnosed tendonitis is starting to slow him down.

Rae had been a busy lab director for 15 years, and she loved the job. Her favorite hobby, however, was reading. She was given an e-reader for her birthday and noticed how blurry the screen was. When she went to have it checked, she found the problem was not the device. After a check-up her doctor told her she had Computer Vision Syndrome. What would she do now?

Ergonomics in the laboratory historically has not been high on any list of priorities, and the consequences of that are revealing themselves more each year. Ergonomics injuries are known as Musculoskeletal Disorders (MSDs), and they are tracked nationally by the Bureau of Labor Statistics. According to the Bureau, the total number of MSDs in the U.S. rose from 317,440 in 2008 to 346,400 in 2010.

Regulatory Issues

In 2001, the Occupational Safety and Health Administration (OSHA) put into place the first national Ergonomics Standard. The law was widely criticized as being too complex and expensive for many businesses. Within three months, Congress repealed the law and prevented OSHA from promulgating another that would be "substantially the same" as the first. In 2002, OSHA announced its "Comprehensive Plan to Reduce MSDs in the Workplace." This was not a standard, but rather a guideline for employers. Since then some state OSHA bodies have tried to pass ergonomics standards, but today only California has been successful.

The Clinical and Laboratory Standards Institute (CLSI) discusses laboratory ergonomics in its Clinical Laboratory Safety document (GP-17). The College of American Pathologists (CAP) has a regulation in the Laboratory General checklist that requires a "documented ergonomics program to prevent musculoskeletal disorders (MSDs) in the workplace through prevention and engineering controls."

Impact of Poor Ergonomics

Besides the fact that ergonomics as a subject has struggled to gain a notable position in the regulatory world, one of the biggest reasons employees fail to understand its importance is because they do not see its "big picture." MSDs are generally repetitive motion injuries and their symptoms can take several years to develop. It can be difficult to think about adjusting your microscope when the emergency room physician is yelling at you for stat results on the phone. Unless proper laboratory ergonomics is part of your overall lab safety program and you raise awareness and educate staff, employees will continue to suffer from MSDs and their symptoms without understanding ways to prevent them.

Proper laboratory ergonomics can be a focus in every area of the laboratory. The important thing for
employe| remember is to not repeat any one activity for extended periods of time. If you work at a microscope all day, be sure to take a break at least every 20 minutes. If you stand in one place for a long time, shift your weight from side to side or place one foot on a foot rest to ease the stress on your back muscles. Do you pipette or cut tissue blocks? Take breaks to perform other functions. Computer Vision Syndrome can occur from overuse of a computer workstation. Symptoms include blurred or double vision, dry eyes, neck pain and shoulder pain. As with any other job function, taking a break from the computer is important to prevent these symptoms. A great practice for those who use a computer (or a microscope for that matter) for long periods is the "20-20-20 rule." Every 20 minutes you should look away from your screen (or scope) and look at something that is approximately 20 feet away. Let your eyes adjust and do this for about 20 seconds. Also, frequent work stretches can help keep you from developing muscle strain from repetitive work. Simple stretches can be done in the workplace-neck rolls, arm stretches, pointing feet and legs, and simple bending are all things you can and should do to help your body stay in balance with the potential rigors of everyday work.  

**A More Healthy Tomorrow**

Ergonomics is the science of adapting the job, equipment and human to each other for optimal safety and efficiency. The effects of ignoring proper ergonomic practices can be severe and lasting. How you work today will impact a later time in your life. Think about that "big picture," and always work toward helping all employees to work smarter today so they can enjoy tomorrow.  

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