**Bigelow Laboratory Ergonomics Program**

Bigelow Laboratory is committed to ergonomics and the prevention of work-related musculo-skeletal disorders during all work operations in the lab and office.

Bigelow’s objective is to integrate ergonomics into day-to-day business. To, as large a degree as possible, adapt the workplace to the employee over time by designing the means to accomplish tasks that are within the employee's capabilities and limitations. The hope is that this will lead to the reduction of musculo-skeletal disorders and promote continuous improvement in the efficiency, productivity, comfort, and wellbeing of all employees.

The specific elements of Bigelow Laboratory's ergonomics program are:

* Workstation analysis to identify any ergonomic problems
* Workstation improvements as indicated by screenings
* A medical management program
* Management, supervisory, and employee training
* Evaluating progress of musculo-skeletal disorders

Note that correcting ergonomic problems should be viewed as an ongoing process rather than as an individual project. Contact the safety officer or human resources to seek ergonomics help.

**Musculo-Skeletal Disorder Prevention**

There is risk of injury from work involving reaching, bending over, lifting heavy objects, using continuous force, working with vibrating equipment, and doing repetitive motions.

Musculo-skeletal disorders are injuries that affect muscles, nerves, tendons, ligaments, joints or spinal discs. There are many common musculo-skeletal disorders, including carpal tunnel syndrome, tendonitis, herniated spinal disc, tension neck syndrome, sciatica, and epicondylitis.

**Signs and symptoms** of musculo-skeletal disorders can include:

Decreased gripping strength Decrease in range of motion

Painful joints Stiffness

Pain, tingling, numbness in hands or feet Stabbing pains in arms or legs

Swelling or inflammation Burning sensation

Pain in wrists, shoulders, forearms, knees Back or neck pain

Fingers or toes turning white (poor circulation)

**Common causes of musculo-skeletal disorders:**

Repetition**:** Doing the same motions over and over places stress on muscles and tendons. The severity of risk depends on how often the action is repeated, the speed of the movement, the number of muscles involved, and the required force.

Forceful Exertions**:** The amount of amount of physical effort required to perform a task depends on the type of grip, weight of the object, body posture, type of activity, and duration of the task.

Awkward Postures: Posture is the position of your body, and affects muscle groups that are involved in physical activity. Awkward postures include repeated or prolonged reaching, twisting, bending, kneeling, squatting, working overhead with your arms/hands, or holding fixed positions.

Contact Stress: Pressing the body against a hard or sharp edge can result in placing too much pressure on nerves, tendons and blood vessels.

Vibration: Operating vibrating tools such as sanders, grinders, routers, drills, and other equipment that requires prolonged contact with vibration can lead to nerve damage.

OSHA's ergonomic standard requires employers to respond to employee reports of work-related musculo-skeletal disorders or signs and symptoms of musculo-skeletal disorders that last seven days after you report them. If your employer determines that your symptoms can be connected to your job, the employer must provide you with an opportunity to contact a health care professional and receive work restrictions, if necessary. Your wages and benefits must be protected for a period of time while on light duty or temporarily off work to recover. Your employer must analyze the job and if ergonomic hazards are found, must take steps to reduce those hazards.