

# Low Back Injury Prevention

If you have ever experienced lower back fatigue or discomfort, you are not alone. Nearly everyone at some point has back pain that interferes with work, routine daily activities, or recreation. Back pain is the second most common neurological ailment in the US, only headache is more common. Most lower back injuries are mechanical in nature, the result of acute strain or chronic disorders such as degenerative disc disease or arthritis. Acute low back discomfort may be caused by work factors, a sports injury, work around the house, a sudden jolt such as a car accident or other lifestyle factors outlined below. Fortunately, most occurrences of low back discomfort go away within a matter of days. By far, the best way to manage low back fatigue and discomfort is to PREVENT it in the first place! This handout gives you some tools which can be employed to maintain or restore good lower back health:



## Lifestyle Causes

- **Dehydration:** Healthy muscles are comprised of at least 70% water. Dehydration causes muscle fatigue, strain, tendonitis, and other disorders of the movement system. Soda pop is not water, it's liquid junk.
- **Poor Nutrition:** Eating too many "empty" calories that don't contain the nutrients our body needs is a primary cause of injuries and disorders of the movement system. Tobacco contains toxins that increase inflammation.
- **Inflammation:** Inflammation causes many lifestyle-related disorders, including heart disease and movement system disorders. Too much sugar and fat within our diet can contribute to inflammation.
- **Fatigue:** Adequate amounts of rest and sleep are very important ingredients for our health.
- **Poor Fitness:** Poor levels of physical fitness increases the risk of disease and injury.

*Prevention is a **shared** responsibility! The company is responsible for a safe work environment and procedures, and all workplace athletes are responsible for using their body properly and keeping their body fit for work.*



**Ergonomics** is about working smarter! An ergonomics improvement process is part of management's commitment to maximize efficiency and to limit worker fatigue and discomfort.

**Proper warm-up & body mechanics** will reduce daily fatigue and give you more energy left over at the end of the day! We are ALL athletes in life, so we need to warm-up like athletes to improve our performance and to reduce risk of injury. We should also plan to work smarter... not harder! Proper body mechanics should always be used to avoid excessive fatigue and injury.



**Drinking plenty of water** is one of the most important things you can do for your health! Healthy muscles are comprised of at least 70% water. Dehydration of the muscles and tendons is a primary cause of muscle fatigue, strain, tendonitis, and other disorders of the movement system. How much water do you need every day? Your Body Weight ÷ 2 = # oz. of water per day (Example: 160 pounds ÷ 2 = 80 oz. of water per day)

**Healthy eating** is one of the most important weapons that we have to fight against injury and illness. The foods we choose to eat determine what our bodies look like on the outside and how well our body functions on the inside. Eat fewer "empty" calories from dead foods, and eat more calories from living foods. Living foods include fruit, vegetables, nuts, and seeds. Living foods are harvested. Dead foods are processed and not good for you.



Adequate amounts of **rest and sleep** are very important ingredients for our health. When we don't get enough sleep, increased release of stress hormones raises the level of inflammation in the body. If rest and sleep deficits persist, we become more vulnerable to injuries and chronic diseases. Sleep experts generally agree that most adults require between 6.5-9 hours of sleep each day to maintain optimal health and safety.

We need to maintain our **physical fitness** levels to prevent injuries and illness. There's a correlation between poor levels of physical fitness and increased risk of disease and injury. The lower the level of fitness, the higher the risk of injury. Four types of exercise for your fitness plan: 1) Aerobic or cardiovascular exercise, 2) strength training, 3) stretching exercise, and 4) relaxation exercise.



Workplace athletes can use **ice or cold therapy** to control fatigue and soreness after activity. Ice application should be between 15 to 20 minutes applied directly onto the skin of the affected area. An initial aching will be felt when the ice is on the skin. After 5 minutes, this should go away as the ice takes effect. Ice is a great anti-inflammatory! Never use heat after activity.

**Vitamin & mineral supplements** are not a substitute for healthy eating, but they can fill in the gaps and help combat fatigue and inflammation. Experts recommend three daily supplements: 1) a quality multivitamin and mineral supplement, 2) a vitamin D supplement with calcium and magnesium, and 3) omega-3 fatty acids



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## Low Back Stretching Exercises: Perform 3-5 times per day



Lay on floor on your back. Keeping one leg straight, bring your other leg up towards your chest as shown. Gently pull with your arms until you feel a stretch in your lower back. Hold stretch for 20 seconds, relax and repeat. Then perform on the other side.



Sit on chair with feet apart. Gently bend over to stretch the lower back as shown. Hold stretch for 20 seconds, relax and return to an upright position, then repeat the stretch.



Sit with knees together. Slowly bend forward and reach to the outside of the right leg with left arm as shown. Hold stretch for 20 seconds, relax and repeat. Then perform stretch on the other side.

Lie face down on elbows as shown. Slowly straighten arms and push up until a gentle stretch is felt in the lower back. Hold for 20 seconds, relax and repeat the stretch.



Lie on back as shown. Place a towel around your foot, slowly pull leg straight until you feel a gentle stretch in the back of your thigh. Switch to stretch the opposite leg. Hold stretch for 20 seconds, relax and repeat. Then stretch the other side.

## Low Back Fitness Exercises: Perform 2-3 times per week



Lie on back with knees bent and feet flat on floor. Slowly lift buttocks up and pause, then slowly lower back down to the start position. Perform 2 sets of 12 reps.



Lie face down with arms outstretched and towel roll under forehead as shown. Raise left arm and right leg off the floor, slowly lower to start position, then perform exercise with right arm and left leg. Perform 2 sets of 12 reps.



Lie face down with arms to sides as shown. Arch back by raising shoulders and thighs upward. Slowly lower to the start position. Perform 2 sets of 12 reps.



Lie on back with knees bent and feet flat on floor. Tighten abdominal muscles to push lower back flat into the floor, pause before returning to the starting position. Perform 2 sets of 12 reps.



Position on hands and knees as shown. Slowly arch back upward and pause before returning to the starting position. Perform 2 sets of 12 reps.



Lie on back with knees bent and hands behind head. Contract abdominal muscles to raise left shoulder toward right knee. Lower to start position and repeat exercise on opposite side. Perform 2 sets of 12 reps.

This handout is general injury and illness prevention educational information and is not medical advice. If the employee requires medical attention, a competent health care provider should be consulted. Although every precaution has been taken in the preparation of this information, no liability is assumed for injury, personally or otherwise resulting from the use of information contained herein.