

Alaska Municipal League Joint Insurance Association
Loss Control Incentive Program FY 2021

SAFETY BRIEF: BACK INJURY PREVENTION

- *Over 1 million American workers suffer back injuries annually, and **back pain accounts for more than 264 million lost work days each year***
- ***80% of adults will experience a back injury in their lifetime**; for 5% of people the condition will become chronic and disabling.*
- *Americans spend at least **\$50 billion annually** on treating back pain.*
- *Back injury is the **top cause of a 'job-related disability.'***

Your back has 300 muscles, 33 vertebrae which surround and protect the spinal cord, and 30 spinal disks. The disks are gel-filled pads that fit between the vertebrae to provide a flexible cushion that allows movement while preventing bone from rubbing against bone. If a disk becomes ruptured, it can cause the spine to compress and pinch the nerve roots, causing pain. The best way to prevent this is to exercise, including stretching, and follow safe lifting practices.

Before lifting any load, ask these questions:

- **Have you checked the object before you try to lift it?** Test every load before you lift by pushing the object lightly with your hands or feet to see how easily it moves. This tells you about how heavy it is. Remember, a small size does not always mean a light load.
- **Is the load you want to lift packed correctly?** Make sure the weight is balanced and packed so it won't move around. Loose pieces inside a box can cause accidents if the box becomes unbalanced.
- **Is it easy to grip this load?** Be sure you have a tight grip on the object before you lift it. Handles applied to the object may help you lift it safely.
- **Is it easy to reach this load?** To avoid hurting your back, use a ladder when you're lifting something over your head. Get as close to the load as you can and slide it towards you if you can. Don't arch your back--avoid reaching out for an object. Do the work with your legs and your arms, not your back.

Back injuries are seldom caused by one incorrect lift. Injuries are more often caused by years of incorrect lifting, poor posture and lack of proper ergonomics. The most common mistakes when lifting are bending at the waist instead of the knees and holding the load too far out in front of you. To properly lift an object, follow these steps:

- Use slow and smooth movements.
- Place feet firmly apart with one foot slightly forward for stability.
- Bend at the knees (not at the waist) and keep your back as straight as possible.
- Stand as close to the load as possible and grip it firmly.
- Tighten your abdominal muscles as soon as you lift to support your spine.
- Use your leg muscles instead of your. Keep your back straight.
- Try to carry the load in the space between your shoulders and your waist, and keep it close to your body.

Some hazards to avoid:

- DO NOT twist during the lift.
- DO NOT lift heavy loads without mechanical assistance (i.e., hand truck, pallet jack, etc.)



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- DO NOT reach overhead repetitively for loads, tools or parts
- DO NOT work at surfaces that are too high or too low

Sitting at a desk for long periods can also be hard on your back. A properly fitting chair is important. Chairs are not “one size fits all.” Chairs should have adjustable armrests and backrests and adjustable height to allow your feet to rest flat on the floor with your knees at a right angle. You should be able to reach frequently accessed items without excessive twisting, reaching, and leaning. If you must sit for long periods, take breaks to walk and stretch your muscles. Frequent breaks from sitting will help relieve the stress on your back. Whether sitting or standing, maintain correct posture to reduce fatigue and back strain.

The key to back care lies with the individual employee. Everyone should be a back care "expert" and be able to answer the following questions:

Q: What's the most important lifting rule to remember?

A: Keep the load close!

Q: If you don't hold a load close to your body, how much heavier is the "experienced" weight than the actual weight?

A: Ten times as heavy! The back operates as a simple lever, with the fulcrum in the lower back. Back muscles serve as the *power arm*; the load being lifted is the *weight arm*, and a 10-1 lever ratio exists in the lower back. The further away you hold the load, the "heavier" it is.

Q: Why should you never twist with a load?

A: Lumbar (lower back) vertebrae, disks and joints are under the most vertical pressure when lifting a load. Twisting with a load creates a shearing effect on these tissues. The more "mileage" you have on your back, the less forgiving it will be under this pressure.

Q: Which muscles are most important for keeping the spine in its strong S-shaped curve?

A: Abdominal muscles, which work in cooperation with back muscles to support your spine. The trouble is that abdominal muscles tend to weaken over time. It helps to tighten them during a heavy lift, but more importantly, keep them in good shape.

Q: What time of the day are back strains most likely to happen?

A: In the morning, or at the beginning of a work shift, when muscles aren't "warmed up." Trends also show an increase following the lunch hour, perhaps because blood circulation is in the stomach, instead of the large muscles, and because people may be sleepy and inattentive then.

Q: How does keeping flexible help prevent back and muscle strains?

A: Muscles tend to *shorten* when not used to their full capacity. Flexible muscles are less likely to be strained and injured than tight muscles when sudden or heavy power is required. Pre-work stretching programs have been very successful in preventing back and muscle strains. Take a tip from professional athletes—they warm up before a game. Even five minutes helps!

Ergonomics and back safety go hand-in-hand. The AMLJIA recommends all employees receive annual training in Back Injury Prevention & Safe Lifting and Ergonomics. This can be accomplished with the written model safety plans in the Loss Control Incentive Program or through AMLJIA's online training courses, Workplace Ergonomics (ER61) and Back Safety (BS61). Completion of this annual training also earns credit in the Loss Control Incentive Program.

