

# BULLETIN

Risk Control

ACWA/Joint Powers Insurance Authority, 5620 Birdcage Street, Suite 200, Citrus Heights, CA 95610-7632, (800) 231-5742

by Keith Forbes

October 2008

## Driving Ergonomics

Much focus has been given to ergonomic injuries, or Musculoskeletal Disorders (MSD's) in the workplace. This is true if you work in an office, the field, or in a mechanics shop. But less attention is given to the possibility of (MSD's) that may occur just traveling to the worksite.

Researchers at Loughborough University have identified prolonged exposure to driving cars, as a risk factor for low back pain and other (MSD's). Those who drive cars as part of their job for example, sales people, are at particular risk. This risk is increased for those who drive for 20 hours per week or more (Porter and Gyi, 2002).

Research has revealed that within a group of business drivers, 65 percent reported low back trouble, 43 percent neck trouble and 40 percent shoulder trouble (Gyi et al., 2003).

### RISKY ACTIVITIES

These risk factors would apply to anyone that drives for their job including: truck drivers, equipment operators, or in field operations just driving to the worksite.

Activities at risk for contributing to the (MSD's) or injuries include:

- Sitting for long periods of time (holding a static position);
- Poor posture while sitting;
- Awkward position of legs, arms and neck/head; and
- Lifting of materials inside or out of the vehicle.

### POSTURE/SITTING

Driving forces the driver to sit in a restricted posture for long periods of time. Posture is very important both at home and on the job, while either standing or sitting. Of these, sitting has been identified as much more stressful on the lower back. Back-friendly posture is a valuable component of preventing or

managing back pain while performing any activity. Incorrect posture while standing for long periods of time, sitting in an office chair, and driving are all common causes of back pain.

Some experts say even if driving for 15 minutes, one's seated posture while driving can either contribute to or alleviate back discomfort. Even more so, those with extensive commutes (an hour or more each way) can have an adverse impact on their back, similar to sitting in an office chair for hours.



First and foremost, it is important to sit fairly upright, with the knees level with the hips. There are three natural curves in your spine and it

is important to maintain and support these curves. Of these, the most important while sitting, is the lower back. Either a rolled up towel or a commercial back support, placed between the lower back or the back of the seat, against the natural inward curve of the low back, at waist level, should increase comfort and support

### SEATING POSITION

Drivers should sit at a comfortable distance from the steering wheel. Reaching increases the pressure on the lumbar spine and can stress the neck, shoulder, and wrist. However, sitting too close can increase risk of injury from the car's air bag. According to the National Highway Traffic Safety Administration, drivers (and front-seat passengers) should buckle their seat belts and keep about 10 inches between the center of the air bag cover and their breastbone, to reduce the risk of air bag injury, yet still allow protection from the air bag in the event of a collision.

You should stop and get out of your vehicle in a safe place every 1-2 hours, more frequently if you already have back problems. Stretching exercises help to get the back into alignment and restore circulation, but just changing positions every few minutes can help.

The following items should also be considered when doing a check of your seating position in your vehicle:

- Make sure the height of the back rest reaches your shoulders. It is best to sit back into the seat to get better back support.
- Your knees should not be higher than your hips. It reminds you to sit up and reduces side aches and lumbar pain.
- You should be able to reach the gas and brake without stretching.
- You should sit with good posture and then adjust your rearview mirror.
- Alternate seat back position occasionally to decrease pressure on discs. Tilt it back slightly for a while, and then bring it back upright.

### ARM POSITION

Keep both hands on the steering wheel and avoid hanging one arm partially out of the window while driving. This will prevent shoulder and or arm aches.

### FEET POSTION

The left foot should be positioned on the “dead-pedal” (if equipped), and the right foot should be able to reach the break and accelerator without stretching the legs.

### MATERIAL HANDLING

Research has shown that many drivers may not realize that lifting equipment inside or from the car is 'material handling'. Some items to consider:

- Avoid twisting or leaning to one side.
- Keep the load as close to your body as possible.
- Keep equipment in the trunk as close to the edge of the trunk as possible.
- Park you vehicle as close to the delivery point as possible, to reduce the prolonged physical stress.
- Take extra care when lifting after a drive. Stretch or walk around the car before doing so.
- Make multiple trips instead of one when unloading a vehicle, or use a dolly or other rolling device (including wheeled briefcase) to carry the load.

### SUMMARY

Drivers are not usually aware of the risks associated with prolonged driving. It is important that these be addressed in training, or other awareness activities. There are several websites with publications and brochures available that do just that ([www.drivingergonomics.com](http://www.drivingergonomics.com)).

Some expected results of this awareness may include:

- Reduced absences from injures or illnesses;
- Less staff turnover; and
- Improved comfort and productivity.

Sources: [www.drivingergonomics.com](http://www.drivingergonomics.com); U.S. Department of Transportation; National Highway Traffic Safety Administration, “Air Bags and On-Off Switches.”

### DEFENSIVE DRIVING TRAINING UPDATE

District employees can now use TargetSafety to meet the JPIA Defensive Driving (DDC) training requirements. Employees must take one class per year of the driving classes offered through TargetSafety (a total of four in a four-year period). They can choose which course to complete as long as it is different each year. All new hires should take the Driving Safely Introductory course as part of the agency’s new employee orientation, and then get into the four-year cycle. Employees may also attend a four-hour DDC classroom training once every four years, to maintain their DDC training requirement.

The JPIA has contracted with TargetSafety to provide JPIA members access to more than 300 online training classes. Not only is it a great training tool, it also helps with compliance, communication, and tracking of employee training activities. District staff and board of directors have access to classes that include:

- Defensive Driving, Safety and Human Resources training topics;
- Distribution and Treatment Operator continuing education credits; and
- Sexual Harassment Prevention for Managers and Ethics training certifications.

If your district has not enrolled in TargetSafety, please have your district’s safety officer or human resources manager call Patricia Slaven, JPIA training specialist, at (800) 231-5742, extension 3145, to sign up.

#### **Risk Management Staff**

Walter “Andy” Sells, Chief Financial & Operations Officer  
 Keith Forbes, Senior Risk Management Consultant  
 John Haaf, Senior Risk Management Consultant  
 Peter Kuchinsky II, Senior Risk Management Consultant  
 Lee Patton, Senior Risk Management Consultant  
 R. Scott Wood, Risk Management Consultant  
 Terry Lofing, Administrative Assistant II