

## **Bodily Reactions**

Bodily reactions are common reflex mechanisms of the body to bring itself back to a normal position. In many cases this quick and abrupt action results in injuries such as ligament tears, and sprains and strains.

### **Sprains**

A sprain is a stretching or tearing of the tough bands of fibrous tissue connecting one bone to another, known as a ligament. Common locations for sprains are your ankles and knees. Sprains occur when you overextend or tear a ligament while severely stressing a joint. Ligaments act to help stabilize joints, preventing excessive movement. Knee or ankle sprains may occur when walking or working on an uneven surface. A sprain may also occur when you land awkwardly, as when you are reacting to slipping or tripping.

### **Strains**

A strain results from stretching a muscle or tendon unusually far or abruptly or the tearing of muscles or tendons. Strains are commonly referred to as "pulled" muscles. Hamstring and back injuries are among the most common sites for strains. A muscle becomes strained, pulled, or may even tear when it stretches unusually far or abruptly. An acute strain often occurs when muscles suddenly and powerfully contract. A muscle strain may occur when you slip on ice, lift a heavy object or lift in an awkward position. A chronic strain will result from prolonged, repetitive movement of a muscle.

### **Torn Ligaments**

There are a number of different ligaments in the knee, each of which may be injured. An ACL tear (anterior cruciate ligament) can result from a hyperextension of the knee 10 degrees beyond its normal fully straightened position. This positioning forces the lower leg too far forward in relation to the upper leg. Another cause is from pivoting of the knee with an excessive inward turning of the foot. Approximately 40% of the individuals that suffer from an ACL tear will experience a "popping" feeling at the time of the injury. The sensation is actually the tearing of the ligament tissue. At least half of all ACL tears will also cause injury to the meniscus. This could also cause a tearing sensation.

### **Prevention**

- **Housekeeping**  
Poor housekeeping results in slips and trips. It is the sudden reflex jerking motion when the body reacts to correct itself that results in injury. Tools should be put in their place and not left lying around. Cords and welding leads should be run overhead or secured in a way to prevent a slip/trip hazard. Keeping all areas of the job clean and orderly will remove the hazards and, thus, the accident.
- **Be aware of your surroundings**  
Being aware of ones surrounding is another effective means of staying injury free. Matting should be secured in a way as to prevent curling up of edges. Don't move quicker than slippery conditions will allow. Pay attention for wet or slick spots. Clean them immediately to prevent slips and falls.
- **Stretching**  
In many ways, workers are like athletes. The tasks they perform are physically taxing and should require an individual to stretch before and after. Stretching will help limber the muscles and when an abrupt reaction does occur, the muscles will be more prepared and damage less likely. When working outside in cold temperatures, stretching should take place more often.