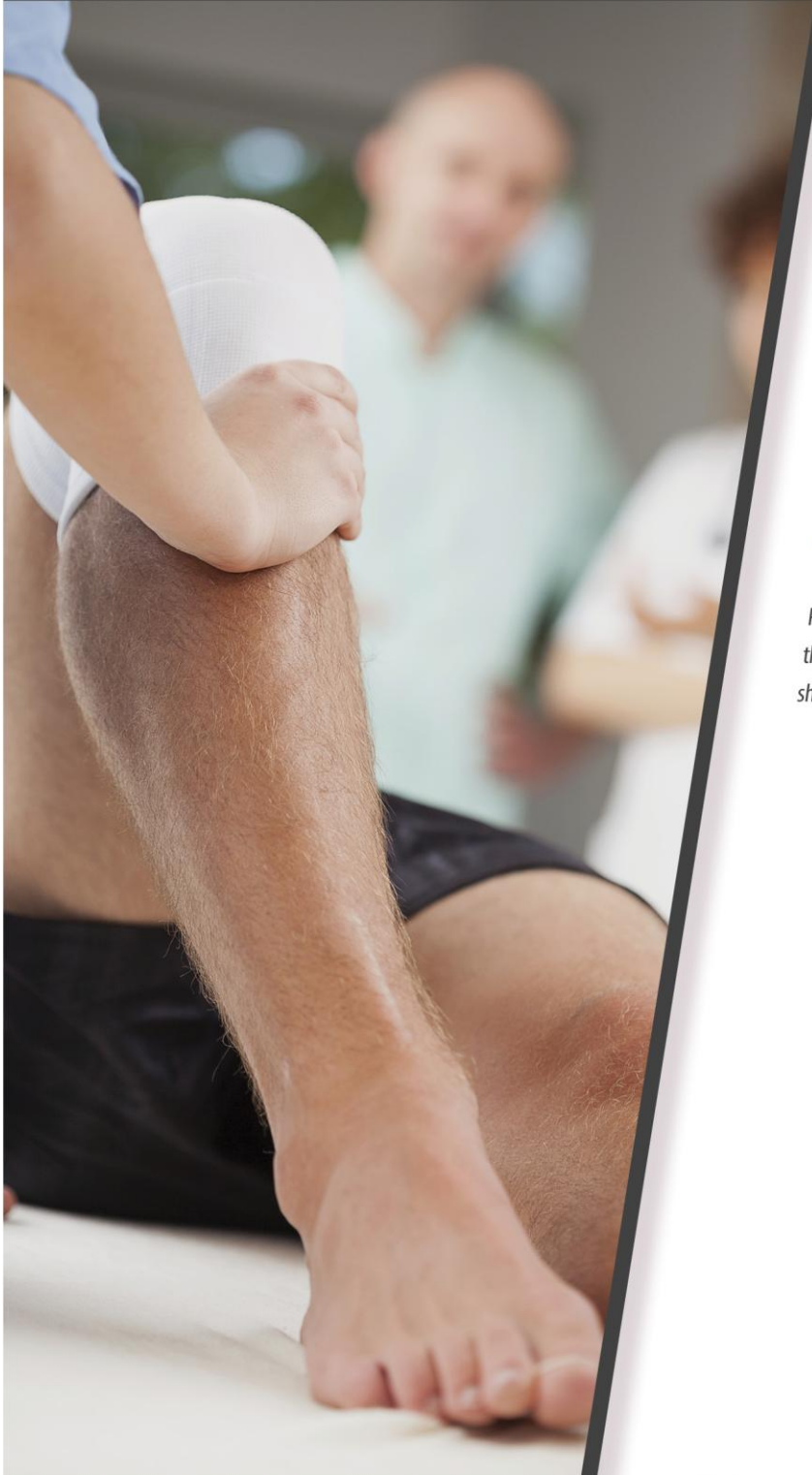


# ACCIDENT COUNTERMEASURES



## Strains and Sprains

*The Accident Countermeasures program was created to provide a way for our company and our most important asset, the drivers, to cover important safety topics in a meaningful and accessible manner. This program allows you, the driver, to study safety material and learn desirable information at a time most convenient to you.*

Please take the time to read through the material, study the pictures, and then answer the questions at the end of this handout. Your completed answer sheet should then be turned in to receive credit for completing this program.

Prepared by:

**Safety Management Services Company**

*A Cottingham & Butler Company*



Cottingham & Butler

## ***Safety Management Services Company's Accident Countermeasures Program***

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## **STRAINS AND SPRAINS**

Year-in/year-out, one of the most common driver injuries continues to be strain/sprains. The Bureau of Labor Statistics yearly lists truck driving as one of the top professions to result in these types of injuries. How is a strain different from a sprain?

A strain is an injury caused by the stretching or tearing of a muscle or tendon. Tendons connect muscle to bone.

A sprain is injury caused by tearing of the fibers of a ligament. Ligaments connect bones to bones.

Often these injuries occur at joints like knees, ankles, thumbs, and wrists where many ligaments and tendons are located and a lot of force is applied. Actions common in commercial driving that might lead to these injuries include jumping out of a cab or off a trailer and sliding on a wet/slippery surface.

Strains can be acute or chronic.

- An acute strain occurs when a tendon or muscle is abruptly pulled like during a fall or during a heavy lift.
- A chronic strain occurs slowly over time from prolonged, repetitive movement of a muscle, like from loading. Being overweight can result in chronic strain to back and other muscles.

Although strains and sprains are common injuries, they are quite painful and can result in time off from work. Fortunately, these injuries are easily preventable with the knowledge and practice of a few specific safety behaviors coupled with good health.

## RISK FACTORS

With most all hazards, there are factors that increase the risk. Risk factors contributing to sprains and strains include:

- Poor conditioning. Lack of conditioning can leave your muscles weak and more likely to sustain injury.
- Being overweight. Extra weight puts extra force on ligaments, tendons, and muscles.
- Fatigue. Tired muscles are less likely to provide good support for your joints. When you're tired, you're also more likely to succumb to forces that could stress a joint or overextend a muscle.
- Improper warm-up. Properly warming up before vigorous physical activity loosens your muscles and increases your joints' range of motion, making the muscles less tight and less prone to trauma and tears.

## SYMPTOMS

Pain and swelling are symptoms of both strains and sprains. A strain can also cause muscle spasms or limited ability to move the affected muscle. A sprain can be accompanied by bruising and the limited ability to move the joint. Also, at the time of injury for a sprain, a “pop” sound may be heard from a ligament tearing.

## HOW ARE YOU LIKELY TO GET INJURED AND WHAT CAN YOU DO TO PREVENT YOURSELF FROM ENDING UP ON THE INJURED AND SUFFERING LIST?

Reducing your risk factors is the first place to start. Begin by getting into—and staying in—good, physical condition. Keep trim, lose weight, and exercise regularly. At the beginning of each day, take five minutes to do stretching exercises. After a period of inactivity, stretch again to loosen up and get your blood flowing. These exercises may seem meaningless or silly, but they really do help.

Develop and practice good safety behaviors. Think before entering and exiting vehicles. Try not to twist and stretch, especially if you are carrying a load of any type. Clear the path of travel to remove obstructions that may make you trip and fall. Check your footing and use all of the handholds and steps provided. Be aware of wet, slippery surfaces which may cause you to lose your balance. Never jump off, or out of, any elevated surface or driving compartment.

Use what is called the power zone when lifting. This area is located close to the body, between mid-thigh and mid-chest height. Comparable to the strike zone in baseball, this zone is where arms and back can lift the most with the least amount of effort. Keep this in mind when you think about how you can move the materials needed to be loaded while providing support to your body. Don't lean over while lifting material—re-position your body to obtain maximum support from your legs. Separate your load into smaller units so you don't overburden your muscles. If this is not possible, get help either through the use of a mechanical piece of equipment or a fellow worker. Work smarter, not harder. Try to eliminate as much lifting as possible. Continuously ask yourself, “How can I do this job smarter?”

Use the right tool for the job. When thumping tires, use a tire-thumper or a larger hammer. Kicking the tire doesn't do the job and you risk losing your balance and spraining your ankle. When unhooking a trailer, make it easy on yourself and use a fifth-wheel pin-puller every time.

For all jobs, proper footwear is important. Choose footwear with good ankle support and slip-resistant soles to prevent slips and falls and do not wear sandals or cowboy boots.

## TREATMENT

For minor strains and sprains, follow the instructions of R.I.C.E. R.I.C.E. stands for:

- **Rest** the injury. Avoid activity and minimize weight placed on it.
- Use an **ice** pack. Try to ice immediately after the injury.
- **Compression** – wrap the area with an elastic wrap or bandage.
- **Elevate** the injury above your heart whenever possible to help prevent or limit swelling.

It is important in all but mild cases for a medical doctor to evaluate the injury and establish a treatment and rehabilitation plan. Severe injuries may require surgery and immobilization followed by months of therapy.

With a mild strain or sprain, gently begin using the injured area after two days. You should feel a gradual, progressive improvement. Over-the-counter pain relievers, such as ibuprofen (Advil, Motrin, others) and acetaminophen (Tylenol, others), may be helpful to manage pain during the healing process. See your doctor if your sprain isn't improving after two or three days or if you have numbness or can't move the affected muscle or joint.

Commercial driving is demanding and often time-sensitive. Rushing and cutting corners increases your risk of injury. Missteps, slips, and repetitious work are inevitable, but you can be prepared by being in shape, well rested, and being properly stretched. Everyone has heard about professional athletes missing games—and even the whole season—from a strain or a sprain. You are a professional driver; don't risk missing days or months from work, pain and discomfort, and opportunities with friends and family from an easily preventable strain and sprain injury.

## STRAINS AND SPRAINS

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### QUESTION PAGE

Please return this page to your safety department to receive credit for course completion.

1. A strain is an injury of the \_\_\_\_?
  
2. The power zone is located:
  - A. Between mid-thigh and mid-chest height
  - B. At arm's length from the body
  - C. Between the ground and knee height
  - D. Above the shoulders and within arm's length
  
3. True or False. Fatigue increases the risk of a strain or sprain?
  
4. R.I.C.E. stands for what?

## STRAINS AND SPRAINS

### ANSWER PAGE

DO **NOT** INCLUDE THIS PAGE WITH THE COUNTERMEASURES HANDOUT TO THE DRIVER!

1. A strain is an injury of the \_\_\_\_?

**A strain is an injury of the tendon or muscle.**

2. The power zone is located:

- A. Between mid-thigh and mid-chest height**
- B. At arm's length from the body
- C. Between the ground and knee height
- D. Above the shoulders and within arm's length

3. **True** or False. Fatigue increases the risk of a strain or sprain?

4. R.I.C.E. stands for what?

**REST  
ICE  
COMPRESSION  
ELEVATION**