

The portions of the upper extremities most frequently experiencing a serious sprain or strain are the shoulder and wrist. For the lower extremities, the knee is most frequently impaired.

## Definitions

Some terms used throughout this publication are defined as follows:

- Acute pain is usually a one-time condition that often improves and disappears within a few days to a few weeks.
- Chronic pain is a persisting condition that reoccurs from time to time.
- Lower back pain can be the result of damaged ligaments or muscles, but it can also be the result of ruptured or slipped discs, arthritis, stress, or other causes.
- Serious injury, as used in this publication, is one which causes the employee to miss one week of work or more.
- Sprain is defined as the stretching or tearing of ligaments from a sudden or violent twist of a joint.
- Strain is defined as the stretching or tearing of muscles from a sudden or violent action.

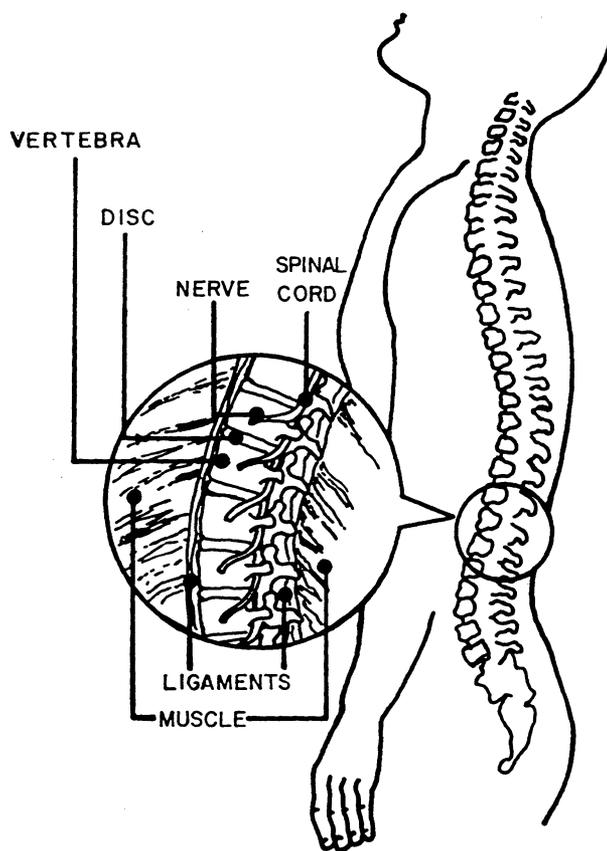


Figure 1. Area of the back which is frequently injured, resulting in lower back pain.

## Causes of Injuries

A joint in the human body -- be it a finger, wrist, elbow, shoulder, hip, knee, ankle, or toe -- is a place where two or more bones meet. The bones are held in place by ligaments and muscles. Excessive stress on the joint from lifting, movement, or other trauma can cause excessive stretching or tearing of the muscles (strain) or ligaments (sprain), resulting in acute pain.

Looking at the human back (Figure 1), there is a column of 33 vertebrae separated by small, round discs filled with a thick fluid, all held together by liga-

ments and muscles. If the ligaments and muscles are weak, the vertebrae and discs can become misaligned, usually in the lower back (at the belt line or below). With excessive lifting, a sudden fall, or other traumatic action, a disc can rupture or slip. Over years of back abuse, or with aging, the discs may simply "wear out" and the individual may live with chronic pain for years.

Table 2. Body parts most frequently affected by sprains and strains

Occupational area	Percent of all accidents which are sprains and strains	Percent			
		Back	Upper extremities	Lower extremities	Other locations
Livestock production	33.2	45.0	20.9	27.5	6.6
Fruit/ vegetable production	46.5	45.0	21.0	27.5	9.0
General farm production	46.8	46.0	22.6	21.3	10.0
Horticulture production	30.3	46.0	20.0	24.0	10.0
Agricultural services	40.0	48.0	17.0	22.0	13.0
Livestock services	39.0	50.0	10.0	22.0	8.0
Horticultural services	42.0	55.0	12.0	26.0	7.0