

Secondary Injury: The Back

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Back injuries and back pain are common health problems in the agriculture sector. Over 1 million back injuries are sustained in the workplace each year, and agriculture is in the top 5 occupations for back injury resulting in days away from work.

Secondary Injury

Secondary injuries are injuries that lead to additional injuries. For example, an individual has a hip injury that compromises the way the individual walks and carries items, thus resulting in a strained back. The back injury would be considered a secondary injury.

Secondary injuries do not only occur closely after the initial injury. An injury that occurs within one year of the initial injury is considered a secondary injury. Many secondary injuries are overlooked because of the amount of time that has passed from the initial injury. (Grisso, 2020)

Example: Secondary Injury the Back

A farmer has a knee injury, thus cannot bend his knees while lifting. He then uses improper lifting technique while lifting 50 lb feed sacks to feed his cattle and strains his back. He is out of work for 4 days due to his strained back.



Structure of the Back

Having a basic understanding of how the back works can help you understand why it is prone to injury and what you can do to prevent injury.

The backbone or spine is a system of bones, muscles, ligaments, tendons, cartilage and nerves. The spinal column provides the main support for your body, allowing you to stand upright, bend, and twist. The spine has a natural S-shaped curve. The curves work like a coiled spring to absorb shock, maintain balance, and allow movement throughout the spinal column. (Mayfield Clinic, 2018)

- The spine consists of 33 bones, or vertebrae, which protect the spinal cord and nerve roots.
- The spinal cord is a large group of nerves that carry messages between the brain and the rest of the body. The nerve roots are responsible for stimulating movement and feeling.
- Between each vertebra is a “cushion” called an intervertebral disc that keeps the bones from rubbing together.
- Muscles are attached to the bones and control movement of the spine.
- Ligaments are strong fibrous bands that connect bones together, attach muscle to bone and help to stabilize joints.

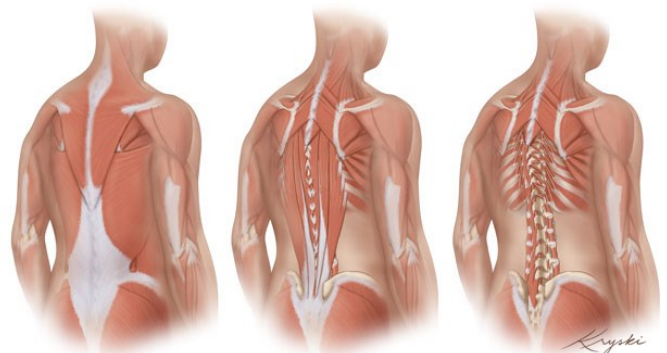


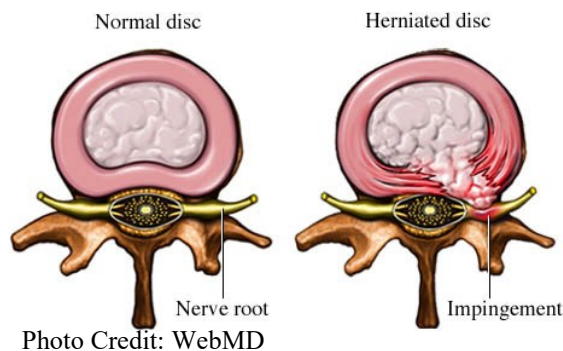
Photo Credit: Kryski Biomeia

Common Ag Related Back Injuries

Herniated Disc

A herniated disc occurs when some of the softer “jelly” from one of the rubbery cushions (disks) bulges or pushes out through a crack in the tougher exterior.

- Repetitive lifting, pulling, pushing, bending sideways and twisting also may increase the risk of a herniated disc. Sometimes, using back muscles instead of leg and thigh muscles to lift large, heavy objects can lead to a herniated disc, as can twisting and turning while lifting.



Spinal Fracture/ Trauma to the Spine

Spinal fractures are different than a broken arm or leg. A fracture or dislocation of a vertebra can cause bone fragments to pinch and damage the spinal nerves or spinal cord (Mayfield Clinic, 2018).

Even minor falls or trauma can produce a spinal fracture.

- Examples of potential fall/trauma hazards include person factors (such as poor leg strength, deficits in balance, impaired coordination, arthritis, etc.), accessing/exiting farm equipment, navigating slippery or uneven terrain, and contact with unpredictable livestock.

Sprains & Strains

A strain is an injury to either a muscle or tendon. The muscles and tendons that support the spine are twisted, pulled, or torn. A sprain is the stretching or tearing of a ligament.

- Twisting or pulling a muscle or tendon can result in a strain. It can also be caused by a single instance of improper lifting or by overstressing the back muscles. A chronic strain usually results from overuse involving prolonged, repetitive movement of the muscles and tendons.
- A sprain often results from a fall or sudden twist, or a blow to the body that forces a joint out of its normal position. All of these conditions stretch one or more ligaments beyond their normal range of movement, causing injury.

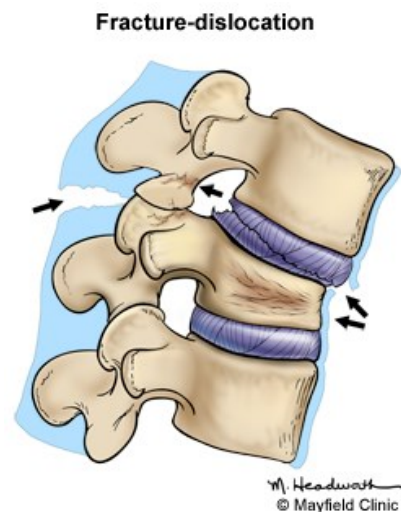
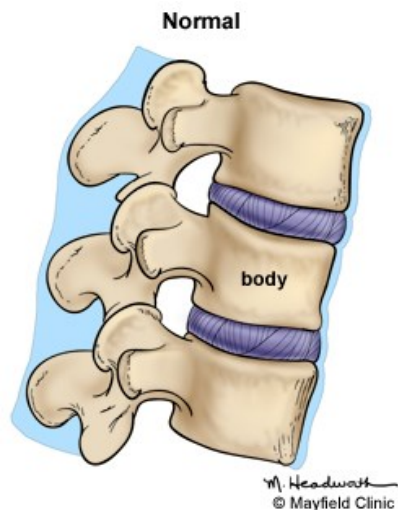
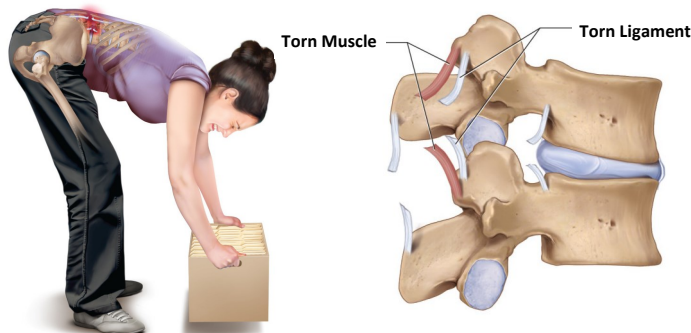


Photo Credit: Spine Connection

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References

- Back Strains and Sprains. (2018). Retrieved October 06, 2020, from <https://my.clevelandclinic.org/health/diseases/10265-back-strains-and-sprains>
- Grisso, R. (2020). Preventing Secondary Injuries in Agricultural Workplaces. Retrieved 2020, from https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/442/442-085/BSE-316.pdf
- Herniated disk. (2019, September 26). Retrieved October 06, 2020, from <https://www.mayoclinic.org/diseases-conditions/herniated-disk/symptoms-causes/syc-20354095>
- Kansas State Research and Extension. (2010). Back Injury Prevention For the Landscaping and Horticultural Services Industry. Retrieved 2020, from https://www.osha.gov/sites/default/files/2019-03/back_injury_prevention_manual.pdf
- Mayfield Clinic. (2018). Spine Anatomy, Anatomy of the Human Spine. Retrieved October 06, 2020, from <https://mayfieldclinic.com/pe-anat spine.htm>
- Mayfield Clinic. (2018). Spine fracture, Spinal fractures, vertebral fractures, compression fractures. Retrieved October 06, 2020, from <http://www.mayfieldclinic.com/pe-spinefract.htm>
- U.S. Department of Labor, Bureau of Labor Statistics. (2018). EMPLOYER-REPORTED WORKPLACE INJURIES AND ILLNESSES – 2018 [Press release]. Retrieved 2020, from <https://www.bls.gov/news.release/pdf/osh.pdf>