

# Injury Prevention: The Back

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## Part 3: On the Farm and Ranch

There are numerous factors in the workplace that increase a farmer's or rancher's chance to develop a back injury.

Farmers and ranchers are affected by

- Whole body vibrations
- Awkward postures
- Heavy lifting
- Repetitive movements
- Contact with large animals



Because farmers and ranchers are exposed to these risk factors on a daily basis, measures should be taken to help prevent injuries. According to OSHA, back injuries are the most common worksite injury, and back injuries lead to more time away from work than any other injury.



Farmers and ranchers can greatly reduce the risk of developing a back injury by implementing simple techniques, assistive technology, and equipment on the worksite.

We will cover:

- Tips for preventing back injury on the worksite
- Strategies for handling livestock
- Techniques for Materials Handling
- Farm Equipment Modification

# Tips for Preventing Back Injury on the Worksite

- Move closer to a work area and minimize reach distances to reduce the need to lean forward.
- Minimize the need to bend or twist at the trunk.
- Raise or lower the task if necessary to eliminate stooping or arching of the back.
- Prop one foot on a low bar, box, bucket, or lower shelf of a workbench during standing tasks to reduce strain on the back.

## Elevated Raised Garden Beds



Gardeners Supply Company

- Use a creeper for working under equipment to reduce bending and stooping.

## All Terrain Mobile Creeper



Disability Work Tools All Terrain Mobile Creeper

- Use a reacher or magnet to pick up items off the floor or reach for items up high.

## Magnetic Reacher Grabber



Classic Reacher by Essential Aids

- Keep tools and supplies at waist level to reduce the stress placed on the back by frequent bending and lifting.
- Use an adjustable height stool to prevent bending and stooping

## Adjustable Height Stools



Craftsman Adjustable Work Stool



Grainger Sit Stand Stool

- Wear flat or low-heeled soft-soled shoes.
- Use shock-absorbing shoes/insoles or anti-fatigue mats if standing on hard floors.
- Keep shop/work areas clear and clean to decrease the risk of tripping, slipping or falling.

## Anti-Fatigue Floor Mats



Uline Anti-Fatigue Floor Mat

- Vary body positions and activities throughout the day to minimize repetitive activities and sustained postures.

# Strategies for Handling Livestock

Many products can help prevent or reduce back pain/injury when working with livestock.

## Squeeze Chutes and Gates

Utilizing squeeze chutes and gates reduce sudden, jerking movements and places a barrier between the individual and the animal



## Calf Carriers



Calf carriers reduce the amount of heavy lifting by utilizing a truck or ATV to carry the calf

## Lift Tables/Stand

Lift tables and stands eliminate the need for bending when caring for small livestock



## Support Harnesses



Back support harnesses help support the back and lessen back fatigue when working

## Motorized Feed Cart



Motorized feed carts eliminate the need to carry heavy feed

Valmetal Round Bale Feed Cart

## Utility Carts

Utility carts eliminate placing items on the floor and the need to transport heavy items by carrying



Amazon Utility Cart

## Pusher Scoops

Multi-purpose pusher scoops allow person to clean floors instead of kneeling to reduce fatigue and back pain



## No Contact Working Pens

Design working facilities to have little direct contact with the livestock to help reduce injury.



Additional assistive technology can be found at: [www.agrability.org/toolbox](http://www.agrability.org/toolbox)

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# Techniques for Materials Handling

Material handling tasks often involve heavy lifting, moving bulky equipment, transporting heavy awkward objects, and twisting while lifting.

The following strategies and aids may help to reduce the risk for back injury:

- Have feed, seed, or fertilizer delivered in bulk to eliminate the need to handle heavy bags.
- Use automated feeding and manure operations to decrease bending, lifting, and twisting.
- Use a tractor to move large hay bales or a bale accumulator with small bales to eliminate lifting.
- Transport heavy items with mechanical aids (lift tables, hoists, carts, wheelbarrows, cranes and forklifts).
- Monitor grain bins with grain level indicators or install spiral stairs to reduce climbing stress.
- Utilize hydraulic and electric bed hoists for trucks and utility vehicles.
- Use a ramp to load equipment or materials into a truck.
- A skid-steer, utility vehicle, or ATV may be used to eliminate manual handling.
- Add extra handles to a shovel, pitchfork, hoe, or rake to decrease the amount of bending required.
- Repackage heavy loads into smaller, more manageable packages.

## Added Handles on Tools

Extra handles on long handled tools decreases the amount of bending required to do a task on the farm/ranch. It also allows the producer to stay upright while using the tool



Stout Backsaver Grip Attachment

## Automatic Feeder

Automatic feeders make feeding live-stock easier and decrease the need for repetitive bending, lifting, and twisting.



Auto Easy Feeder

## Square Hay Bale Forks



John Deere Bale Forks

Square hay bale forks allow a producer to pick up 8 to 10 square bales simultaneously. Thus reducing, time, stress, and strain on joints and back

## Grain Bin Level Indicator

Grain bin level indicator lights up when it detects grain on the inside of the bin. This allows a producer to monitor grain levels without climbing on the grain bin



LevALERT Indicator

## Hydraulic Bed Hoist



Hydraulic bed hoists allow a producer to empty the bed of a pickup with the push of a button

# Farm Equipment Modification

Prolonged sitting, vehicle vibration, and rough terrain can increase/cause back pain. Climbing into/out of farm equipment, or jumping from a farm vehicle can cause severe shocks, awkward twisting to the back and spine, or even result in a fall. Reaching for/climbing high steps can cause straining or arching of the back. Hitching heavy implements and performing equipment maintenance can result in excessive stress and strain being placed on the back.

Equipment modification and assistive technology can help to prevent or reduce back pain/injury when operating, accessing, hitching, and maintaining farm equipment.

Examples include:

- Ergonomic, anti-vibration, and air-ride seats can lessen the vibration, jolting, or swaying while operating farm machinery.
- Cameras, mirrors, and swivel seats can reduce the need to twist the trunk and neck while monitoring towed implements.
- Adding additional steps, widening steps, and hand holds can decrease fall risk and back strain when climbing into/out of farm equipment.
- Automatic gate openers can cut the number of times a person needs to get on and off a vehicle.
- Automatic hitching devices, telescoping and self-latching tongues, extension handles on tongues, and bolted-on screw jack stands are a few devices available to help minimize the stress, strain, and bending involved in hitching implements.
- Specialized equipment such as the E-Z wrench, the Dual Lift System, and hydraulic jacks can simplify machinery maintenance, reducing stress placed on the back and joints.
- Additional assistive technology can be found here: [www.agrability.org/toolbox](http://www.agrability.org/toolbox)

## Air Ride Tractor Seat

Air ride seats absorb vibration, lessening the impact on the back and body. The armrests and back improve stability and posture for the driver, decreasing back pain.



## Automatic Gate Opener



Automatic gate openers eliminate the need to get out of a vehicle or equipment to open and close gates.

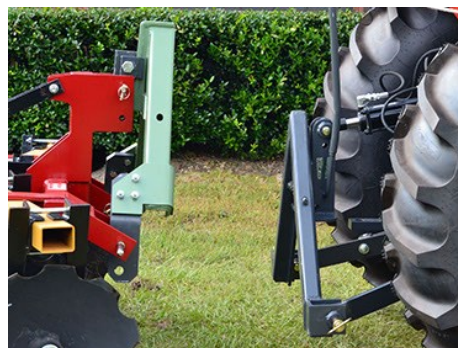
## Camera for Combine/Tractor

Equipment cameras allow the driver to hitch and monitor implements without turning or twisting.



## Jiffy Hitch System

Hitching systems allow the driver to hitch implements without getting on and off the tractor multiple times.



# References

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