

# Fitness for Farm Life: Safe Lifting

S. Dee Jepsen, PhD, Associate Professor, State Safety Leader, Agricultural Safety and Health, Food, Agricultural and Biological Engineering, The Ohio State University

Leah Schwinn, OT/D

## Why Safe Lifting is Important:

Continuous lifting in poor positions over a lifetime contributes to chronic pain and injury. Oftentimes low back pain is the first sign that something is wrong. By training yourself to get out of poor habits, and changing how you perform a lift, pain and risk of injury will both decrease.

Safe lifting practices will ensure that you are staying as safe and healthy as possible, allowing yourself to care for your body in a way that makes it possible for you to continue farming as you age. By following the Ten Tips for Safe Lifting, your body will be in an optimal position to lift whether it's a 5-gallon bucket of water, a feed sack, or stacking hay bales. No matter the object, you should always be considering the safest possible way to lift.

## Ten Tips for Safe Lifting

### 1. Wide base of support

Stand with your feet shoulder width apart, so that your body's center of gravity is balanced, allowing for a stabilized lift. When possible, have one foot shifted slightly in front of the other.

### 2. Keep head in neutral position

Keep your head in a neutral position. Not too far forward, not overextended, and not twisted. Keeping an even gaze in front of you while lifting will avoid stressing your neck and upper back muscles.



Figure 1. Incorrect: Forward head

Figure 2. Incorrect: Overextended head

Figure 3. Correct: Neutral head

### 3. Keep the load close

Keep the object that you are carrying close to your body throughout the entire lift process (securing, transferring, release) to reduce the amount of force put on your body. When lifting off the ground, this would mean lifting the object between the knees, rather than in front of, or beside the knees.

*Trainer's Note: It is natural to do this when carrying the object, and often while picking it up. Most struggle with keeping it close to them while lowering or releasing the object.*



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#### 4. Engage stomach muscles

Keeping your core muscles engaged will add support to your back during a lift, decreasing the risk of injuring your back. It is a conscious effort to turn these muscles on.

*Trainer's Note: Imagine a string connecting your belly button to your spine. Now tighten that string. Feel those muscles turn on? That's what you want to feel as you perform a lift.*



Figure 4. Lunge lift

#### 5. Bend with knees, not back

Assume a full squat or lunge position to avoid excessive compression forces on your back when picking up or putting down an object. For those with a bad knee, using a lunge position with the good knee resting on the ground and the bad knee lunging can decrease discomfort.

#### 6. Lift with legs, not back

Our legs have very large and powerful muscles that were meant to accept heavy loads and pressure. Lifting with your legs decreases compressive forces on the back. Keep your back straight and let your legs do the work.



Figure 5. Incorrect: Lifting with back



Figure 6. Correct: Lifting with legs

#### 7. Breathe out as you lift

When lifting heavy objects, breathing out on the lift reduces the amount of pressure placed on your lungs.



Figure 7: Improper twisting to transfer object



Figure 8: Proper nose and toes alignment

#### 8. Avoid twisting

Your nose and toes should always be facing the same direction to avoid displacing any part of your spine. When transferring an object, take steps to re-orient your whole-body position rather than keeping your feet stationary and rotating or twisting your body.

## 9. Right height

When possible, pick up and put down the object at mid-body height, adjusting your squat position to achieve this.



Figure 9: Adjusting body position for ideal height

## 10. Environmental modifications

Change the work area to accommodate for safer work practices. Adjusting the height or weight of an object has been found more effective at reducing pain and injury than using the proper lifting technique alone. By making small adjustments around your farm you can set yourself up for continued safe success.

### Modifications for Safe Lifting

**Height:** Eliminate repetitive lifting by placing items at a mid-body height using workbenches or raised surfaces as much as possible. A general rule of thumb is to lift starting at a height at or above your knees, and no higher than your shoulders, with the ideal height at waist level. Stack straw or hay bales on a pallet instead of directly on the floor, saving your back those few additional inches of bending every time. Multiple pallets can be stacked to bring this height to a safer level.

**Tilt the Object:** Using proper body mechanics as described earlier – bending with knees, straight back, lifting with legs – is less successful at preventing injury when an object is on the ground and lifted from its base. Ideally, low-lying objects should have handles for an easier lift. For example, a crate with handles near the top is helpful. For objects without handles that are sitting on the ground, tilting the object allows for less distance between you and the object and supports safe lifting practices. For those with knee arthritis or pain, this technique can be helpful in reducing the distance required to bend the knees.

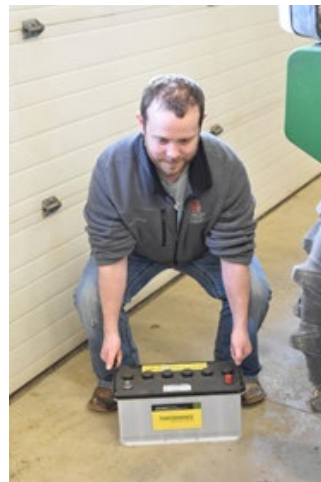


Figure 10: Utilizing handles



Figure 11: Tilting technique

**Use equipment:** Utilize equipment such as carts, wagons, wheelbarrows or trailers, whenever possible, especially when transferring over a long distance. When the tissues of the spine are required to carry a heavy object for a prolonged time, the risk of injury significantly increases. Ideally, push, rather than pull, the piece of equipment while tightening core muscles as this reduces strain on muscles and reduces twisting.

**Divide into smaller loads:** General health guidelines state that the chance of injury significantly increases if the weight of an object is 50 pounds or greater. On the farm, this might mean filling feed bags or fruit/vegetable baskets to a lesser amount. You could also take two trips instead of one to transfer an object.

By decreasing the weight, the spine has less compression on it during each lift. However, this adds the number of lifts required, which puts prolonged weight exposure on the back. Therefore, the key is not only in reducing weight of the object, but also raising the object to knee or waist height to lift.

### **Summary**

Safe lifting on the farm requires some thought and planning before each lift, and in setting up the ideal environment. With practice, proper lifting becomes second nature and helps to decrease compression on the back, guard against back strains, and reduces the overall strength requirement of the tasks.

### **About AgrAbility Factsheets**

These fact sheets were developed to promote success in agriculture for farmers and farm families to improve their health and quality of life. Our program assists persons of all abilities, including farmers coping with a disability or long-term health condition. AgrAbility offers information and referral materials, such as this fact sheet, along with on-site assessment, technical assistance, and awareness in preventing secondary injuries. These resources were developed with funding from USDA-National Institute of Food and Agriculture, grant 2017-41590-27337.

This fact sheet was reviewed by Laura Akgerman, MA, CRC, Disability Services Coordinator for OSU Extension; Carin Helfer, PhD, Research Assistant Professor, Department of Food, Agricultural and Biological Engineering; Megan Amaya, PhD, Assistant Professor of Clinical Nursing, OSU College of Nursing; Josh Winn, MS, CHWC, Wellness Program Manager, OSU College of Nursing.

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