

UNIT 9

# FALLS ON FARMS

AG HEALTH 101



**GREAT PLAINS**  
Center for Agricultural Health

# CHAPTER DISCUSSION QUESTIONS

## **Chapter 1. Introduction to Falls**

Describe a time when you fell. When describing it, try to address these factors so the conditions and outcome is clear to others: What were you doing before the fall? What was the condition of the surface and surrounding environment? What were the clothing/footwear/hand conditions that might have played a factor? Was the outcome an injury?

## **Chapter 2. Fall Risks on the Farm**

Given the many sources of fall hazards on a farm, think about how a farmer who may be in a hurry to complete a task and might forget about a fall hazard and take a step that causes a fall. What options do you think would be useful to get a change in behavior so that the risk of fall is minimized?

## **Chapter 3. Personal Risk Factors**

What types of discussions would you have with patients to determine if there are personal risk factors present that may affect their work? How would you communicate these personal fall risk factors with a farmworker?

## **Chapter 4. Fall Prevention Tips & Resources: Ladders**

Think about buying a ladder to do chores in your own home. What tasks might you need a ladder to do and what information would you need to select the right type and size of ladder?

## **Chapter 5. Fall Prevention Tips & Resources: Getting Off Equipment**

From the content presented in this chapter, what were three factors that contributed to the fall out of the tractor? Think both physical and emotional factors. What recommendations do you have to others, consider both engineering and behavioral, on how to prevent a fall when descending a tractor to exit it?

## **Chapter 6. Fall Prevention Tips & Resources: Ice**

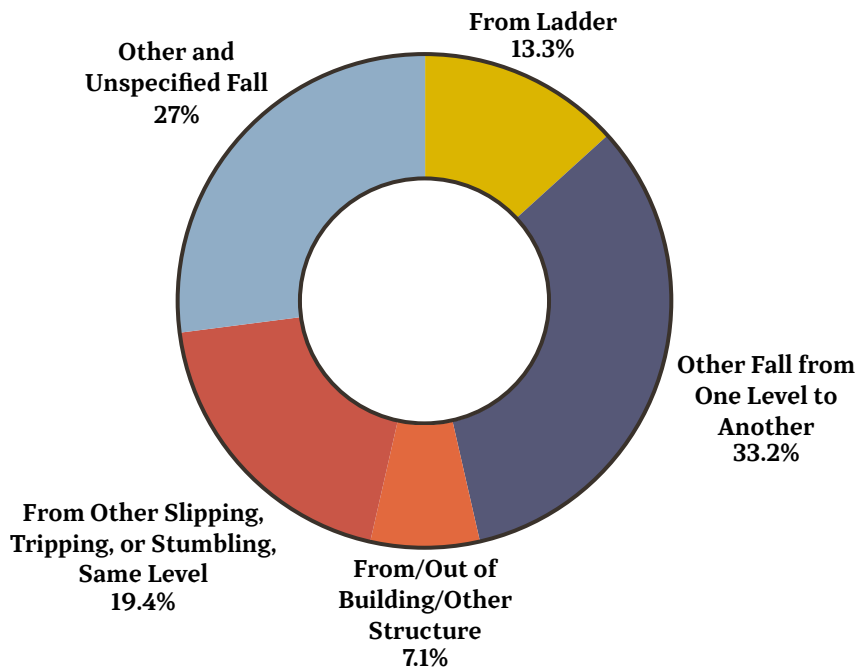
Reflect on your home and identify where the falls on ice risks are at your home. Do you have any particularly icy areas that you can plan for this year? Do you have a need for slip traction? Discuss your plan for preventing falls on ice this winter.



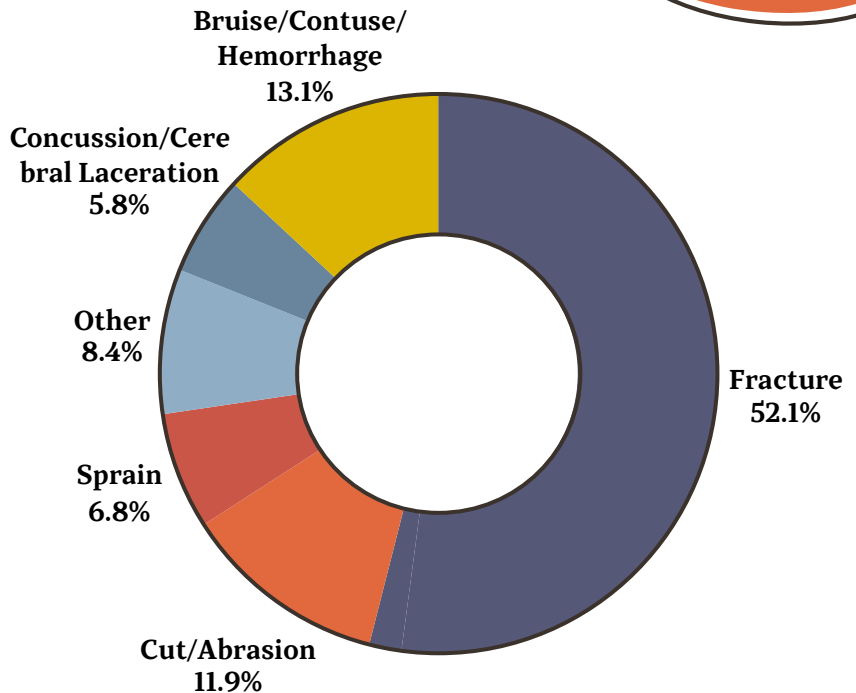
# CHAPTER 1

# INTRODUCTION TO FALLS

Figure 3: Distribution of fall causes (top) and resulting distribution of fall diagnoses (bottom)



Falls (N = 428)



19% (83) to additional medical treatment  
11% (48) to rehab/long-term care  
1% fatal

# CHAPTER 2

## FALL RISKS ON THE FARM

Roofs  
Bins & Buildings  
Elevated Platforms  
Vehicles  
Openings in the Ground/Floor  
Ponds/Lagoons/Wells  
Clutter  
Ice/Water  
Livestock  
Lighting & Slipperiness







INSPECTION CHECKLIST

# FARM FALL HAZARDS

	Hazard Present		Hazard Fixed
	Yes	No	
1. Are all buildings free of trash, junk or tools in walkways and work areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Are wood floors free of rotten or broken floor boards, exposed nails and other defects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are concrete floors free from badly broken sections, raised areas, slippery spots or other defects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are stairs and ladders in good condition? Are handrails and stairs secure and free of objects and slippery surfaces?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Are buildings lighted to illuminate walkways and work areas so you can see hazards adequately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Are floors and walking surfaces in livestock facilities clear of manure, mud and feed material?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Are silo and bin ladders secure and in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Do all bins have permanent ladders on both the outside and inside?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Do silos or bins taller than 30 feet possess a safety cage or climbing device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Are the operator's platforms on tractors and other equipment free of grease, mud and tools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## PERSONAL RISK FACTORS FOR FALL:

- Age
- Recent Fall
- Medications
- Eyesight
- Balance Problems
- Cognitive Problems
- Certain Chronic Diseases - Osteoporosis, Diabetes, Arthritic, or Parkinson's Disease



- Anti-Anxiety Drugs:** Diazepam (Valium), Lorazepam (Ativan)
- Diphenhydramine (Benadryl):** Antihistamine; Also included in many sleep aids (Nyquil, Unisom) & in nighttime medicines with pain medications (Tylenol PM, Advil PM, Motrin PM, Aleve PM)
- Medications to Treat Overactive Bladder:** Oxybutynin (Ditropan), Tolterodine (Detrol)
- Tricyclic Antidepressants:** Amitriptyline (Elavil)
- Prescription Sleep Drugs:** Zolpidem (Ambien), Zaleplon (Sonata), & Eszopiclone (Lunesta)
- Opioid Narcotics:** Codeine, Hydrocodone (Vicodin), Oxycodone (Percodan, Percocet), Hydromorphone (Dilaudid) & Fentanyl (Duragesic)

# CHAPTER 4

# FALL PREVENTION TIPS & RESOURCES

## LADDERS

### EXTENSION LADDER SAFETY

#### Get Ready...

- ✓ Wear non-slip footwear
- ✓ Have a plan for getting materials & tools to working height
- ✓ Choose the right ladder for the job
  - ladder height
  - appropriate footings
  - ladder composition
  - weight limit

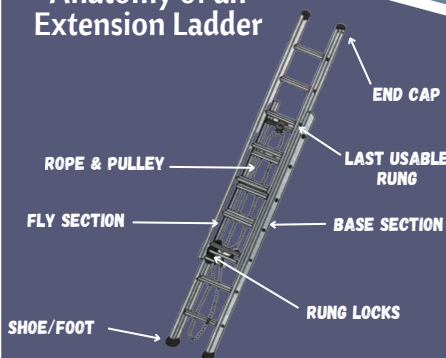
#### Get Set...

- ✓ Inspect your ladder
- ✓ Both feet on solid surface
- ✓ Ensure there are no overhead hazards
- ✓ Be sure the locking devices are engaged
- ✓ Ladder should get you within 4' of work area
- ✓ If accessing another level, ladder should extend 3' above that surface

#### GO!

- ✓ Maintain 3 points of contact while climbing
- ✓ Never stand on the top 3 rungs
- ✓ Don't overreach - keep your belt buckle between the side rails while you work
- ✓ Appropriate tasks include:
  - accessing another level
  - construction
  - building maintenance

#### Anatomy of an Extension Ladder



### STEP LADDER SAFETY

#### Get Ready...

- ✓ Wear non-slip footwear
- ✓ Have a plan for getting materials & tools to working height
- ✓ Choose the right ladder for the job
  - ladder height
  - appropriate footings
  - ladder composition
  - weight limit

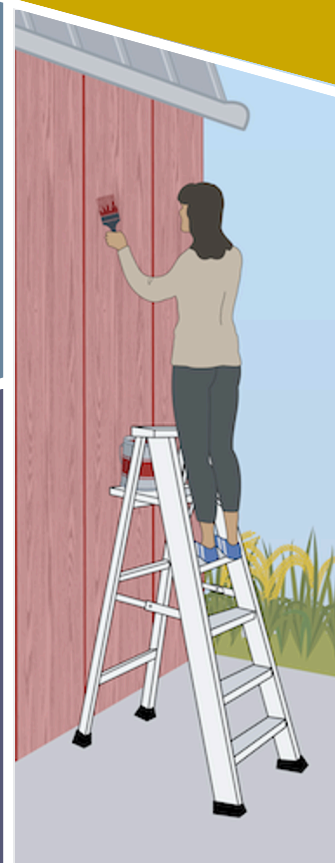
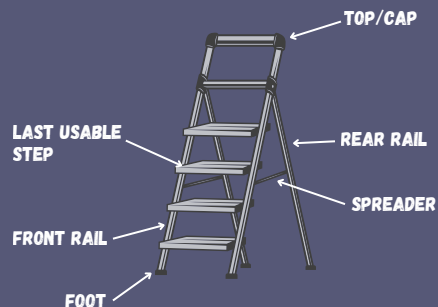
#### Get Set...

- ✓ Inspect your ladder
- ✓ Both feet on solid surface
- ✓ Ensure there are no overhead hazards
- ✓ Be sure the locking devices are engaged
- ✓ Ladder should get you within 4' of work area
- ✓ If accessing another level, ladder should extend 3' above that surface

#### GO!

- ✓ Maintain 3 points of contact while climbing
- ✓ Never stand on the top 2 steps
- ✓ Don't overreach - keep your belt buckle between the side rails while you work
- ✓ Appropriate tasks include:
  - changing lightbulbs
  - painting
  - building maintenance
  - construction

#### Anatomy of a Step Ladder



# FALL PREVENTION TIPS & RESOURCES

## GETTING OFF EQUIPMENT

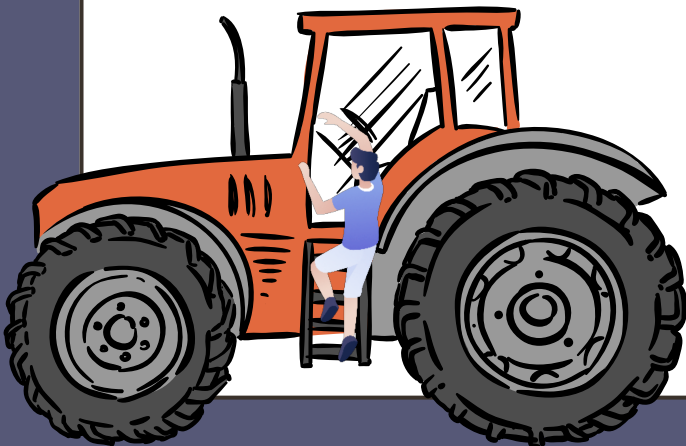
### CASE STUDY

**Brian's Story:** "I was baling soybean stubble and was disgusted because the baler plugged. I got off that tractor going a hundred-miles-per-hour; I climbed down the absolute wrong way - face forward instead of backing down - and my foot caught between the bottom two steps when I pivoted to step off. I fell backward and had nothing to grab to break my fall, and my leg snapped. I think about it every single day."

Since his fall, Brian has replaced the narrow steps on three of his five tractors with safety steps and grab rails. The steps he prefers for his older tractor are one-piece closed steps, which he finds to be safest. An after-market "service step" mounted on his John Deere 4020 tractor now gives him better access to the fuel tank and radiator. Whenever he gets on or off a tractor now, he is facing it.

**Advice from Brian's Wife, Pam:** "Don't work when you're tired. I'm glad he makes a point to get his work done before dark so he's not working late hours while he's tired."

Brian added, "Think everything through before you do a job. It's the little things, everyday things you take for granted that can go bad and get you hurt."



### RECOMMENDATIONS

- Face the Tractor When Climbing Down
- Hang On to Safety Rails
- Slow Down, Don't Rush
- Figure Out How to Call for Help

# FALL PREVENTION TIPS & RESOURCES

## ICE

WEAR APPROPRIATE GEAR, NO MATTER HOW LONG YOU PLAN TO BE OUTSIDE

BRING PHONE AND LET PEOPLE KNOW WHERE YOU ARE

PREPARE FOR ICE IN AREAS WHERE WATER IS KNOWN TO ACCUMULATE

TREAT SURFACES WITH ICE MELT



## Ice Safety: Adopt New Movements for Ice

### 1 Walk Like a Penguin:

- Take short, slow, flat-footed steps
- Keep feet under your center of gravity
- Keep hands and arms free to help adjust balance

### 2 Other Adjustments:

- When exiting a car, step *DOWN* not *OUT*
- Use handrails, avoid slopes
- Keep your head up and don't lean forward when walking

## Use Additional Traction on Slippery Surfaces

Chain



Coil



Spike



Crampon



# FALLS ON THE FARM

## RESOURCES

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### CHAPTER 1. INTRODUCTION TO FALLS

- 2014-2017 Iowa Trauma Registry Analysis (Falls on p. 5): <https://gpcah.public-health.uiowa.edu/wp-content/uploads/2019/12/Iowa-Trauma-Registry-Ag-Surveillance-2014-17.pdf>
- <https://www.icd10data.com/ICD10CM/Codes/V00-Y99/W00-W19>

### CHAPTER 2. FALL RISKS ON THE FARM

- Print Materials & Other Resources: <https://gpcah.public-health.uiowa.edu/outreach-2/topics/fall-prevention/>
- Elevated Platforms: <https://nasdonline.org/7404/d002565/mi-face-report-horse-breeder-falls-11-12.html>
- Vehicles: <https://www.osha.gov/sites/default/files/publications/OSHA3835.pdf>
- Openings in the Ground/Floor: <https://health.ny.gov/environmental/investigations/face/docs/20ny025.pdf>
- Ponds/Lagoons/Wells: <https://extension.psu.edu/farm-pond-safety>

### CHAPTER 3. PERSONAL RISK FACTORS

- <https://www.betterhealth.vic.gov.au/health/healthyliving/farm-safety-falls>
- Medications: <https://www.health.harvard.edu/staying-healthy/medications-that-increase-your-risk-of-falling>

### CHAPTER 4. FALL PREVENTION: LADDERS

- See Ladder Safety Guidance, *Safe Use of Extension Ladders* and *Fall Prevention Wallet Card*: <https://www.osha.gov/stop-falls/educational-resources>
- Ladder Do & Don't List: <https://osha4you.com/ladders/ladder-safety-dos-and-donts/>

### CHAPTER 5. FALL PREVENTION: GETTING OFF EQUIPMENT

- “Mount & Dismount” Tips: <https://farmsafety.mo.gov/farm-equipment/tractor-safety/>
- Tractor Safety Tips: <https://www.ars.usda.gov/northeast-area/docs/safety-health-and-environmental-training/tractor-safety/>

### CHAPTER 6. FALL PREVENTION: ICE

- Wintertime Falls Prevention (Materials): <https://gpcah.public-health.uiowa.edu/materials-for-health-care-providers/>
- <https://www.dmu.edu/blog/2020/01/prevent-falls-on-snow-and-ice/>

VIEW THESE LINKS FOR  
MORE INFORMATION &  
ADDITIONAL  
RESOURCES ON THE  
CONTENT PRESENTED  
IN THIS UNIT.