

# AMPUTATION

## Supplemental Activity 1

### Case Report

**Materials needed:** Case report (13-Year-Old Caught in Silo Sweep Auger)

**Time required:** 15 minutes

Divide the students into groups of five to seven. Tell the students they are going to hear a real story that happened in Kentucky. Assign one or two students to read aloud this case report from the Kentucky Community Partners for Healthy Farming Project.

After reading the report, have the students discuss and answer the following questions as a group:

1. What actions caused the injury?  
*Lost temper, was in a hurry, in a place he should not have been, machinery not shut down, no guard in place*
2. How could the injury have been avoided?  
*Check all equipment before using it. Keep machinery in good repair. Do not enter the silo while equipment is still running. Do not use any part of the body to dislodge objects. Shield the auger to avoid entanglement.*
3. How did the injury affect the 13-year-old?  
*Lost leg, had to undergo physical therapy, emotional trauma*
4. How did the injury affect the family?  
*Mother off work, reduced income, had to get medical card*
5. How would you have handled the situation?



## Case Report:

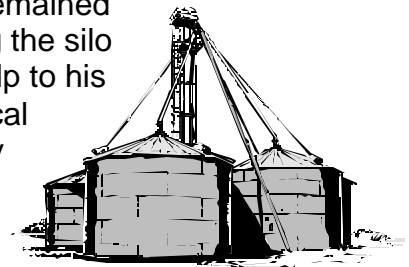
### 13-Year-Old Caught in Silo Sweep Auger

#### Summary :

On November 17, the Community Partners for Healthy Farming (CPHF) Project nurse was made aware of an agricultural incident in which a 13-year-old male was attempting to check the bull wheel of a silo auger, when he became entrapped between the channel arm and the auger. The incident resulted in severe trauma to the child's right leg. He developed a wound infection and pneumonia. The victim and his stepfather had finished milking cows when they suspected problems with the bull wheel on the silo auger and went to the silo to investigate.

#### What happened:

The victim climbed up the 60-foot silo while his stepfather remained near the switch at the bottom. Within minutes after entering the silo the victim became entrapped in the auger. He yelled for help to his stepfather who turned the silo unloader off and went to a local market to call 911. The victim was freed and transported by air ambulance to a trauma center, where several days later he developed infection and underwent surgery to amputate his right leg below the knee. Due to the emotional trauma of the incident, he received psychological counseling while in the trauma center.



An investigation was initiated to determine the circumstances surrounding the incident and to recommend prevention strategies.

#### Investigation:

On November 16, the child and his stepfather had finished the regular chores of milking and were preparing to feed calves. They had worked together in the past and were familiar with the silo and its operation. The child had performed this task several times before.



The silo was last filled in October and was approximately 95% full of corn silage. The level was approximately 55 feet, leaving about five feet of space at the top of the silo. The auger measures 30 inches wide and has two channel arms at each end, with rotating parallel augers inside the unloader. The unloader rotates around the top of the grain, pulling the grain to the center of the auger and into a clean chute that directs the grain down the side of the silo. At the time of the incident the silage was in the

fermentation stage and very moist. Reportedly, the silo auger and bull wheel operated inefficiently almost every time it was used. It usually had to be jolted by kicking or pushing to unclog it. The child, wearing rubber, steel-toed boots, walked from the barn to the silo through a wet barn lot and proceeded up the silo. Upon entering the silo, he found that the bull wheel was not working properly.

Reportedly, he had been warned not to go near the auger itself; however, after becoming angry the child kicked the auger, causing him to become entangled between one of the augers and one of the channel arms. He then yelled for help to his stepfather who shut off the equipment from the door at the bottom of the silo, went up the silo, and after coming back down, drove to a local market to phone for help. The Emergency Medical Services (EMS) office received the call at 5:54pm and arrived on the scene from 20 miles away at 6:07pm. The stepfather had returned to the farm and summoned a neighbor to bring tools to dismantle the auger. Two EMTs who lived in the area heard the call on their scanners and responded to the scene in their privately owned vehicles. Being without medical supplies, they climbed the silo to begin dismantling the auger in order to free the victim. After the last bolt was removed, the child stopped breathing, but began breathing on his own again after rescuers gave him two breaths. The EMTs removed the child's boot, noting the damage to his right leg was approximately four inches below the knee. The EMT also noted that the auger had rotated approximately one quarter of a turn. The left leg was also damaged in the incident.



A pressure dressing and splint were applied to the right leg to control bleeding after removal of the last bolt from the auger. Working in the dark, two EMTs guided the child through the clean chute on the side of the silo. The paramedic from the ambulance service had arrived and descended the silo below the EMT, supporting the child as he was carried down the side chute. Once on the ground, the EMS workers carried him to the ambulance and redressed his wounds.

Five minutes later, the air ambulance landed on a hill less than 1,000 yds from the silo. The helicopter was en route to the trauma center at 6:51pm, 93 minutes after notification of the incident. The child was taken to the trauma center, where a few days later he underwent amputation of his right leg below the knee due to infection. He also developed pneumonia and suffered emotional trauma due to loss of the leg. He was given several units of blood during his hospital stay. On December 27, he was able to return to his home. At that time, he was going to physical therapy five times per week for rehabilitation.

Follow-up on February 19, revealed that the child's mother had been denied a medical card and was struggling financially. She was to return to work the following week, for the first time since the incident. Follow-up again on April 17, revealed that the child had attempted to return to school but was having difficulty

adjusting. Reportedly, he was to first have surgery on his leg and then be fitted for prosthesis. His mother had received a medical card and was not working.

**Discuss these questions with your group:**

1. What actions caused the injury?
2. How could the injury have been avoided?
3. How did the injury affect the 13-year-old?
4. How did the injury affect the family?
5. How would you have handled the situation?