

Training Module: Respiratory Diseases

Objective: To know the symptoms of respiratory diseases, and how to take actions to prevent these diseases.

Trainer's Note: Breathing silo gases, dust, or mold spores can cause lung disease or death. Teach employees to recognize this danger and to avoid exposure. Conduct this session near a silo with the proper respirators available. Review the Respirator Fit and Silo Safety Modules along with this module.

Background

There are several different types of respiratory diseases and illnesses a person can have. Some last for only 24 hours, others may be chronic, while other diseases are life threatening. These diseases have a variety of causes, such as silo gases, dust, and mold spores. They are all very serious and preventable.

Silo Filler's Disease occurs when lung tissue comes into contact with silo gas. Nitrogen oxides begin to form a few hours after the silo is filled. They may be present up to weeks afterward. However, the first three weeks after filling the silo are the greatest risk.

Symptoms of silo filler's disease may be an eye and upper airways irritation with fatigue and shortness of breath for a few days. This is normally followed by a full recovery. The second scenario may be the disease developing in two stages. The first stage consists of a cough and some shortness of breath. A few days later a second more serious stage may occur. This stage may consist of fluid forming in the lungs. Silo filler's disease is difficult to treat. The fatality rate has been as high as 29 percent.

To help prevent Silo Filler's Disease:

- Stay away from recently filled silos.
- Run the blower for at least 15 minutes before entering a partially or recently filled silo.
- Enter the silo during daylight when gases are more likely to be visible. However, there still may be enough gas present to cause problems yet still not be visible.
- Bleach-like fumes should not be inhaled. However, if these fumes are inhaled and you are having difficulty breathing get to fresh air immediately.

Farmer's Lung is caused by the mold spores that grow in hay, stored grain, or silage with high moisture content. These spores are stored in winter and spring in closed storage areas and on dairy farms. When the dry uppermost silage is removed after months of storage, spores are released into the air. Inhaling mold spores may cause farmer's lung disease (FLD). FLD occurs most often in the winter months. The classic attack will occur 5-6 hours after the exposure. The disease may develop without any observed interval between exposure and the appearance of symptoms. Symptoms are feverish and flu-like. They may also include; shortness of breath discomfort in the lungs, and a tightness and/or pains in the chest. Individuals developing FLD may have repeated attacks lasting weeks or even months. They may suffer from this condition for the rest of their lives when exposed to even the slightest amount of mold dust. Chronic reactions resemble nagging chest colds. By the time the person receives treatment, permanent damage can already be done. People have died from Farmer's Lung. Don't be afraid to mention Farmer's Lung to your physician, as they may not be very familiar with the disease.

Silo Unloader's Syndrome is a result of inhaling too much dust. When afflicted, the farmer may die immediately of asphyxia or succumb to pulmonary edema within 24 hours. Survivors often develop progressive bronchitis within a few weeks.

Organic Dust Toxicity Syndrome (ODTS) is also caused by exposure to excessive amounts of dust. The symptoms of ODTS are identical to an acute attack of Farmer's Lung. This is not an allergic reaction, and anyone can get ODTS. Some people may become extremely sick as a result of ODTS, but most recover completely. Having ODTS once does not damage the lungs and doesn't increase the risk of getting it again.

The best **prevention** for these illnesses is adequate ventilation and keeping the moisture content of hay low. A respirator approved for toxic dust should be used every time when you have to enter or are working near a conventional silo. If you are having difficulty breathing with a respirator, get into fresh air immediately and check your respirator for problems.

Review The Following Points

- Use a respirator when working around recently filled silos.
- Do not remain at the silo if you smell a bleach-like odor.
- Have plenty of ventilation around the silo.
- Avoid freshly filled silos for 48 hours.

True or False Answer Key
1. T, 2. F, 3. T, 4. T, 5. F

True or False

Name _____

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| 1. Silo Filler's Disease is a result of inhaling silo gases. | T | F |
| 2. All FLD attacks will clear up over night and are not a serious problem. | T | F |
| 3. Freshly filled silos should be avoided for at least 48 hours. | T | F |
| 4. FLD is caused by inhaling mold spores. | T | F |
| 5. A bleach-like odor is not cause for alarm. | T | F |