



Assessing Worker Health in the Pork Industry

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Introduction

Worker health is an important concept for the pork industry. Not only should worker health be assessed during employment, but before employment as well. Pre-employment physicals can help pork producers match a potential employee with a specific job in the operation. In addition, pre-employment physicals should be part of an overall occupational medicine and health promotion program. Worker health should also be assessed periodically for active employees. This may include hearing tests and measurement of respiratory function.

Objectives

To describe methods of worker health assessment, including the pre-employment physical, hearing tests, and pulmonary (lung) function tests.

Methods of Worker Health Assessment

Pre-Employment Physical

There are several potential benefits to employers that implement pre-employment physicals. These examinations can help employers:

- Determine proper placement of employees and reasonable accommodation of qualified applicants;
- Limit future liability for work-related injuries and illness; and
- Establish employees' baseline health status and promote workplace safety [1].

In addition, most studies have found that pre-employment physicals reduce sick leave among workers [2].

Under the Americans with Disabilities Act (ADA), pre-employment physical examination may not be conducted until after a conditional offer of employment has been made to a job applicant. See <http://www.ada.gov/> for more information. Studies have found that the rates of rejecting job applicants range from 2% to 35% [2].

A pre-employment physical will likely include: a complete health history; physical examination (vital signs, height, weight); vision test; hearing test; and additional testing if recommended by the physician [1]. More specifically, urinalysis, x-rays, EKG, pulmonary function tests, drug screen, and alcohol tests could also be conducted [1]. Testing should be conducted by an independent physician if possible. In many cases a general practitioner can be used to conduct pre-employment physicals; however, some physicians specialize in occupational health.

Hearing Health

Although most hearing loss is age-related, working with pigs can be loud, especially during specific time periods. In particular, tasks such as power washing, snaring, and feeding can be of concern [3, 4]. Most pork producers will not be required to implement a Hearing Conservation Program (as described by OSHA Standard 1910.95). However, this program offers valuable information on noise exposure monitoring, audiometric testing (i.e., hearing tests), and hearing protection.

Noise exposure is a concern when it exceeds 85 decibels (dB) over eight working hours. Continuous and intermittent noise must be included in this measurement. Audiometric testing involves the monitoring of an employee's hearing over time. It must be performed by a professional (e.g., physician) or trained technician. Hearing tests may be performed at the start of employment (to determine a baseline) and annually thereafter. These tests usually involve wearing a set of headphones while a technician creates sounds of varying intensity and frequency. Pork producers should consider requiring employees to wear hearing protection if:

- Workers are exposed to 90 dB or more for an eight hour period (called time-weighted average, TWA); and
- If hearing tests determine that a worker is especially susceptible to noise [5].

For more information on hearing protection, refer to the OSHA website or PIG Factsheet 16-02-07.

Respiratory Health

People working with pigs are exposed to dust particles, gases, and products of infectious agents (such as bacterial endotoxin) in the air [6]. As with hearing, certain tasks are likely to increase exposure to harmful agents; for example, exposure to the gas hydrogen sulfide (H₂S) occurs during pit pumping. The OSHA Standard 1910.134, Respiratory Protection, addresses important issues related to respiratory health. Most pork producers will not be required to implement this standard. However, it can be used as a model for development of a respiratory protection program if desired.



Respiratory protection should be considered for employees working in swine barns, where exposure to gases and dust may be high. Photo: National Pork Board.

Pulmonary function tests are a group of tests that measure how well the lungs take in and release air and how well they move gases such as oxygen from the atmosphere into the body's circulation [7]. These tests are performed by a trained technician. Several tests may be conducted. The spirometry test involves breathing into a mouthpiece that records the amount of air you breathe, and the rate at which you breathe in and out (airflow) [7]. Other tests involve sitting in a clear, sealed box that looks like a telephone booth and breathing in and out into a mouthpiece. Sometimes a test that involves breathing a gas such as nitrogen or helium through a tube can also be used [7]. These tests can assess lung volume, or the amount of air present in the lungs. Pulmonary function tests can be used to measure whether air contaminants (such as dust and gases) affect lung function. Similar to a hearing test, ideally pulmonary function tests are repeated over time.

Under some circumstances, pork producers may choose to implement a respiratory protection program for their employees. A variety of types of respiratory protection are available. For more information on respiratory protection, refer to the OSHA website or PIG Factsheet 16-03-01.



Power washing is a source of noise exposure in swine barns. Photo: National Pork Board.

Summary

Assessing the health of workers, including potential employees, is important for pork producers. The pre-employment physical is a tool that pork producers can use to match job applicants to a position in a swine facility. However, remember that the ADA does not allow you to ask questions about disability or use medical examinations until after you make someone a conditional job offer. Hearing test and lung function tests are examples of ongoing health testing that may occur in some operations. Health testing can help determine when and if personal protective equipment (i.e., hearing or respiratory protection) is needed in your operation.

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