FACT SHEET

Waste Anesthetic Gas Testing

Researchers commonly use waste anesthetic gas during medical procedures. To protect researchers from being overexposed to anesthetic gas, a waste anesthetic gas assessment and leak test need to be performed by Occupational and Environmental Health and Safety on a periodic basis – usually annually. This sheet describes the reasons behind waste anesthetic gas testing and the procedures involved.

What is Waste Anesthetic Gas (WAG)?

Anesthetic gases and vapors that leak into the surrounding room during medical procedures are considered waste anesthetic gases.

Types of anesthetic gas -Nitrous oxide and halogenated agents (vapors) such as halothane, enflurane, isoflurane, and desflurane. The most commonly used anesthetic at the U of U is isoflurane.

Why complete a WAG Assessment and Leak Test?

IACUC requires a yearly waste anesthetic gas assessment and anesthesia machine leak test for all protocols involving anesthetic agents. Completing the assessment and test helps to ensure the safety of those working with the anesthetic.

WAG Assessment

The waste anesthetic gas assessment requires the researcher to wear a small badge clipped to their collar while conducting the procedure listed in the protocol.

Leak Test

A leak test involves a hand held instrument that can detect leaks in the anesthesia machine and equipment.

What is Required?

Depending on the protocol, multiple assessments and leak tests may be required. In general it is required to conduct a WAG assessment for each combination of species, anesthesia machine (or other device) and protocol. Leak testing is required on all anesthesia machines prior to use and/or when personnel experience any of the symptoms of exposure.

Symptoms of exposure: nausea, dizziness, headaches, and fatigue.

Effects of Exposure: Sterility, miscarriage, birth defects, cancer, liver and kidney disease

Common Causes of Exposure

- Leakage from anesthesia equipment or improper use of scavenging systems
- Turning on inhalants before attaching the breathing system to the subject
- Disconnecting subjects from the anesthesia machine before waste anesthetic gases have been adequately scavenged
- Mask/nose cones do not fit properly
- Not adequately purging equipment with oxygen before and after use and when opening chamber

Reduce Exposure Risk By:

- Ensuring gas delivery and disposal lines are connected and not defective
- Securing leaky connections with parafilm
- Securing subject before turning on anesthetic gas
- Make sure the nose cone fits the subject well
- Checking scavenging system filters each time the machine is used
- Scheduling an appointment with OEHS to conduct a WAG assessment.

OCCUPATIONAL AND ENVIRONMENTAL HEALTH AND SAFETY
THE UNIVERSITY OF UTAH

125 South Fort Douglas Blvd, Salt Lake City, UT 84113
801.581.6590 | oehs.utah.edu