



Waste Anesthetic Gas

Exposure to waste anesthetic gasses (WAG) and vapors during surgical procedures may adversely affect employees' health. Exposure places an employee at a higher risk for reproductive, liver, and kidney problems. OHSU works hard to monitor and control these exposures to ensure the safety and health of employees.

Areas affected include hospitals, operating rooms, dental offices, and comparative medicine operations. The WAGs of concern are nitrous oxide and halogenated agents (vapors) such as halothane, enflurane, isoflurane, desflurane, sevoflurane, and chloroform. The list of workers with potential for exposure to WAGs includes nurses, physicians, surgeons, operating room technicians, recovery room personnel; dentists and veterinarians and their assistants; and other auxiliaries. Hospital emergency room personnel may also be exposed, but not on a regular basis.

OHSU follows State and Federal Occupational Health & Safety Administration (OSHA) guidance for reducing exposure to WAGs. Procedures cover sampling methods, leak test procedures, medical surveillance, disposal methods, training and exposure to WAGs.

Recommendations are clearly set forth to describe occupational exposure limits for individual anesthetic agents. Environmental Health and Radiation Safety periodically monitors all areas that use these anesthetic agents to ensure that employee exposures and system leaks are minimized. Problems are resolved by individual departments, Facilities Management, or external contractors.

One of the primary exposure prevention methods is maintenance of a well designed WAG scavenging system. Such a system consists of a collecting device (scavenging adapter) to collect WAGs from breathing systems at the site of overflow; a ventilation system to carry WAGs from the area of use; and a method or device for limiting both positive and negative pressure variations in a breathing circuit.

Other exposure prevention methods include work practices that minimize gas leakage, the application of a routine equipment maintenance program so that gas leaks are minimized, and periodic exposure monitoring and provision for adequate general ventilation.

1. Make sure that waste gas disposal lines are connected.
2. Avoid turning on nitrous oxide supplies or agent vaporizer until the circuit is connected to the patient.
3. Switch off the nitrous oxide supply and vaporizer when not in use.
4. Maintain oxygen flow until scavenging system is completely flushed.

