

# NIOSH ALERT

## Controlling Exposures to Nitrous Oxide During Anesthetic Administration

### WARNING!

Workers exposed to nitrous oxide (N<sub>2</sub>O) may suffer harmful effects.

Take the following steps to protect yourself from waste N<sub>2</sub>O in the workplace:

**1. Be aware that N<sub>2</sub>O may cause the following health effects:**

- Decreases in mental performance, audiovisual ability, and manual dexterity
- Adverse reproductive effects

**2. Make sure that the following monitoring procedures are performed when the anesthetic equipment is installed and every 3 months thereafter:**

- Leak testing of equipment
- Monitoring of air in the worker's personal breathing zone
- Environmental (room air) monitoring

**3. Prevent leakage from the anesthetic delivery system through proper maintenance and inspection of equipment. Eliminate or replace the following:**

- Loose-fitting connections
- Loosely assembled or deformed slip joints and threaded connections
- Defective or worn seals, gaskets, breathing bags, and hoses

**4. Control waste N<sub>2</sub>O with a well-designed scavenging system that includes the following:**

- Securely fitting masks
- Sufficient flow rates for the exhaust system
- Properly vented vacuum pumps

**5. Make sure that the room ventilation is effectively removing waste N<sub>2</sub>O. If concentrations of N<sub>2</sub>O are above 25 ppm, take the following steps:**

- Increase the airflow into the room.
- Use supplemental local ventilation to capture N<sub>2</sub>O at the source.

For additional information, see *NIOSH Alert: Request for Assistance in Controlling Exposures to Nitrous Oxide During Anesthetic Administration* [DHHS (NIOSH) 94-100], or call 1-800-35-NIOSH. Single copies of the Alert are available free from the following:

Publications Dissemination, DSDTT  
National Institute for Occupational Safety  
and Health  
4676 Columbia Parkway  
Cincinnati, OH 45226  
Fax number: (513) 533-8573



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