Controlling Exposures to Nitrous Oxide During Anesthetic Administration

WARNING!
Workers exposed to nitrous oxide (N₂O) may suffer harmful effects.

Take the following steps to protect yourself from waste N₂O in the workplace:

1. Be aware that N₂O 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 N₂O 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 N₂O. If concentrations of N₂O are above 25 ppm, take the following steps:
   - Increase the airflow into the room.
   - Use supplemental local ventilation to capture N₂O 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:

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