



DEPARTMENT OF THE NAVY

BUREAU OF MEDICINE AND SURGERY
WASHINGTON, D.C. 20372-5120

IN REPLY REFER TO

BUMEDINST 6710.68
BUMED-63
30 Mar 92

BUMED INSTRUCTION 6710.68

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Dental Personnel

Subj: NITROUS OXIDE-OXYGEN (N₂O-O₂) INHALATION CONSCIOUS
SEDATION FOR DENTAL OUTPATIENT SERVICES

- Ref:
- (a) Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry (American Dental Association) 1987 (NOTAL)
 - (b) National Institutes of Health "Consensus Development Conference Statement on Anesthesia and Sedation in the Dental Office," Journal of the American Dental Association, Vol. 111, pp. 90-93, July 1985 (NOTAL)
 - (c) The American Academy of Pediatric Dentistry Guidelines for the Elective Use of Conscious Sedation, Deep Sedation, and General Anesthesia in Pediatric Patients 1985 (NOTAL)
 - (d) The American Academy of Pediatric Dentistry policy statement on the Use of Nitrous Oxide-Oxygen Inhalation Sedation (NOTAL)
 - (e) BUMEDINST 6710.67
 - (f) BUMEDINST 6320.66A
 - (g) BUMEDINST 6320.67
 - (h) Student Manual for Basic Life Support, American Heart Association
 - (i) BUMEDINST 6010.13
 - (j) NAVMEDCOMINST 5100.1 (NOTAL)
 - (k) NAVSUPINST 4440.128C (NOTAL)
 - (l) Manual of the Medical Department

- Encl:
- (1) Equipment Requirements for N₂O-O₂ Inhalation Sedation
 - (2) Demonstration of Clinical Proficiency in the Use of Nitrous Oxide and Oxygen Inhalation Conscious Sedation
 - (3) Risk Classifications in Anesthesia

1. Purpose. To provide guidance to dental treatment facilities (DTF) for the administration of outpatient anesthesia services in the form of inhalation induced conscious sedation to dental patients.

2. Cancellation. NAVMEDCOMINST 6710.13.



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3. Background

a. Control of anxiety and pain associated with dental care can be accomplished by administering local anesthesia, sedation, analgesia, and general anesthesia.

b. Inhalation sedation with nitrous oxide and oxygen (N₂O-O₂) is a safe and effective adjunct to manage the behavior, anxiety, and pain of many dental patients. The advantages of N₂O-O₂ sedation are:

- (1) Rapid onset of action.
- (2) Easily titrated depth of sedation/analgesia.
- (3) Rapid and complete recovery.

c. To provide maximum safety, conscious sedation must be administered by qualified personnel in a controlled environment with rigid adherence to established standards, policies, and procedures. This instruction follows the accepted guidelines of civilian organizations (references (a), (b), (c), and (d)).

d. This instruction pertains to that portion of anesthesia services for dental patients defined as inhalation conscious sedation, which may be performed at freestanding DTFs by privileged providers per paragraph 5b.

e. This instruction does not pertain to intravenous sedation. Guidelines are discussed in reference (e).

f. This instruction does not pertain to dental care provided by a naval hospital. Anesthesia services within a hospital, including those for outpatient dental care, are under the cognizance of the Department of Anesthesiology, and are governed by the standards of the Joint Commission on Accreditation of Healthcare Organizations.

4. Definitions

a. Collocated. When a freestanding DTF is located in the same building as a medical treatment facility (MTF).

b. Freestanding Dental Treatment Facility (DTF). An outpatient dental clinic not under the organizational control of a naval hospital. A freestanding DTF may be collocated with MTF.

c. Inhalation Conscious Sedation. The administration of nitrous oxide and oxygen in combination via nasal mask.

d. Anesthesia Provider. A Medical Department dentist (dental officer or civilian) privileged to provide inhalation conscious sedation per paragraphs 5b(1) and 5b(2).

e. Sedation. As defined in reference (b): "Sedation describes a depressed level of consciousness, which may vary from light to deep. At light levels, termed conscious sedation, the patient retains the ability present before sedation to independently maintain an airway and respond appropriately to verbal command. The patient may have amnesia, and protective reflexes are normal or minimally altered. In deep sedation, some depression of protective reflexes occurs and, although more difficult, it is still possible to arouse the patient."

5. Action

a. Approval

(1) Authority to grant site approval and clinical privileges for inhalation sedation at freestanding DTF's is the sole responsibility of the commanding officer of the DTF.

(2) Commanding officers must ensure the following criteria are met before granting privileges:

(a) A valid mission requirement.

(b) Equipment discussed in enclosure (1) is present and functional within the spaces of the DTF.

(c) Written policies exist following paragraph 5d.

(d) Anesthesia providers have received proper training per paragraphs 5b(1) and 5b(2).

b. Privileging and Oversight. To provide inhalation conscious sedation in a freestanding DTF, the provider must be privileged by the commanding officer following with this instruction and reference (f). Commanding officer responsibilities include:

(1) Granting authority, through established credentials review and privileging procedures, for anesthesia providers to provide N₂O-O₂ inhalation conscious sedation services. Persons seeking such privileges must meet the following criteria:

(a) Complete an American Dental Association approved course in nitrous oxide and oxygen conscious sedation. All individuals must present appropriate documentation of course completion. For dentists who received training while in dental school or a residency program, appropriate documentation will

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consist of a letter from the school certifying that the individual successfully completed a course of instruction in N₂O-O₂ conscious sedation or present a dental school transcript indicating successful completion of a course of instruction in this subject. The dental school or residency program must be currently accredited by the American Dental Association.

(b) If doubt exists regarding competency, the commanding officer or the Executive Committee of the Dental Staff (ECODS) may require an individual demonstrate his or her competency for a period of time while under the direct (physically present) supervision of a N₂O-O₂ privileged practitioner. Following successful demonstration of competence the supervising dentist may issue a certifying statement which can be used to support an application for privileges. Enclosure (2) provides a sample certifying statement.

(c) Dentists who cannot demonstrate clinical proficiency must complete appropriate supplemental (refresher) training, following reference (g), before seeking privileges to administrator nitrous oxide and oxygen inhalation conscious sedation.

(d) Graduates of accredited training programs in oral and maxillofacial surgery or pediatric dentistry may be granted privileges for use of N₂O-O₂ conscious sedation based on the scope of their training and experience. They are not required to present documentation of course completion. However, the commanding officer or ECODS may require them to demonstrate their competency while practicing under supervision as described above.

(e) Privileged providers must administer N₂O-O₂ sedation at least once per year to be considered currently competent for privileging purposes.

(2) Ensuring that all privileged providers of N₂O-O₂ conscious sedation for dental patients are currently certified in basic life support (BLS), as outlined by the American Heart Association, reference (h).

(3) Ensuring all patients are monitored during sedation as discussed in paragraph 5d(5).

(4) Ensuring support personnel, including dental technicians and civilian auxiliaries are:

- (a) American Heart Association BLS certified.
- (b) Trained to monitor vital signs.

(c) Able to identify the need for additional emergency support including when, who, and where to call for assistance.

(d) Familiar with oxygen administration.

(5) Monitoring the requirements for outpatient sedation as part of the quality assurance program (reference (i)).

(6) Ensuring that all equipment necessary for administering sedation and providing emergency resuscitation, (enclosure (1)), is in good operating condition.

(7) Developing safety and facility standards per references (j) and (k) or other applicable safety program directives.

(8) Establishing and administering a continuing education program for dental officers and dental auxiliary personnel, relevant to using N₂O-O₂ conscious sedation.

(9) Ensuring controls are established and implemented to preclude unauthorized use or abuse of the nitrous oxide. Safeguards must include physical security for material in use as well as in storage. Access to use in the clinical treatment area will be limited to those trained, qualified, and privileged to use the nitrous oxide.

c. Responsibility and Supervision. Auxiliary personnel participating in the delivery of N₂O-O₂ sedation must be supervised by a dentist privileged to provide such services.

d. Written Policies. Local policies and procedures relating to the use of sedation for dental patients must be prepared, reviewed regularly, and revised as necessary. The guidelines suggested for these policies and procedures include, but are not limited to:

(1) Preanesthesia Physical Evaluation. A dental officer privileged to provide N₂O-O₂ sedation must screen and evaluate all patients, and when appropriate, order studies and consultations to include:

(a) Medical history and physical evaluation.

(b) Medical consultations.

(c) Appropriate laboratory studies as necessary.

(d) Assignment of American Society of Anesthesiologists physical status as discussed in enclosure (3).

(e) Review of treatment plan, type of anesthesia, and preoperative instructions with patient including potential complications and risks, obtain informed consent on an SF 522 and document the above in the patient's dental record.

(f) Consideration of the patient's duty assignment and the requirement for appropriate no duty or light duty time during postoperative period, especially for patients in the Personnel Reliability Program or in flight status, see paragraph 5d(7)(f).

(2) Patient Categories Eligible for N₂O-O₂ Outpatient Sedation at Freestanding DTFs: Patients in physical status (American Society of Anesthesiologists) classes I, II, and III.

(3) Increased Risk Patients. Increased risk patients have special anesthesia considerations. These dental patients must be referred to a hospital for further evaluation and treatment, for example: certain pediatric, acutely ill, insulin dependent diabetic, steroid dependent, or chronic anticoagulation patients.

(4) Records. To document treatment, enter the following on the patient's SF 603:

(a) An equipment test performed before each treatment. Use the following checklist to ensure uniformity of equipment testing:

1. Status controls.
2. Cylinder contents.
3. Cylinder pressure (must be less than 900 lbs).
4. Pipeline fittings.
5. Gas flow controls.
6. Patient circuit assembly and flow.
7. Patient circuit leak test.
8. Scavenging system.
9. Oxygen cylinder purity.
10. Oxygen alarm check (if present).

(b) A central oxygen supply was used or documentation of the tested purity percentage of oxygen if a compressed tank was used.

(c) The percentage concentration of nitrous oxide to oxygen administered during the procedure.

(d) Patient vital signs before, during, and after administering N₂O-O₂.

(e) All patient treatment completed and drugs administered, if applicable.

(f) Postoperative instructions given and the patient's postoperative condition.

(5) Patient Monitoring. N₂O-O₂ conscious sedation in the dental clinic must be documented on SF 517 (Clinical Record - Anesthesia). Heart rate, blood pressure (BP), respiratory rate, and responsiveness of the patient are to be monitored at specific intervals.

(6) Emergencies. A written plan is required for the management of possible medical and nonmedical emergencies during a sedation procedure.

(a) Protocols must be developed for emergency treatment and resuscitation.

(b) Protocols must be developed for nonmedical emergencies, such as: power failure, fire, bomb threat, and natural disasters.

(7) Recovery Facilities. Patients must be permitted to recover from inhalation anesthesia either in the dental treatment room or a special room designated for such purposes.

(a) The privileged provider must be physically present and available in the facility until the patient has been discharged.

(b) The patient must be tended in the recovery period by qualified support personnel (see paragraphs 5b(3) and 5b(4)), with direct supervision by the privileged anesthesia provider. During this period, vital signs, i.e., BP, heart rate, and respiratory rate, and patient response should be charted at appropriate intervals.

(c) The privileged anesthesia provider, before discharging the patient, must ensure that the patient has received oral and written postoperative instructions regarding the dental treatment and anesthesia service performed.

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(d) Patients must be discharged with a responsible adult.

(e) Discharge criteria must include: patent airway; stable vital signs; patient alert and oriented; hemorrhage, if applicable, controlled; able to ambulate without assistance; and absence of nausea or vomiting.

(f) The privileged anesthesia provider must ensure compliance with articles 6-102(9) and 6-102(10) of reference (1) for patients identified as being enrolled in the Personnel Reliability Program or as being in flight status.

6. Forms

a. SF 613 (9-77), Medical Record - Consultation Sheet, NSN 7540-00-634-4127; SF 517 (10-75), Clinical Record, Anesthesia, NSN 7540-00-634-4157; and SF 522 (10-76), Medical Record - Request for Administration of Anesthesia and Performance of Operations and Other Procedures, NSN 7540-00-634-4165, are available from the Federal Supply System through normal supply procurement procedures.

b. SF 603 (10-75) (Exception), Health Record - Dental, S/N 0105-LF-011-9300 and SF 603A (10-75) (Exception), Health Record - Dental Continuation, S/N 0105-LF-011-9400, are available from the Navy Supply System and may be requisitioned per NAVSUP P-2002D.



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EQUIPMENT REQUIREMENTS FOR N₂O-O₂ INHALATION SEDATION

Anesthesia Machine. Required for inhalation sedation, it must:

1. Be incapable of delivering more than 70 percent nitrous oxide concentration.
2. Contain a proven fail-safe mechanism to shut off the machine if the oxygen line pressure falls below a safe level.
3. Contain a mechanism to deliver oxygen under pressure in resuscitation.
4. Contain an overbreath valve which enables the patient to breathe room air if he or she overbreathes the reservoir system.
5. Contain a nonrebreathing valve in the nosepiece.
6. Contain a check valve in the system to prevent expired gases from entering the reservoir system.
7. Contain functioning flow meters.
8. Contain built-in regulators which will maintain proper line pressure.
9. Contain a scavenging device which prevents waste gas buildup greater than 50 parts per million.
10. Be capable of indicating concentration of nitrous oxide (in percentage) being delivered, as well as total flow (liters/minute).

RISK CLASSIFICATIONS IN ANESTHESIA

Physical Status (American Society of Anesthesiologists)

1. Class I. A patient without systemic disease; a normal, healthy patient. The pathological process for which the operation is to be performed is localized and not conducive to systemic disturbance. Example: multiple caries in an apprehensive yet otherwise healthy patient.
2. Class II. A patient with mild to moderate systemic disease, caused either by the condition to be treated or by another pathophysiologic process. Examples: McCarthy classes 1 and 2; presence of mild diabetes, essential hypertension, or anemia; and some might choose to list the extremes of age here, either the neonate or the octogenarian, even though no discernible systemic disease is present.
3. Class III. A patient with severe systemic disease that limits activity, but is not incapacitating. Examples: McCarthy class 3; severe diabetes with vascular complications; moderate to severe degrees of pulmonary insufficiency; and angina pectoris or healed myocardial infarction.
4. Class IV. A patient with incapacitating severe systemic disease that is a constant threat to life. Examples: McCarthy class 4; unstable angina pectoris; myocardial infarction within the past 6 months; and uncontrolled diabetes.
5. Class V. A moribund patient not expected to survive 24 hours with or without operation. Example: major cerebral trauma with rapidly increasing intracranial pressure.