

NDCSWINST 6710.3
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NAVDENCEN SOUTHWEST INSTRUCTION 6710.3

Subj: PROCEDURES FOR THE PRACTICE AND USE OF NITROUS OXIDE AND OXYGEN (N20/O2) INHALATION SEDATION

Ref: (a) BUMED Instruction 6710.68 dtd 30 Mar 92

Encl: (1) Equipment Requirements for Inhalation Sedation or Analgesia
(2) SF-517, Modified Anesthesia Form
(3) American Society Of Anesthesiologists' Risk Classifications in Anesthesia
(4) Protocol for Medical and Non-Medical Emergencies

1. Purpose. To provide guidance in the use of nitrous oxide and oxygen (N20/O2) inhalation sedation within Naval Dental Center Southwest (NDCSW).

2. Cancellation. NAVDENCLINICINST 6710.2A.

3. Background. Historically, control of pain and anxiety has been accomplished with local and general anesthetics. Delineation of analgesia (diminution of pain without the loss of protective reflexes and consciousness) from general anesthesia (loss of all protective reflexes, sensation, and consciousness) is recognized in dental practice.

4. Policy. Use of N20/O2 will be used only when all requirements of this instruction and reference (a) are met and followed.

5. Action

a. Supervision. All properly credentialed dental officers may perform inhalation sedation with N20/O2. All credentialed dental officers will be required to possess a thorough knowledge of nitrous oxide and oxygen as well as all emergency procedures, which may become necessary in the delivery of this agent.

b. Location. Inhalation sedation with N20/O2 may be practiced at any NDCSW branch dental clinics that have a credentialed dental officer and inhalation equipment as outlined in enclosure (1).

c. Preoperative Preparation

(1) The patient will be evaluated pre-operatively by the appropriately credentialed dental officer as per reference (a) 5d(1). Appropriate documentation will be entered into the patient record concerning choice of anesthesia and surgical procedure anticipated. Modified Anesthesia Record (SF-517), enclosure (2), will be filled out prior to administration of conscious sedation by

the credentialed dental officer. The patient will be made aware of possible anesthetic and surgical complications during the pre-operative evaluation and this will be documented in the patient's dental record in addition to execution of an appropriate Authorization for the Administration of Anesthesia and for Performance of Operations and Other Procedures (SF-522).

(2) Healthy ASA Class I, II and in selected cases at the discretion of the oral and maxillofacial surgeon, stable Class III who can be assured of dependable pre and post-anesthetic and post surgical care will be treated on an outpatient basis at NDCSW.

(3) Those Patients with significant medical contraindications will be referred to Naval Medical Center, San Diego for treatment.

d. Conditions for Administration of N20/O2

(1) Procedures estimated to last longer than 90 minutes are relative contraindications to the use of this technique.

(2) Prior to undergoing inhalation conscious sedation, the staff at the reception desk will ensure that the patient has:

(a) An escort with a car immediately available to transport the patient after release from recovery.

(b) Complied with all pre-surgical instructions, including a 4-hour fast prior to procedure.

(c) Filled out Operation Permit (SF-522).

(d) Anesthesia Record (SF-517).

(3) There will be a review of the patient's condition immediately prior to the induction of any anesthetic or conscious sedation agents. This will include a review of the clinical record with regard to completeness, laboratory data when indicated, the time of administration, dosage of any pre-anesthesia medications, and an appraisal of any changes in the patient's condition relative to the pre-anesthetic evaluation. When indicated, the patient's status regarding the last ingestion of food or liquid will be documented in the Anesthetic Record (SF-517).

(4) Minimum equipment requirements are outlined in enclosure (1). Prior to administering any type of anesthesia or sedation, the dental officer will determine the readiness, availability, cleanliness, sterility and the working condition of all equipment to be utilized in the administration of anesthetic agents and in resuscitation, as per reference (a)5d(4)(a).

(5) Required monitoring for all patients undergoing N20/O2 sedation will include blood pressure, pulse, respiration rate, and responsiveness at specific intervals. All vital signs will be recorded on the anesthesia record (SF-517), as well as drug totals and sedation technique utilized. A copy of the completed SF-517 will be maintained at the dental clinic, the original will be attached to the patient's dental record.

e. Recovery

(1) After completion of a N20/O2 sedation procedure, the dental officer or his/her qualified designee shall remain with the patient for as long as required depending on the patient's post-surgical condition until other credentialed individuals have assumed responsibility for proper patient care.

(2) The decision to release a N20/O2 patient will be made by the credentialed dental officer. This individual will sign the modified Anesthesia Record (SF-517) noting the time of discharge and the responsible individual in whose care the patient was discharged. Even though recovery from N20/O2 is usually complete within 5 or 10 minutes, reference (a) dictates that the patient must have an escort at discharge. Discharge criteria are found in reference (a), 5d(7)(e).

(3) The recovery area shall have immediate access to wall or portable suction, positive pressure oxygen and any drugs or equipment to treat a post-surgical and post-anesthetic complication. While in recovery, the patient should be with a responsible individual trained to properly monitor the patient's airway and level of consciousness as per reference (a), 5b(3) and 5b(4). The patient will not be released to the non-medical escort until the patient meets the discharge criteria found in reference (a), 5d(7)(e).

6. Forms. Standard Form 517, Clinical Record Anesthesia, may be obtained through normal supply channels per NAVSUP P2002.

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EQUIPMENT REQUIREMENTS FOR N20-02 INHALATION SEDATION

Anesthesia Machine. Required for inhalation sedation 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 that enables the patient to breathe room air if he or she over breathes the reservoir system.
5. Contain a non-rebreathing 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 that will maintain proper line pressure.
9. Contain a scavenging device that prevents waste gas buildup greater than 50 parts per million (ppm).
10. Be capable of indicating concentration of nitrous oxide (in percentage) being delivered, as well as total flow (liters/minute).
11. Suction device available for immediate airway clearance.

Enclosure (1)

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 discernable 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. Example: 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.

PROTOCOL FOR MEDICAL AND NONMEDICAL EMERGENCIES DURING
CONSCIOUS SEDATION (NITROUS OXIDE AND OXYGEN)

1. Medical emergencies occurring during conscious sedation (N20/O2) will be handled as per the recommendations of two suggested manuals: "Office Anesthesia Evaluation Manual," American Association of Oral and Maxillofacial Surgeons, 4th Ed., 1991 and "Handbook of Medical Emergencies in the Dental Office," Stanley F. Malamed, DDS (Latest Edition), C.V. Mosby CO. These manuals are ONLY SUGGESTED, there are other manuals available that discuss medical emergencies while undergoing sedation. Dental officers performing any form of sedation should be thoroughly familiar with medical emergencies that can occur and the techniques of successful resuscitation.

2. If, during sedation, a non-medical emergency occurs requiring evacuation of the dental facility (DTF), the sedated patient will need to be removed as expeditiously as possible. The patient undergoing N20/O2 sedation will be placed immediately on 100% O2 and all procedures will stop. With all the confusion be especially aware of the patient's airway!! If a surgical procedure is being performed, all surgery sites must be carefully packed off to control bleeding and again, PROTECT THE AIRWAY!! With N20/O2, the patient will probably be ambulatory but will require assistance to evacuate the DTF. Prior to discharge the patient must meet the criteria of reference (a)(5d)(7)(e).

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