The disclaimer:

This is not a course that in any form intends to prepare you to administer oral sedation. It is entirely informational in nature; a survey of oral sedation. No information presented should be considered to serve as an endorsement of any particular company, training program, drug, etc.

Sources


Oral Sedation in Dentistry

The Basics
- Rationale
- Advantages
- Disadvantages
- Multiple Drug Choices

Rationale
- Oldest route, most common used
- Reducing anxiety night before
- Reducing anxiety prior to and during treatment
- Use should be restricted to minimal or moderate sedation
- Many patients are fearful and anxious

Advantages
- Readily accepted by patients
- Easily administered
- Low cost
- No needles or syringes
- Wide therapeutic range, which decreases adverse reactions and severity of the reactions that do occur
Advantages

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• Low cost
• No needles or syringes
• Wide therapeutic range, which decreases adverse reactions and severity of the reactions that do occur

Disadvantages

• Some level of patient compliance required
• Erratic or unpredictable absorption in GI tract
• Inability to titrate
• Inability to lighten or deepen sedation
• Education/Training?
Drugs to Consider

- Sedative-Hypnotics
  Benzodiazepines
  Non-Benzodiazepines
- Histamine (H1) Blockers

Benzodiazepines
Alprazolam (Xanax), Lorazepam (Ativan), Midazolam (Versed)
Triazolam (Halcion), others

Pick drug for desired onset and duration as well as other considerations to match patient and procedure.

Interferes with re-uptake of GABA which increases the availability of GABA to bind at its receptor and produce its inhibitory effect: decreasing anxiety, relaxing skeletal muscle, providing amnesia, among others.

Non-Benzodiazepines
Zolpidem (Ambien)
Zaleplon (Sonata)

Short half-lives, strong sedative, mild anxiolytic, preserve motor function and memory. Not contraindicated in pregnant patients or those with narrow-angle glaucoma.

Antihistamines
Hydroxyzine (Vistaril, Atarax)

Useful in smokers and those patients with asthma, as it decreases their secretions. Also in heavy smokers it does not experience the increased metabolism that benzodiazepines experience providing for more effective or reliable sedation.
Current Oral Sedation Guidelines

Oral Sedation in Dentistry

The Basics
- Advantages
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ADA
- Education Guidelines
Education Guidelines
As adopted in October 2012

"Guidelines for the Use of Sedation and General Anesthesia by Dentists"

"Purpose of these guidelines is to assist dentists in the delivery of safe and effective sedation and anesthesia."

Educational Requirements: (not applicable for those already practicing in compliance prior to adoption in 2012)

Minimal Sedation
training to level of competence in minimal sedation as declared by ADA teaching guidelines and BCLS for health care providers

Moderate Sedation
completed a comprehensive program that satisfies ADA teaching in Moderate sedation and ACLS or BCLS for health care providers in addition to completion of an "emergency management course on the same recertification cycle that is required by ACLS

What's that mean?

Minimal Sedation:
- According to ASA (10/15/14): a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and physical coordination may be impaired, airway reflexes, and ventilatory and cardiovascular functions are unaffected.
- According to ADA (10/12): a minimally depressed level of consciousness, produced by a pharmacological method, that retains the patient’s ability to independently and continuously maintain an airway and respond normally to tactile stimulation and verbal command. Although cognitive function and coordination may be modestly impaired, ventilatory and cardiovascular functions are unaffected. Note: In accord with this definition, the drug(s) and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness.
- According to AL (3/28/12): not defined, but Anxiolysis is defined as - a pharmacological induced state, oral or inhalation, where a patient experiences a diminution of anxiety.
- According to SC (01/15): means a minimally depressed level of consciousness, produced by a pharmacological method, that retains the patient’s ability to independently and continuously maintain an airway and respond normally to tactile stimulation and verbal command. Although cognitive function and coordination may be modestly impaired, ventilatory and cardiovascular functions are unaffected. (additional notes regulating use also listed under definitions section 40-15-85)

What's that mean?

Moderate Sedation:
- According to ASA (10/15/14): “conscious sedation” is a drug-induced depression of consciousness during which patients respond purposefully (Reflex withdrawal from a painful stimulus is NOT considered purposeful response) to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.
- According to ADA (01/12): a drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained. Note: In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely.
- According to AL (3/20/12): "Oral Conscious Sedation": a depressed level of consciousness that retains the patient’s ability to independently and continuously maintain an airway and to respond appropriately to physical stimulation or verbal command and that is produced by a pharmacological or nonpharmacological method or a combination thereof. Oral conscious sedation does not include the administration of a medication given only for the diminution of anxiety. An oral conscious sedation permit is not required for the use of inhalation nitrous oxide followed by the administration of a medication given only for the purpose of diminution of anxiety.
- According to SC (01/15): means a drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain patients’ airways and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.
Clinical Guidelines

Patient evaluation and Pre-operative preparation are the same

Personnel: no changes

Equipment: **equipment to establish IV access** must be available

Monitoring must include:
- level of consciousness (responsiveness to verbal command) continually assessed
- **must utilize pulse oximetry** continuously
- must monitor ventilation by auscultation of breath sounds, monitoring end-tidal CO2, or by
- verbal communication with patient
- ECG for those patients with significant cardiovascular disease

Document: more detailed sedative record

Recovery and Discharge: detailed, **keep patient longer if reversal agent used**

Emergency Management:
- Dentist is responsible for diagnosis and treatment of emergencies related to moderate sedation
- and providing the **equipment, drugs, and protocol for patient rescue**

Children: no change

Clinical Guidelines

Minimal Sedation

Patient evaluation and Pre-operative preparation are detailed in guidelines

Personnel:
- One additional person trained in BCLS for health care providers in addition to dentist

Equipment:
- Positive pressure O2 system immediately available
- Proper inhalation equipment checked and calibrated to deliver no less than 30% O2, in-line oxygen analyzer with alarm, and scavenging system if any gas other than O2

Monitoring **must** include:
- color of mucosa, skin, blood continuously evaluated
- **consider pulse oximetry**
- verify chest excursions and respirations continually
- BP and HR pre-op, intra-op intervals and post-op

Document: Sedative record maintained

Recovery and Discharge: detailed

Emergency Management:
- If sedation moves deeper than the dentist is qualified to provide the procedure must stop until the patient returns to intended level of sedation.

Children: 12 years and under ADA supports AAP and AAPD guidelines
**Highlights of South Carolina Sedation Codes**

January 1, 2015

- "A permit is NOT required for local anesthesia, nitrous oxide/oxygen, minimal sedation, or any combination thereof..."
- BUT wait - no more than MRD given; no preop sedatives for <13; if a child <13 becomes over sedated with your <MRD dose then moderate guidelines apply; <13 the board supports the ADA which supports the AAPD’s guidelines for monitoring and managing
- Facility must have capability to deliver positive pressure oxygen suitable for patient being treated (size), if nitrous is utilized a fail-safe to deliver no less than 30% O2, scavenging system, informed consent obtained, adequate O2 supply...
- Must monitor utilizing: observation - color of mucosa, skin, blood, chest excursions; O2 saturation by pulse oximetry; verify respirations; pre, intra, post-op BP, HR; maintain sedation record
- Dr. and staff BCLS certified, documented training for staff commensurate with level and mode of sedation
- Recovery and discharge requires presence of both dentist and trained team member.
- Dr. must have 4 hours in pharmacology, anesthesia, emergency medicine, or sedation every 2 years as CE requirements
- Submit written report to board within 30 days regarding any mortality or serious, unusual incident which occurs in a dental facility or within 24 hours of leaving a facility if this incident produces a significant temporary or permanent physical or mental injury as a direct result of the administration of general anesthesia or sedation

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**Moderate Enteral Sedation**

- Permit required
- Completion of a pre-doc, post-doc, or CE training program in an accredited program and includes 24 hours of didactic instruction in addition to 10 cases commensurate with each intended route of administration.
- ACLS training
  - equipment necessary to initiate IV access
  - specific documentation in patient record as detailed in section 40-15-450
- monitoring is same as minimal, with one addition, utilize ECG for those with heart disease

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**Highlights of Alabama Sedation Codes**

- If intent is *anxiolysis* then no permit is needed. This may include administration of a medication given only for the "diminution of anxiety" with or without inhalation N2O
- To obtain an oral conscious sedation permit 1 of 3 must be satisfied:
  - Complete an ADA accredited postgraduate program which includes specific training in oral conscious sedation
  - Complete a minimum 15 hours' training in oral conscious sedation in a course approved by the board
  - Has certification of training in oral conscious sedation by any entity or organization approved by the board
- may require an on-site inspection of the personnel, the facility, and the equipment
- Must comply with many detailed requirements: properly evaluated and assigned ASA status; inform parent or guardian and appropriate written informed consent obtained; Inhalation equipment inspected and oxygen supply verified prior to each patient; written and verbal pre-op and post-op instructions; baseline vitals recorded; secure storage for drugs; recording of all meds and dosages utilized; start and end time as well as all team members present; emergency cart or kit available for immediate use; auxiliary lighting; auxiliary suction; tonsillar suction tips, Able to provide O2 under positive pressure; Continuously monitor Respiration, HR, and BP (at intervals) continuous observation throughout recovery period
• The only drug classification for sedation to be administered outside the treatment facility is minor tranquilizers. Minor tranquilizers (hydroxyzine and diazepam) does not include chloral hydrate or narcotics.

• **Emergency back-up services** identified, protocol outlining necessary procedures for their immediate employment should be developed.

• Personnel: must be minimum of two (operator, assistant) properly trained in oral sedation and monitoring appropriate physiologic variables. Trained in recognition and management of 13 clinical emergencies (named specifically).

• Must report to board any adverse occurrences within 72 hours of occurrence and full written report within 30 days. Board rule is very detailed as to what qualifies and what information is required.

• **Emergency Kit** must include at a minimum:
  - Epinephrine, Atropine, Naloxone, Flumazenil, Antihistamine, Bronchodilator, antihypoglycemic

• Type and amount of drug administered must be within accepted therapeutic guidelines

• Induce only 1 patient at a time. A 2nd patient may not be induced until the first is awake, alert, ambulatory with assistance, spontaneously breathing, under the care of a responsible adult, and the dentist is no longer needed for any remaining procedure.

• Pediatric sedation must follow AAPD guidelines. Pediatric is defined as infants and children through adolescence and those with special needs.

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**Iowa Regulations**

The Iowa Dental Board requires a dentist to complete a **60-hour I.V. sedation course**, administer **20 clinical patient cases**, and obtain a permit before providing **oral** or IV moderate sedation to dental patients.

When the intent is single-agent minimal sedation only, a permit is not required.
What's next?

More regulation ???

Oral Sedation in Dentistry

ADA Resolution 77

Turf War?

Headlines?

More regulation

More regulation...
ADA proposed sedation guideline revisions
(as presented to house of delegates in 2015)

Moderate Sedation

- Equipment - capnography must be used
- Course Duration - 24 hours of instruction, plus management of at least 10 adult case experiences
Sedation Advocates

Headlines?

"Drugged to death, in a Dallas dental chair"

"Death, Greed at the Dentist: American Children at Risk"

"Dental Sedation Responsible For At Least 31 Child Deaths Over 15 Years"
Turf War?

Oral Surgeons (AAOMS)
American Dental Society of Anesthesiologists
General Dentists
Dental Organization for Conscious Sedation (DOCS)
Those outside of dentistry

“If dentistry continues its noncooperative and self-destructive conduct, it is the author's opinion that the ability to continue safely administering advanced pain control modalities within the exact profession that gave safely reproducible anesthesia to the world may be severely truncated.”
- Stanley Malamed

Council to reconsider revisions and report to 2016 ADA House of Delegates

Open hearing at ADA headquarters, April 20th 2016

Second opportunity, for written comments, will be received in early summer (deadline TBD)

Oral Sedation in Dentistry