

KEY TERMS

Informed consent—Providing a patient with complete, objective information on the risks, benefits, and potential and probable outcomes of different surgical or therapeutic options so that they may make an informed decision or consent to treatment.

Pathologist—A physician with specialized training in recognizing and identifying diseases through the analysis of abnormal bodily tissues.

Postoperative care—Medical care and support required after surgery to promote healing and recovery.

Watchful waiting—Monitoring a patient's disease state carefully to see if the condition worsens before trying surgery or another therapy. This term is often associated with prostate cancer.

Normal results

Second opinions that agree with the first provider's conclusions may help ease the patient's mind and provide a clearer picture of the necessary course of treatment or surgery. However, if a patient still feels uncomfortable with the treatment plan outlined by the first and second physicians, or strongly disagrees with their conclusions, a third opinion from another provider is an option.

In cases in which the second provider disagrees with the first provider on diagnosis and/or treatment, the patient has harder choices to face. Again, a third evaluation may be in order from yet another physician, and some insurance companies may actually require this step in cases of conflicting opinions. If a patient is very comfortable with and confident in their primary care provider, they may wish to revisit them to review the second opinion.

In all cases, a patient should remember that their personal preferences, beliefs, and lifestyle considerations must also be considered in their final decision on surgery or treatment, as they are the ones who will live with the results.

Resources

BOOKS

Rose, Eric. *Second Opinion: The Columbia Presbyterian Guide to Surgery*. New York: St. Martin's Press, 2000.

PERIODICALS

Staradub, V. L., et al. "Changes in Breast Cancer Therapy Because of Pathology Second Opinions." *Annals of Surgical Oncology* 9, no.10 (December 2002): 982–7.

ORGANIZATIONS

American Board of Medical Specialties (ABMS). 1007 Church St., Suite 404, Evanston, IL 60201. (866) ASK-ABMS. <<http://www.abms.org>>.

American College of Surgeons (ACS). 63 N. St. Clair Drive, Chicago, IL 60611. (312) 202-5000. E-mail: <postmaster@facs.org>. <<http://www.facs.org>>.

OTHER

Center for Medicare and Medicaid Services (CMS). *Getting a Second Opinion Before Surgery*. Publication CMS-02173. Revised April 2002. <<http://www.medicare.gov/Publications/Pubs/pdf/02173.pdf>>.

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Sedation, conscious

Definition

Conscious sedation, produced by the administration of certain medications, is an altered level of consciousness that still allows a patient to respond to physical stimulation and verbal commands, and to maintain an unassisted airway.

Purpose

The purpose of conscious sedation is to produce a state of relaxation and/or pain relief by using benzodiazepine-type and narcotic medications, to facilitate performing a procedure such as a biopsy, radiologic imaging study, endoscopic procedure, radiation therapy, or bone marrow aspiration.

Description

Sedation is used inside or outside the **operating room**. Outside the operating suite, medical specialists use sedation to calm and relax their patients.

If the patient is to undergo a minor surgical procedure, screening and assessment of medical conditions that may interfere with conscious sedation must be explored. These potential risk factors include advanced age, history of adverse reactions to the proposed medications and a past medical history of severe cardiopulmonary (heart/lung) disease.

Once it has been established that the patient would be a good candidate for conscious sedation, just prior to the surgery or procedure, the patient will receive the sedating drug intravenously. A clip-like apparatus will be placed on the patient's finger to monitor oxygen intake

WHO PERFORMS THE PROCEDURE AND WHERE IS IT PERFORMED?

Conscious sedation is administered by medical or pediatric specialists performing a procedure that may be diagnostic and/or therapeutic. It may be used in a hospital, outpatient care facility, or doctor's office.

during the sedation. This oxygen monitoring is called pulse oximetry and is a valuable continuous monitor of patient oxygenation.

Dosing of medications that produce conscious sedation is individualized, and the medication is administered slowly to gauge a patient's response to the sedative. The two most common medications used to sedate patients for medical procedures are midazolam and fentanyl.

Fentanyl is a medication classified as an opioid narcotic analgesic (pain reliever) that is 50 to 100 times more potent than morphine. Given intravenously, the onset of action of fentanyl is almost immediate, and peak analgesia occurs within 10 to 15 minutes. A single dose of fentanyl given intravenously can produce good analgesia for only 20 to 45 minutes for most patients because the drug's distribution shifts from the brain (central nervous system) to peripheral tissues. The key to correct dosage is titration, or giving the medication in small amounts until the desired patient response is achieved.

Midazolam is a medication classified as a short-acting benzodiazepine (sedative) that depresses the central nervous system. Midazolam is ineffective for pain and has no analgesic effect during conscious sedation. The drug is a primary choice for conscious sedation because midazolam causes patients to have no recollection of the medical procedure. In general, midazolam has a fast-acting, short-lived sedative effect when given intravenously, achieving sedation within one to five minutes and peaking within 30 minutes. The effects of midazolam typically last one hour but may persist for six hours (including the amnestic effect). Patients who receive midazolam for conscious sedation should not be allowed to drive home after the procedure.

Monitoring

Patient monitoring during conscious sedation must be performed by a trained and licensed health care professional. This clinician must not be involved in the pro-

QUESTIONS TO ASK THE DOCTOR

- When should I stop taking my regular medications? When should I begin them again?
- What side effects can I expect after the procedure? Nausea? Dizziness? Drowsiness? Is there anything I can do to ward off these side effects?
- What are the risks of this procedure?
- Which sedative will you use?
- What steps will you take if there are complications?
- Will I feel any pain?

cedure, but should have primary responsibility of monitoring and attending to the patient. Equipment must be in place and organized for monitoring the patient's blood pressure, pulse, respiratory rate, level of consciousness, and, most important, the oxygen saturation (the measure of oxygen perfusion inside the body) with a **pulse oximeter** (a machine that provides a continuous real-time recording of oxygenation). The oxygen saturation is the most sensitive parameter affected during increased levels of conscious sedation. **Vital signs** and other pertinent recordings must be monitored before the start of the administration of medications, and then at a minimum of every five minutes thereafter until the procedure is completed. After the procedure has been completed, monitoring should continue every 15 minutes for the first hour after the last dose of medication(s) was administered. After the first hour, monitoring can continue as needed.

Risks and risk management

The American Academy of Pediatrics (AAP) has established safe practice guidelines to manage conscious sedation without an anesthesiologist for minor procedures. These AAP criteria include (1) a full-time licensed clinician (nurse, physician, physician assistant, surgeon assistant, respiratory therapist) who is strictly and exclusively monitoring the patient's breathing, level of consciousness, vital signs, and airway; (2) standard procedures for monitoring vital signs; and (3) immediate availability (on site) of airway equipment, resuscitative medications, suction apparatus, and supplemental oxygen delivery systems.

If adverse reactions occur while using fentanyl, the antidote is a drug called naloxone. It provides rapid re-

versal of fentanyl's narcotic effect. The incidence of oversedation or decreased respiration is low using fentanyl if the medication is carefully titrated.

See also Pulse oximeter.

Resources

BOOKS

Behrman, R. *Nelson Textbook of Pediatrics*, 16th ed. Philadelphia: W. B. Saunders Company, 2000.

PERIODICALS

"Recommended Practices: Monitoring the Patient Receiving IV Conscious Sedation." *Association of Operating Room Nurses* 57, no. 4 (April 1993).

U. S. Department of Health and Human Services. *Acute Pain Management: Operative or Medical Procedures and Trauma. Clinical Practice Guidelines*. Department of Health and Human Services Pub. No AHCPR 92-0032.

ORGANIZATIONS

American Association of Nurse Anesthetists. 222 South Prospect Avenue Park Ridge, IL 60068-4001. Telephone: (847) 692-7050. Fax: (847) 692-6968. E-mail: info@aana.com.

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Segmental resection see **Segmentectomy**

Segmentectomy

Definition

Segmentectomy is the excision (removal) of a portion of any organ or gland. The procedure has several variations and many names, including segmental resection, wide excision, **lumpectomy**, **tumorectomy**, **quadrantectomy**, and partial mastectomy.

Purpose

Segmentectomy is the surgical removal of a defined segment or portion of an organ or gland performed as a treatment. In this case, the purpose is the removal of a cancerous tumor. Common organs that have segments are the breasts, lungs, and liver.

Demographics

Segmentectomies are usually performed on patients with lung, liver, or breast cancer.

WHO PERFORMS THE PROCEDURE AND WHERE IS IT PERFORMED?

Segmentectomies are performed in a hospital by a general surgeon, a medical doctor who specializes in surgery. If there are complicating factors, a specialized surgeon may perform the surgery.

Lung cancer is the second most common cancer among both men and women, and is the leading cause of cancer death for both genders. Lung cancer kills more people (approximately 157,000 per year) than cancers of the breast, prostate, colon, and pancreas combined. Almost 90% of all lung cancers are caused by cigarette smoking. Other causes include secondhand smoke and exposure to asbestos and other occupation-related substances.

In each of the racial and ethnic groups, the rates among men are about two to three times greater than the rates among women. Among men, age-adjusted lung cancer incidence rates (per 100,000) range from a low of about 14 among American Indians to a high of 117 among African Americans, an eight-fold difference. For women, the rates range from approximately 15 per 100,000 among Japanese to nearly 51 among Alaska Natives, approximately a three-fold difference.

Excluding cancers of the skin, breast cancer is the most common form of cancer among women in the United States. The increase in incidence is primarily due to increased screening by **physical examination** and **mammography**. Although breast cancer occurs among both women and men, it is quite rare among men. White non-Hispanic women have the highest rates of breast cancer, over twice the rate for Hispanic women. There are a low number of cases for Alaska Native, American Indian, Korean, and Vietnamese women.

Primary cancers of the liver account for approximately 1.5% of all cancer cases in the United States. About two-thirds of liver cancers are most clearly associated with hepatitis B and hepatitis C viral infections and cirrhosis. This type of liver cancer occurs more frequently in men than in women by a ratio of two to one.

Description

When cancer is confined to a segment of an organ, removal of that portion may offer cancer-control results equivalent to those of more extensive operations. This is especially true for breast and liver cancers. For breast and lung cancers, a segmentectomy is often combined with removal of some or all regional lymph nodes.