

Sylvan M. Shane

# Conscious Sedation for Ambulatory Surgery

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# **Conscious Sedation for Ambulatory Surgery**

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# **Conscious Sedation for Ambulatory Surgery**



Patient under conscious sedation exhibiting divergence of the eyes, indicating amnesia is present.

# Foreword

While most people would recognize that great strides have been made in the relief of surgical pain, and that relief of pain is an important aspect of any medical practice, it is not usually recognized that there are major frontiers left unresolved. Clearly, one of these areas is in the ability to provide appropriate anxiety relief, as well as pain relief, in the setting of ambulatory surgery.

Anesthesiology offers the ability at present to completely abolish pain with the use of techniques and drugs which render the patient unconscious and unfeeling of pain; however, there is a great price to this. It requires that the patient be kept in a constrained hospital environment for many hours and frequently for days following surgery, in order for the anesthetic agents no longer to interfere with respiration or circulation. While this is appropriate for patients with major surgery, it leaves unfulfilled the need for short periods of pain and anxiety relief for relatively simple surgery which should legitimately be done in an outpatient setting. Dr. Sylvan Shane has dedicated himself to investigating different ways in which this can be accomplished.

It is not always easy to work in this field, because of the potential conflicts which exist when you are trying to produce maximum pain relief with minimum monitoring and minimum drug dosage. This means that pain relief must be achieved

deftly, but with a margin of safety which permits all members of the medical community to understand that this is done with little risk to the patient. The potential implications for being able to solve this problem and to relieve pain and anxiety while not having the patient suffer the expense and inconvenience of an unnecessary stay in the hospital should be obvious to anyone involved in the practice of anesthesiology. It is for this reason that these efforts are at the forefront of problems to be addressed by people who have been fortunate enough to associate themselves with the responsibility for relief of pain in their fellow human beings. It is therefore a pleasure for me to write this foreword for Dr. Sylvan Shane, who has clearly identified his responsibilities with the acute need.

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# Preface

This book was designed primarily as a handbook for training physicians and dentists in conscious sedation, which is an integral part of the anesthesiology residency program at The Johns Hopkins Hospital.

*This book is not a scientific treatise.* It was written in a nonscientific, colloquial style, since it concerns itself mainly with behavioral modification, that is, how to talk to the patient who is to be sedated but conscious during surgery, what words to choose, and how to gain the patient's confidence before entering the operating room, so that the patient will become a calm, stationary target during surgery.

We have discovered that sedation drugs such as tranquilizers and narcotics alone are not sufficient. They must be combined with intensive behavioral modification if outpatient surgery without general anesthesia is to be consistently successful.

Just as modern surgery was a direct outgrowth of the portent of sepsis and the development of anesthesia, so the concept of conscious sedation is an outgrowth of the need for surgicenters and early ambulation of surgical patients. Indeed, ambulatory surgery of the kinds listed in the table of contents would be rather impractical without the use of local anesthesia, and many patients would refuse surgery completely without the concomitant use of sedation.

Vocal, local, and light sedation are stressed in this book as the three elements, all equally important, in the successful execution of ambulatory surgery in patients who are to go home either the same or the following day after surgery is performed.

The principal objective to be stressed in this book is the avoidance of general anesthesia, wherever possible, and the avoidance of unconsciousness, which is frequently associated with deep sedation. Deep sedation will frequently induce loss of contact between the anesthesiologist and the patient, resulting in disoriented, bizarre behavior patterns, especially when slight discomfort is experienced due to a local block that is only partially effective.

This book stresses the importance of the role of behavioral modification or vocal redirection of the attention span during ambulatory surgery, and the distinct advantage of vocal rapport as the third partner of profound local block and the use of intravenous sedative drugs to produce only amnesia and euphoria—not general anesthesia.

An editorial in *Anesthesiology*\* touched the essence of this concept in the following words:

Behavioral experiments demonstrating cognitive, emotional, and situational factors influencing pain responsiveness are legion and suggest that the pain-inhibitory circuits of the brain are accessible to environmental controls. It does not seem unreasonable to expect, therefore, that behavioral technology may one day provide the most benign but effective anodyne in the pain therapist's arsenal.

\*Liebeskind, J.C. An editorial: Multiple mechanisms of pain inhibition intrinsic to the central nervous system. *Anesthesiology* 54:145–146, 1981.

# Drug Nomenclature

Drugs mentioned in this book will usually be identified by trade name or copyright name. To identify these drugs, the following list provides the trade name with the generic or chemical name listed beside it.

<b>Trade Name</b>	<b>Generic or Chemical Name</b>
Ativan	lorazepam
Benadryl	diphenhydramine
Brevital	methohexital sodium
Compazine	prochlorperazine
Decadron	dexamethasone
Demerol	meperidine
Diamox	acetazolamide
Dilaudid	hydromorphone
Ethrane	enflurane
Fluothane	halothane
Forane	isoflurane
Inapsine	droperidol
Innovar	droperidol plus fentanyl
Ketalar, Ketaject	ketamine
Mannitol 20%	Mannitol 20%
Marcaine	bupivacaine
Narcan	naloxone
Nembutal	pentobarbital
Neo-Synephrine	phenylephrine

Trade Name	Generic or Chemical Name
Novocain	procaine
Nisentil	alphaprodine
Nubain	nalbuphine
Osmoglyn	glycerine 50%
Pantopon	opium alkaloids
Penthrane	methoxyflurane
Pentothal	thiopental sodium
Phenergan	promethazine
Robinul	glycopyrrolate
Seconal	secobarbital
Sparine	promazine
Stadol	butorphanol
Sublimaze	fentanyl
Surital	thiamylal sodium
Talwin	pentazocine
Thorazine	chlorpromazine
Tigan	trimethobenzamide
Valium	diazepam
Vistaril	hydroxyzine
Xylocaine	lidocaine

## **NOTICE**

The author and the publisher have exercised great care to ensure that the drug dosages, formulas, and other information presented in this book are accurate and in accord with the professional standards in effect at the time of publication. Readers are, however, advised to always check the manufacturer's product information sheet that is packaged with the respective products to be fully informed of changes in recommended dosages, contraindications, and the like before prescribing or administering any drug.

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# 1

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## **What Constitutes Conscious Sedation, the Importance of Verbal Rapport, and the Drugs Employed**

Conscious sedation is an art not easily learned. To be successful it requires three equally important factors. The first is the use of profound local or regional block, usually performed by the surgeon, and it should be profound.

The second factor is the use of a judicious combination of drugs that will not produce somnolence or basal narcosis, but only amnesia. One must execute mature judgment in drug dosage, especially in children and in patients over 50 years of age. Errors in judgment involving overdosage will result in deep sedation, which is synonymous with general anesthesia even though general anesthetic drugs may not have been employed.

The third factor is the proper employment of a series of appropriate words and sentences to produce verbal rapport. This concept of verbal rapport, or behavioral modification, is as important as local anesthesia and the use of intravenous drugs. Working with a variety of physicians performing surgery on various areas of the body will very quickly reveal the enormous contribution verbal rapport makes toward the consistent success of conscious sedation. An example will illustrate this fact.

Dilatation and curettage (D and C) cannot be rendered totally pain-free by the use of a paracervical block. The fundal area of the uterus cannot be locally anesthetized for curetting. Therefore, the D and C, whether for diagnosis or for therapeutic

reasons, will be experienced as pain by the patient. The use of amnesic drugs will obliterate the patient's memory of the pain during the procedure, but not the reflex, defensive movements that the patient will make as a result of pain.

One cannot expect the surgeon to perform a D and C on a moving target, however. A lightly sedated patient who is conscious but amnesic will, if pain is imposed, kick her legs in the stirrups, move her body backward on the table, twist her body, and cry out, and the surgeon will invariably inveigh, in high dudgeon, at the anesthesiologist. The tendency at this point is for the anesthesiologist to inject more sedation or narcotics. Not that the patient needs it—the patient is already sedated sufficiently to produce amnesia, but the anesthesiologist needs it for his own peace of mind. This of course is wrong and in some instances, especially with the elderly, extremely dangerous. Excessive sedation will usually prolong postoperative recovery and cause irrational behavior, and can unambulate the patient. This is where intensive predrug vocal rapport becomes as important as the sedative drugs. (See Chapter 4 for a word-by-word description of the manner in which verbal rapport is established for a D and C patient).

The proper use of verbal rapport actually decreases the overall dosage of both narcotics and sedative drugs, thus rendering the patient ambulatory more quickly. Vocal rapport also makes the entire approach to conscious sedation practical and logical. Without it the concept would be eventually discarded and once again general anesthesia would assume the ascendancy. General anesthesia is a condition that few of us in the practice of anesthesiology would undergo ourselves if we had the safer alternative of conscious sedation for ambulatory surgery.

The administration of local or regional anesthesia involving the invasion of a human being with a needle and the injection of an anesthetic solution is painful wherever it is performed. Furthermore, the patient is quite aware of the pulling, spreading, and pressure of surgical maneuvering. These sensations may not always be painful, but they do cause apprehension, fear, and anxiety. In many instances local anesthesia is not always as profound as it should be, and some surgeons are not richly endowed with patience, restraint, and empathy. They will frequently start cutting as soon as the nurse accepts the Xylocaine syringe from their hands, and they will

then blame the anesthesiologist because the patient is complaining or moving.

At this moment the importance of vocal rapport can be appreciated, for without vocal rapport, the only alternative is another intravenous injection of some narcotic or tranquilizer into a patient who is already amnesic and obviously needs no additional depression.

Vocal rapport, established before any drugs are administered, involves telling the patient the following:

1. That the patient will be partially asleep or in a twilight state during the painful part of the operation. (Because of the intravenous drugs the patient will be amnesic and, as far as the patient is concerned, "asleep," since she will not be able to recall the needles prior to the operation. Since the local blocking is the most painful part of the operation, it is proper to inform the patient that she will be partially asleep during the "painful part of the operation.")
2. That the patient will be allowed to awaken toward the end of the operation and that she will be aware of certain sensations such as constant pressure to stop bleeding, intermittent pressure to stop bleeding, the placing of sutures to stop bleeding, application of bandages or casts, discomfort near the shoulders from carbon dioxide gas introduced while asleep (for the laparoscopy operation, for example).
3. That when these sensations of pressure or slight discomfort become manifest the patient is not to move, speak, cry, or protest, but is to let every muscle go limp in order to prevent an elevation of blood pressure, which could cause more bleeding.
4. That if the pressure to stop bleeding is a little uncomfortable, the patient may be permitted to breathe some "sweet air" (i.e., laughing gas—not more than 30% nitrous oxide), which will help alleviate the pressure. (At this point the anesthesiologist shows the mask to the patient, and requests her permission to let him place it on her face so that, should she need it at the end of the operation, she will know how it feels and smells.)

These four points, with emphasis on the control of bleeding, are basic to all approaches to ambulatory surgery under conscious sedation. Each point is elaborated upon in the succeeding chapters as these points are applied to specific operations.