

# Brigham and Women's Hospital

## Welcome to Ambulatory Anesthesia!

To help you with your rotation, here is the Ambulatory Anesthesia policy manual. It will clarify our goals and expectations for your learning as well as provide basic information you will need. In addition, we have a "reprints file" of significant articles that your faculty will share with you throughout the month.

If you have any questions – or comments or criticisms – please get in touch with me. We welcome your input.

Beverly K. Philip, MD  
Founding Director

**AMBULATORY ANESTHESIA  
POLICIES AND PROCEDURES**

**Beverly K. Philip, M.D.  
Director, Day Surgery Unit**

- I. Goals
- II. Clinical Responsibilities of Staff and Residents
- III. Ambulatory Anesthesia Subspecialty Training
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I. **GOALS**

1. To provide safe anesthesia for patients undergoing ambulatory surgery.
2. To understand the particular importance of the informational and emotional needs of ambulatory patients, and to meet them.
3. To give anesthesia so that patients can go home in the shortest possible time, and with the least side effects.
4. When safety issues are equal, to make cost-effective use of resources.
5. To teach all forms of anesthesia – general, regional, and monitored sedation – with old and new agents.
6. To educate residents in the care of ambulatory patients, with an eye towards real practice situations. Skills for the smooth, rapid, and self-sufficient management of anesthesia will be developed.
7. To encourage and support research in ambulatory anesthesia.

## II. CLINICAL RESPONSIBILITIES OF STAFF AND RESIDENTS

1. Review your patients' charts including laboratory data the night before, to identify potential problems. If there are any, solve them. At that time, prepare your anesthesia record (and other papers where possible) in order to expedite the next day's work. Formulate your anesthesia plans and discuss those plans with your teaching staff.
2. In the operating room, arrive sufficiently early to set up your workstation for the day by 7:00 AM. Meet your patient and begin anesthesia care at that time, so that the patient will be in the room at 7:15 and anesthesia induced by 7:30. (Times for Wednesday s are before conference, 9:15 and 9:30, respectively.)
3. Be prepared to work hard. You will be given an intense, private-practice type experience. A primary goal is your development of smooth, self sufficient techniques for the induction, maintenance and emergence phases of anesthesia. Within the framework of the above educational goal, formal coffee breaks may be provided by your teaching staff but are not guaranteed. Be flexible about the use of available time, and 'grab a cup' between cases. Eat breakfast! The day is relatively short, and in-house preoperative visits are rare.
4. Be prepared to work fast. Room turnover time will be minimal; be as efficient as possible. You will receive assistance from your staff and colleagues.
5. The ambulatory anesthesia group works as a team. If you have a hiatus, seek out the pos leader and offer to help. Actively look to assist your colleagues, such as in starting intravenous lines, helping with room turnover, giving breaks. Be on the floor and immediately available at all times.
6. The nursing staff is also part of our team. Be courteous and helpful – they will be the same. Communicate actively with your nursing teammates.
7. Research provides the basis for scientific advancement in anesthesia. Research in ambulatory-related projects is ongoing, and you will be asked to participate in the care of patients/subjects.
8. You need to be concerned about the outcome of the anesthetics you give. Make the effort to visit your patients before they go home, and discuss their experience with them.
9. Primary responsibility for the discharge evaluation and "signing out" of ambulatory patients is with the anesthesia recovery room team. However, you will be asked to assist with this function when that team is busy.
10. You will be assigned on rotation to the PreAdmitting Test Center to perform the preanesthesia evaluations for day surgery and same-day-admit patients. Patients are seen in the PATC from 7:00 AM to 5:00 PM. (From 9:30 on Wednesdays).

### **III. AMBULATORY ANESTHESIA SUBSPECIALTY TRAINING**

The Brigham and Women's Hospital Day Surgery Unit performs approximately 8,000 adult ambulatory surgical procedures per year. Both private and house-staff physicians of most surgical specialties utilize the unit, including gynecology (the largest), plastics, orthopedics, urology, ophthalmology and general surgery. All forms of anesthesia are offered with a special interest in ambulatory regional anesthesia: spinal, epidural, nerve block and intravenous regional. Patient population encompasses ASA I, II and III. Subspecialty training in Ambulatory Anesthesia at the CA-3 and CA-4 resident/fellow levels will include clinical practice, teaching, administration and research. Its goals are:

To acquire increased proficiency in administering anesthesia to ambulatory surgery patients. The resident/fellow will be given the opportunity to function as a "solo practitioner," to develop the skills and fluency needed for this sub-specialty. Experience in clinical skills will include pre-operative, intra-operative, and postoperative care of ambulatory patients. Opportunity will be given to administer anesthesia in non-operating room settings.

To acquire experience as a teacher of ambulatory anesthesia. The resident/fellow will be central to the clinical teaching program for residents rotating on the service. The resident/fellow will be expected to teach the pharmacology of appropriate anesthetic agents, as well as personal (interactive) and technical skills. The resident/fellow will also acquire experience teaching and supervising CRNA's in their practice of ambulatory anesthesia.

To acquire experience in the administration of an active ambulatory surgery unit, and in the role of the anesthesiologist as Medical Director. Administrative experience will include the application of unit policies to specific situations in the daily functioning of the unit, such as patient suitability for anesthesia or readiness for discharge. The resident/fellow will be able to participate in development and revision of the unit's medical policies. The resident/fellow will also be given tutorial and reading material on the establishment of this and other ambulatory surgery units.

To become involved in ongoing clinical research projects. Areas of current interest include the evaluation of general and regional anesthetic agents, the identification of appropriate monitoring, and anesthetic follow-up (quality assurance). Participation will be encouraged in the design of protocols that are suitable for ambulatory patients. If a full-year position is chosen, the resident/fellow will have the opportunity to develop his or her own research project.

### **IV. RESEARCH PROGRAM IN AMBULATORY ANESTHESIA:**

The goals of anesthesia for ambulatory surgery are to provide loss of consciousness and adequate hemodynamic control during the procedure, followed by rapid recovery with minimal side effects. In order to identify the most appropriate drugs for ambulatory anesthesia practice, we study the use of drugs currently available and drugs under development. Agents under investigation have included sedatives such as midazolam, propofol and flumazenil, analgesics such as butorphanol, alfentanil and remifentanil, and inhalants such as isoflurane, desflurane and sevoflurane. We study hemodynamic and respiratory responses to the drugs both during anesthesia and in the early postoperative period, subjective and objective measures of psychomotor recovery, and patient satisfaction with anesthetic techniques. We evaluate the use of these drugs in a range of applications for general anesthesia and sedation, such as inhalation anesthesia, intravenous bolus administration and administration by continuous infusion. Related

projects include studies in the pharmacokinetics of these drugs in ambulatory surgical patients. We utilize the active ambulatory surgery service in the Day Surgery Unit and operating rooms, with involvement from the Anesthesia Bioengineering Group.

## V. GENERAL POLICIES

General policy and practice statement can be found in the “Physicians’ Instructions”

## VI. SPECIFIC POLICIES AND PROCEDURES

- *AHA* Antibiotic Prophylaxis Guidelines-  
“Prevention of Infective Endocarditis”
- Changes due to Late Operating Schedule:
  - Insulin Dependent Diabetics
  - Routine Medications
- Control of Nausea/Vomiting
- “Fast-Tracking”: PACU Phase 1 Bypass
- Fasting [NPO] Policy Before Elective Surgical Procedures
- Induction of Anesthesia for Laparoscopy
- Ophthalmologic Patients:
  - Sedation
  - Eye Blocks
- Outcome-Based Recovery Assessment
- Special Needs Patients
- Spinal Anesthesia for Day Surgery Patients
- Walking Patients In

BRIGHAM AND WOMEN'S HOSPITAL  
DAY SURGERY PROGRAM  
PHYSICIANS' INSTRUCTIONS

This Registration Kit has been developed to make the registration process more efficient for you, your patient, and the hospital. It contains all the instructions and forms that you may need for any patient prior to registration.

I. Requirements for All Patients

A. Patient Selection

Healthy patients, ASA Physical Status I and II are candidates for surgery on the Day Surgery Unit (DSU). These patients are either completely healthy or have only mild systemic disturbances or diseases under good control.

Patients ordinarily acceptable include those with one of the following: a history of mild hypertension controlled on therapy; mild angina stable on medication; mild chronic bronchitis; mild and rare asthma; moderate obesity; epilepsy controlled by medication; or diabetes mellitus stable on oral hypoglycemics.

Patients ordinarily not acceptable are those whose activities are limited by cardiovascular or respiratory disease, with any unstable or serious medical problem, or active or frequent asthma. Exceptions to these criteria may be made by pre-arrangement with the Director.

Patients who have significant systemic disease (ASA Physical Status III) may be candidates for care in the DSU. Examples include coronary artery disease with moderate stable angina, insulin- dependent diabetes mellitus, morbid obesity, moderate pulmonary insufficiency. Their disease processes must be stable and in optimal control, and there should be little likelihood of an exacerbation due to surgery. These patients must have an anesthesia consultation in the PreAdmitting Test Center (P A TC) to determine their suitability; this will include the preanesthesia evaluation if the patient is suitable. Prior to this consultation, a recent evaluation and written report from the physician who provides ongoing medical care for the patient is recommended to facilitate the process.

Patients who come in on the day of surgery and are admitted for at least an overnight stay (Same Day Admit, or SDA) will also be processed through the DSU system. These patients may be ASA Physical Status I, II, and III. Patients selected for the One Day Option have additional health requirements (see below III).

B. Scheduling

The earliest start time for cases in the operating rooms will be 7:30 a.m. Patients utilizing the One Day Option may be scheduled starting at 9:30 a.m. The last case of the day must be scheduled to be completed by 3:30 p.m.

Call the operating room scheduling office (x 7367). Please give

1. Patient's name and medical record number (or date of birth)
2. Procedure to be performed and date of operation. Requests for special instrumentation should also be made at this time.
3. Patient's admission's status: DSU, SDA. Specify if the patient will be using the One Day Option.
4. The expected type of anesthesia. Choices of anesthesia are:
  - a. Anesthesia services required (general; regional; monitored anesthesia care with sedation)
  - b. Local (no sedation). Please inform your patient if local anesthesia with no sedation is chosen.

C. Pre-registration and Testing Appointments

At the time of scheduling, please call the Admission Counselor for Day Surgery Patients, x 7490. Give the patient's name, diagnosis, address, and home and business telephone numbers. Please also provide the patient's insurance coverage (policy and number) and the employer's name and address. If a separate anesthesia interview and/or laboratory testing will be needed, also ask the counselor to schedule an appointment for the patient in the Pre-admitting Test Center (PATC) for 3-14 working days prior to the day of surgery.

D. Required Forms

All patients are required to have a completed history and physical examination, preoperative orders including laboratory evaluations, and signed consent. The patient health questionnaire is also strongly recommended. These forms must be present in the PATC 2 working days before the preoperative appointment. They may be delivered to the PATC, placed in a basket (marked Day Surgery MD Packet Drop Off) at the Tower Lobby Information Desk, or the patient may hand deliver them. Records will be reviewed only for completeness at that time; the surgeon's office will be notified if there are any deficiencies, to correct them. If all completed forms cannot be obtained, the surgeon's office will be notified, and surgery will be cancelled.

1. Completed History and Physical Examination

This must be performed by the surgeon or his/her designate within one month of the surgery. This examination is the patient's basic medical evaluation. The surgeon is also responsible for informing his patients to contact him if any acute change in health occurs after the examination is performed. Please use the enclosed form. You may retain the yellow copy for your office records. The pink copy, with your discharge instructions, will be given to your patient after the procedure.



2. Preoperative Orders - Laboratory Tests

Required laboratory evaluations are to be done within one month of surgery:

- a. E KG -for men age 40 and over and women age  $\geq 50$ .
- b. hematocrit (or hemoglobin) -for men and women age  $\geq 50$ .

Routine screening laboratory or radiology tests are discouraged. Laboratory tests may be done either through the P A TC or through the physician's office. If tests are performed outside of this hospital, a written report form that laboratory is required. If tests are to be performed in the PATC, the patient must have an appointment 3-14 working days before surgery (see C, above). For those patients who may be candidates for Rh immune globulin, blood typing will, by law, need to be done in this hospital. Typing will be done with other preoperative laboratory tests, or on the day of surgery for one day patients.

The preoperative order form should be used to order additional tests if desired and to give any preoperative orders. All x-rays require a requisition signed by the physician. Preoperative medication will be ordered by the Anesthesia Department as needed.

3. Signed Consent

It is the responsibility of the surgeon to obtain informed consent from the patient.

4. Patient Health Questionnaire

This form is to aid surgeons and anesthesiologists in preparing adequate evaluation. It is to be completed and signed by the patient, and should be returned in the preoperative packet.

E. Preoperative Patient Information

All patients who go to the P A TC for a preoperative appointment will register and be given preoperative instructions at that time. If it becomes medically necessary for any day patient to stay overnight, he/she will then be admitted as an inpatient and transferred to an inpatient unit. It is your responsibility, as the surgeon, to instruct your patient when to report to the BWH for registration, anesthesia evaluation, laboratory tests, and/or surgery. If the Same Day Option is chosen, the surgeon has additional educational responsibilities, indicated below. Please be sure to give your patient the enclosed "Patient Information" material. These instructions include important information and a map with directions to the hospital.

F. Postoperative Orders

A preprinted sheet of recommended orders for postoperative DSU patients will be found in the patient's chart. Changes may be made if desired. Please sign the order sheet to implement it.

G. Discharge Instructions

Your patient will receive your post-discharge instructions found on the pink copy of the history and physical form. Prescription blanks will be available in the DSU recovery area. Please sign all forms.

II. Patients Receiving Local Anesthesia

Patients receiving purely local anesthesia (without sedation) should arrive at the DSU only one hour prior to the scheduled time of surgery on the day of surgery. The requirements for all patients must be met. Only laboratory tests (I.D.2) may be omitted.

III. One Day Option for Healthy Patients

The one day option is encouraged for healthy patients requiring anesthesia (general, regional, or monitored anesthesia with sedation) at the discretion of their surgeon. Patients may be for:

A. Day Surgery

B. Inpatient Same Day Admission.

These patients must be ASA Physical Status I only, completely healthy with no systemic disease. It is the responsibility of the surgeon to select only those patients appropriate for this service, and to complete the requirements for all patients.

Specific additional requirements for this pathway are:

1. Laboratory Tests

Must be done in advance through the physician's office. Written reports must be present in the packet at least three working days prior to surgery. Rh immune globulin candidates will be screened on the day of surgery.

Alternatively, healthy patients may be scheduled for laboratory testing in the morning prior to surgery. Call x7484 to schedule an appointment for three hours before the scheduled time of surgery (7:00 a.m. or later). Ordinarily, only required laboratory testing will be available on this basis specifically, blood tests and ECG.

2. Patient Education

The surgeon is responsible for informing the patient when to arrive for surgery and for reminding the patient not to eat or drink after midnight the day before and to have a responsible adult to escort him/her home. Immediate preoperative teaching by the DSU staff will necessarily be limited.

All One-Day patients should go to the PATC for registration and an anesthesia evaluation (and laboratory tests if needed) before going to the DSU. If significant medical problems are uncovered by the anesthesiologist at the immediate preoperative screening, the patient will be referred back to his/her surgeon for a more complete evaluation; surgery will be canceled.

Find this article at:

<http://circ.ahajournals.org/content/116/15/1736.abstract>

With link to free full text

## **Prevention of Infective Endocarditis Guidelines from the American Heart Association**

### **Publication Name:**

Circulation. 2007; 116: 1736-1754

### **Authors:**

Walter Wilson, Kathryn Taubert, Michael Gewitz, et al.

**Objective** To update recommendations issued by the American Heart Association last published in 1990 for the prevention of bacterial endocarditis in individuals at risk for this disease.

**Methods and Results**— A writing group was appointed by the AHA for their expertise in prevention and treatment of infective endocarditis, with liaison members representing the American Dental Association, the Infectious Diseases Society of America, and the American Academy of Pediatrics. The writing group reviewed input from national and international experts on infective endocarditis. The recommendations in this document reflect analyses of relevant literature regarding procedure-related bacteremia and infective endocarditis, in vitro susceptibility data of the most common microorganisms that cause infective endocarditis, results of prophylactic studies in animal models of experimental endocarditis, and retrospective and prospective studies of prevention of infective endocarditis. MEDLINE database searches from 1950 to 2006 were done for English-language papers using the following search terms: endocarditis, infective endocarditis, prophylaxis, prevention, antibiotic, antimicrobial, pathogens, organisms, dental, gastrointestinal, genitourinary, streptococcus, enterococcus, staphylococcus, respiratory, dental surgery, pathogenesis, vaccine, immunization, and bacteremia. The reference lists of the identified papers were also searched. We also searched the AHA online library. The American College of Cardiology/AHA classification of recommendations and levels of evidence for practice guidelines were used. The paper was subsequently reviewed by outside experts not affiliated with the writing group and by the AHA Science Advisory and Coordinating Committee.

**Conclusions**— The major changes in the updated recommendations include the following: (1) The Committee concluded that only an extremely small number of cases of infective endocarditis might be prevented by antibiotic prophylaxis for dental procedures even if such prophylactic therapy were 100% effective. (2) Infective endocarditis prophylaxis for dental procedures is reasonable only for patients with underlying cardiac conditions associated with the highest risk of adverse outcome from infective endocarditis. (3) For patients with these

underlying cardiac conditions, prophylaxis is reasonable for all dental procedures that involve manipulation of gingival tissue or the periapical region of teeth or perforation of the oral mucosa. (4) Prophylaxis is not recommended based solely on an increased lifetime risk of acquisition of infective endocarditis. (5) Administration of antibiotics solely to prevent endocarditis is not recommended for patients who undergo a genitourinary or gastrointestinal tract procedure. These changes are intended to define more clearly when infective endocarditis prophylaxis is or is not recommended and to provide more uniform and consistent global recommendations.

To: BWH Anesthesia Staff  
From: Beverly K. Philip, MD  
Director, Day Surgery Unit  
RE: Changes in DSU Policies Reflecting the Late Operating Schedule

- I. The Insulin Dependent Diabetic Patient. We should identify these patients at the time of their visit to the PATC. We will ask them all to come to the hospital and be in an observed area no later than 10:00 AM to receive insulin and fluids. This option does require additional nursing care. For patients who do not use the service of the PATC, it will become the obligation of the surgeon to provide the proper information.
- II. Routine Medications. Since surgery may be schedule late in the day, we will need to tell our patients to continue to take appropriate doses of their routine medications, with sips of clear liquids.

To: Anesthesia Personnel  
From: Beverly K. Philip, MD  
Director, Day Surgery Unit  
Subject: Control of Nausea/Vomiting for DSU Patients

Postoperative nausea and vomiting are the most common reason for postoperative admission from the DSU, and most heartily disliked by patients. We need to address the control of postoperative nausea and vomiting in a planned yet cost conscious approach. The problem is multifactorial, and no single solution is effective.

#### I Treatment of Pain

In addition to the anesthetic agents directly, there are other factors which affect nausea/vomiting. Adequate surgical pain control is needed. However, the abolition of postsurgical pain by intravenous/oral medications is not a reasonable goal.

Regional blocks and local infiltration should be used whenever possible, including with general anesthesia.

#### II Adequate Hydration

Another contributing factor is adequate hydration. Patients have been NPO for varying and sometimes prolonged periods of time. Currently the NPO policy is:

NPO for solids after midnight.

Unlimited clear fluids [specified] until 4 hrs before the scheduled time of surgery.

For all patients, continue most routine medications.

Once in our care, we need to replace or continue adequate hydration. Perioperatively, most healthy patients need 2 liters or more of Lactated Ringers [or similar salt solution] to minimize postural hypotension and associated nausea.

#### III Avoidance of PO Intake Early Postop

Postoperatively, we should not push patients to drink fluids before discharge, per ASA guidelines. Eating solids should be discouraged; remember that approximately 1/3 of patients who develop PONV do so after leaving the facility. Patients who may be at higher risk for PONV especially should be instructed to postpone solid food intake until they are at home and then when hunger develops.

#### IV Anesthetic Considerations

##### 1- Obtain anesthetic history

Many patients have had anesthesia before. Discuss previous outcomes with the patients and review old anesthetic records, to find out what did or did not work before.

##### 2- Induction of anesthesia

If an intravenous induction is chosen and if the patients are scheduled for procedures associated with a high incidence of nausea/vomiting, recommend using propofol. This agent has direct antiemetic effect, in addition to the euphoria it produces. An additional dose of 10 [-20] mg may be useful at the end of an anesthetic to treat nausea during transfer to PACU.

Inhalation induction with sevoflurane is another successful option.

##### 3- Perioperative analgesics

Opioids are frequently a necessary component of anesthesia. However, side effects such as nausea are linearly dose related, and the total dose of short-acting opioids should be limited [eg, fentanyl < 2 µg/kg]. Furthermore, antiemetics are less effective with increasing fentanyl dose. If opioid use is planned to prevent postoperative pain, recommend giving it shortly before the end of the case. Long acting opioids such as morphine should not be routinely used because side effects are long as well.

The use of NSAIDs should be strongly considered for their opioid-sparing effect. One option is rofecoxib 50 mg po with a sip of water/citra before surgery. Nonspecific NSAIDs such as ibuprofen or ketorolac are highly effective. However, these drugs are not recommended when hemostasis is critical, such as in plastic surgical procedures.

4- Additional perioperative therapies

For most patients the above will be adequate. For patients having emesis-prone procedures or with a personal history of postoperative vomiting, consider the following sequence of therapies. Remember that the causes are multiple, and therefore no single drug can “cure” postoperative nausea/vomiting. Optimum therapy is multi-modal, and the costs of the drugs should be considered.

- Droperidol is highly effective but is not currently available in this institution.
- Dexamethasone has direct antiemetic effect and may enhance the effectiveness of other drugs. 4 mg is a fully effective dose for this purpose, and more is not needed. Since onset of effect is slow, give it right after induction.
- Metoclopramide is somewhat effective but has few side effects. The usual dose is 10-20 mg IV. Remember when using this dopamine antagonist that the duration of action is 2-3 hours, and it should be given near the end of the procedure.
- Ephedrine is an effective antiemetic, comparable to low-dose droperidol. This appears to be a result of its sympathomimetic activity, especially for patients with low normal blood pressure. The usual dose is 35-50 mg IM before the end of the case. Do not give to patients with coronary artery or hypertensive disease.
- For patients with a history of motion sickness, or for those who have had “problems” with PONV or opioids before, consider giving an anti-motion sickness drug. Options include a scopolamine patch or oral meclizine, given preop; antihistamines may also be effective but are sedating.
- Ondansetron or related serotonin antagonists are partially effective as first-line antiemetics after anesthesia and surgery, but they are good treatment drugs. The current suggested treatment dose is ondansetron 1-2 mg IV, no more than q 8 h. If prophylaxis is chosen, give 4 mg approx. 20 min before end of the case. Additional or larger doses do NOT increase effectiveness.
- For the patient for whom all the above approaches have failed, administer a sedating antiemetic such as promethazine 12.5-25 mg.

To: BWH Anesthesia Staff  
From: Beverly K. Philip, MD  
Director, Day Surgery Unit

RE: Fasting [NPO] Policy Before Elective Surgical Procedures

New information has become available concerning the length of the fast needed before elective surgical procedures. These recommendations are based on "Practice guidelines for sedation and analgesia by non-anesthesiologists" in *Anesthesiology* 1996; 84: 459-71.

This policy applies to generally healthy, elective surgical patients. Most commonly, these patients are scheduled for same-day admit or ambulatory procedures. This policy does NOT apply to patients with gastrointestinal tract disease (e.g., delayed emptying, reflux), including patients with diabetes or mechanical obstruction; we will continue the NPO-after-midnight [eight-hour] rule for those patients.

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FASTING [NPO] POLICY BEFORE ELECTIVE SURGICAL PROCEDURES

1. No solid foods or non-clear liquids after midnight.
2. Clear liquids only – specifically  
Black tea, black coffee, apple juice, soda, or water. In limited amounts until 4 hours before the scheduled time of surgery.

REFERENCES:

Practice guidelines for sedation and analgesia by non-anesthesiologists.

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To: Anesthesia Personnel  
From: Beverly K. Philip, MD  
Director, Day Surgery Unit  
RE: Induction of Anesthesia for Laparoscopy

After anesthesia induction, the use of positive pressure ventilation may unintentionally inflate and dilate the stomach. Perforation of the stomach by the laparoscopy insufflating needle or trocar has occurred, and may be more likely when the stomach is dilated. Therefore, a rapid induction of anesthesia for laparoscopy, without positive pressure ventilation before intubation of the trachea, is indicated to minimize the likelihood of this complication. If the stomach is inflated by the use of positive pressure ventilation, it should be decompressed by orogastric suctioning after tracheal intubation is completed.

To: Anesthesia Personnel  
From: Beverly K. Philip, MD  
Director, Day Surgery Unit  
Subject: Ophthalmologic Patients: Recommendations for Sedation

After discussions with patients and surgeons, I would like to offer recommendations for a sedation routine which has proven successful.

Remember that this can be a very fast paced day. Surgeon will be ready to perform the first block at 0700. IV's and patient preparation for following cases need to be done during the case before.

### I. Preparation of the Patient

- Both DSU and SD patients are usually admitted to the DSU preop area if they will be having retro-/peri-bulbar anesthesia, and the blocks are performed there.
- Confirm that the patient has taken his/her chronic medications. If not, order them from the OR pharmacy.
- Start a small IV; 20 ga is sufficient especially for MAC anesthesia. The left upper extremity is preferable, since you will be sitting beside the left hand. Run the IV very slowly to avoid the distress of a full bladder. Osmotic diuretics may have been ordered by the surgeon, and the patient will be able to resume normal intake shortly after arriving in the PACU.
- Apply appropriate monitoring in the DSU. NIBP, ECG, and pulse oximeter should be used and values recorded. Administer supplemental oxygen by nasal cannula. Avoid looping the cannula hose over the operative-side ear because the hose will be in the surgical field.
- Chemical premedication may not be necessary at this time, but verbal reassurance is always helpful. Methohexital is recommended for use as sedative [see below].

### II. Sedation

- When it is time to administer the block, start your anesthesia record since your continuous anesthetic care is beginning.
- Analgesic - Recommend beginning with a small dose of fentanyl to provide analgesia for the block injection, 12.5-50 ug. Before giving a supplemental dose, wait sufficient time for the initial effect to develop, or you may overdose particularly the elderly, frail patient. Ketamine has produced unpleasant dysphoria.
- Sedative - Afterwards, recommend adding a sedative. Methohexital in 5-10 mg increments has been by far the most successful, providing adequate drowsiness and amnesia during the block as well as a quiet patient during the operation. Thiopental in 12-25 mg increments is also satisfactory, but more care must be taken to avoid cumulating effect. Surgeons feel that the propofol-treated patients are more restless. The use of midazolam has several drawbacks in the elderly, including prolonged sedation and motor incoordination. Recommend saving its use for the younger and more sturdy patients.

- Atropine - Always have a syringe of atropine with you when assisting at or performing a retrobulbar or peribulbar block. Bradycardia leading to asystole may occur via the oculocardiac reflex, and its onset can be quite sudden.

III. The Blocks

We are available to teach retrobulbar/peribulbar blocks. If you are interested, please let me know because the service needs to be given additional personnel so as not to delay the surgeons.

I have prepared a residents' handout, which describes how to do the blocks, specific regional anatomy, and discusses complications associated with ophthalmologic anesthesia and surgery. Residents will receive this handout while on Ambulatory, and anyone may request it from me at any time.

EYE BLOCKS –  
How to do them

Outline of the protocols is here. Ask your ambulatory teaching staff for a full copy.

- I. Preparation
- II. Anesthetic solution choices
- III. Topical anesthesia
- IV. Superficial blocks:
  - a. Facial Nerve, VII. Upper/lower zygomatic branches, for orbicularis oculi and frontalis muscles (modified van Lint) Akinesia eyelids.
  - b. Trigeminal, Ophthalmic Branch, = V1. Sensory lid block.
- V. Retrobulbar Block. Akinesia extraocular muscles and sensory to globe (nasociliary nerve V1).
- VI. Peribulbar Block
  - a. Inferolateral injection.
  - b. Superomedial injection.
- VII. Concluding Steps

To: Anesthesia Personnel  
From: Beverly K. Philip, MD  
Director, Day Surgery Unit  
RE: Recommendations for Care of DSU Special Needs Patients

On a regular basis, we are asked to care for patients who are mentally handicapped or mentally ill, some who live in resident facilities. They are usually here for dental, ophthalmologic or gynecologic procedures. Below are guidelines to assist in the care of these special needs patients.

1. Preoperative Evaluation

These patients are usually not seen in the PATC before their surgery. Instead, they will have a medical evaluation including history and physical examination done by a physician or PA where they live. The evaluations have consistently been quite thorough. These evaluations may be available the day before but often will arrive with the patient. Please use the evaluations to prepare a pre-anesthetic consultation, using our usual departmental preanesthesia form. Consents for anesthesia and for surgery will have been obtained in advance from the patient's legal guardian.

2. Choice of Anesthesia

Most often, these patients need general anesthesia because of their inability to cooperate adequately with other techniques.

3. Approach to the Patient

Although some of these patients are totally non-communicative, most can appreciate gentle words and a friendly tone of voice. They always come with an attendant who knows them well. Speak with this individual to find out what the patient's normal state is and how he/she responds to frightening or medical experiences. Ask the attendant for suggestions as to what usually works.

In general, the attendant can help the patient change into a hospital gown. If possible, have the attendant help the patient onto a stretcher, after which they will settle down again if nothing "medical" is done. If this is not possible, premedication can be given to the patient in a wheelchair in a waiting area or rarely in the PACU isolation room. If the patient is becoming agitated, do not escalate the situation. Think creatively for a safe and quiet approach to give the patient premedication. Also, do not let the situation develop to a point that the other DSU patients become upset.

4. Premedication Technique

Intramuscular premedication is recommended. The patient should be "hugged" from the front by the attendant, while you give the patient an injection in the back of the upper arm. Don't let the patient see the needle. Discuss with the attendant what you plan to do.

5. Premedication Drug

Intramuscular midazolam is the first choice, and a typical dose is 10 mg. Rarely, 5 mg will suffice if light sedation is desired. Use the 5 mg/ml concentration, with a 1.5 inch IM needle, 21.25 ga. Sedation will appear within 5 minutes and continue to deepen for 10-20 minutes thereafter.

If the patient is very agitated or combative, you may need ketamine as well. This is rare. A suggested typical dose for those circumstances is ketamine 100 mg (using 100 mg/ml) with atropine 0.4 mg; I recommend giving it in the same syringe with the midazolam. Attendants have commented that there is a noticeable decrement in mentation during recovery when ketamine is used for these patients.

As the patient becomes drowsy and will tolerate it, put on a pulse oximeter. Add oxygen by face mask or nasal cannula as indicated by the oximeter and as tolerated.

6. General Anesthesia  
Use any technique which is appropriate for the patient's other medical problems and the procedure. Remember that the patient will be going "home". They will be appropriately supervised there.
7. Recovery and Discharge  
As the patient returns to his or her normal condition, per usual DSU policies.

To: Anesthesia Personnel  
From: Beverly K. Philip, MD  
Director, Day Surgery Unit  
Subject: Spinal anesthesia for day surgery patients

Please do NOT use bupivacaine or tetracaine for spinal anesthesia in DSU patients. The time required for recovery to walk and void is excessively long for these agents, usually 4-6 hours. If given early in the day, long spinals have generated significant patient dissatisfaction about the "delayed" discharge, as well as occupying recovery resources, and if given later in the day, overnight admission may result.

Therefore, when spinal anesthesia is used for day surgery patients, lidocaine or procaine should be used. Hyperbaric or isobaric solutions, with or without epinephrine, produce satisfactory results.

## "Fast-Track" Recovery: PACU Phase 1 Bypass

"Fast-tracking" is a change of goals, made possible through the collaboration of anesthesiologists, nurses and surgeons. We now expect all of our MACs and many of our Generals lasting less than one hour to leave the room in a wheeled chair. [Not all do, of course, but we try!] These patients go directly to DSU Phase 2 Recovery, and home from there. With this better early recovery, surgeons are able to talk with their patients right after their surgery - and the patients remember it. Also, patients are reunited with their family members sooner, which they greatly appreciate.

The two major issues impacting on your ability to fast-track your patients are control of pain and control of nausea. The cornerstone of pain control is good regional or local anesthesia. Encourage your surgeons to infiltrate liberally, for all procedures. Some patients having general anesthesia need a small dose of opioid to supplement their analgesia; give the opioid, such as fentanyl 25-50 ug, near the end of the procedure (5-10 min before) so that it will be working into recovery.

Control of nausea is addressed by giving a careful anesthetic. Remember that the nausea rate increases with increasing peri-operative opioid dose, and that antiemetics [including ondansetron] become less effective the more total opioid has been given.

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### Criteria for Fast-Tracking [Bypass Phase 1]

Before leaving the operating room, the patient should be:

- Awake
- Vital signs stable
- SpO<sub>2</sub> >= 92% on room air
- Minimal pain
- Minimal nausea
- Able to sit with minimal dizziness

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You can ask the O.R. Patient Care Assistant to bring either a wheelchair or a recliner chair from DSU for the transport, instead of the stretcher. Remember to go slowly, especially around the corners to avoid motion stimuli for nausea. Also, ask the surgeon going with you to walk in front of the chair, to clear the way.

On arrival in the Phase 2 recovery area:

- Report the vital signs and room air oxygen saturation to the receiving nurse
- Report the anti-nausea and anti-pain therapies provided
- Complete the discharge section on the back of the anesthesia record

We encourage you to go back to the DSU PACU later and see how your patients did. Ask the DSU PACU nurses for their evaluation - they want to work with you to make this a success.



To: Anesthesia Personnel  
From: Beverly K. Philip, MD  
Director, Day Surgery Unit  
Subject: Outcome-Based Recovery Assessment of DSU Patients

### 1- Bypassing First Phase of Recovery

For Day Surgery patients, we want to use outcome-based criteria rather than process-based evaluations. Therefore, discharge is based on meeting the Unit's written discharge criteria and not how much time the patient takes to reach these criteria. Patients who are well enough recovered in the operating room to bypass the first phase of recovery entirely may be "fast-tracked" to a second-phase recliner chair directly. This decision is the responsibility of the anesthesia team caring for the patient. Do expect feedback from the DSU Recovery nurses as to how your patients fare.

Please also see the policy memo: "Fast-Tracking": PACU Phase 1 Bypass

### 2- Patient Discharge

These fast-tracked patients often meet the criteria for discharge from the facility when they arrive in the recovery area, with the exception of drinking. Therefore, these patients should receive their physician discharge assessment and note before you leave them in the recovery area.

### 3- Use of Supplemental Oxygen

A similar approach should be used to decide other aspects of transfer to the recovery area. If your patients are wide awake and have maintained oximeter saturation on room air > 92% in the operating room, they have met criteria for cessation of oxygen administration - and they do not need to be transferred to the PACU with supplemental oxygen.

Reference: Aldrete JA. J Clin Anesth 1995;7:89-91.