Panel
Providing Value-added Services to Your Hospital: Making Your Anesthesiology Department Indispensable

Pre-Anesthesia Assessment, PACU, and OR Management

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Objective: To describe how anesthesiologist involvement in OR management can increase your and your groups value to the hospital.

During anesthesia residency, the pre-op clinic and PACU are frequently managed either by a dedicated anesthesia faculty member, resident or both. OR management by anesthesiologists, where it exists, is generally the purview of a senior faculty member.

In the transition from residency to private practice these are areas that are rarely assessed by newly minted anesthesiologists seeking positions. However, the existence of a dedicated anesthesia OR management team can be a sign of a healthy, mature, and well-run group.

Achieving this in private practice may be difficult however, due to the economic reality that one is normally not paid for this work. A dedicated anesthesiologist in the pre-op clinic or PACU is an anesthesiologist who is not generating income in the OR, pain clinic, procedural areas, or ICU. Only the largest groups or those that have stipends from their hospitals can afford to do this routinely.

No one would question however, that this work adds value to the practice and to the hospital. A good system of pre-anesthetic evaluation for patients who arrive the day of surgery for even the most complex and risky procedures, will enable the group and department to avoid delays and cancellations of surgery. Involvement in OR management enables the Anesthesia Department to influence the flow and process of block time issues, daily surgical scheduling, handling of add-ons and emergency cases, resource and personnel allocation. As a consequence the Anesthesia Department may influence hospital processes related to quality and financial initiatives. Done properly anesthesiologist involvement in OR management will strengthen the relationship between the Anesthesia Department, the Surgery Department and the hospital. Similarly being involved in the creation of processes that allow the PACU to function well will provide a safe and stable environment for our patients.

Private practices that deal with multiple surgeons and surgical offices may not have a pre-op clinic. In our practice we have a Pre-Admission Testing (PAT) system run by the hospitals or ASCs where we practice. The patients are screened either by phone or in person by nurses for pertinent medical, surgical, and anesthetic history. Lab work is ordered by protocol based on criteria of age,

medical history, and type of surgery. Patients are screened specifically for cardiac and pulmonary conditions and are referred for further testing by specific algorithm. The pre-op nurses coordinate this with the surgeons offices and specialized or difficult issues are referred by phone to the OR manager for consultation and disposition. On the day of surgery all information gathered is available for the assigned anesthesiologist to complete the pre-op history, physical and assessment. In order for such an system to work seamlessly there needs to be a large amount of work done up front in setting up protocols and algorithms and in educating the facilities, pre-op nurses and surgeons offices. An example of such a protocol from our practice is attached .

Similarly PACU protocols can be set up for the management of post-op pain, fluids, respiratory function, nausea, blood pressure control, epidural catheters, spinal narcotics, and in dwelling peripheral nerve block catheters. Criteria may be established for admitting outpatients to Phase 2 recovery directly and for discharging patients from Phase 1 to Phase 2. Patients may also be discharged either to their rooms or home according to agreed upon criteria. The ASA Practice Guidelines for Postanesthetic Care can provide information as to how to standardize PACU patient management. The more difficult issue is how to care for the unexpected clinical issues that may arise in the care of the PACU patients. When there is no physician assigned to the PACU, the attending anesthesiologist is responsible for this. In our group, if that individual is not available to asses the patient when necessary, we ask the OR manager or any other available anesthesiologist to assist.

A strong OR management team is the cornerstone of making this all work well. The traditional OR manager works with the hospital and surgeons on scheduling of cases and anesthesiologists, OR flow and turnover, and cost analysis and resource utilization. This may be a single individual from the anesthesia department or a small selected team that functions with consistency. The anesthesia OR manager(s) may also provide oversight and administrative support for the pre-operative area and the PACU. With consistent management, and performance transparent to all parties, the anesthesia OR management team can become an indispensable part of creating an effective and professional OR environment for patients, hospital personnel, anesthesiologists, and surgeons.

References

1. Pasternak LR, et al. Practice Advisory for Preanesthesia Evaluation. Park Ridge IL: American Society of Anesthesiologists. *Anesthesiology.* 2002: 86:485-496. Amended in 2003 nut not republished.

2. Silverstein JH, et al. Practice Guidelines for Postanesthetic Care. Park Ridge IL: American Society of Anesthesiologists. *Anesthesiology.* 2002: 96:742-752.

ANESTHESIA CONSULTANTS OF FRESNO
POLICY AND PROCEDURE
ANTIPLATELET THERAPY IN CARDIAC STENT PATIENTS

Purpose

Dual antiplatelet therapy with aspirin plus a thienopyridine (e.g. Plavix, Ticlid) is common after percutaneous coronary intervention (PCI) procedures. The following is intended to provide guidance to the anesthesiologist in weighing the risks of intraoperative bleeding versus the risk of Coronary Stent Thrombosis (ST) during the perioperative period.

Policy

In general, we do not modify a patient's antiplatelet therapy regimen without the managing cardiologist's input.

1. Drug-Eluting Stent (DES) recipients

    a. Surgical procedures on DES recipients must only take place in facilities with the immediate availability of percutaneous coronary intervention (PCI).

    b. Platelet transfusion is not recommended for patients requiring dual antiplatelet therapy except in the case of life-threatening hemorrhage. If platelet transfusion is administered in these patients, the risk of subsequent ST is high.

    c. These patients should generally continue dual antiplatelet therapy for **12 months** after their PCI. High-risk patients (advanced age, diabetes, renal failure, low ejection fraction, long stents, overlapping stents, multiple lesions, small vessels, ostial lesions) who have had DES implantation may benefit from longer dual antiplatelet therapy.

    d. Elective surgery should ideally be postponed in these patients for **12 months** from the time of their PCI.

    e. If surgery is required or proposed less than 12 months from the date of the PCI, a consultation with the patient's Cardiologist must occur to provide guidance as to possible "bridging" anticoagulant therapy, and the timing of discontinuation, if any, of thienopyridine therapy.

    f. Aspirin usually need not be discontinued in the perioperative period.

2. Bare-metal stent (BMS) recipients

a. Dual-antiplatelet therapy is typically indicated for **3 months** from the date of the PCI.

b. Elective surgery should ideally be postponed for **3 months** from the date of the PCI.

c. If surgery is required or proposed less than 3 months from the date of the PCI, a consultation with the patient's Cardiologist should occur to provide guidance as to possible "bridging" anticoagulant therapy, and the timing of discontinuation, if any, of thienopyridine therapy.

d. Aspirin usually need not be discontinued in the perioperative period.

Procedure

1. Patients in whom PCI with stent implantation has taken place should be seen in the preoperative testing clinic at least 5 business days prior to their scheduled surgery, if at all possible.

2. Preoperative testing clinic (for scheduled surgery), or the Anesthesiologist (for emergency surgery) should verify the date of stent implantation.

   a. Was the stent a DES (Cypher, [Sirolimus-eluting, Johnson & Johnson, Cordis] or Taxus, [Paclitaxel-eluting, Boston Scientific])? If the answer is "yes," the patient should undergo his/her surgery at Saint Agnes Medical Center or the Fresno Heart and Surgical Hospital.

      i. Surgery is elective/ non-urgent.

         1. **DES implanted less than 12 months ago: Consider rescheduling the surgery**. The surgeon should refer the patient to the managing Cardiologist for guidance as to timing of surgery, and/or perioperative antiplatelet therapy management.

         2. DES implanted greater than 12 months ago. If the patient is currently on dual antiplatelet therapy, refer to the managing Cardiologist for guidance as to possible discontinuation of therapy in the perioperative period. **If the patient is currently taking aspirin alone, do not discontinue in anticipation of surgery.**

      ii. Surgery is non-elective/urgent. In this instance, delaying the surgery would put the patient at undue risk for morbidity (e. g., breast cancer surgery).

1. If the patient is on dual antiplatelet therapy, refer to the managing Cardiologist for guidance regarding possible discontinuation of therapy in the perioperative period.
2. If the patient is on aspirin alone, do not discontinue therapy.

iii. Surgery is emergent (no preoperative clinic evaluation).

1. Patient is on dual antiplatelet therapy. If the surgery poses a significant risk of perioperative bleeding, ensure that, at minimum, a "type and screen" sample is available in the blood bank. **Platelet transfusion should not be administered except in the case of active, uncontrolled hemorrhage** thought to be related to thrombocytopenia.
2. Discussion with the patient's managing cardiologist should take place regarding the possible discontinuation and reinstitution of perioperative antiplatelet therapy.

b. Was the stent a BMS?

i. Surgery is elective/non-urgent.

1. **BMS implanted less than 3 months ago: Consider rescheduling the surgery**. The surgeon should refer the patient to the managing Cardiologist for guidance as to timing of surgery, and/or perioperative antiplatelet therapy management.
2. BMS implanted greater than 3 months ago. If the patient is currently on dual antiplatelet therapy, refer to the managing Cardiologist for guidance as regards possible discontinuation of therapy in the perioperative period. **If the patient is currently taking aspirin alone, do not discontinue in anticipation of surgery.**

ii. Surgery is non-elective/urgent.

1. If the patient is on dual antiplatelet therapy, refer to the managing Cardiologist for guidance as to possible discontinuation of therapy in the perioperative period.
2. If the patient is on aspirin alone, do not discontinue therapy.

iii. Surgery is emergent (no preoperative clinic evaluation).

1. Patient is on dual antiplatelet therapy. If the surgery poses a significant risk of perioperative bleeding, ensure that, at minimum, a "type and screen" sample is available in the blood bank. As in the case of DES, it would seem prudent to avoid platelet transfusion unless absolutely necessary, if the

BMS is thought to not have had time to become adequately endothelialized.

2. Discussion with the patient's managing Cardiologist should take place about the timing of stopping and starting of perioperative antiplatelet therapy.

Sources:
1. Circulation, 2007; 115: 813-818
2. J Am Coll Cardiol 2007; 49: 2145-2150