UPDATE IN THE PREANESTHETIC EVALUATION AND PREPARATION

ESSAY
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FOR THE MASTER DEGREE IN ANESTHESIA & ICU

BY

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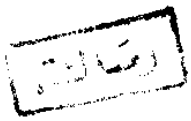

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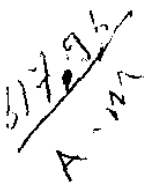

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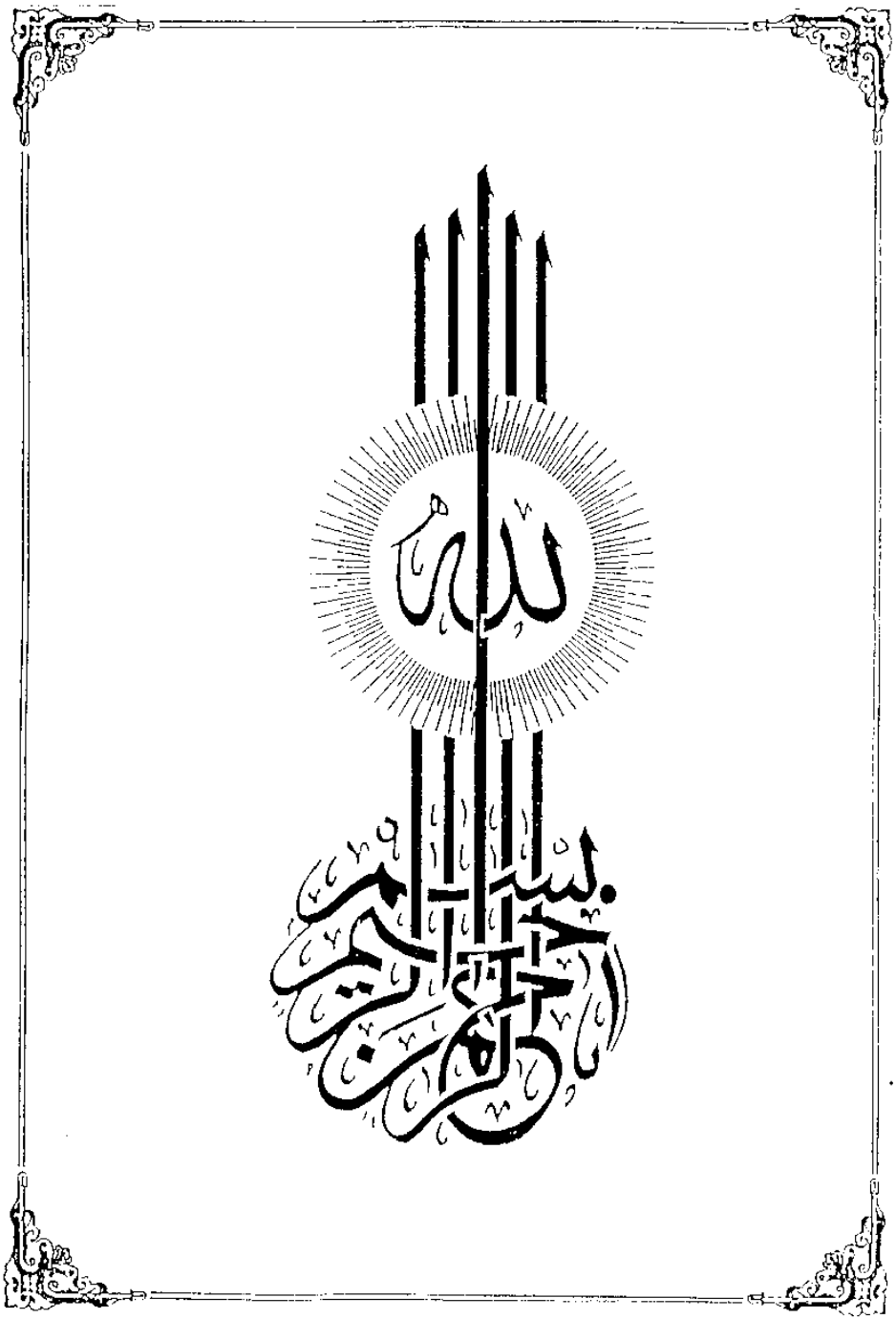

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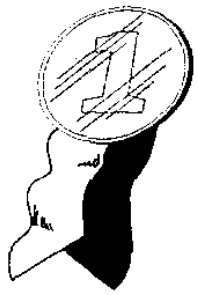

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INTRODUCTION

THE goal of the preanesthetic medical assessment is to reduce the morbidity of surgery. Traditionally this goal has been facilitated by a preoperative meeting of patients and anesthesiologists. This meeting has five goals :

. to educate the patient about anesthesia , preoperative care , and pain treatment in the hope of reducing anxiety and facilitating recovery ;

. to obtain pertinent information about the patient's medical history and physical and mental conditions ;

. to determine which tests and consultations are needed ;

. to choose the care plans , guided by the patient's choices and the risk factors uncovered by the history ; and

. to obtain informed consent.

The importance of these goals should not be overlooked during the preoperative evaluation. Most data indicate that the recovery occurs more quickly when the anesthesiologist allays the patient's concerns, informs the patient about what is to come , and plans postoperative pain therapy with the patient.

Optimizing the patient's health before the surgery and planing the most appropriate preoperative management improves the perioperative outcome and reduces the costs. Data supporting this claim are substantial but indirect: studies of perioperative morbidity over four decades repeatedly show that preoperative patient conditions are significant predictors of postoperative morbidity. Furthermore, less severe manifestations of adverse preoperative conditions are associated with lower perioperative morbidity and mortality.

The data imply improve that the preoperative treatment of conditions such as congestive heart failure and diabetes can reduce the severity of the disease and thus perioperative mortality and morbidity. For this to occur, preoperative medical assessment must be accomplished far enough in advance to give the primary care physician a "second opinion " that guide therapy and consultations toward optimizing the preoperative health status of the patient. This step obliges the preoperative evaluator to take a thorough history to find alterable factors that influence preoperative risk and to order laboratory tests that will be beneficial in planing the preoperative care.

It is believed that just as the practice of anesthesia has changed during the past decade , the practice of preoperative evaluation also need to change to ensure that the best cost-benefit and benefit-risk goals are attained. Specially, data indicate that

we can produce optimal cost-benefit and benefit-risk strategies for perioperative care , only when we reduce testing to that dictated by the patient's condition.

The difficulty is that we must obtain a thorough history far enough in advance to allow us to perform the selected tests and subsequent therapies without disturbing the surgical schedules and the patient's perioperative care plans.

Preoperative evaluation gives practitioners confidence that unexpected patient condition will not surprise them and give patients confidence that health care system is responding to their needs.

This essay is intended to review in brief the current approach for preanesthetic evaluation of asymptomatic patients as well as of patients with systemic disorders. Any amendments of this approach will be based on recent data, aiming to make this approach more informative, less costy, and less hazardous to the patient.

THE SYSTEMATIC APPROACH FOR PREANESTHETIC EVALUATION & PREPARATION

THE preanesthetic assessment of the surgical patient for anesthesia provides one of the most formidable challenges for the anesthesiologist from both clinical and organizational perspectives. While the relative merits of the alternative surgical and anesthetic techniques have been extensively reviewed, the issue of the appropriate preanesthetic evaluation and preparation has remained ambiguous and, in many instances, frustrating.

Several issues have combined to cause this previously simple process to become more complex :

- While the surgeon has attained the opportunity to examine and assess the patient before the surgery, the anesthesiologist no longer has the guaranteed access to the patient that had previously existed with the routine preoperative admission. The anesthesiologist has thus lost the previous uniform way of obtaining appropriate laboratory work and clinical information in a timely fashion.
- The selection of procedures -by a third party payers- to be done on an outpatient and same day admission basis ; is generally determined by presuming the complexity of the procedure and not the patient's other underlying problems or potential hazards associated with surgery or anesthesia. Consequently the anesthesiologist must often manage a patient with a complex medical condition undergoing less complex surgery with a little prior information.

- Many hospitals and surgical units have yet to organize and develop preanesthetic evaluation units , due to the expense of the staff and space at a time when financial constraints are increasing rapidly.
- There has been no consistent system for risk assessment to determine the appropriate preoperative management.

As the administration of anesthesia often carries greater risk for the patient than the surgery itself, the preanesthetic process is a crucial first step that may affect the clinical safety and financial viability of the surgical system.

While great attention is provided to ensure that only appropriately prepared patients are allowed to undergo anesthesia, organizational morbidity has been the price of preventing clinical morbidity as, cancellation, delays and unnecessary "preemptive" testing have become increasingly common (*Pasternak , 1995).*

PHILOSOPHY OF THE PREANESTHETIC ASSESSMENT

The preanesthetic evaluation represents a focused assessment to create issues relevant to the safe administration of anesthesia and performance of surgery. The use of this encounter for screening and evaluating unrelated conditions should only be undertaken in association with the primary care providers; otherwise, the anesthesiologist will be confronted with the evaluation of conditions which he or she is not familiar with. More important, patients should be informed that the preanesthetic evaluation is not a substitute for regular primary care and that they should continue to be seen and treated by their primary care providers.

Likewise, only the anesthesia staff may determine the fitness of the patient for anesthesia and the appropriate anesthetic technique.

The performance of a history and physical examination by other health care providers does not constitute a clearance for administration of anesthesia but provides information for the anesthesiologist to make that determination.

Tests, consultations, and preoperative therapy are obtained on the basis of a reasonable expectation of their utility to anesthesia and surgical staff during the preoperative and postoperative period. When acute or chronic medical conditions are encountered during the preanesthetic assessment that requires further evaluation or treatment, the patients should be referred to their primary care providers , except when further delay may jeopardize the patient's health or the successful treatment.

Requests by patients for the performance of tests not deemed necessary for the performance of surgery or administration of anesthesia should be referred to their health care source (*Pasternak, 1995).*

RISK CLASSIFICATION

As the purpose of the preanesthetic evaluation is to reduce risk, a classification of risk is clearly the basis on which these considerations must be undertaken. Risk to the patient during the perioperative period is a function of the preoperative *medical status*, the *nature of the surgical procedure*, and the *nature of the anesthetic technique*.

The first attempt to quantify risk associated with anesthesia and surgery was undertaken by Meyer Saklad in 1941 at the request of the American Society of Anesthesiology. The type of anesthesia and the nature of the surgery were not considerations in this system ,and the divisions were based on empirical experience rather than on the specific sets of data , and it reflects the techniques and standards of practice of

fifty years ago. Four preanesthesia risk categories were established ranging from category 1 (least likely to die) to category 4 (highest expectation of mortality) (*Saklad , 1941).*

The current American Society of Anesthesiology (A.S.A.) classification is a modification of this work , adding an additional fifth category for moribund patients undergoing surgery in a desperate attempt to preserve life. Numerous studies have demonstrated an association of mortality with A.S.A. Class independent of anesthetic technique.

Nonetheless, the ASA Classification system is an easily understood and universally recognized method of evaluating preoperative medical risk and will likely remain so for the foreseeable future.

Classification system in the surgical literature has addressed mortality associated with major procedures and requiring the measurement of many parameters that is feasible only in highly sophisticated environment (*Pedersen , 1990).*

The John Hopkins Risk Classification System (JHRCS) was established as a means of categorizing procedures on the basis of their risk to the patient independent of the patient's preoperative medical condition or the type of anesthesia. The JHRCS assumes that the risk of surgery is a combination of several factors, including *invasiveness*, associated *blood loss* and *fluid shift*, entry into specific body areas (e.g. *intrathoracic , intracranial*), postoperative anatomic and physiological *alterations*, and the need for *postoperative intensive care monitoring*. The five categories are reasonable basis for use in the practice environment , pending further verification.

Subsequent guidelines for analysis are based on a matching of the A.S.A. classes with JHRCS to provide a basis for the combined risk analysis (*Pasternak , 1995).*

SURGICAL CLASSIFICATION SYSTEM

CATEGORY 1

- **Minimum Risk To The Patient Independent Of Anesthesia.**
- **Minimally Invasive Procedure With Little Or No Blood Loss.**
- **Often Done In An Office Setting With The Operating Room Used Principally For Anesthesia And Monitoring.**

Includes: Breast Biopsy, Removal Of Skin Or Subcutaneous Lesions, Myringotomy Tube Insertion, Hysteroscope, Cystoscope, Vasectomy, Circumcision, Fiberoptic Bronchoscope.

Excludes : Open Exposure Of Internal Body Organs, Repair Of Vascular Neurologic Structure, Placement Of Prosthetic Devices, Entry Into The Abdomen, Thorax, Cranium.

CATEGORY 2

- **Minimal To Moderately Invasive Procedures**
- **Blood Loss Less Than 500 cc**
- **Mild Risk To The Patient Independent Of Anesthesia**

Includes: Diagnostic Laparoscope, D&C, Fallopian Tube Ligation, Arthroscopy, Inguinal Hernial Repair, Tonsillectomy, Adenoidectomy, Septoplasty, Percutaneous Lung Biopsy, Laparoscopic Cholycystectomy.

Excludes: Open Exposure Of Internal Body Organs, Repair Of Vascular Neurologic Structure, Placement Of Prosthetic Devices, Entry Into The Abdomen, Thorax, Cranium.