

complicated by a number of variable factors. Consequently, each case presents an individual problem. . . . In choice of anesthesia the foremost consideration is pharmacologic effects. . . . Most patients who are to be anesthetized have some physio-pathologic change as a result of their disease. This, too, complicates the problem. In addition, other underlying pathology may further complicate the picture. The effects of surgical manipulations, traumatic reflexes, posture, hemorrhage, and fluid loss, may contribute additional and often unpredictable physiologic changes. The skill, dexterity, and temperament of the operator are always considered by the anesthetist when selection of the agent and technic are at his discretion. . . . Assuming the anesthetist and surgeon are both competent and the effects of the surgical procedure are minimal, one may select the drug on the basis of pharmacologic effects and their relationship to the presenting pathology. . . . Inhalation general anesthesia, still the most reliable and controllable, is induced and maintained with gases or vapors of low-boiling liquids. . . . The ultra-short-acting barbiturates are the best available drugs for administration by vein. . . . This method of drug administration is not controllable. . . . Rectal anesthesia is popular in certain sections of the country. Drugs satisfactory for rectal anesthesia are few in number. . . . Regional anesthesia may be used in psychically suited subjects in which inhalation and other types are not desired or contraindicated. . . . Satisfactory anesthesia cannot be administered without premedication. The needs for premedication are fourfold: (1) to induce psychic sedation and minimize excitement; (2) to decrease metabolism so that less oxygen is required—a necessity for nitrous oxide and ethylene; (3) to diminish mucous and other secretions; and (4) to provide prophylactic effects against

some anticipated undesired action of a drug other than the anesthetic action." 17 references.

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BARNES, A. R.: *The Problem of Pulmonary Embolism*. West. J. Surg. 50: 551-556 (Nov.) 1942.

"In a previous paper on this subject, I made the following remarks: 'An operation in which the patient had weathered all other hazards, a fracture that is healing satisfactorily, a puerperium in which all appears to go well, a thrombophlebitis in which the patient is well on the way to recovery or a minor sprain or bruise may be the setting for death from pulmonary embolism. The great tragedy of such a death is that in almost every such case the accident of pulmonary embolism was the sole barrier that stood between the patient and recovery. Its sudden and unpredictable occurrence comes as a terrible shock to the relatives of the patient and his physician and robs the physician of a well earned and successful result. And for every fatal attack there occur two or three instances of nonfatal seizures attended by grave apprehension for the patient's life; meanwhile the physician looks on, distressingly limited in his power to prevent a subsequent, and possibly fatal, recurrence.' . . . The magnitude of this problem is best appreciated if one considers the statistics of the pathologist. . . . If . . . [the] percentage of deaths from pulmonary embolism is applicable to the general population, and unless this expectancy can be modified by effective treatment, it may be assumed that more than 3,000,000 people now living in this country eventually will die of pulmonary embolism. . . . While the cause of pulmonary embolism is unknown, many factors are known to contribute to its occurrence. It occurs conspicuously following operation. . . . Snell showed that obesity definitely predisposes an individual to

fatal pulmonary embolism. Age is an etiologic factor of major importance. . . . The type of operation has an important bearing on the incidence of fatal pulmonary embolism; surgical procedures on the abdominal viscera are major sources of difficulty. . . . In contrast, death from pulmonary embolism almost never occurs after thyroidectomy. The number of such deaths that occur after operation for some form of malignant lesion has been found to be out of all proportion to the number of patients who undergo such operations. This suggests that wasting incident to malignancy is an important predisposing factor. Heart disease is an outstanding predisposing cause of pulmonary embolism. . . .

"Despite the fact that pulmonary embolism occurs in the presence of thrombophlebitis, the evidence is against the concept that the embolus arises from the thrombophlebitis. . . . Efforts at prevention of pulmonary embolism should be concentrated on those patients who, by virtue of age, habitus, cardiac status and type of operation which they undergo, constitute a group which is known to be particularly vulnerable. The focal point of efforts at prevention should center on those procedures that will insure a normal or nearly normal venous return from the lower extremities. First of all, extreme care should be observed to keep the patient's legs warm at the operation, during his transfer to his room and after his return to bed. The patient should be placed in the Trendelenburg position for the first 24 hours after operation in order to increase the return flow of venous blood and incidentally to diminish the possibility of postoperative pulmonary infection. The inhalation of carbon dioxide several times in the first 48 hours will counteract atelectasis and create a satisfactory negative intrathoracic

pressure. The legs should be massaged frequently during the first 48 hours and twice daily thereafter until the patient is out of bed. Passive and active movements of the legs should be insisted on as long as the patient is bed fast. Tight abdominal binders that restrict the excursion of the diaphragm and of the liver should be guarded against. . . . If the profession will take the trouble, it can select the patients needing special protection following operation and cardiac disability, and if they are willing to pay the price of a rigid program which will promote an adequate rate of return of venous blood from the lower extremities, many instances of pulmonary embolism may be prevented. Modern research has thrown much light on the factors responsible for death and has shown that certain drugs may do much to ameliorate those harmful factors. Knowing that mild premonitory attacks precede the fatal ones in one-third of the fatal cases, surgeons should be able to concentrate their efforts on a group of cases in which the use of the anticoagulants heparin and dicoumarin gives promise of preventing many if not most of the deaths caused by pulmonary embolism." 29 references.

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BENNETT, J. H.: *Preparation of the Patient for Anesthesia*. Ohio State M. J. 38: 1019-1021 (Nov.) 1942.

"By proper evaluation of the patient's condition before operation and careful use of preoperative medication the patient's comfort and safety can best be assured. The anesthesiologist can be helpful to the surgeon and his patient in the evaluation of the patient's condition, in selecting premedication, and in the conduct of the anesthetic." 12 references.

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