

## SUPERVISED EMERGENCE OF THE ANESTHETIZED PATIENT \*

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THE anesthesiologist is always striving to improve his standard of practice by choosing anesthetic technics and agents which will be least harmful to the patient. In the management of the patient, he carries out many functions preoperatively, operatively and postoperatively which tend to decrease morbidity and provide the patient with increased safety and comfort. This vigilant management of the patient, however, frequently has a weak spot, namely, when the patient is emerging from anesthesia. Because of pressure of succeeding cases or for other reasons, the supervision of the patient's emergence is usually delegated to another individual.

In many instances the anesthesiologist will keep the patient in the operating room when he is concerned over the patient's condition. This is as it should be, for the anesthesiologist is responsible for the patient's safe recovery from the effects of anesthetic drugs. Patients with lesser difficulties or those not showing untoward effects at the time are frequently sent to their rooms for the completion of the emergence period. Whether or not this is satisfactory will depend upon the degree of knowledge, the alertness, the dexterity and the experience of the individual supervising this emergence period. Not infrequently the junior nurse with the least training is assigned to the care of these patients, with only the barest instructions, if any, on how this should be accomplished. In this event it is not surprising that, from time to time, the anesthesiologist gets emergency calls to see a patient and, on arrival, finds the patient cyanotic just because the nurse supervising this period of emergence did not realize that she should remove secretions from the throat or hold the jaw forward. It is necessary, if this arrangement prevails, that anesthesiologists spend more time instructing the individuals supervising patients during emergence from anesthesia.

Specifically, this instruction should include the following details:

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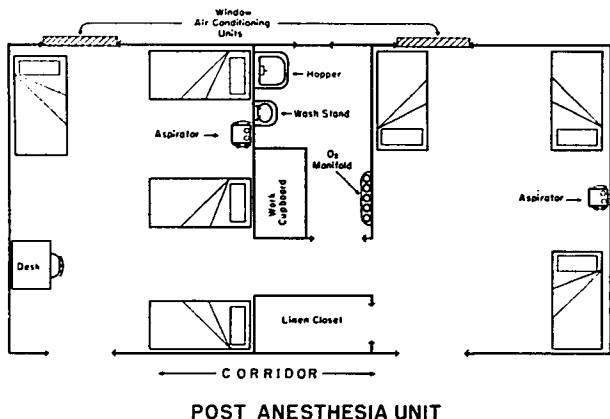


FIG. 1. Diagram of postanesthesia observation unit in existing building.

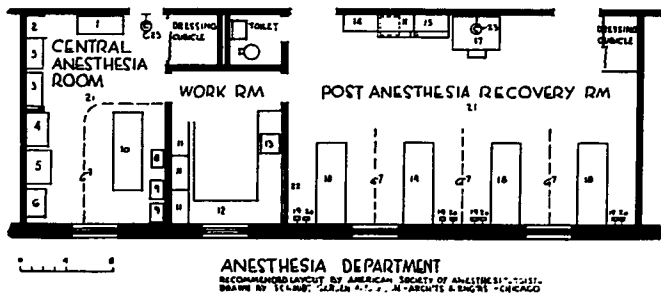


FIG. 2. Diagram of postanesthesia observation unit when planned in a new structure.

- |                       |                                  |
|-----------------------|----------------------------------|
| 1. supply table       | 12. counter                      |
| 2. anes. tray case    | 13. sink                         |
| 3. case—glass doors   | 14. linen case                   |
| 4. standing desk      | 15. narcotic case                |
| 5. resuscitator       | 16. counter case with sink       |
| 6. scrub sink         | 17. nurses desk                  |
| 7. cubicle curtain    | 18. postanec. recovery cart      |
| 8. portable aspirator | 19. centrally piped oxygen       |
| 9. inst. table        | 20. centrally piped suction      |
| 10. stretcher         | 21. acoustic ceiling             |
| 11. over counter case | 22. observation window           |
|                       | 23. clock with sweep second hand |

The nurse should be instructed in the maintenance of a freely patent airway; secretions or vomitus must be removed. Aspiration of this foreign material into the bronchial tree must be avoided.

Adequate oxygenation during emergence is of utmost importance. A patient may have an adequate and patent airway and still be hypoxic. Many factors are responsible for this—the depressant action of the anesthetic, shock associated with the surgical procedure and anesthesia, blood loss during operation and limitation of respiratory movements by pain from the site of incision. In a patient emerging from anesthesia, as in the unanesthetized person, there are certain clinical signs which indicate the presence of hypoxia. These early signs are tachycardia, restlessness and some degree of air hunger. The late sign of inadequate oxygenation is cyanosis. The presence of one or more of the early signs of hypoxia (tachycardia, restlessness or air hunger) should be an indication for the immediate use of oxygen therapy. In our experience, 3 of every 4 patients receive oxygen during emergence.

Another factor in the emergence of patients from anesthesia is the control of pain. In these patients pain will frequently be manifested through restlessness, but it must be remembered that pain is only one factor which may produce restlessness. An equally important factor is hypoxia. If hypoxia is not controlled or considered, the patient may receive a narcotic in a dosage which is greater than is indicated at the moment. In this instance, further respiratory depression will result in further increase in hypoxia. In the evaluation of restless patients, an order for narcotics should not be given until the hypoxia has been corrected. Then the dosage prescribed should be only that amount which is necessary to control the remaining restlessness due to pain. In almost every instance it will be found that a smaller dose of narcotic will be ordered than at first seemed necessary. The use of slow-acting narcotics may be indicated, since the slow absorption rate will not add appreciably to the respiratory depression during the period of emergence. It should be remembered that the early use of narcotics may re-anesthetize the patient so that an oropharyngeal airway must be re-introduced to maintain adequate oxygenation. In our experience, demerol has this characteristic to a greater degree than morphine.

The status of the circulatory system during emergence must be observed. In many instances fluid therapy will be continued to maintain adequate circulation. Incipient shock must be recognized and adequate therapy instituted or maintained. Sometimes a hemorrhage occurs at the site of operation which may create an emergency situation. Thus, the dressings must be checked periodically for unusual drainage.



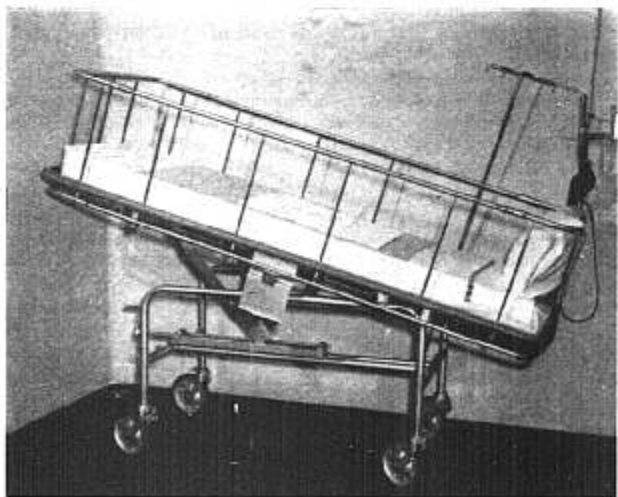
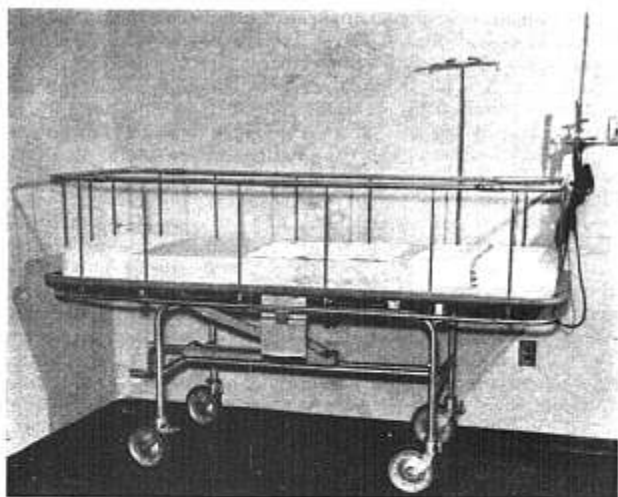
**FIGS. 3 and 4.** Commercially available postanesthesia stretchers, giving views in two positions. Side rails can be raised and lowered. Colson Corporation, Elyria, Ohio.

Some patients recovering from anesthesia go through an excitement phase. The anesthesiologist may be called upon to control severe excitement during emergence. For patients who have received inhalation anesthesia, a small amount of intravenous barbiturate, such as pentothal, will prove helpful. For the occasional patient emerging from intravenous anesthesia who shows excitement, I have found the intravenous administration of 1 grain of codeine very helpful.

Lastly, the patient must be protected from physical injury. Such things as falls from bed, burns from hot water bottles and palsies resulting from lying on metal objects or in abnormal positions may prove very embarrassing to the surgeon and anesthesiologist after the patient is conscious.

These are the things that the nurse supervising emergence from anesthesia should know. It is remarkable, but true, that most nurses, student or graduate, have only a superficial knowledge of their duties in this regard. This is not a reflection on the individual nurse or on the nursing profession as a whole, but rather it represents inadequacy in training. The medical profession in general, and the surgeons and anesthesiologists in particular, are responsible for this situation since they have not impressed the nursing profession with the seriousness of this critical period.

In small hospitals, the surgeons or anesthesiologists are in a better position, perhaps, to observe personally the emergence period, but in larger hospitals this becomes increasingly difficult. For these larger hospitals, the postanesthesia observation unit is a solution; patients returning from surgery are detained in the unit until consciousness is regained. They are cared for by a few nurses who have been specially trained in postanesthetic management. These nurses are supervised by a surgeon or an anesthesiologist, depending upon local conditions. The nurses are trained to maintain the airway, give oxygen as necessary, record changes in blood pressure and pulse and the other things important during recovery of the patient and to report to the anesthesiologist or surgeon any abnormalities arising during this period. At frequent intervals during the day the patients are examined by a physician, either the anesthesiologist, the surgeon or their deputies. The postanesthesia unit preferably should be located within the operating suite. When this is not feasible, a location as near as possible to the operating rooms should be chosen to diminish the time factor when the anesthesiologist or surgeon is summoned in an emergency (figs. 1 and 2). Patients may be cared for in regular hospital beds or in special postanesthesia stretchers. Two manufacturers have recently introduced specially designed stretchers for this purpose (figs. 3, 4, 5 and 6). In the postanesthesia unit are assembled all of the drugs and the equipment necessary for the proper management of these patients and for the management of most complications occurring during emergence from anesthesia. These materials consist of such things



FIGS. 5 and 6. Commercially available postanesthesia stretchers, giving views in two positions. Side rails can be raised and lowered. Jarvis and Jarvis Company, Palmer, Massachusetts.

as oxygen apparatus, suction apparatus, intravenous fluids, blood fractions and blood substitutes, sterile intravenous sets, vasoconstrictors and narcotics. Thus, with trained personnel, accessibility of drugs and equipment and physician supervision, the patient emerging from anesthesia is provided with a high standard of nursing care.

The postanesthesia unit offers many advantages. It affords a degree of safety and comfort to the patient which is difficult to attain otherwise. It offers many advantages to the nursing department of the hospital. Since the unit is not located on the nursing floors, the nurses are free of this responsibility and can concentrate their efforts on the routine and specialized nursing care of patients, and fewer nurses are needed. Furthermore, the postanesthesia unit offers an ideal opportunity for the teaching of postanesthetic care of patients to student nurses. The advantages to the hospital are of varying degrees. Financially, there will be a loss because of the space occupied by the unit and the materials and personnel required to operate the unit. Counterbalancing this is the saving in personnel and in duplication of equipment that is necessary when postanesthesia patients are returned directly to the nursing floors. Whether the operation of this unit will act as a profit or a loss item is of small importance compared to the good will created in the minds of patients, relatives and their friends toward the hospital. The surgeons are pleased that the emergence of their patients is well supervised. Finally, the anesthesiologist has the assurance that untoward incidents will not pass unnoticed while he is attending other patients.

The postanesthesia unit offers, at small cost, a much higher standard of medical practice and an assurance that complications occurring during emergence from anesthesia are observed and treated immediately.