THE RECOVERY ROOM

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For some years it has been realized that every large operating-theatre suite should be equipped with a post-operative recovery room, in which patients can be kept after their operations until they are completely conscious and fit to be returned to the ward. Such rooms increase the safety of the patient and thus lower the morbidity and mortality associated with surgery. This has been well shown at the Queen Victoria Hospital, East Grinstead, Sussex, where the operative mortality fell from 1 in 1,300 to 1 in 3,000, following the establishment of a recovery room.[1]

The executive committee of the South African Society

of Anaesthetists (M.A.S.A.) recently pointed out that there is a need for such recovery rooms in South African hospitals.[2] It seems, therefore, that efforts should be made to investigate this need, and to meet it where possible. It would appear to be neither necessary nor economical to provide recovery rooms for every operating-theatre suite in our hospitals. Where very few operations are performed daily, the anaesthetist should, if possible, keep the patient on the operating table until complete consciousness has been regained. If time does not permit this, specially-trained nurses should be available, whose duty it is to accompany patients back to the wards (usually a short journey in a small hospital), and to stay with them during the immediate postoperative period.

How many of our hospitals, then, should be equipped with recovery rooms? This question may be answered best by considering the number of operations done *per annum* in each hospital. Excluding the smaller mission and private hospitals, and excluding all maternity institutions, there are 298 hospitals in the Union of South Africa and South West Africa. Of these, there are less than 50 where more than 2,000 operations are performed annually, and in only 16 hospitals does the annual number reach the 5,000 mark.[3] A further important consideration is that approximately 71% of the operations performed are minor surgical procedures. (This figure was arrived at after analysis of a total of 49,294 operations performed at 5 large Cape Town hospitals during the years 1958 and 1959.) Now, for the most part, patients undergoing minor surgical operations need no special care once they have recovered consciousness; in any event, many of them are given local, not general, anaesthetics. Thus, in a hospital in which 2,000 operations are performed *per annum*, only 380 patients, i.e. less than 12 a week, will require special attention after regaining consciousness.

A study of these figures suggests that it would not be practical to establish recovery rooms in hospitals in which less than 5,000 operations are performed *per annum*. As has been stated, there are only 16 such hospitals in South Africa.

AIMS AND ADVANTAGES

The establishment of a recovery room, first and foremost, obviates the dangers of transporting a recently-anaesthetized patient, who is not completely conscious, from the operating theatre to the ward. As a rule, respiratory obstruction is fairly easily remedied when the attendant is experienced and the proper equipment is at hand. During transport, however, in the lift or corridor, the semi-conscious patient who vomits, or whose airway becomes obstructed in some other way, is immediately in grave danger. If, however, the patient is wheeled from the operating theatre to an adjacent recovery room, he can be kept under the closest supervision by specially-trained nursing staff, with both surgeon and anaesthetist near by. In addition, any equipment which might possibly be needed is close at hand, so that valuable minutes need not be lost in an emergency.

In many instances, where minor surgery has been performed, only a few minutes may be necessary before the patient can be safely taken to the ward. For such cases the corridor outside the operating theatre can well be used as a recovery 'room', although it certainly does no harm to allow the patient to spend those few minutes in the actual recovery room. Indeed, many consider that all postoperative patients should go there for assessment, whatever the circumstances.[4]

After major surgery and prolonged anaesthesia the patient is kept for much longer in the recovery room. The actual time may vary from a few hours to a few days, depending upon the patient's condition and the nature of the operation. During that time, however, any complication that develops, whether it be respiratory obstruction, anoxia due to other causes, shock, haemorrhage, atelectasis, or even cardiac arrest, can be dealt with at once by trained personnel. The advantages to all concerned, especialy to the patient, are thus indisputable.

On the other hand, the duty of caring for unconscious or surgically-shocked patients falls away in the surgical wards. This may not seem to be much of an advantage where very few operations are performed, but in busy wards, where each patient returning from the theatre immobilizes a nurse for some time, the advantage is obvious. The objection that the recovery room deprives the student nurse of training in the care of postoperative patients can, of course, be overcome by having each nurse work in the recovery room itself for at least 1 or 2 weeks.

The patient should be more than satisfied with the arrangement if it is explained to him that, for his own safety, he will not return to the ward for a while after his operation. Those awaiting operation are spared the sometimes upsetting sight of a fellow patient just returned from the operating theatre,[5] and when an operation is performed at night the whole ward is no longer awakened by the recovering patient and his attendants.

DESIGN AND EQUIPMENT

Precise details concerning the design of recovery rooms will not be discussed here. Mention will merely be made of certain criteria which should be fulfilled as far as possible.

The recovery room must be adjacent to the theatre suite. In very large hospitals, where there are numerous operating theatres, more than 1 recovery room may be necessary, although it is often possible to have 1 recovery room serving 2 or 3 theatre suites.

The size of the room and the number of beds both depend upon the number of operations performed daily, and upon the average time each patient occupies a bed. If the recovery room is used as an intensive therapy room, where all major surgical cases are kept for 2 or 3 days, then there will obviously have to be more beds than if every patient is transferred to the surgical ward as soon as complete consciousness is regained.

Equipping the recovery room is likely to be expensive, but it is undeniable that the expenditure is quite justifiable if it increases the safety of the patient. Once established, the maintenance costs of the recovery room are certainly not uneconomical.[5]

Beds must be capable of being tilted into the head-up or head-down positions, and should have side-rails and rubber castors. Individual oxygen- and suction-outlets must be located at each bedside; if they are wall fixtures,

with piping from a central source, much floor space will be saved.[6] There must, however, be 1 portable suction unit and an oxygen cylinder available, in case of failure of the system. Suction catheters, a mouth gag and a sphygmomanometer should also be available at every bed.

Other equipment to be kept in the recovery room at all times includes: box-wood wedges (for opening clenched jaws); oropharyngeal airways; laryngoscopes of all sizes; endotracheal tubes and connections; positive-pressure respiration apparatus (e.g. the 'ambu' resuscitator, or the Oxford inflating bellows); one or more oxygen tents; drugs, such as stimulants, sedatives, etc.; sterile syringes and needles; intravenous infusion sets; sterile tracheotomy drum or pack; and sterile cardiac-massage drum or pack.

ADMINISTRATION AND PERSONNEL

The recovery room should be the responsibility of an anaesthetist, in close cooperation with the surgeon and, when necessary, with a physician. A member of the medical staff must be on the spot at all times, but the final assessment before returning the patient to the ward should be made by the anaesthetist. Resident surgical staff should retain contact with their patients in the recovery room, so that a most important part of their training is not lost.[2]

The nursing staff should be headed by a trained nurse, experienced in the care of unconscious patients and of patients recovering from recent surgery. The head nurse should be permanent if possible, but the remainder of her staff, both trained and student, can be rotated through the department if necessary. There must, however, always be at least 1 trained nurse on duty in the recovery room.

Record-keeping must be of the highest standard, for it is in the early postoperative period that so much information can be gleaned from properly-kept records.

PROCEDURE

On admission to the recovery room each patient is examined fully, with particular reference to: the airway; respiration; the skin (colour, sweating and capillary-refill time); the pulse and blood pressure; the state of reactivity; and dressings, drains, gastric tubes, etc. All patients who are not completely conscious should be placed in the lateral-recumbent or 'tonsil' position.

When the patient is to be discharged, the above-mentioned points are all rechecked and a record made of the condition on leaving the recovery room. With careful attention to detail these methods are bound to contribute much towards the safety of the patient. Indeed, it can be said with certainty that, although a recovery room costs money, it often saves nurses and it sometimes saves lives.

SUMMARY

The aims and advantages of postoperative recovery rooms are discussed. A brief description is given of the principles to be followed in the establishment of a recovery room, and of the management thereof. It is suggested that steps should be taken to meet the demand for such units in the larger South African hospitals.

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