ICU 3rd stage, anesthesia technique Dep. Lec. 2

POST ANESTHESIA CARE UNIT (PACU)

Recovery room (or PACU) is an area to which patients are admitted from an operating room where they remain until consciousness is regained and ventilation and circulation are stable.

PACU (LOCATION AND SIZE)

1. Should be located close to the operating suite to permit anesthetist and surgeons to be nearby and to permit rapid return of the patient to the operating room if necessary.

2. Should have good access to immediate roentgenography, blood bank, blood gas, and other laboratory services.

3. The PACU located near the ICU is also useful because nursing staff is shared between the units.

4. The size of the unit is determined by the surgical case load of the institution; approximately 1.5 PACU beds per operating room are usually adequate.

5. At least one isolation room is a helpful addition to every PACU for the management of those patients with either contaminated wounds or severe immune suppression.

6. Separated pediatric PACU is also useful when the volume of pediatric cases is high.

Facilities in PACU

1. The ward should have large doors.

2. Adequate lighting (artificial lighting of day light spectrum with mobile light source + natural lighting through window).

3. Efficient environmental control with minimum of 15 air change per hour to minimize pollution

4. Efficient emergency call system available and all know how to use it.

Equipment in PACU

I. The patient trolley or bed

1. an O2 cylinder of adequate capacity with key, gauge, flowmeter, tubing, suitable oxygen mask and

T-piece attachment for use with LMA

2. Rapid availability of head-down tilt operated from the head end

3. Comfortable and easily cleaned mattress

4. Adjustable cot and back side

5. Locking wheels on steerable casters

6. Mounting sites for infusion roles

II. Equipment at each recovery bed

1. Oxygen outlet with twin flow meters (one for spontaneous and another for assisted ventilation)

2. Different face mask

3. A pulse oximetry

4. A suction unit with supply of different size flexible suction catheter

5. Stethoscope, sphygmomanometer with different cuff sizes, automatic non-invasive blood pressure measuring

III. Miscellaneous equipment

1. Warming equipment (hot air blower, infrared heater, electric blanket for preheating beds)

2. Fan and equipment for managing hyperthermia

3. Peripheral nerve stimulator

4. ECG

5. Disposable gloves

6. Sharp disposal box (separate bins for contaminated reusable and disposable equipment)

7. Suitable shelving for storing the above and writing shelf for holding patient notes and recovery room chart

8. Full selection of oral, nasopharyngeal, LMA

9. Full range of endotracheal and appropriate intubation equipment (arrange of laryngoscopes, different size blade, gum elastic bougie, styles, Magill forceps, fiber-optic intubation laryngoscope)

10. Cricothyroid puncture set

11. Bronchoscope (a rigid or fibro optic and jet ventilator)

12. Wright respirometer

13. Infusion sets and arrange of I.V cannula including central line and arterial line

14. Arrange of I.V fluid

15. Defibrillator

16. Temperature pacing electrode

17. Chest drain set

18. Appropriate portable monitoring equipment

19. Drug storage refrigerator

20. X-ray viewing box

21. Blood and specimen bottles

22. Urine and stoma bag and associated equipment

23. Suitable storage space for pillows, blanket

Staffing in PACU

1. Vary from unit to unit but nursing ratio of one nurse to every 3 patients is usually sufficient (if critically ill patients are admitted, the ratio increases to one nurse to 2 patients, and occasionally to as high as two nurses to one patient).

2. In most hospitals, the PACU is under medical direction of anesthesia department (the anesthetist is responsible for up to 36 hours after anesthesia).

3. Familiar with monitoring and equipment.

4. Continuous education and training is necessary.

5. Familiar with policies relating to the admission, monitoring, and discharge of patients within PACU.

Transportation of patient to the PACU

1. After tracheal extubation, the patient is transferred from the operating room table to a stretcher with side rails that can be moved into both Trendelenburg and head-up positions

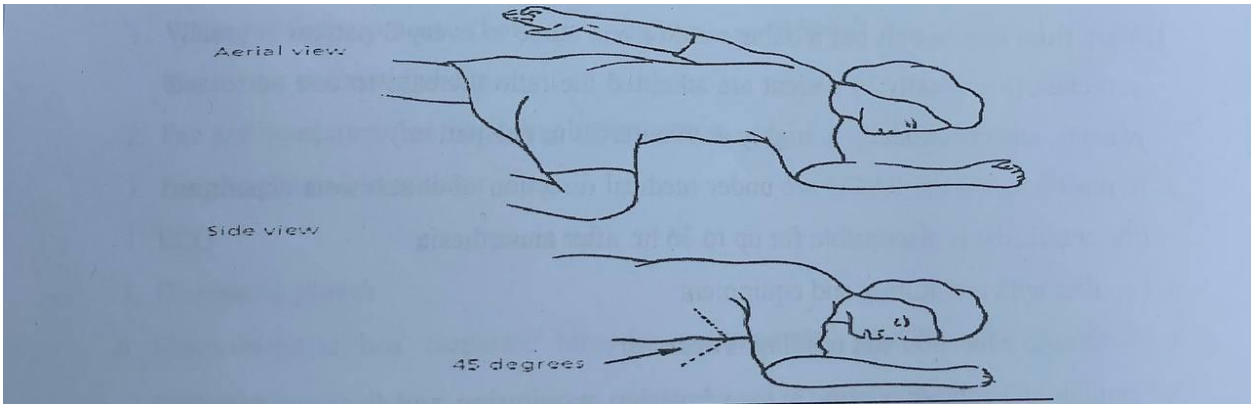
2. The pt. should be transported from the operating room in the lateral position to minimize the risk of air way obstruction or aspiration of gastric contents from vomiting.

3. You need at least three people to gently move the patient from the operating table on to a specially designed recovery room trolley.

4. It is the anesthetist's responsibility to look after the patient's head, neck and airway.

5. The trolleys must be capable of being tilted head up or down by at least 15°, carry facilities to give oxygen and apply suction and a pole to hang drains and intravenous fluids. As you move the patient take care not to dislodge catheters, drains and lines.

6. Position children on their sides with their operation site uppermost. Put the trolley sides up. Adults can be sitting up. Wheel patient's feet first to the recovery room. The anesthetist walks forward (never backward) maintaining the patient's airway. Put the trolley's sucker under the patient's pillow ready to use immediately if needed.



How to admit the patient to the recovery room?

When the pt. arrives in PACU the anesthetist should give the nurse a full report of events during surgery. this report should include the

1. pt. name, age,

2. surgical procedure, medical problems.

3. preoperative medications, allergies, anesthetic drugs and methods, fluid and blood replacement, blood loss, urinary output.

4. surgical or anesthetic complication, and post anesthetic requirement for (pt. position, oxygen therapy, i.v fluid, drug therapy)

5. Before the anaesthetist leaves the recovery room the patient must be breathing, have good oxygen saturation, a stable blood pressure An appropriate position and pulse rate. Anaesthetist should tell the nursing staff where to find them if necessary, and they must remain close by while the patient is in the recovery room.

Initial assessment of patients in PACU

1. Before the recovery staff take over the responsibility of care of the pt, they must satisfy themselves that:

i. The breathing is regular and unobstructed.

ii. A good colour is being maintained.

iii. The pulse is palpable and regular.

If anything is doubt immediately inform the anesthetist.

2. Following major surgical procedures all pt. should receive oxygen therapy via face mask or nasal prongs, healthy pt. following brief minor surgical procedure may not require oxygen therapy and can be guided by pulse oximetry.

3. Vital signs should be recorded at least every 15 minutes during first post-operative hour, in the following order of priority:

A. Airway

B. Breathing

C. Circulation

D. Drips, drains and drugs

E. Extras

4. The staff should also encourage the pt. to wake up,cough, and breathe deeply.

Twenty golden rules for PACU staff:

1. The confused, restless, and agitated patient is hypoxic until proven otherwise.

2. Your patient may be hypoxic even though the oximeter reads 98%.

3. Never turn your back on a patient.

4. The blood pressure does not necessarily fall in hemorrhagic shock.

5. Never ignore a tachycardia or a bradycardia; find the cause.

6. Postoperative hypertension is dangerous.

7. Never use a painful stimulus to rouse your patient.

8. Nurse comatose children on their side in the recovery position.

9. If your patient is slow to wake up, continues to bleed, consider hypothermia.

10. Noisy breathing is obstructed breathing, but not all obstructed breathing is noisy.

11. Let patients remove their airways when they are ready to.

12. Cuddle crying children, hold the hand of crying adults.

13. The opioids do not cause hypotension in stable patients.

14. When giving drugs to the elderly, start by giving half as much, twice as slowly.

15. If you do not know the actions of a drug, then do not give it.

16. Treat the patient, not the monitor.

17. Cold hands are a sign of a hemodynamically unstable patient.

18. Pain prevention is better than pain relief.

19. Do not discharge patients from the recovery room until they can maintain a 5-second head lift.

20. If confused, read rule number 1!