

Post Anaesthesia & Sedation Care

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Introduction



- **Recovery** from anesthesia and sedation can range from *completely uncomplicated* to *life-threatening*.
- Must be managed by **skilled medical** and **nursing** personnel.



- **All** patients who have received general anesthesia, regional anesthesia, or monitored anesthesia care should receive postanesthesia management.
- The patient should be **transported** to the PACU by a member of the care team that is knowledgeable about the patient's condition.
- Upon **arrival** in the PACU, the patient should be re-evaluated and a verbal report should be provided to the nurse.
- The patient shall be evaluated continually in the PACU.
- **A physician** is responsible for discharge of the patient.



Transport from the O.R.



Do not transport until:

- Patient has *stable* airway
- *Ventilation* is adequate
- *Hemodynamics* are stable



Patient Care in the PACU

- Coordinate prior to arrival
- Admission
 - Apply oxygen and monitor
 - Receive report
 - Baseline vital signs / temperature
- Monitor and observe
- Achieve cardiovascular stability
- Achieve respiratory stability
- Achieve pain control
- Discharge from PACU



Pulse Oximetry

- Standard of care
- Should be first monitor applied
- Documents delivery of oxygenated blood to a peripheral site
- Documents presence of a pulse

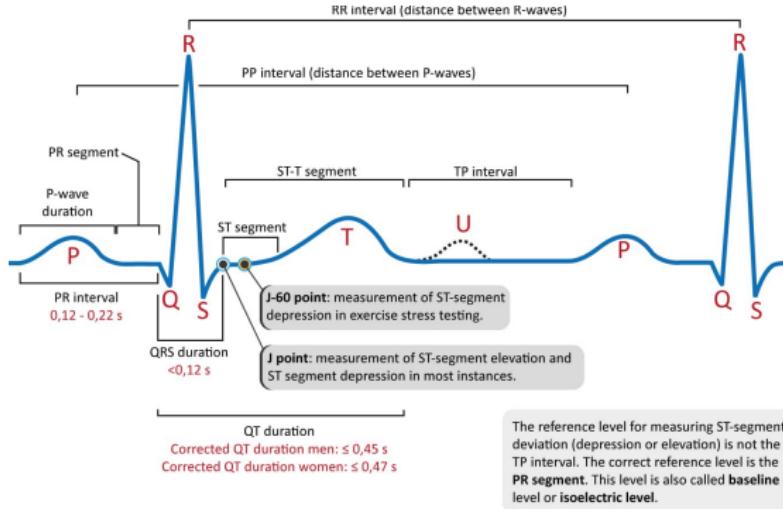


Blood Pressure



- Obtain baseline readings
- Shivering may affect accuracy
- Adjust transducer to proper height





- Note the rate and rhythm
- Note ST segment compared to intraoperative tracing



Temperature

- Expect hypothermia
- Keep covered during transport and admission to the PACU
- Actively rewarm in cold



Initial Assessment



- Color
- Respiration
- Circulation
- Consciousness
- Activity



Aldrete's scoring System

Color



Pink	2 points
Pale / dusky	1 point
Cyanotic	0 points



Aldrete's Scoring System

Respiration

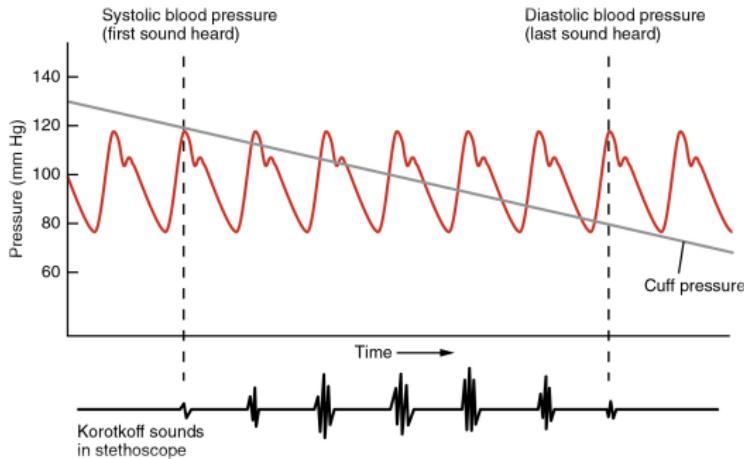
95%

Can take <i>deep breathe</i> and cough	2 points
<i>Shallow</i> but adequate breath	1 point
<i>Apnea or obstruction</i>	0 points



Aldrete's Scoring System

Circulation



BP within 20% of baseline	2 points
BP within 20-50% of baseline	1 point
BP deviating more than 50%	0 points



Aldrete's Scoring System

Consciousness



Awake, alert, oriented	2 points
Arousalable, but readily sleeps	1 point
No response	0 points



Aldrete's Scoring System

Activity



Moves all extremities	2 points
Moves 2 extremities	1 point
No movement	0 points



- Patient's name and age
- The procedure
- Type of anesthesia or sedation
- Preoperative vital signs
- Coexisting disease





Drugs of interest:

- Narcotics / sedatives
- Relaxants / reversal
- Antibiotics (dose and time)
- Vasoactive drugs
- Steroids



Reporting

Cont.



- Preoperative medications
 - Routine
 - Sedatives administered by anesthetist
- Allergies
- Blood loss / urine output
- Fluid replacement



Reporting

Cont.



- Intraoperative lab results
 - *Trends*
 - *Most recent*
- Anesthetic / surgical complications
- Special treatments
- Special considerations



Problems

- Airway obstruction
- Arterial hypoxemia
- Hypoventilation
- Hypertension
- Cardiac dysrhythmias
- Oliguria
- Bleeding
- Hypothermia
- Agitation upon emergence
- Delayed emergence
- Nausea and vomiting
- Pain



Respiratory complications



- **Airway Obstruction**
- **Respiratory depression**

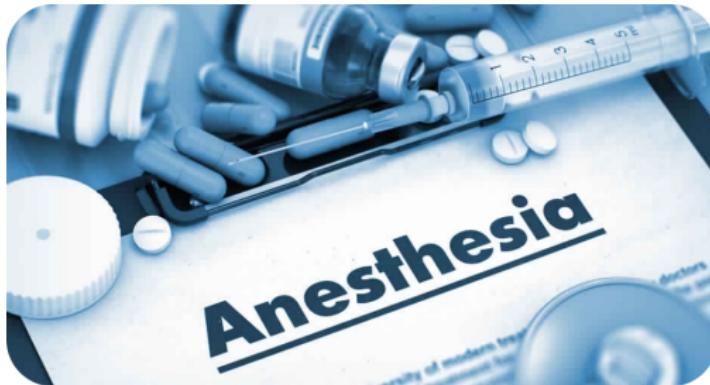


Airway Obstruction Treatment

- Verbal/Physical stimulation
- Oral Airway
- Nasal Airway
- LMA
- Tracheal intubation
- Cricothyroidotomy
- Trachostomy



Hypoventilation



- Residual anesthesia
- Narcotics
- Inhalation agent
- Residual Relaxant
- Post op Analgesia



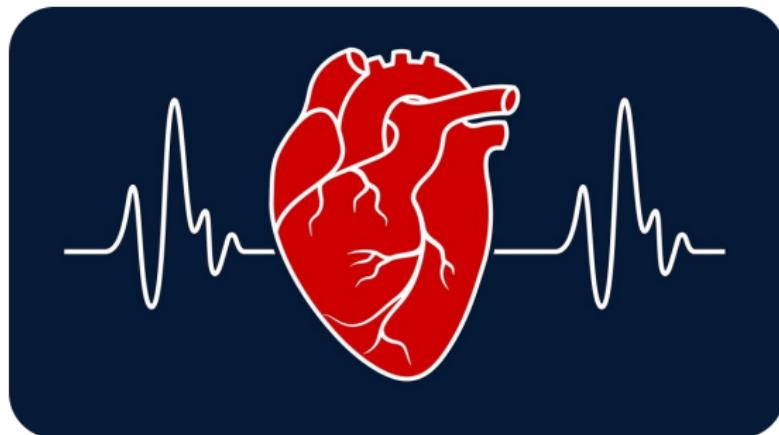
Hypoventilation

Treatment

- Stay with patient
- Assess the problem
- Reverse relaxant
- Reverse narcotic
- Reverse midazolam
- **Bag-Mask Ventilation**



Cardiovascular Complications



- Hypotension/ Hypertension
- Bradycardia
- Dysrhythmia
- Fainting



Cardiovascular Complications

Hypertension



- Common response to SNS stimulation
- Pain
- Full Bladder
- Common in hypertensive patients
- Fluid overload



Hypotension

Causes & Management

- Decreased venous return
 - Hypovolemia
 - Sympathectomy
 - 3rd space loss
- Left ventricular dysfunction

Common scenario:

- Arrives hypothermic, vasoconstricted, and normotensive.
- As patient rewarms, he/she vasodilates and becomes hypovolemic.
- Initially treat with fluid bolus



Secondary to

- Hypoxia
- Hypercarbia
- Acidosis
- Catecholamines
- Electrolyte abnormalities
- Hypothermia

Treatment

- Identify and treat the problem
- Assure oxygenation
- Pharmacology as needed



Urine Output

- Oliguria
- Hypovolemia
- Surgical trauma to ureters
- Impaired renal function
- Mechanical blocking of catheter

Mangement

- Assess catheter patency
- Fluid bolus
- Diuretics if appropriate



Post op Bleeding

- May be internal or external
- Usually surgical problem
- Consider coagulopathy

Management

- Open fluids/start lines
- Notify surgeon
- Order blood
- Prepare to return to OR



HYPOTHERMIA WARNING SIGNS



- Assume that all patients will arrive cold
- Get baseline temperature
- Actively rewarm
- Administer oxygen if shivering



Altered Mental Status

- Protect the patient
- Reaction to drugs?
- Sedatives
- Anticholinergies
- Consider baseline mental status
- Intoxication/Drug use

Consider

- Pain
- Distended bladder
- Hypoventilation
- Low cardiac output
- CVA



Postoperative Nausea & Vomiting

- Leading cause of unexpected admission
- Risk factors
 - Type of anesthesia
 - Type of surgery
 - Autonomic involvement

Prevention & Management

- NPO status
- Droperidol
- Metoclopramide
- Histamine blockers
- Ondansetron
- Propofol



PACU Discharge Criteria



- Aldrete's scoring more than 9
- Awake with muscle strength
- Patent airway / good respiratory function
- Stable vital signs
- Patency of tubes, catheters, IV's
- Condition of surgical site
- Comfort / anxiety



Question?



