

IDAHO STATE BOARD OF DENTISTRY
PO Box 83720
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GENERAL ANESTHESIA/DEEP SEDATION
SIMULATED EMERGENCIES GUIDE AND ALGORITHMS

Laryngospasm:

- Pack off surgical site
- Position patient/ upright/ most comfortable
- Suction patient – tonsillar suction
- Ventilate patient with positive pressure ventilation
(full face mask/ambu bag with 100% oxygen)
- Auscultation of lung fields
- Succinylcholine (Anectine) 20mg/ml
Ultra short-acting depolarizing skeletal muscle relaxant
10-40mg IV (0.15-0.3mg/kg) or 4mg/kg IM
- Cricothyrotomy (if necessary)
- **Call 911**

Bronchospasm and Airway Obstruction:

- Establish airway and administer 100% oxygen with full face mask with positive pressure ventilation
- Albuterol (Ventolin) Metered Dose Inhaler
Used in Asthma
Beta-agonist bronchodilator
- Epinephrine
Severe bronchospasm (1:1,000) 0.3-0.5mg SQ
TB syringe 0.3-0.5ml of 1:1,000 SL/SQ
1:10,000 dilution if used IV
- Benadryl ~50mg intravenously
- Auscultation of lung fields
- **Call 911 if not resolved**

Emesis and Aspiration:

- Change suction to Tonsillar suction
- Turn patient to right side—Trendelenburg position, check for foreign body
- 100% oxygen
- Auscultation of lungs
- Consider Anti Emetic Medications
- **If situation gets worse, (i.e. cyanotic, dyspnea) call 911**

Bradycardia:

- Monitor patient; recheck BP and pulse
- Stop procedure, pack wound site
- Consider etiology
- Consider Atropine (serious sign or symptoms?)

Asystole/PEA (Pulse Arrest – NOT Shockable):

- Epinephrine 1 mg IV repeat 3-5 min or
- Vasopressin 40 U IV to replace 1ST or 2ND dose epi
- Consider atropine 1 mg IV
- Find an treat factors
H's and T's (hypovolemia, hypoxia, hydrogen ion, hypo-/hyperkalemia, hypoglycemia,
hypothermia, toxins, tamponade, tension stx, thrombosis, trauma)

SIMULATED EMERGENCIES – CONTINUED

Angina Pectoris:

- Nitroglycerin (Nitrolingual, Nitroquick, Nitrostat)
Check Date, use patients own NTG if possible
Sublingual doses (0.3 mg= 1/200 grain, 0.4 mg = 1/150 grain 0.6 mg= 1/100 grain)
SL/spray/oral
Determine level of SBP (must be >90mmHg)
Avoid in patients taking Sildenafil (Viagra)
- Place patient in comfortable position
- 100% oxygen, Nitrous Oxide
- Monitor patient
- If pain continues, administer one more tab/spray in 5 minutes
- If pain still continues, assess MI, **911** and transportation
- Third NTG dose 5 minutes later while waiting for ambulance

Myocardial Infarction:

- Stop Surgery and Position Patient
- 100% Oxygen
- **Call 911**
- Establish IV
- Monitor Vitals, Consider Applying AED
- Chewable uncoated Aspirin 325mg orally
- Analgesia—Nitrous Oxide, NTG,
Morphine 1-3mg doses IV administration during MI q5 min

Cardiac Arrest:

- Look, Listen, Feel
- **Call 911**
- Ventilate with AMBU bag and 100% Oxygen
- Apply AED—Defibrillate if indicated
- Check Pulse—Begin Chest Compressions if no pulse
- Establish IV
- ACLS PROTOCOL
Epinephrine 1mg IV q3-5min
10ml dilution of 1:10,000
Antiarrhythmics
Amiodarone (50 mg/ml) 300mg IV once then 150mg IV
Lidocaine (1-1.5mg/kg first dose)

Hypotension:

- Terminate Surgery
 - Position Patient—Trendelenburg—Supine
 - Check Pulse and BP
 - Stimulate Patient
 - Increase IV Fluids (IV access if not already established)
 - Isotonic intravenous fluids (0.9% Normal Saline, Lactated Ringers) Ephedrine sulfate (Ephedrine) 50mg/ml
Alpha-1, Beta-1, Beta-2 receptor agonist
Must be diluted! (50mg/ml vial diluted with 9ml saline= 5mg/ml)
2.5-5mg IV SLOW q5-10min
(pediatric – 0.5mg/kg IM or SQ)
 - **Call 911 if necessary**
- If Bradycardic (HR<60) and Hypotensive
- Atropine (Atropine) 0.4 mg/ml
(Atropine - Ansy® prefilled syringe)
0.1mg/ml
Muscarinic receptor antagonist
Used to treat Bradycardia
Adults: 0.5 – 1.0mg
Peds: 0.01 to 0.03 mg/kg body weight
 - **Call 911 if necessary**

SIMULATED EMERGENCIES – CONTINUED

Hypertension:

- Consider all possible etiologies and treat the cause if known
- Most hypertensive episodes are transient
- Careful consideration for therapeutic intervention
- Labetalol (Trandate) 5mg/ml
 - mixed alpha/beta adrenergic antagonist (alpha & beta-blocker)
 - IV infusion of 2mg/min (additional dosing 5-20mg IV)
 - Relative contraindications for use in patients with asthma, congestive heart failure, any degree of heart block, bradycardia, or those in cardiogenic shock.
- Esmolol (Brevibloc) 10mg/ml (500mcg/kg slow delivery over 1 minute)
 - Cardioselective beta1 receptor blocker
 - Rapid onset and a very short duration of action
 - Commonly used in patients during surgery to prevent or treat tachycardia, and is also used in treatment of acute supraventricular tachycardia
- **Call 911 if necessary**

Acute Allergic Reaction:

- Mild Reaction (rash, hives)--- Benedryl 25-50mg IV or IM
- Severe Reaction (wheezing, angioedema, laryngoedema, bronchospasm)
 - Epinephrine—0.3mg-0.5mg SL, SC, IM, IV
 - Bronchodilator mist
 - Benedryl—50mg IV or IM
 - Repeat Epinephrine if needed in 3-5 min
 - Call 911**, Continue BLS
 - May give Corticosteroid (Solu-Medrol, Decadron)
 - Increase IV Fluids
 - Cricothyrotomy

Syncope, Loss of Consciousness:

- Position Patient—Trendelenburg—raise legs
- Oxygen, monitor vitals
- Ammonia Inhalants
- Start IV Fluids
- BLS if unresponsive
- Apply AED, **call 911 if necessary**
- Consider Hypoglycemia (glucagon, instagluose)

Hyperventilation:

- Calm the patient, Position patient Upright
- Breath into paper bag, cupped hands, or full mask with 0.5L of Oxygen flow
- May need to sedate with Valium or Versed

Convulsions:

- Protect patient and gently restrain
- After seizure BLS—post ictal depression—maintain airway
- May need Valium or Versed –titrate in IV
- **Call 911 if necessary**

SIMULATED EMERGENCIES – CONTINUED

Malignant Hyperthermia:

- Avoid succinylcholine
- Avoid volatile inhalation anesthetics
- Nitrous oxide safe
- Need alternative muscle relaxation (non-depolarizing)
- Access to Dantrolene (Dantrium) – ER transfer