

## Unexplained oxygen desaturation



### Start

1. Call for "ANESTHESIOLOGIST STAT"
2. Assess airway – if not intubated, is intubation necessary?
3. Is a code cart or airway cart necessary?
4. Turn FiO<sub>2</sub> to 100% at high flow. If applicable:
  - ▶ Confirm inspired FiO<sub>2</sub> = 100% on gas analyzer
  - ▶ Confirm presence of end-tidal CO<sub>2</sub>
  - ▶ Assess for changes in capnograph morphology
5. Hand ventilate to assess compliance
6. Listen to breath sounds bilaterally
7. Check...
  - ▶ Blood pressure, PIP, pulse
  - ▶ Pulse oximeter placement and function ETT position
  - ▶ Circuit integrity: look for disconnects, kinks, holes
8. Consider actions to assess possible respiratory issue
  - ▶ ABG/CXR
  - ▶ Suction (clear secretions, mucus plug)
  - ▶ Remove circuit and use ambu-bag
  - ▶ Bronchoscopy
9. If Occurring postoperatively, consider:
  - ▶ Residual neuromuscular blockade
  - ▶ Opioid administration (hypoventilation)
  - ▶ Laryngospasm
  - ▶ Bronchospasm
  - ▶ Pulmonary edema
  - ▶ Pain (hypoventilation from splinting)

### 10. Consider causes: is this an airway / respiratory issue?

#### NO: airway issue NOT suspected

##### Circulation

##### **Embolism**

- Pulmonary embolus
- Venous air embolus: go to » CHKLST VAE
- Amniotic fluid embolism: go to » CHKLST AFE
- Other emboli (fat, septic, CO<sub>2</sub>)

##### **Heart Disease**

- CHF
- Coronary artery disease / ischemia
- Cardiac tamponade
- Congenital / anatomic defect
- Hypotension

##### **Severe Sepsis**

If associated with hypotension: go to » CHKLST HPO

##### Drugs / Allergy

- Recent drugs given
- Dose error / allergy / anaphylaxis Dyes and abnormal hemoglobin (methemoglobinemia, methylene blue)

#### YES: airway issue suspected

##### Airway / Respiratory

- Aspiration: go to » CHKLST ASP Atelectasis
- Bronchospasm: go to » CHKLST BRO
- Hypoventilation/hypercapnia
- Obesity / positioning
- Pneumothorax Pulmonary edema
- Negative pressure pulmonary edema
- Right mainstem intubation
- Ventilator settings (auto-peep)

##### Hypermetabolism

- MH
- Thyrotoxicosis
- Sepsis

#### Additional DIAGNOSTIC TESTS

**Fiberoptic bronchoscopy**

**EKG**

**CXR**

**TEE**

#### DRUG DOSES and Treatments

**Albuterol**

8-10 puffs MDI or 2.5 mg nebulized via ETT/Inspiratory Limb