EMERGENCY PROTOCOLS

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SYMPTOMS and PROTOCOLS

Anaphylaxis

Bradycardia

Cardiac Chest Pain

High Spinal Block

Opiate Respiratory Depression

Seizure
Anaphylaxis Symptoms

Symptoms include (by organ system):

Skin
• Hives, itching, flushing, swelling of lips, throat or tongue, cyanosis

Respiratory
• Shortness of breath, wheezing, stridor, hoarseness, change in phonation, difficulty swallowing, cough

Cardiac
• Coronary artery spasm leading to MI, dysrhythmia, and arrest lowering of BP associated with fast HR
• Shock and loss of consciousness

Other
• GI-abd pain, cramping, n/v/d
• GU-loss of bladder control
• Neuro-headaches
• General anxiety and feeling of impending doom
Anaphylaxis Protocol

Call for help:

- Call code in facility
- Call 911 if needed - use clinical judgment
- AED and crash cart brought to room

Remove any triggering agent

Establish airway:

- Position patient supine
- Open airway with head-tilt, chin lift
- Insert airway devise (oral or nasal) as needed

Start 100% O₂ via mask (non rebreather)

Give epinephrine 0.3-0.5ml of 1:1000 IM

- Note - this comes in a pre-filled syringe ready for administration called an Epipen.
  - This is useful because it does not have to be drawn up.
  - Can be administered ASAP through clothing.

Check breathing:

- Watch for chest rise, feel for breath, listen for breath sounds
- Assist ventilation with ambu bag if needed

If needed, based on clinical judgment, establish artificial airway via intubation with ETT or LMA based on skill level

- Verify tube position
- Chest movement vs. abd distension
- Breath sounds vs. gastric gurgle
- CO₂ monitor in line with tube
Anaphylaxis Protocol cont.

If patient has a pulse, place in Trendelenburg if hypotensive

Start large bore IV-bolus I liter NS as needed

Titrate to stable blood pressure

Repeat eqi q 5 minutes as needed titrated to effects

Check vital signs q 2 minutes:

- Blood pressure
- Heart rate
- Respiratory rate
- O₂ saturation

If deteriorating or near death:

- Give 10ml or Epi 1:10,000 IV slowly over 10 minutes
- Titrate to effects
- Repeat as necessary

Administer Benadryl 50mg IV or IM

Start second large bore IV and give another fluid bolus of 1000cc of NS

Ranitidine 50mg IV or 150mg po

Transport to emergency department (ED) by EMT's

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Bradycardia Symptoms

**Symptoms include:**

- Light-headedness
- Nausea
- Diaphoresis
- Tinnitus
- Confusion
- Weakness
- Visual disturbance
- Loss of consciousness

Most common seen by spinal injectionists – vasovagal syncope

Symptoms usually proceeded by triggering event (pain)

**Bradycardia Protocol**

Assess appropriateness for clinical condition:

- Heart rate typically <50/min if bradyarrhythmia

Identify and treat underlying cause:

- Maintain patent airway; assist breathing as necessary
- Oxygen (if hypoxemic)
- Cardiac monitor to identify rhythm; monitor blood pressure and oximetry
- IV access
- 12-Lead ECG if available; don’t delay therapy

Persistent bradyarrhythmia causing:

- Hypotension?
- Acutely altered mental status?
- Signs of shock?
- Ischemic chest discomfort?
- Acute heart failure?
Bradycardia Protocol cont.

If Yes: Atropine
Atropine IV Dose:
First dose: 0.5 mg bolus
Repeat every 3-5 minutes Maximum: 3mg

If atropine ineffective:

Transcutaneous pacing

OR

Dopamine infusion
Dopamine IV Infusion: 2-10 mcg/kg per minute

OR

Epinephrine infusion Epinephrine IV Infusion:
2-10 mcg per minute

Consider:
Expert consultation Transvenous pacing

From the American Heart Association-May 2011: “Bradycardia with a Pulse Algorithm”
Cardiac Chest Pain Symptoms

Symptoms include:

• Chest pain radiating to left > right arm, jaw, epigastrium pain described as tightness, squeezing or pressure,

• SOB, dyspnea on exertion, diaphoresis, weakness, lightheadedness, n/v, palpitations

• Loss of consciousness and sudden death can occur

Symptoms in women may be atypical:

• Most common symptoms of MI in women are SOB, weakness and fatigue

• In women, chest pain may be less predictive of coronary ischemia

• At least 25% (range 22-64%) of all myocardial infarctions are silent (asymptomatic) and are discovered later on EKG, autopsy, etc.

Cardiac Chest Pain Protocol

Check responsiveness: "Are you okay?"

• If unresponsive, call for help
• Call code in facility (PICS)
• Call 911

Recommend reviewing ACLS Algorithm

Call for help:

• Call code in facility
• Call 911 if needed - use clinical judgment
• AED and crash cart brought to room
Cardiac Chest Pain Protocol cont.

Check airway:
- Position patient supine
- Open airway with head-tilt, chin lift
- Insert airway devise is needed

Check for breathing:
- Watch for chest rise, feel for breath, listen for breath sounds

Administer 100% oxygen via mask Check circulation:
- Check pulse
- If no pulse, start chest compressions at 100/minute until AED arrives
- When AED arrives, attach and follow instructions

If still no pulse, proceed to Cardiac Arrest Protocol If patient has pulse:
- Administer aspirin 325 mg po, chewed or suppository
- Administer nitroglycerine if SBP > 90
  - Give 0.4 mg sublingual q 5 minutes
  - Repeat administration two times
- Start 20g IV
  - Administer morphine 2-5 mg IV q 5-30 minutes as necessary if no pain relief from nitroglycerine administered three times
- Check vital signs q 2 minutes
  - blood pressure
  - heart rate
  - respiratory rate
  - oxygen saturation
- Monitor for respiratory depression, hypotension and lethargy
- Transport to ED via EMT’s
High Spinal Block Symptoms

Symptoms include:

• Respiratory
  o Difficulty breathing or apnea
  o Difficulty speaking, cough
  o Reduced O₂ saturation, respiratory arrest

• Cardiac
  o Hypotension
  o Bradycardia
  o Cardiac arrest (asystole)

• Neurological
  o Anxiety
  o Paralysis of upper/lower extremity
  o High sensory level
  o Loss of consciousness

• Other
  o GU - loss of bladder control

High Spinal Block Protocol

Call for help:

• Call code in facility
• Call 911 if needed - use clinical judgment
• AED and crash cart brought to room

Check airway:

• Position patient supine
• Open airway with head-tilt, chin lift
• Insert airway device as needed
High Spinal Block Protocol cont.

Check for breathing:
- Watch for chest rise, feel for breath, listen for breath sounds

Administer 100% oxygen via mask

Be prepared to assist respirations with an ambu bag if showing signs of poor respiratory effort, whispering, paradoxyl respirations, or anxiety

If apneic, decreasing LOC or respirations < 6/min, and/or sat < 90% on 100% oxygen:
  - Prepare for intubation

If needed, based on clinical judgment, establish airway via intubation with ETT or LMA based on skill level
  - Verify tube position
  - Chest movement vs. abd distension
  - Breath sounds vs. gastric gurgle
  - CO₂ monitor in line with tube

Check circulation:
  - Check pulse
  - If no pulse, go to Cardiac Arrest Protocol

Opiate Respiratory Depression Symptoms

Symptoms include:
- Sedation
- Pupillary constriction
- Hypoxia
- Slowing or cessation of respiration

Opiate Respiratory Depression Protocol

Check responsiveness - "Are you okay?"

If no response:
- Call code in facility
- Call 911 if needed-use clinical judgment
- AED and crash cart brought to room

If unresponsive --- check airway:
- Position patient supine
- Open airway with head-tilt, chin lift
- Insert airway devise as needed

Check for breathing:
- Watch for chest rise, feel for breath, listen for breath sounds

If breathing:
- Administer 100% Oxygen via mask and monitor O₂ saturation via pulse ox

If patient is snoring, insert nasal airway and assist with breathing with ambu bag as necessary If respirations < 6/min, and/or sat < 90% on 100% oxygen:
- Insert oral/nasal airway as tolerated
- Assist ventilation with ambu bag/mask

Establish airway via intubation with ETT or LMA based on skill level
Opiate Respiratory Depression Protocol cont.

Start 20g IV

Check vitals signs and O₂ sat q 2 minutes Circulation

Check pulse:
- If no pulse, go to cardiac arrest protocol
- When AED arrives, attach and follow instructions

Consider use of Narcan:
  - Note: Narcan must be used with extreme caution in patients taking opioids on a routine or chronic basis

If the decision is made to administer Narcan:
  - Dilute 1ml (0.4 mg/ml) in 9 ml of sterile saline and give 1-2 ml IV q 2-5 x minutes
  - Titrate un=l saturation >90% on room air

Once patient is revived, mix 4 vials Narcan in 1000 ml of saline and run IV at 50-200 ml/hr-titrate to effect

If patient shows signs of agitation, sniffling, or other signs of withdrawal, decrease infusion rate Continue to monitor vital signs q 2 minutes

Transport to ED in care of EMT’s
Seizure Symptoms

Symptoms include:
  o Sudden involuntary contraction of muscles and loss of consciousness

Seizure Protocols

Check responsiveness - "Are you okay?"

If unresponsive, call for help
  • Call code in facility
  • Call 911

Have AED brought to room and attach to patient

ASAP check airway:
  • Position patient left lateral decubitus
  • Open airway with head tilt-chin lift
  • Remove dentures if present
  • Insert nasopharyngeal airway if obstruction noises heard

Check for breathing:
  • Watch for chest rise, feel for breath, listen for breath sounds
    o If breathing - administer 100% oxygen via face mask
    o If not breathing - go to respiratory arrest protocol

Check circulation:
  • Check pulse
    • If absent, proceed to Cardiac Arrest Protocol

Consider possibility of reactive seizure

Most common cause is hypoglycemia
Seizure Protocols cont.

Start IV and administer Midazolam 0.2 mg/kg IV bolus, which, in 75kg (165 lb.) individual=15mg
  o  Note - may be given intranasally at identical dose

Monitor level of consciousness, oxygen saturation and vital signs every 2 minutes

Be prepared to manage airway and breathing after administration of Versed

If breathing:
  • Administer 100% oxygen via mask and monitor $O_2$ saturation via pulse ox

If patient is snoring, insert nasal airway and assist with breathing with ambu bag as necessary

If respirations < 6/min, and/or sat < 90% on 100% oxygen:
  • Insert oral or nasal airway as tolerated
  • Assist ventilation with ambu bag/mask

Establish airway via intubation with ETT or LMA based on skill level
  • Verify tube position
  • Chest movement vs. abd distension
  • Breath sounds vs. gastric gurgle
  • $CO_2$ monitor in line with tube

Transport to ED in care of EMT’s

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ACLS Algorithm

1. Check responsiveness: "Are you okay?"
   - If unresponsive, call for help
   - Call code in facility
   - Call 911

2. Start CPR
   - Give Oxygen
   - Attach monitor/defibrillator

Rhythm shockable?

Yes? Go to step 3

No? Go to step 10
3. VF/VT

4. Shock

5. CPR 2 min
   - IV/IO access

Rhythm shockable?

Yes? Go to step 6

No? Go to step 13
6. Shock

7. CPR 2 min

- Epinephrine every 3-5 min
- Consider advanced airway capnography

Rhythm shockable?

Yes? Go to step 8

No? Go to step 13
8. Shock

9. CPR 2 min
   - Amiodarone
   - Treat reversible causes

Rhythm shockable?

Yes? Go to step 6

No? Go to step 13
10. Asystole/PEA

11. CPR 2 min
   • IV/IO access
   • Epinephrine every 3-5 min
   • Consider advanced airway, capnography

Rhythm shockable?

Yes? Go to step 6 or step 8

No? Go to step 12
12. CPR 2 min

- Treat reversible causes

Rhythm shockable?

Yes? Go to step 6 or step 8

No? Go to step 13

13. If no signs of return of spontaneous circulation (ROSC), go to step 11 or step 12

If ROSC, follow Post-Cardiac Arrest Care
Return of Spontaneous Circulation (ROSC)

• Pulse and blood pressure

• Abrupt sustained increase in PETCO2 (typically ~40 mm Hg)

• Spontaneous arterial pressure waves with intra-arterial monitoring