

Study Notes: EMT-B Medication Review

1. Albuterol

- Indications: Wheezing, shortness of breath (asthma, COPD).
- Contraindications: Ventricular ectopy (arrhythmia).
- Route: Nebulizer (6-8 L/min).
- Adult Dose: 2.5 mg/3 mL, repeat every 3-5 min (max 15 mg).
- Pediatric Dose: 2.5 mg/3 mL, repeat every 3-5 min (max 7.5 mg).
- Side Effects: ↑ HR, tremors, restlessness, nausea.

2. Atrovent (Ipratropium)

- Indications: Wheezing, shortness of breath (often combined with albuterol).
- Contraindications: Peanut allergy (some solutions), ventricular ectopy.
- Route: Nebulizer (6-8 L/min).
- Adult Dose: 0.5 mg/2.5 mL, max 1.5 mg.
- Pediatric Dose: 0.25 mg/1.25 mL.
- Side Effects: Similar to albuterol.

3. Epinephrine (Anaphylaxis)

- Indications: Anaphylaxis (wheezing, hives, stridor, swelling).
- Route: IM (auto-injector).
- Adult Dose: 0.3 mg/0.3 mL.
- Pediatric Dose: 0.15 mg/0.15 mL or 0.01 mg/kg.
- Key Terms: Pruritus (itching), urticaria (hives).

4. Aspirin

- Indications: Chest pain (suspected MI).
- Route: PO.
- Dose: 324 mg (or 4 x 81 mg tablets).
- Action: Inhibits platelet aggregation (not a blood thinner).

5. Nitroglycerin

- Indications: Chest pain, CHF.
- Contraindications: Hypotension, ED meds (Viagra, etc.) within 24h.
- Route: Sublingual.
- Dose: 0.4 mg every 5 min (max 1.2 mg).

6. Naloxone (Narcan)

- Indications: Opioid overdose (pinpoint pupils, AMS).
- Route: IM/intranasal.
- Dose: 2-6 mg (adult); 0.1-2 mg (peds).
- Side Effects: Aggression, vomiting (emesis).

7. Oral Glucose

- Indications: Hypoglycemia (<70 mg/dL).
- Contraindications: AMS, unable to protect airway (not AOx4).
- Route: PO.
- Dose: 15 g (adult); 10 g (peds).

8. Acetaminophen (Tylenol)

- Indications: Fever $>101^{\circ}\text{F}$.
- Contraindications: Liver disease.
- Route: PO.
- Dose: 1000 mg (adult >70 kg); 15 mg/kg (peds).

9. Oxygen Therapy

- Devices:
 - Nasal cannula: 2-6 L/min.
 - Non-rebreather: 10-15 L/min.
 - BVM: 15 L/min.
 - CPAP: 8-25 L/min (based on PEEP).
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50 Flashcards

1. Q: What is the adult dose of albuterol via nebulizer?
A: 2.5 mg/3 mL (max 15 mg).
2. Q: What are contraindications for albuterol?
A: Ventricular ectopy.
3. Q: How is Atrovent packaged?
A: Nebulizer solution (often combined with albuterol).
4. Q: What allergy is associated with Atrovent?
A: Peanut allergy (some formulations).
5. Q: What are signs of anaphylaxis requiring epinephrine?
A: Wheezing, hives, stridor, swelling.
6. Q: What is the pediatric epinephrine auto-injector dose?
A: 0.15 mg/0.15 mL.
7. Q: What does "pruritus" mean?
A: Itching.
8. Q: What is the aspirin dose for chest pain?
A: 324 mg PO (or 4 x 81 mg tabs).
9. Q: Why is aspirin given for chest pain?
A: Inhibits platelet aggregation (prevents clot growth).
10. Q: Name two contraindications for nitroglycerin.
A: Hypotension, ED meds (e.g., Viagra) within 24h.
11. Q: What is the max dose of nitroglycerin?
A: 1.2 mg (3 sprays).
12. Q: What pupil size suggests opioid overdose?
A: 2-3 mm (pinpoint).
13. Q: What is the intranasal naloxone dose for adults?
A: 2-6 mg.
14. Q: What is a side effect of naloxone?
A: Vomiting (emesis) or aggression.
15. Q: When is oral glucose contraindicated?
A: If patient is not A0x4 or cannot protect airway.
16. Q: What is the adult oral glucose dose?
A: 15 g PO.
17. Q: What is the pediatric acetaminophen dose?
A: 15 mg/kg.
18. Q: What device delivers 10-15 L/min of oxygen?
A: Non-rebreather mask.

19. Q: What is CPAP's flow rate at 10 PEEP?
A: 12 L/min.
20. Q: What does "urticaria" mean?
A: Hives.
21. Q: What is the max pediatric dose of albuterol?
A: 7.5 mg total.
22. Q: Name two side effects of albuterol.
A: Increased heart rate, tremors, restlessness (any two).
23. Q: When should you avoid giving Atrovent?
A: If the patient has a peanut allergy or ventricular ectopy.
24. Q: What is the adult dose of Atrovent?
A: 0.5 mg per 2.5 mL (max 1.5 mg total).
25. Q: How quickly does epinephrine typically work for anaphylaxis?
A: 30 seconds to 1 minute.
26. Q: What is the IM epinephrine dose for a pediatric patient *without* an auto-injector?
A: 0.01 mg/kg.
27. Q: Why is aspirin given for chest pain?
A: It inhibits platelet aggregation (prevents clots from worsening).
28. Q: How many 81 mg aspirin tablets equal a 324 mg dose?
A: 4 tablets.
29. Q: What vital sign must you check before giving nitroglycerin?
A: Blood pressure (contraindicated if hypotensive).
30. Q: Name two erectile dysfunction medications that contraindicate nitroglycerin.
A: Viagra, Levitra, Cialis, or Sildenafil (any two).
31. Q: What is the max dose of nitroglycerin for chest pain?
A: 1.2 mg (3 sprays/doses).
32. Q: What pupil size suggests opioid overdose?
A: 2–3 mm (pinpoint).
33. Q: What does "MAD" stand for in naloxone administration?
A: Mucosal Atomizer Device (for intranasal delivery).
34. Q: Why might a patient need repeat doses of naloxone?
A: Narcan wears off faster than opioids (risk of re-overdose).
35. Q: What is a key contraindication for oral glucose?
A: Altered mental status (not AOX4) or inability to protect airway.
36. Q: What blood sugar level typically indicates hypoglycemia?
A: <70 mg/dL (confirm with local protocol).
37. Q: What is the pediatric dose of oral glucose?
A: 10 g PO.

38. Q: When should you consider ALS intercept for hypoglycemia?
A: If the patient cannot swallow or is unresponsive (needs IV dextrose/glucagon).
39. Q: What is the adult acetaminophen dose for fever in a patient >70 kg?
A: 1000 mg PO.
40. Q: What is a contraindication for acetaminophen?
A: Severe liver disease.
41. Q: How do you convert pounds to kilograms for pediatric dosing?
A: Divide pounds by 2.2 (e.g., 44 lbs ÷ 2.2 = 20 kg).
42. Q: What oxygen flow rate is used for a nasal cannula?
A: 2–6 L/min.
43. Q: What device delivers 10–15 L/min of oxygen?
A: Non-rebreather mask.
44. Q: What is the flow rate for a BVM with oxygen?
A: 15 L/min.
45. Q: What does "PEEP" stand for in CPAP?
A: Positive End-Expiratory Pressure.
46. Q: What CPAP flow rate is used for 10 PEEP?
A: 12 L/min.
47. Q: What SpO₂ reading should prompt oxygen administration?
A: Typically <94% (follow local protocol).
48. Q: What does "AOx4" mean?
A: Alert and oriented to person, place, time, and event.
49. Q: What is "emesis"?
A: Vomiting.
50. Q: What is the most critical action before giving any medication?
A: Verify indications, contraindications, and patient condition (e.g., vitals, allergies).

Ventricular Ectopy (also called **Premature Ventricular Contractions** or **PVCs**) is a type of **cardiac arrhythmia** where abnormal electrical impulses originate in the **ventricles** (lower chambers of the heart) instead of the normal conduction pathway.

Key Points:

- **Definition:** Extra, irregular heartbeats that disrupt the normal rhythm.

- **Causes:**

- Electrolyte imbalances (e.g., low potassium).
- Heart disease (e.g., ischemia, prior MI).
- Stimulants (caffeine, nicotine, albuterol).
- Stress or hypoxia.
- ****Signs/Symptoms****:
 - Palpitations ("skipped beats").
 - Irregular pulse.
 - Can lead to more dangerous arrhythmias (e.g., ventricular tachycardia).
- ****Relevance to EMTs****:
 - A ****contraindication for albuterol/Atrovent**** (can worsen ectopy).
 - Monitor for chest pain or hemodynamic instability.

****Why It Matters in EMS:****

- Albuterol can ↑ heart rate and exacerbate PVCs → Risk of lethal arrhythmias.
- If a patient has frequent PVCs, consult medical control before giving bronchodilators.

****Test Tip:****

- If an NREMT question mentions "ventricular ectopy," think ****contraindication for albuterol****!