

## **Abdominal Pain**

**(NCEP Protocol #23)**

### **Differential Diagnosis**

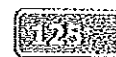
- \* Abdominal aortic aneurysm
- \* Appendicitis
- \* Bowel obstruction
- \* Cholelithiasis / cholecystitis
- \* Diverticulitis
- \* Gastritis
- \* Gastroenteritis
- \* Hepatitis
- \* Hernia
- \* Ischemic bowel
- \* Kidney stone
- \* Myocardial Infarction / ischemia
- \* Pancreatitis
- \* Pelvic (ovarian cyst, PID)
- \* Peptic ulcer disease
- \* Pneumonia
- \* Pregnancy
- \* Trauma

### **Clinical Presentation**

1. History considerations
  - A. Age
  - B. Past medical / surgical history
  - C. OB/Gynecological history
    - a. LMP
2. Duration, location, character of pain
3. Associated symptoms
  - A. Fever
  - B. Nausea, vomiting
  - C. Bleeding
4. Aggravation or alleviating factors
5. Physical exam
  - A. Focused abdominal exam
    - a. Inspect for prior incision scars
    - b. Auscultate bowel sounds (increase with obstruction), bruit (AAA)
    - c. Palpation for area of tenderness and possible related peritoneal signs
6. Further focused exam as indicated by history

### **Basic Medical Care**

1. **Medical Initial Assessment Protocol**
2. Assess vital signs
3. Provide supplemental oxygen as indicated per patient condition
4. Provide assisted ventilations with bag-valve mask and 100% oxygen if breathing or ventilatory compromise is apparent
5. Assess blood glucose level
  - A. Administer oral glucose if patient hypoglycemia and alert with intact gag reflex



### Advanced Medical Care

1. Obtain rhythm strip and refer to appropriate protocol as indicated
2. 12-lead ECG if patient history consistent with potential cardiac etiology
3. IVF bolus for signs of hypotension/dehydration
  - A. Adult: 500 – 1000 ml as per patient condition
  - B. Pediatric: 10 – 20 ml/kg
4. Ondansetron (Zofran®) for nausea/vomiting
  - A. Adult: 4 – 8 mg PO, IV
  - B. Pediatric dose = 0.15 mg/kg PO, IV (maximum 4 mg)
5. Analgesic for pain control if etiology considered to be secondary to kidney stone
  - A. Fentanyl
    - > Adult:
      - 2 mcg/kg IN (maximum 200 mcg)
      - 1 mcg/kg IV, IM (maximum 100 mcg)
      - May repeat dose x1 in 15 minutes if indicated (maximum 100 mcg any route)
    - > Pediatric:
      - 1 mcg/kg IV, IM, IN (maximum 100 mcg)
      - Contact Medical Control for repeat dosing
  - B. Alternate: nitrous oxide via patient controlled inhalation
  - C. Contact medical control for analgesic administration for etiology other than kidney stone

### Additional Considerations

1. All women of child-bearing age should be considered to be pregnant until proven otherwise
  - A. Abdominal pain with syncope in female of child-bearing age should be considered an ectopic until proven otherwise
2. Patients with undiagnosed cause of pain or possible need for surgery should be kept NPO
3. Consider cardiac etiology of symptoms in patients > 50 years of age, diabetics, and/or women with upper abdominal complaints
  - A. "Indigestion" may be the angina equivalent for myocardial ischemia
4. Older patients with abdominal pain, especially those that are hemodynamically unstable, should be considered critical until proven otherwise

## **Falls / Back Injury**

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### **Basic Medical Care**

1. Ensure scene safety
2. **Trauma Initial Assessment Protocol** or **Pediatric Trauma Assessment Protocol**
3. Maintain airway; suction as needed
4. Apply pulse oximeter and cardiac monitor
5. Assess vital signs
6. Provide supplemental oxygen as indicated per patient condition
7. Provide assisted ventilations with bag-valve mask and 100% oxygen if breathing or ventilatory compromise is apparent
8. If trauma to head or spine is suspected, protect and maintain control of the cervical spine with in-line stabilization until cervical collar, head immobilization, and backboard is placed
  - A. Assess neurological status before and after immobilization
9. Remove appropriate clothing in order to fully inspect extremities, chest, and abdomen for any significant injuries
10. Control any active bleeding sites with manual direct pressure and/or pressure dressing
11. Splint any long bone deformities or areas where crush injury has occurred
  - A. Dislocated joints should be splinted in position of deformity
  - B. Fractures should be realigned and splinted from joint above through joint below
  - C. Distal pulses should be assessed before and after realignment and splinting
12. Apply appropriate dressing to any open wounds
13. Assess blood glucose level as indicated per patient presentation

### **Advanced Medical Care**

1. Obtain 4-lead ECG and refer to appropriate protocol as indicated
2. IVF resuscitation
  - A. Adults:
    - Hemodynamically unstable: IVF wide open
    - Hemodynamically stable: TKO
  - B. Pediatrics
    - Hemodynamically unstable: 10 ml/kg bolus and reassess
    - Hemodynamically stable: TKO
3. Administer fentanyl (Sublimaze®) for pain control
  - A. Adults:
    - 2 mcg/kg IN (maximum 200 mcg)
    - 1 mcg/kg IV, IM (maximum 100 mcg)
    - May repeat x1 in 15 (maximum 100 mcg any route)
  - B. Pediatrics:
    - 1 mcg/kg IV, IM, IN (maximum 100 mcg)
    - Contact Medical Control for repeat dosing
4. Alternative analgesic: nitrous oxide via patient controlled inhalation

## **Fentanyl (Sublimaze®)**

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### **Indications**

- Opioid analgesic

### **Contraindications**

- Known hypersensitivity reaction
- Hypotension
- Hypoventilation

### **Dose adult**

- 1 mcg/kg IV, IM (maximum 100 mcg)
- 2 mcg/kg IO (maximum 200 mcg)
- Repeat dose 1 mcg/kg (maximum 100 mcg any route)

### **Dose pediatric**

- 1 mcg/kg IV, IM, IO (maximum 100 mcg)

### **Adverse Reactions**

- Respiratory depression
- Altered mental status
- Hypotension
- Chest wall rigidity (with rapid infusion)

### **Protocols utilizing**

- |                  |                       |                    |
|------------------|-----------------------|--------------------|
| ▪ Abdominal Pain | ▪ Eye Problems        | ▪ Stab Wound       |
| ▪ Animal Bite    | ▪ Falls/Back Injury   | ▪ Traumatic Injury |
| ▪ Back Pain      | ▪ Headache            | ▪ Traffic Accident |
| ▪ Chest Pain     | ▪ Heart Problems      | ▪ Gunshot Wound    |
| ▪ Electrocution  | ▪ Industrial Accident |                    |

## **Glucagon**

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### **Indications**

- Hypoglycemia in patients without IV access
- Altered mental status and unknown glucose level
- Profound shock
- Hypotension secondary to beta-blocker or calcium channel blocker overdose

### **Contraindications**

- Known hypersensitivity

### **Dose adult**

- 1 mg IM

### **Dose pediatric**

- 0.05 mg/kg IM (maximum 1 mg)

### **Protocols utilizing**

- |                         |                                  |
|-------------------------|----------------------------------|
| ▪ Allergic Reaction     | ▪ Diabetic Problem: Hypoglycemia |
| ▪ Altered Mental Status | ▪ Overdose                       |
| ▪ Sick Person           |                                  |
| ▪ Unknown Problem       |                                  |