DRIVING CHANGE 2023
THE URGENT CARE CONVENTION

Little People Big Problems (When to Worry)

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UCA URGENT CARE ASSOCIATION®

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- I have no financial disclosures

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Urgent Care Setting

- Older Adolescents or Young Adults can be a little intimidating
- What if they have real adult problems? What if I miss something?
- Focus on recognizing red flags and understanding the initial workup and management, if needed, will be reassuring

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Objectives

Review and discuss some cases, focusing on

- Red flags and initial management of Chest Pain in Adolescents
- Red flags and initial management of Abdominal Pain in Adolescents
- Red flags and initial management of Pregnancy-related concerns in Adolescents

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Chest Pain

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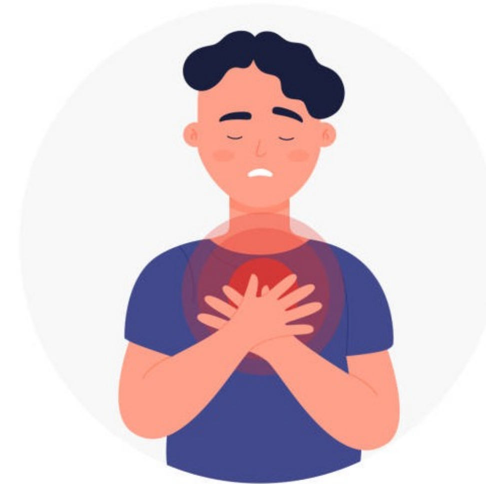
Chest Pain - Barney

- 17-year-old male presents with chest pain for about 3 days
- Waxing and waning in intensity.
- Has still been going to school and participating in normal activity. Hanging out with friends. Sleeping well.
- Denies any drug use or any new stressors
- He lives with friends, so his sister brought him in because she was worried.
- Pain involves his left anterior chest.
- No PMH. No history of pain with exertion. No palpitations. No radiation. No FHX cardiac illness or sudden death
- Exam - BP and HR are normal. No chest wall tenderness. Some discomfort w moving both arms.



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Chest pain

- Common Complaint
- Incidence of Cardiac Etiology is low
  - Primary care referrals 0.25%
  - ED up to 0.6%

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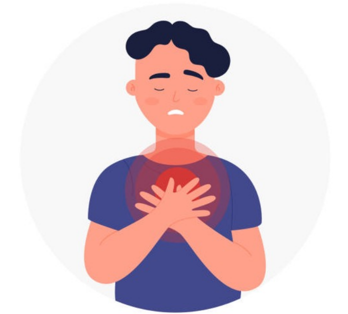
Chest pain

- Noncardiac
  - Musculoskeletal
  - Resp – wheezing, asthma, cough, pneumonthorax
  - Infections – pneumonia
  - GI – reflux, esophagitis
  - Anxiety
  - Sickle cell
- Cardiac or other serious
  - Myocardial infarction or ischemia
  - Pericarditis
  - Myocarditis
  - Cardiomyopathy
  - Arrythmia
  - Spontaneous Pneumothorax
  - Pulmonary Embolism
  - Aortic dissection



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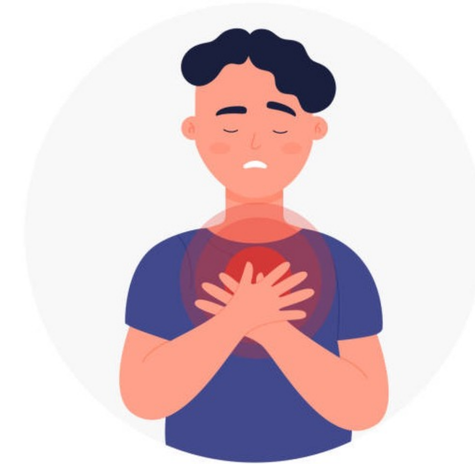
Chest pain

Table 1 Cardiac Disease of Interest and ICD9 codes

Acute myocardial infarction 411.81, 410.9, 410.0-410.09
Myocardial ischemia 414.9
Pericarditis 420.91, 423.1, 420.0, 074.21, 423.2
Congestive heart failure 428.0, 428.1, 428.9, 428.20-428.23, 428.30-428.33
Myocarditis 422.92, 422.0, 074.23, 422.90, 422.91, 429.0
Pericardial effusion 511.9
Cardiomyopathy 425.8, 425.9, 425.1, 425.7, 425.4
Arrhythmia 427.9, 427.60
Anomalous coronary artery 746.85
Ventricular tachycardia 427.1
Long QT syndrome 426.82
Conduction disorders 426.0-426.9
Supraventricular tachycardia 427.0
Idiopathic hypertrophic subaortic stenosis 425.1
Aortic/coronary dissection 441.0, 414.10-414.12
Pulmonary embolism 415.1



Cardiac disease in pediatric patients presenting to a pediatric ED with chest pain. Drossner DM, **Hirsh DA**, Sturm JJ, Mahle WT, Goo DJ, Massey R, Simon HK. Am J Emerg Med. 2011 Jul;29(6):632-8. doi: 10.1016/j.ajem.2010.01.011. Epub 2010 Jul 13. PMID: 20627219

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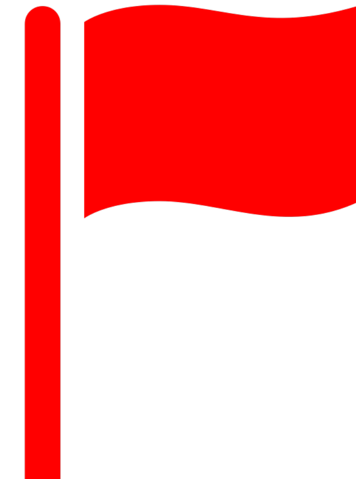
Chest Pain – Red Flags

HPI	Acute onset, upon exertion, crushing, radiation, syncope or dizziness, SOB Recent illness (viral, COVID-19), recent COVID-19 Vaccine
Social History	Drug use
Past Medical History	Hypercoagulability, Vasculitis/Rheum disease/Sickle Cell, Immobilization, potential aortic disease (Marfan, Turner)
Family History	Sudden or unexplained death or MI under 50, cardiomyopathy
Exam	Appearance, RR/HR, new murmur, (cyanosis, decreased pulses, etc)



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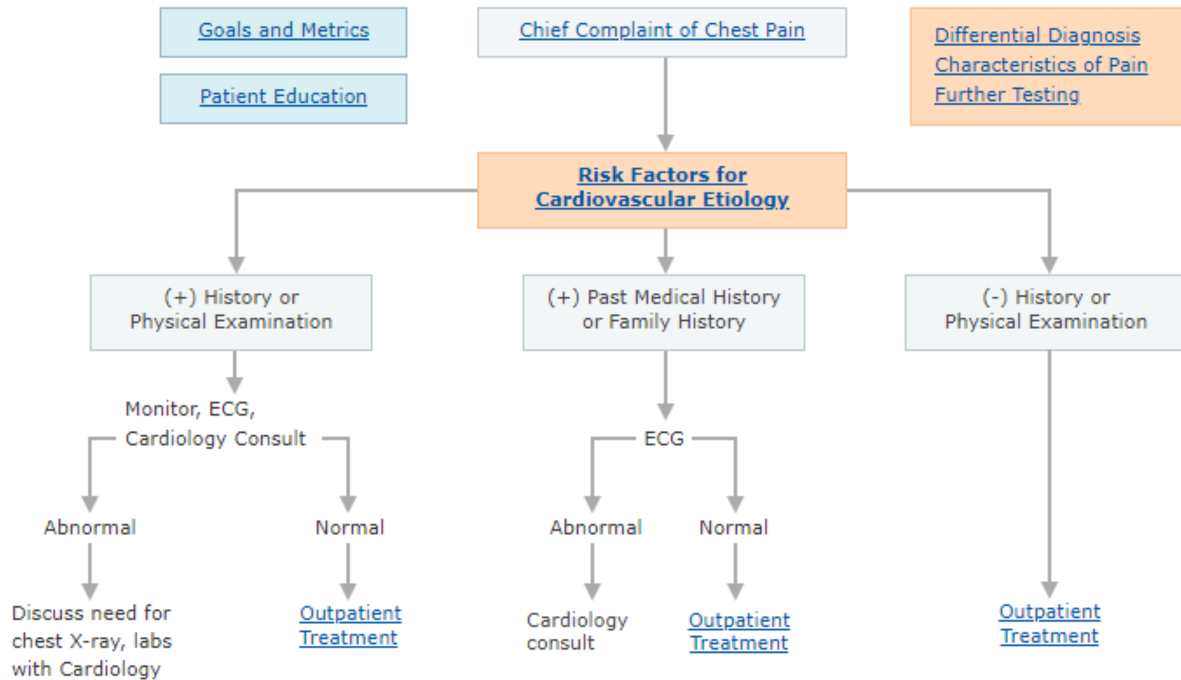
Chest Pain - Approach



Risk Factors for Cardiovascular Etiology

History	Physical Exam	Non-Cardiac Past Medical History	Family History
Exertional Acute onset Substernal crushing pressure Radiation to shoulder, arm, neck, jaw Syncope, dizziness Palpitations Dyspnea Orthopnea Pulmonary Embolism Risk Factors Drug use Medication use COVID-19 mRNA Vaccination within 1 Week Recent COVID-19 Illness or Concerning Exposure	Cyanosis Tachypnea, shortness of breath, work of breathing Abnormal heart rhythm Hypotension New or significant murmur Gallop Friction rub Abnormal 2nd heart sound Decreased femoral/peripheral pulses	Rheumatologic disease, lupus Aortopathy, such as: Marfan syndrome Loeys-Dietz syndrome Turner syndrome Sickle cell disease	Sudden death or myocardial infarction under 50 years old Unexplained sudden death in young relative Cardiomyopathy

Emergency Department Clinical Pathway for Evaluation/Treatment of Children with Chest Pain without Known Cardiac Disease
CHOP Clinical Pathway

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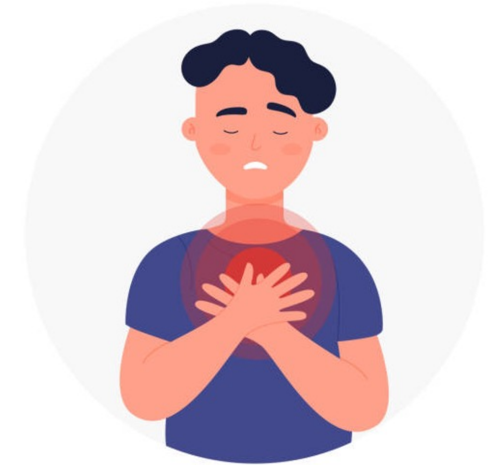
Chest Pain - Barney

- 17-year-old male chest pain 3 days
- Waxing and waning in intensity.
- Normal activity. No drug use or new stressors
- Pain involves his left anterior chest
- No PMH. No history of pain with exertion. No palpitations. No radiation. No FHX cardiac illness or sudden death
- Exam - BP and HR are normal. No chest wall tenderness. Some discomfort w moving both arms.

Red flags?

What would you do?



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Chest pain - Barney

- **Red Flags:** Concerning social hx
- What would you do? EKG
- Dispo? Home if normal EKG

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Chest Pain

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I aVR V1 V4
II aVL V2 V5
III aVF V3 V6

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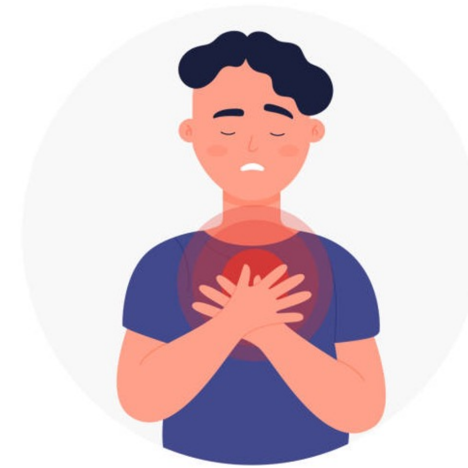
Chest Pain - Barney

What if the pain was pressure like, he appeared a bit more anxious, and he admitted to cocaine use?

Red flags?

What would you do?



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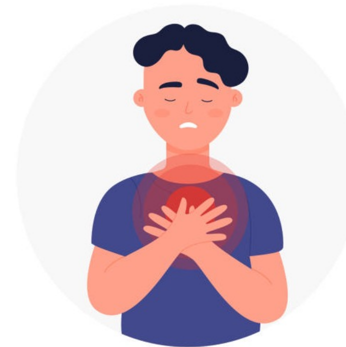
Chest Pain - Barney

What if the pain was pressure like, he appeared a bit more anxious, and he admitted to cocaine use?

Red flags? Cocaine use

What would you do? Would consider a different disposition even if EKG normal?



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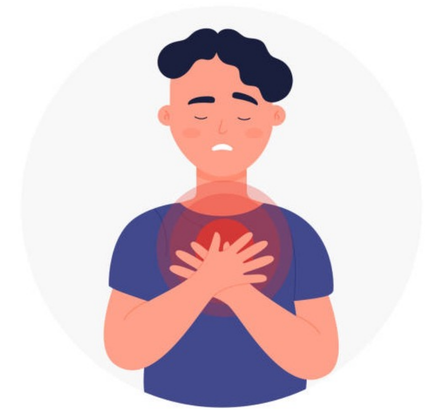
Chest pain - Priscilla

- 17-year-old female presents with a 3-day history of feeling fatigued – not feeling well in general. 2 days of fever to 101. Some vomiting today and feeling much worse, with some feeling of Shortness of breath

- PMH, FHX, SHX unremarkable

- Physical Exam – Appears tired. Pale. HR 140, RR 24, BP 100/70, CV RRR, Chest CTA, abdomen soft, No HSM, cap refill 2 seconds



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- PMH, FHX, SHX unremarkable

- Physical Exam – Appears tired. Pale. HR 140, RR 24, BP 100/70, CV RRR, Chest CTA, abdomen soft, No HSM, cap refill 2 seconds

- **Red flags?**

- **What would you do?**

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Chest Pain - Priscilla

- Red flags? Recent illness, appearance, tachycardia
- What would you do? EKG, labs (covid,viral screen)
- Disposition?

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I II III aVR aVL aVF V1 V2 V3 V4 V5 V6 V1 II V5

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Abdominal Pain

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Abdominal Pain - Megan

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- 18-year-old female presents with 2-3-week history of worsening abdominal pain. The pain is intermittent. Not severe, but really, really bothers her when it occurs. No fever. No vomiting. But at times, nausea. No diarrhea. No dysuria. No vaginal discharge. Occasionally sexually active. LMP about a month ago. She attends a nearby college and one of her friends who is pre-med recommended she come to your urgent care.

- PMH unremarkable. SHX no drug use, lives on campus. FHX unremarkable

- Exam. VS normal. Weight 100kg. CV RRR, chest CTA, abdomen – mild epigastric and mild RUQ tenderness w no guarding

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Abdominal Pain

- Common Complaint among adolescents
- 5-10% all ED visits

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Abdominal Pain

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Common misses

GI

- Appendicitis
- Cholecystitis/biliary pathology
- Diverticulitis
- Small bowel obstructions

Non-GI

- Ovarian/Testicular torsion
- UTI/STI
- Nephrolithiasis
- Ectopic/Pregnancy
- Intrathoracic
- PE
- MI
- Endocrine, Malignancy

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Abdominal Pain – Red Flags

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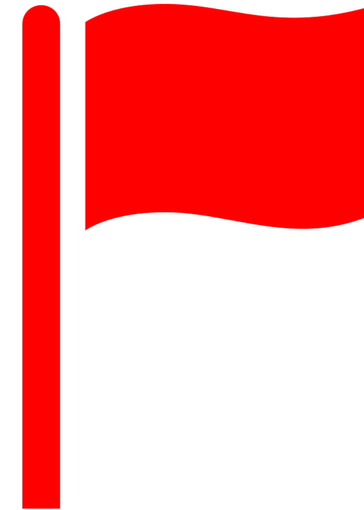
Risk factors associated with misdiagnosis

- Nonspecific abdominal pain
- Nausea and Vomiting
- Gastroenteritis
- Other GI disorders
- Female adolescent
- African American Ethnicity
- Medicare/Medicaid Insurance



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Abdominal Pain - Megan

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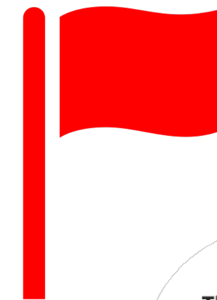
- **Red flags?**

- **What would you do?**



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Abdominal Pain - Megan

- Red flags? Mild/intermittent symptoms, nonspecific, weight, RUQ
- What would you do?
- Disposition?

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Abdominal Pain - Mary

- 16-year-old female presents with abdominal pain and nausea intermittently for about a week. She has had some emesis but only small amounts. One loose stool today. No fever. No other symptoms. Exposed to multiple family members who had vomiting and diarrhea about a week ago. They were much sicker and got better after 24 hours.

- Exam – VS are normal. Lungs CTA. Abdomen soft, mild diffuse lower abdominal tenderness.

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Abdominal Pain - Mary

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- 16 year-old female presents with abdominal pain and nausea intermittently for about a week. She has had some emesis but only small amounts. One loose stool today. No fever. No other symptoms. Exposed to multiple family members who had vomiting and diarrhea about a week ago. They were much sicker and got better after 24 hours.

- Exam – VS are normal. Lungs CTA. Abdomen soft, mild diffuse lower abdominal tenderness.

- **Red flags?**

- **What would you do?**

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Abdominal Pain - Mary

- Red flags? Nonspecific symptoms and exam, adolescent female.
- What would you do?
- Disposition?

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Female Adolescent

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- Must consider reproductive tract

652 A.E. Lawrence et al. / J Pediatr Adolesc Gynecol 34 (2021) 649–655

Table 3
Outcomes from the Evaluation of Abdominal Pain in Pediatric Female Patients*

	All	Race			Place			Health Insurance		
		White	Black	P	ED	UC	P	Medicaid	Private	P
Menarche documented†	729 (87.6)	434 (87.9)	295 (87.3)	.80	305 (90.2)	424 (85.8)	.06	410 (87.8)	319 (87.4)	.86
Sexual activity documented	414 (49.8)	228 (46.2)	186 (55.0)	**.01**	193 (57.1)	221 (44.7)	**<.01**	263 (56.3)	151 (41.4)	**<.0001**
Contraception documented	222 (26.7)	111 (22.5)	111 (32.8)	**<.01**	114 (33.7)	108 (21.9)	**<.01**	149 (31.9)	73 (20.0)	**<.01**
Pregnancy test	650 (78.1)	380 (76.9)	270 (79.9)	.31	289 (85.5)	361 (73.1)	**<.0001**	375 (80.3)	275 (75.3)	.09
STI test	247 (29.7)	110 (22.3)	137 (40.5)	**<.0001**	104 (30.8)	143 (29.0)	.57	163 (34.9)	84 (23.0)	**<.01**
Any imaging	440 (52.9)	318 (64.4)	122 (36.1)	**<.0001**	258 (76.3)	182 (36.8)	**<.0001**	210 (45.0)	230 (63.0)	**<.0001**
Pelvic examination performed	40 (4.8)	14 (2.8)	26 (7.7)	**<.01**	22 (6.5)	18 (3.6)	.06	27 (5.8)	13 (3.6)	.14
ED/UC visit within 1 yr	204 (24.5)	113 (22.9)	91 (26.9)	.18	95 (28.1)	109 (22.1)	.05	135 (28.9)	69 (18.9)	**<.01**

ED, emergency department; STI, sexually transmitted infection; UC, urgent care.
* Among White and Black patients with Medicaid or private insurance (n = 832).
† Among patients who had menarche documented and were postmenarchal, 96.6% had their last menstrual period recorded.

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Pregnancy

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Pregnancy Case - Jill

- 19-year-old female worsening lower abdominal pain 2 days. Nausea, several loose stools today. No fever. Unsure of LMP
- Exam - Non-toxic, walks to exam room easily, but appears in mild discomfort.
- VS - T 37.2, RR 16, HR 120, 110/70

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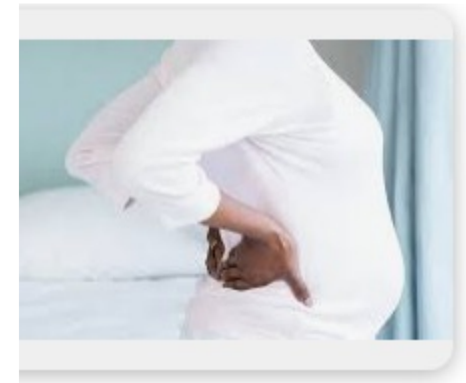
Pregnancy

- Significant number of ED visits in the First trimester
- Complications can be unnerving



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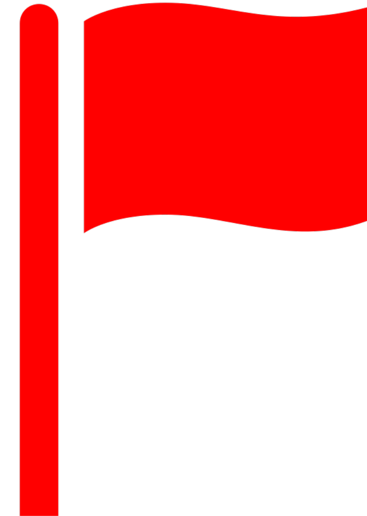
Pregnancy – Red Flags

- **Nausea and vomiting**
- **Abdominal pain and bleeding**



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Pregnancy – Nausea and Vomiting

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- Mild --->Hyperemesis gravidarum
- Don't miss other causes GI, GU, surgical, etc
- Treatment
  - Oral rehydration
  - Lifestyle and dietary modifications
  - Medications
    - Pyridoxine/doxylamine
    - Antihistamine, dopamine antagonists (metaclopramide, etc) – however ondansetron (serotonin receptor antagonist) most commonly used
  - Persistent or severe - IVF

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Pregnancy – Abdominal Pain and Bleeding

- Many causes
- Presumed ectopic until proven otherwise
- Requires urgent transfer

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Pregnancy - Jill

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- **Red flags?**
- **What would you do?**

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Pregnancy - Jill

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- **Red flags? Pain!**
- **What would you do?**
- **Dispo?**

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How you can drive change:

- Understand the initial thought process when teenagers present with potentially serious illness in the Urgent Care setting.
- Know the red flags in order to consider serious causes.

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Session Evaluation

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- Your feedback is valuable, take a moment to complete the survey for this session.
- To claim CME, you must complete a separate survey available after the convention.

* How likely are you to recommend this **content** to a colleague?

Not likely at all | Neutral | Extremely likely

0 1 2 3 4 5 6 7 8 9 10

What did you find most valuable about this **content**?

What would have made this **content** better?

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