What to do when you are called to see a patient with . . .

Nausea, Constipation, or Insomnia

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So your patient has. . . CONSTIPATION

Case 1

- A 66 year old man is admitted to the Medicine service with LLE cellulitis and volume overload. He is found to have new onset afib and with rate control and diuresis, his volume status improves. He is given bactrim for his cellulitis.
- On HD #4, you are called at 11 pm because he has not had a bowel movement since admission and he is having mild abdominal discomfort.
- You are in the ER admitting 2 patients at once.

Case 1

What do you do next?

- *Colace 250 mg po bid*
- *Senna 2 tabs po qhs*
- *Dulcolax 10 mg po x 1*
- *Dulcolax suppository pr x 1*
- *Milk of magnesia*
- *Tap water enema*
- *Have team address it in the morning*
- *Get more information*

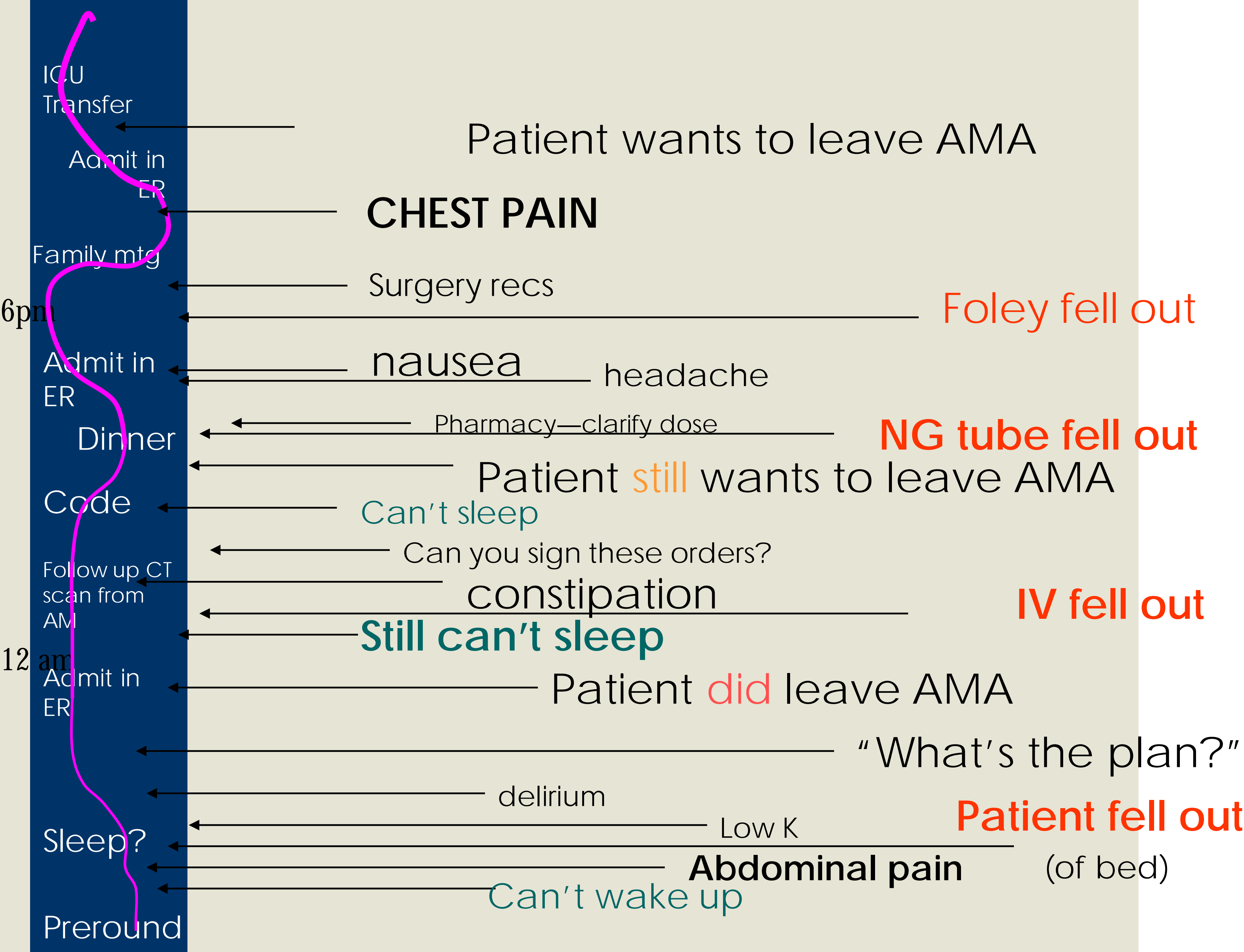
Case 1

- Do you really need any more information or workup for constipation?
- What is the minimum amount of information you need over the phone to decide what to do next?

Case 1

- Classic approach:
  - Medical problems, vital signs, med list, interview and examine the patient, form differential diagnosis, treat appropriately.

Saturday Night



ICU Transfer
Admit in ER
Family mtg
6pm
Admit in ER
Dinner
Code
Follow up CT scan from AM
12 am
Admit in ER
Sleep?
Preround
Patient wants to leave AMA
CHEST PAIN
Surgery recs
Foley fell out
nausea
headache
Pharmacy—clarify dose
NG tube fell out
Patient still wants to leave AMA
Can't sleep
Can you sign these orders?
constipation
IV fell out
Still can't sleep
Patient did leave AMA
"What's the plan?"
delirium
Low K
Patient fell out
Abdominal pain
(of bed)
Can't wake up

Case 1

Real world approach:

1. Does it represent anything more serious?

2. If not, it's probably ok to treat empirically.

Case 1

- A 66 year old man is admitted to the Medicine service with LLE cellulitis and volume overload. He is found to have new onset afib and with rate control and diuresis, his volume status improves. He is given bactrim for his cellulitis.
- On HD #4, you are called at 11 pm because he has not had a bowel movement since admission and he is having mild abdominal discomfort.
- You are in the ER admitting 2 patients at once.

Case 1

Real world approach:

- 1. Does it represent anything more serious?
    - Abdominal pain?
    - Risk factors for obstruction?
    - Vital signs?

- 2. If not, it's probably ok to treat empirically
    – Do I start from above or below?

http://www.gsk.com.mx/diccionario/colon.html

Case 1

More history

- PMHx: AFib/CHF, HTN, gout, COPD, diverticulitis, obesity.
- PSHx: Appy, Chole, Ventral hernia repair.
- All: NKDA.
- Meds: Bactrim, Lasix, KCl, Diltiazem, Lisinopril, allopurinol, atrovent, ASA (stopped), warfarin, oxycodone.

Case 1

Exam

- Vital signs: 37.6 145/87 90 16 96% 2L NC I/O 1200/2000 last 24 hrs.
- NAD
- Abdomen: +BS, soft, NT, ND, no masses but obese. Describes some mild cramping in his LLQ.

Case 1

Why is this patient constipated?

- History, abdominal exam: not concerning for peritonitis; doubt ischemic bowel.

- Opiates
- Immobility
- Calcium channel blockers
- Diuretics.

Treatment

- *Colace 250 mg po bid*
- *Senna 2 tabs po qhs*
- *Dulcolax 10 mg po x 1*
- *Dulcolax suppository pr x 1*
- *Milk of magnesia*
- *Tap water enema*
- *Have team address it in the morning*
- ~~*Get more information*~~

Case 1

What is your goal?

http://www.armedchair.com/news/fedex-distribution
http://www.whbvillage.com/images/usps-boxes.jpg
http://www.flickr.com/photos/thomashawk/110805522/

Case 1

What is your goal?

- Does he absolutely, positively *have* to have a bowel movement right now?

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http://www.whbvillage.com/images/usps-boxes.jpg
http://www.flickr.com/photos/thomashawk/110805522/

Case 1

What is your goal?

- Does he absolutely, positively *have* to have a bowel movement right now?

- By morning?

http://www.armedchair.com/news/fedex-distribution
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http://www.flickr.com/photos/thomashawk/110805522/

Case 1

What is your goal?

- Does he absolutely, positively *have* to have a bowel movement <u>right now</u>?

- –By morning?

- –In the next month?

http://www.armedchair.com/news/fedex-distribution
http://www.whbvillage.com/images/usps-boxes.jpg
http://www.flickr.com/photos/thomashawk/110805522/

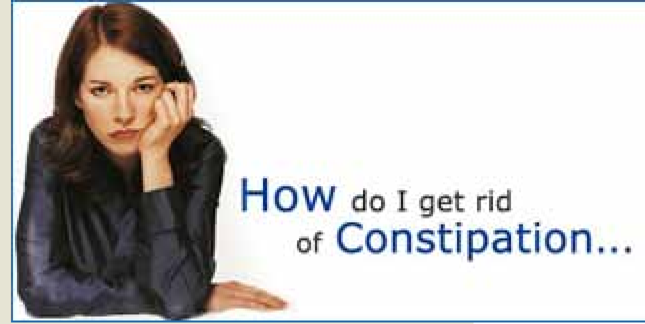
Case 1

Treatment

- Colace + Senna while on narcotics
- Get off narcotics if possible
- Decrease diuretics if possible
- Mobilize
- Dulcolax

Treatment

Slow acting agents



- Stool softeners
  - Colace 250 mg po bid

days

- Bulking agents
  - Metamucil 1 tsp qd-tid
  - Citrucel 1 tsp qd

days

à Common side effect of metamucil?

http://www.constipation-medicine.org/images_templ/constipation_medicine_baner.jpg

Treatment

Moderate acting

- Osmotic
  - PEG 17 g (1 tbsp) dissolved in 8 oz water/juice PO QD — 1-2 d
  - Lactulose 15-30 cc po qd-4x daily — 1-2 d
- Stimulant
  - Senna 2 tabs po qd-bid — 12 hrs

Treatment

Faster acting agents

- Stimulants
  - Bisacodyl (Dulcolax) 30 min
    - 10 mg po qd-tid
    - 10 mg pr qd-bid
- Saline laxatives
  - MOM 15-30 cc po qd-bid 3 hrs

Take home points

- You do not need to personally evaluate every patient.
- Identify red flags for when constipation may represent a more serious condition.
- Know how quickly you wish to reverse it.

Case 2

- A 58 year old woman is admitted with hematochezia and hypotension.

- She was recently diagnosed with a DVT and started on coumadin.
- She receives IVF, FFP, and PRBCs and stablizes.

- Past medical history: HTN, CRI, CAD, borderline DM, depression, DVT.

Case 2

Your sign out:

"Follow up GI recs".

GI recs: "Colonoscopy in AM. Bowel prep. NPO p MN. Continue serial Hcts"

Case 2

Which of these bowel preps should you avoid?

- Golytely (4L of PEG + electrolyte solution)
- Mag citrate (30 cc)
- Fleets phospho-soda
- All three

Case 2

What happened next

- The patient receives a bowel prep. She develops muscle cramps, delirium, hypotension.
- Which prep did she most likely receive?

Case 2

Tip

<u>Avoid</u>

phosphate

and magnesium-containing bowel regimens in patients with renal failure or insufficiency.

Phosphate products off the OTC market.

http://www.phosphosoda.com/i/global/consumers/products/phosphoSoda.jpg

What’s the difference between Golytely and Miralax?

What's the difference between Golytely and Miralax?

- Volume
- What you mix it in

Case 3

“It was so much better at home”

- You are the R1 on service.
- The R3 is off and your attending is doing some incredibly important attending thing.

- A 48 year old man with MS is admitted with urosepsis, transferred from the ICU.
- He is treated with IV Zosyn, then narrowed to Ciprofloxacin.

"It was so much better at home"

Case 3

- He has partial function of his upper extremities. He has no lower extremity function.
- He has an indwelling Foley catheter.
- Other medical problems: chronic pain on opiates, depression, spasm, frequent UTIs, decub (resolved).

Case 3

"It was so much better at home"

- The patient is feeling uncomfortable.
- He has not had a bowel movement in 3 days.
- He has been maintained on his usual colace and senna.

Case 3

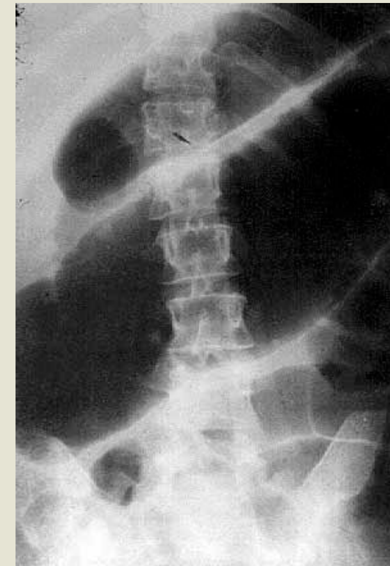
What should you **not** do empirically?

- Talk to patient
- Dulcolax PR
- Fleet's enema
- Lactulose
- MOM
- Dulcolax PO
- Digital stimulation / Rectal exam
- Wait until tomorrow

Case 3

Tip

- Avoid cathartics from above in patients at risk for fecal impaction
- Consider KUB, rectal exam



http://www.pathology.pitt.edu/lectures/gi/colon-b/10.jpg

Case 3

Risk factors for fecal impaction

- Can't move
  - Dementia, neuromuscular, paraplegia
- Neurogenic bowel
  - Paraplegia, MS, Diabetes
- Chronic constipation
- Meds: side effects and antidiarrheals

Case 3

So which *should* you do?

- Talk to patient
- Dulcolax PR
- Fleet's enema
- ~~Lactulose~~
- ~~MOM~~
- ~~Dulcolax PO~~
- Digital stimulation / Rectal exam
- Wait until tomorrow

Case 3

Follow up

- Rectal exam: moderate impaction à disimpacted
- (Consider KUB)
- Dulcolax PR
- Scheduled BM with PT/lift team QAM; try to make as similar to home regimen as possible

Constipation

Things not to forget

- Underlying causes of constipation
  - Thyroid
  - Obstructing lesions
  - Neurogenic
  - Meds
  - Not really constipated

Constipation

Take home points

- Identify red flags for when constipation may represent a more serious condition.
- Know how quickly you wish to reverse it.
- Recognize risk factors for impaction, and start from below.
- Avoid Mg and Phos meds in patients with renal insufficiency.

The patient with NAUSEA

Case 4

Failure to thrive

- Patient is an 84 year old woman admitted with “failure to thrive”, awaiting SNF placement, being evaluated for severe depression.
- She has HTN, Hyperlipidemia, Hypothyroidism, DM, CVA, PVD, AAA
- She develops acute nausea and vomiting.

Case 4

Should you:

- Evaluate this patient in person now
- Ondansetron 4 mg IV now, then evaluate in person
- Ondansetron 4 mg IV now, ask the RN to call you back if no better in next 30 minutes
- Place NGT and have stat Hct drawn
- Chest CT-A
- Head CT without contrast

Case 4

On the phone

- The RN tells you the patient looks “washed out”; volume of emesis is not that much. BP 140/70, HR 108, afebrile, O2 sat 95%.

Case 4

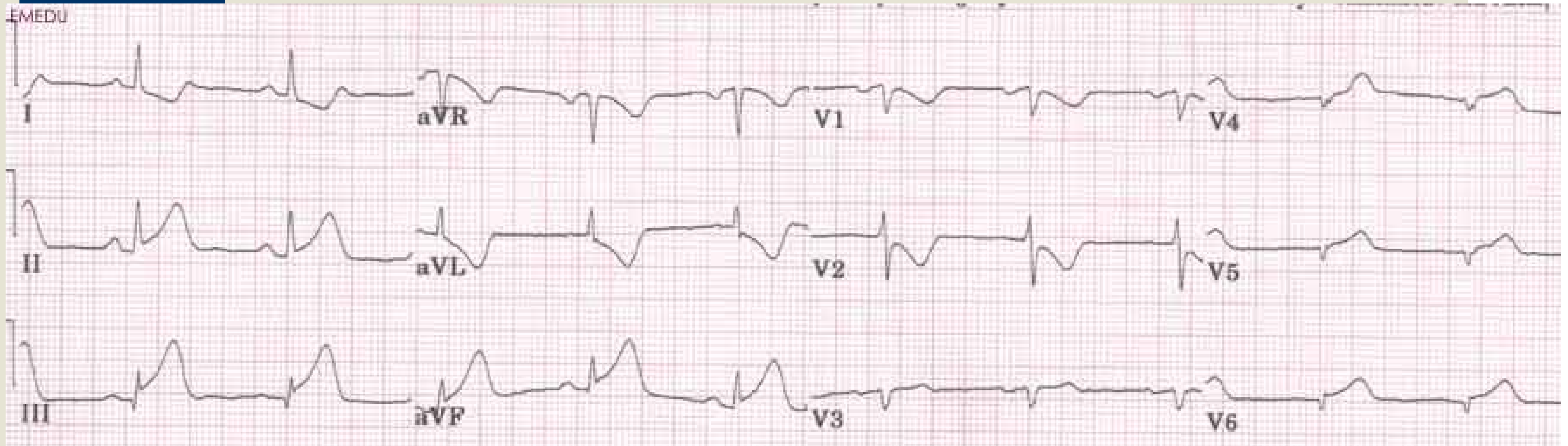
On exam

- Diaphoretic
- Uncomfortable
- Cranial nerves normal
- Oriented x3
- Short of breath
- Not orthostatic
- Epigastric and lower chest discomfort

Case 4

Next step?

Next step?



Case 4

Should you evaluate this patient in person?

- DDx for nausea is extensive

Differential diagnosis of nausea and vomiting

Medications and toxic etiologies	Infectious causes	CNS causes
Cancer chemotherapy	Gastroenteritis	Migraine
Severe-cisplatinum, dacarbazine, nitrogen mustard	Viral	Increased intracranial pressure
Moderate-etoposide, methotrexate, cytarabine	Bacterial	Malignancy
Mild-fluorouracil, vinblastine, tamoxifen	Nongastrointestinal infections	Hemorrhage
Analgesics	Otitis media	Infarction
Aspirin	**Disorders of the gut and peritoneum**	Abscess
Nonsteroidal anti-inflammatory drugs	Mechanical obstruction	Meningitis
Auranofin	Gastric outlet obstruction	Congenital malformation
Antigout drugs	Small bowel obstruction	Hydrocephalus
Cardiovascular medications	Functional gastrointestinal disorders	Pseudotumor cerebri
Digoxin	Gastroparesis	Seizure disorders
Antiarrhythmics	Chronic intestinal pseudo-obstruction	Demyelinating disorders
Antihypertensives	Nonulcer dyspepsia	Emotional responses
β-blockers	Irritable bowel syndrome	Psychiatric disease
Calcium channel antagonists	Organic gastrointestinal disorders	Psychogenic vomiting
Diuretics	Pancreatic adenocarcinoma	Anxiety disorders
Hormonal preparations/therapies	Inflammatory intraperitoneal disease	Depression
Oral antidiabetics	Peptic ulcer disease	Pain
Oral contraceptives	Cholecystitis	Anorexia nervosa
Antibiotics/antivirals	Pancreatitis	Bulimia nervosa
Erythromycin	Hepatitis	Labyrinthine disorders
Tetracycline	Crohn's disease	Motion sickness
Sulfonamides	Mesenteric ischemia	Labyrinthitis
Antituberculous drugs	Retroperitoneal fibrosis	Tumors
Acyclovir	Mucosal metastases	Meniere's disease
Gastrointestinal medications		Iatrogenic
Sulfasalazine		Fluorescein angiography
Azathioprine		
Nicotine		
CNS active		
Narcotics		
Antiparkinsonian drugs		
Anticonvulsants		
Antiasthmatics		
Theophylline		
Radiation therapy		
Ethanol abuse		
Jamaican vomiting sickness		
Hypervitaminosis		

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UpToDate

Differential diagnosis of nausea and vomiting (continued)

Endocrinologic and metabolic causes
Pregnancy
Other endocrine and metabolic
Uremia
Diabetic ketoacidosis
Hyperparathyroidism
Hypoparathyroidism
Hyperthyroidism
Addison's disease
Acute intermittent porphyria
Postoperative nausea and vomiting
Cyclic vomiting syndrome
Miscellaneous causes
Cardiac disease
Myocardial infarction
Congestive heart failure
Radiofrequency ablation
Starvation

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UpToDate

Case 4

Should you evaluate this patient in person?

#1: Look for causes that you would not want to miss:

- MI: risk factors, associated symptoms
- CNS: mental status changes, seizure, focal deficits, risk factors for CNS injury
- Peptic ulcer/serious GI illness
- Infection: pneumonia
- PE

Case 4

Should you evaluate this patient in person?

#2: Is the patient tolerating the symptoms?

- Volume depletion
- Electrolyte abnormalities

Case 4

Should you evaluate this patient in person?

#3: It’s OK to treat upfront.

- Alleviate suffering
- The only downsides are:
  - Side effects of antiemetics
  - Complacency if we do not explore why the patient is nauseated.

Parallel processing

SOURCE?	*Tolerating?*	*TREAT*
Nonspecific GI/Meds (most common) Peptic ulcer/serious GI illness MI CNS Infection: pneumonia PE	Volume depletion Electrolyte imbalance	Anti-emetics IVF Lytes NGT? Underlying causes

Case 5

My nausea is better, but . . .

- You are called on a cross-cover patient who was having nausea from chemotherapy. The patient now has a terrible headache.
- What is most likely responsible?
  - Ondansetron induced headache
  - Reglan induced dystonia
  - Phenergan induced pseudotumor
  - Compazine induced intracranial hemorrhage

Case 5

- Works very well
- Side effect: headache
- Formerly very expensive
- Advantageous for chemotherapy

Case 6

My nausea is better but . . .

Earlier this evening, you gave a patient with terrible nausea metoclopramide 10 mg IV. He is feeling much better (good job!), but now his neck is rotated to the right and rigid.

à What can you give?

http://www.healthsystem.virginia.edu/internet/neurogram/images/dystonia1.jpg

Case 6

Dystonic reactions

- Metoclopramide (Reglan)
- Phenothiazines (Phenergan, Compazine)

- Can be treated with Benadryl 25-50 mg IV

Case 6

A patient with type 1 diabetes is admitted with a UTI, DKA, and nausea/vomiting.

Which of the following antiemetics might be particularly useful?

- Metoclopramide (Reglan)
- Promethazine (Phenergan)
- Ondansetron (Zofran)
- Prochlorperazine (Compazine)
- Lorazepam (Ativan)

Gastroparesis

- Metoclopramide (Reglan) promotes gastric emptying

Nausea: Treatment

Common Antiemetics

Metoclopramide (Reglan)	10 mg PO/IV Q6H
PHENOTHIAZINES -Promethazine (Phenergan) -Prochlorperazine (Compazine)	12.5-25 mg PO/IM Q6H; 25 MG PR Q12H (No IV!) 5-10 mg PO/IV/IM Q6H 25 MG PR Q12H
SEROTONIN ANTAGONISTS -Ondansetron (Zofran) -Granisetron -Dolasetron	4-8 mg PO/IV Q8H

Nausea: Treatment

Other antiemetics

ANTIHISTAMINES	
BENZODIAZEPINES Lorazepam (Ativan)	1 to 2 mg po/iv q4h prn (wide dose range)
STEROIDS Dexamethasone (Decadron)	4-8 mg PO/IV Q8H
CANNABINOIDS Marinol	

Nausea: Treatment

But. . . Many side effects

Metoclopramide (Reglan)	Gastroparesis	Dystonia Confusion Renal dose
Promethazine (Phenergan) **Prochlorperazine** (Compazine)	PO/IM/PR PO/IV/IM/PR	Dystonia Confusion, sedation
Ondansetron (Zofran)	Chemo Fewer side effects	Headache Relatively more expensive
Lorazepam (Ativan)	Chemo	Sedation
Dexamethasone	Chemo	Hyperglycemia

Be esp. careful in the elderly

The patient with INSOMNIA

Case 7

- You are called because an 80 year old patient on another medicine service cannot sleep. It's 11 pm.
- What do you do next?

Case 7

- You are called because an 80 year old patient on another medicine service cannot sleep. It's 11 pm.
- Do you:
  A. Write an order for zolpidem (Ambien) 5 to 10 mg PO QHS prn.
  B. Write an order for Trazodone 50 mg PO QHS prn, may repeat x 1.
  C. Write an order for diphenhydramine (Benadryl) 25 mg PO QHS prn.
  D. Write an order for temazepam 15 mg PO QHS prn.
  E. See the patient.

Insomnia ("I'm awake, why shouldn't you be?")

- Very common in hospitalized patients
- It's probably not realistic to see every patient with insomnia

Insomnia

Why can't they sleep?

Insomnia

Why can't they sleep?

- They're sick (medical condition)
- Anxiety
- Delirium
- Pulmonary (can't breathe)
- Pain
- Primary insomnia
- TOO DAMN NOISY!
- "They're always waking me up"
- Stimulants, meds

Approach

- Some advocate:
- Zolpidem for everyone (don't do this)
- "Sleep hygiene" or enviromental factors first, then further evaluation or treatment if unsuccessful.
- **à** neither is realistic. *Triage*

Approach

1. Is the patient totally stable and wants his/her usual med for primary insomnia?

Insomnia

Approach

1. Is the patient totally stable and wants his/her usual med for primary insomnia?

   à If so, usually give it to them (as long as it's reasonable)

Approach

2. Is there **delirium** or some other acute problem that the patient can't fall asleep?

à vitals over the phone, talk with the nurse

à **Evaluate** this patient

Approach

2. Is there **delirium** or some other acute problem that the patient can't fall asleep?

Delirium: work up delirium

Pain: increase pain control

Anxiety: talk with your patient; consider benzodiazepine (SSRIs may take long to act, and can cause insomnia)

Medical condition: treat

Insomnia

Approach

3. Environmental factors for everyone (even those with delirium, medical conditions, etc)

Approach

3. Environmental factors for everyone (even those with delirium, medical conditions, etc); review med regimens

-can't stay asleep

-peeing/pooping (maybe we should have given lasix at 5 pm instead of 10 pm)

-vitals

-frequent IV or other meds

-can't fall asleep

-lighting

-noise (machines, staff, TV, house cleaners at midnight) (UWMC survey)

-caffeine, stimulants

In other words . . . *Lots* of reasons

What do patients want?

- 2003 survey—most patients actually preferred non-pharmacologic methods

Can J Clin Pharmacol. 2003 Summer;10(2):89-92

Insomnia

Approach

1. Is the patient totally stable and wants his/her usual med for primary insomnia?
2. Is there **delirium** or some other acute problem that the patient can't fall asleep?
3. Assess and adjust environmental factors

Finally. . . Meds?

FDA approved:		
Zolpidem(Ambien)	5 to 10 mg	Quick acting, probably better for sleep onset than maintenance.
Zaleplon(Sonata)	5 to 10 mg (can go up to 20 mg)	Rapid onset, very short half life. Only good for sleep onset. $$$
Eszoplicone (Lunesta)	1 to 2 mg	Rapid acting, lasts the longest. Works for both sleep onset and maintenance. Not on UWMC formulary $$$
Ramelteon (Rozerem)	8 mg	Rapid acting. Sleep onset only. Not on UWMC formulary $$$

Finally. . . Meds?

FDA approved, but not recommended:		
Temazepam		Side effects
Triazolam		Side effects, Drug interactions

Finally. . . Meds?

Non-FDA approved:		
Diphenhydramine	25 to 50 mg	Consider using in select younger patients
Antidepressants Trazodone Mirtazapine TCAs		Recommended *only* if also treating depression. AVOID otherwise.
Antipsychotics		Recommended *only* if treating psychosis or delirium. Note potential adverse events.
Benzodiazepines		Recommended *only* if treating acute anxiety.

Insomnia

Approach

1. Is the patient totally stable and wants his/her usual med for primary insomnia?
2. Is there **delirium** or some other acute problem that the patient can't fall asleep?
3. Assess and adjust environmental factors
4. Consider pharmacotherapy

QUESTIONS?

Constipation

Nausea

Insomnia