Cross Cover FAQ
(aka What to consider before you call your resident)

I. Hypertension:
How high is too high? While there is no absolute number at which you would treat, one might be prompted to treat a BP of 240/140. That being said, when deciding when to treat, always consider if the patient is symptomatic—that is, are there end-organ symptoms? (chest pain, pulmonary edema, mental status changes, or headache). The presence of these symptoms should prompt treatment (and possible transfer if patient is on floor).

Consider: common causes: pain, volume overload (especially renal patients)
Agitation. Treating the underlying cause may obviate the need to use Antihypertensives.

To ask RN:
  a. Intake and output: is BP strictly related to patient getting too much in the way of IVF (renal patients)
  b. Have any meds been held in the last 12 hours?
  c. BP trend—are they usually hypertensive? Or is this brand new? Often times, Patients who mount impressive BPs have had long standing hypertension

To do:
  a. Don’t bottom them out especially elderly patients. A general rule is not to drop their BP by more than 20%. Many of the organs capable of autoregulation have adjusted to chronically high systemic BPs.
  b. If you do treat the patient, here a few ways to do so (if patient is requiring IV Antihypertensives, they need to be transferred to the step-down or ICU—IV therapy is always more rapid that po therapy).

1. B-blocker: metoprolol or labetolol (make sure they are not bradycardic) available po and IV
2. clonidine: powerful central acting agonist. Start low at 0.1 mg. Available po—onset hours.
3. Nitrates: either sublingual 0.4 mg or paste (start with one inch). Especially helpful if patient is having chest pain. Onset rapid with Sublingual and paste. Realatively short acting.
4. Diuretics: good choice for volume overload but change in BP will tend to take longer. Available IV and po
5. Nitroprusside works well but is only used in the units.

II. Hypotension
What is too low? Again, when the patient is symptomatic (AMS, CP) That being said, few of your team members will respond kindly to a morning Rounds where you report a BP overnight in the 60s. BP measurements are Notoriously variable—always recheck the BP.

Consider: common inpt causes: iatrogenic/meds, bleeding, or early sepsis
To ask RN:

a. Antihypertensive regimen (what and when it was given)
b. Ins and outs over last eight hours (perhaps overzealous diuresis)
c. Cirrhotics, and CHF folks tend to run on the lower side. It is not abnormal for a cirrhotic to run 80s/50s
d. Fever: worrisome for early sepsis (ask about tachycardia, sweats)

To do:

a. Mainstay for low BP: fluids, fluids and more fluids
   - Give IVF as boluses (normal saline)—this makes assessing response easier.
   - The rate at which you give the fluid should depend on (1) how hypotensive
     (2) how volume sensitive they may be (CHF). That being said, if a patient
     is markedly hypotensive, the fluid needs to go in fast (say 250/hr or greater)
   - Consider gaining additional IV access
   - Hold next round of antihypertensives
b. If the BP is mildly low, you may be able to get away with holding BP
   meds.
c. If fluid challenges are not having an effect, the patient does not belong on
   the floor. If you think the patient needs a drip, they need to go to the unit.

III. Chest Pain

Consider inpatient causes: myocardial ischemia, arrhythmias, PE, aortic
dissection, pericarditis, GERD, anxiety, musculoskeletal (coughing all
night from pneumonia).

“Chest pain” is a common complaint which is often benign but obviously has
dangerous etiologies that need to be ruled out. This call should get you out of
bed—however, you can ask the RN to get a few things cooking to speed up your
eval.

To ask RN about:

a. Vitals: changes in SpO2, increased respiratory rate, tachycardia are very
   helpful for thinking about pulmonary embolism.
b. Are they on telemetry: any changes (? Rapid A-fib)
c. Medical history: do they have a history of coronary disease, dissection
   in severely hypertensive, and PE in almost anyone.

To do:

a. Go see the patient. Do a focused physical exam and review of vitals
b. Take a good history— is the pain pleuritic, dull, associated with shortness of
   Breath? Is it crushing and associated with N/V or diaphoresis? Has patient been
   Bed bound without DVT prophylaxis? Any relationship to eating? Recent
   fractures (PE or fat embolus)?
c. ECG. Rarely can you evaluate someone with chest pain without this important
piece of information. Even if you are skeptical, get an EKG. Ask the RN to get or call for an ECG and that you will see the patient
c. CXR: especially if they also have respiratory complaints
d. Medications to consider:
   1. NTG sublingual 0.4mg quick onset and offset. Can repeat x3. Avoid if signs of RV ischemia on ECG (decreases preload)
   2. NSAIDS: for pain of musculoskeletal origin
   3. PPI or H2 antagonist: if you suspect a GI source.
g. If you suspect ischemia, given nitro and call your resident.

IV. Constipation
Consider: common inpt causes:
   -most causes are iatrogenic—too many narcotics, host of medications
   -pain? Think about mechanical obstruction of ileus.

To ask RN about:
   a. When was the patient’s last BM?
   b. Pain/discomfort: may prompt more aggressive approach.
   c. Medical history: are they getting scheduled narcotics for pain?

To do:
   a. How you handle this common complaint can quickly make friends and enemies among the nursing staff. Enemas are messy, and can be time consuming. That being said, they are sometimes necessary.
   c. Mild constipation can be treated with po therapy first: milk of magnesia works well and there are a variety of other meds—lactulose, Magnesium Citrate, and Miralax. Some of the po therapy works less well for acute constipation but is better as a maintenance regimen: oral colace, dulcolax, senekot, Citrucel. If your patient is on heavy doses of narcotics, put them on these meds prophylactically.
   d. Moderate constipation (two days since last BM, increasing abdominal pain): Begin with oral. Consider PR if no effect (senna PR, or dulcolax PR)
   e. Severe constipation (palpable abdominal mass): this is when you pull out (or put in) the enemas. Take your choice: Fleet’s, tap water, lactulose. Continue to push from above with po.
   f. Avoid magnesium containing products in renal patients (Fleet’s, MOM, Mag Citrate)
   g. Po laxatives can be placed down a PEG or PEJ tube.
   h. No hard and fast rule on getting KUB—if you find obstruction, surgery will Need to be called.

V. Nausea and Vomitting (emphasis on vomiting)
Acute nausea has a much different differential than chronic nausea. Chronic nausea is not often GI related unless they have gastroparesis. Acute Causes, often stem from GI causes. Central causes are usually related to drugs (narcotics). This is one of the easier things to handle. One caveat, however, is severe, acute nausea can herald badness (MI, vtach, etc).

To ask RN about:
a. vitals: hypotensive? This may get your attention  
b. Medication history (narcotics make people sick—especially on an empty stomach)  
c. Abdominal history  

To do:  
a. If you have eliminated nausea as a herald of badness, treatment is supportive.  
b. Anti-emetics, frontline:  
   1. Phenergan (promethazine) 12.5 to 25 mg po/IM/IV/pr q4-6 hrs (watch out in elderly). IV can blow the vein  
   2. Compazine 5-10 mg po/iv. IV formulation Burns  
   3. Reglan 10 mg po/IV. This has dopamine blocking properties and can cause dystonia. Careful in elderly.  
c. Anti-emetics, big guns  
   1. Zofran: 4mg IV (the pharmacy will deduct this from your paycheck) Works well in chemo-induced nausea  
   2. Ativan: anxiolytic but very effective in chemo-induced nausea  

NOTE: Most of these medications have sedating properties as well, be very careful in the elderly and in those on multiple medications. Otherwise, your fellow interns may be initiating the altered mental status algorithm in the morning.  

VI. Decreased Urine Output  
Most often due to patients having impaired access to fluids. Many of the patients will third space and additional IV fluid goes into their subcutaneous tissue and not the urine jug.  

To ask RN about:  
a. I/O history  
b. Medication history (anticholinergics in particular)  
c. Is there a foley in place? When you are really worried about low urine output, you should request (or place) a foley. Eliminate obstruction from your differential.  
d. Foley in place but still no urine? Make sure foley is flushed.  

To Do:  
a. do your best to assess fluid status  
b. If no obstruction, and hypovolemic, try fluid bolus.  
c. Diuretics may be the answer—but if you think about it, they have no use in the hypovolemic patient. They might produce urine in a cirrhotic or CHF patient.  
d. Trouble placing the catheter? Try a coudet catheter—smaller, blunter tip than a foley. Urojet can help as well (get from pharmacy).  

VII. Ventricular Ectopy/runs of PVCs  
Common call. We all throw PVCs now and then. If a patient is asymptomatic, and it is non-sustained (less than thirty seconds), do nothing. That being said, > ten seconds should get your attention. Ventricular arrhythmias are more common
In patients with ischemic heart disease (especially decreased ejection fractions),
But there are other causes.

**To ask RN about:**
- Most nurses on the floor are aware of common causes. Ask them if they know
  the patient’s most recent chemistries (potassium, magnesium, and calcium).
  - medication history: recent antiarrythmic therapy or medication added to
    a rhythm medication with lots of interactions.

**To do:**
- If V-tach < 10 seconds without symptoms, do nothing besides confirm that
  The beats are ventricular in origin on the telemetry.
- If V-tach is longer, is becoming more frequent, get EKG, check electrolytes
  And assess clinical stability
- If patient is unstable, call your resident and get ready to put ACLS to use.
  Ask RN for Zoll pads and arrange appropriate transfer.

**VIII. Shortness of Breath**
Cardiac vs. Pulmonary. Cardiac causes include ischemia, arrhythmia and
Pericardial process. Pulmonary causes of SOB are protean. Is this acute or
chronic?

**To ask RN about:**
- Vital signs. Is the patient hypoxic? Is the patient febrile?
- Does the patient sound wet (fluid overload)?
- Medical history: SOB is different in an asthmatic vs. someone with CHF
- Always consider MI and PE

**To do:**
- Order CXR
- ABG if you don’t trust the pulse ox (plus it will tell you about their
  ventilation)
- Diuresis if patient in pulmonary edema. You should be thinking about why
  The patient is in acute pulmonary edema while you are treating?
- Multiple cardiac processes can cause SOB—always get an EKG
- Oxygen is rarely harmful in the short term; your options are:
     Above 6 L. Humidify above 4 L/min.
  2. Simple face mask: can get up to 60% with flow rates 5-8 L/min with
  3. Partial rebreather masks: can bump FIO2 to 80-85% flow rate has to
     Be greater than 6L/min. If reservoir bag deflates, room air will enter and
     Lower FiO2.
  4. Non-rebreather: no rebreathing occurs and FIO2 can be 80-100% with
     Flow rates > 10 L/min.
  5. Venturi masks are high flow and deliver up to 50%.
- Meds: if you excluded serious things and the patient is wheezing or is moving
  Air poorly, consider inhaled beta-1 agonists and ipatropium. It is not clear that
Nebulizers are better than MDIs, but the smoking effect of the nebulizers has a nice effect.

**IX. Fever**
Extremely common as in q4 hours on call nights. Not always infectious but this is most common.

**To ask RN about:**
- medical history: admitting diagnosis and any localizing symptoms (might help to tailor your work-up).

**To do:**
- Draw cultures if not done within the last 48 hours (blood from central and peripheral stick—helps sort out source). Two sets of peripheral cultures if no central lines. Dialysis nurses can access HD catheters to culture these.
- MS + fever (new) low threshold for LP. Think of reasons not to do LP rather than to do it.
- Culture urine
- CXR if pulmonary complaints
- Exam joints: tap if necessary
- Tylenol acceptable for symptomatic relief. Rarely alternate with NSAIDS if persistently febrile and trying to avoid giving too much Tylenol (make sure when you report a patient is afebrile overnight that they have not been on Tylenol).
- Reculture if on abx only if patient appears to have broken through current regimen (persistently febrile despite days on abx).

**X. Mental Status Changes**
Meds, Meds, Meds

**To ask RN about:**
- Medical hx: any history of liver disease (encephalopathy), diabetic (hypoglycemia), or a drinker (withdrawal).
- Current med list (Ativan can have the opposite effect—agitating)
- Hospital history: sundowning?

**To do:**
- No hard and fast rules. Obtain vitals, review meds and do a good neuro exam.
- Delirium often precedes seizures in the withdrawal
- Lactulose will work wonders in patients with cirrhosis (corollary—if a liver patient comes in confused, they have not been taking it or not taking enough).
- A word on “Patient requests something to sleep”
  - to not cause mental status changes; start light especially in the elderly
  - 25 mg of Benadryl (though even this can tip a demented patient over)
  - Ambien 5-10 mg
  - Restoril 7.5-15mg (temazepam)
XI. Diarrhea (developing during hospitalization)
Patient admitted with diarrhea—can order stool cultures. Yield drops significantly after three days in hospital. Parasitic infections rarely make their debut in the hospital—so unless you have an HIV patient or one with recent foreign travel, there is no need for O&P. 99% of patients with diarrhea have C diff, or medication induced. Once you have excluded C diff and infectious cause (fecal WBCs), you can slow them down.
To ask RN about:
   a. Quantity
   b. Medication history: antibiotic use? Chemotherapy CPT-11

To do:
   a. Exclude C diff with negative C diff toxin. Can give antimotility agents. Once C diff and infectious diarrhea excluded (fecal WBCs). Examples are Immodium or lomotil.
   b. Stop the laxative regimen before am rounds
   c. Profuse, non-stop diarrhea. Consider rectal tube once you have excluded Serious causes.

XII. Pain Management (brief)
- Narcotics make people loopy and slow their bowels down. However, 3am is not the time to deny your drug-seeking patient pain medication. That being said, if you were told not to use narcotics, help your fellow intern out.
- NSAIDS are bad in patients with CHF, CRI (ESRD can use if needed), cirrhosis
- Tylenol CAN be used in liver disease—up to 2g per day
- If you do use a narcotic your choices are multiple. Reserve IV pain meds for those in a good amount of pain.
- Among IV drugs, morphine is good—starting dose 2mg.
- If you are trying to avoid narcotic, toradol 15-30mg IV/IM is an NSAID—- but has a magic effect because it is injected. Avoid in patients with CRI or ulcer disease.
- Demerol is rarely given at UNC. Can cause seizures but patients really, I mean really like it.

Final Word: You will undergo a remarkable transformation this year—though it will occur slowly in your mind, you will be pleased with how far you have come by next June. For now, page your resident (or any resident) with questions. Always think: 1) Why am I doing this 2) What are the ramifications of what I am doing and 3) If this does not work, what next?