

# UN-OFFICIAL INTERN SURVIVAL GUIDE

By Vinny Shenoy and Jake Schwartz



### Start of your day

- 1) Print your list and write “**P.E.N.L**” mnemonic near each name. As you progress through the day, make sure each of the letters/task is accounted for.

P: Provider Handoff (update provider handoff)

E: Electrolyte repletion

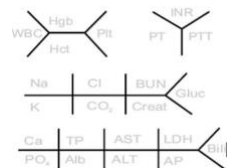
N: Note (complete progress note)

L: Labs (ordering morning labs)

- You can use any mnemonic that works best for you

- 2) By clicking on the flowsheet tab, check all of your patient’s vitals (from overnight to the morning). If anyone there are any abnormal values make sure you bring it up with the overnight cover team to see if they addressed it. If any value seems worrisome or completely abnormal , **bring it up with your senior resident immediately.**

- 3) By clicking on the results tab, check morning labs (they may not always be back in the morning). Write them down on your paper in skeleton format. **Look for TRENDS** for example; if Hgb was 11.3 the day before and this morning it is 9.1 , that is a significant drop. When you pre-round on your patient this will indicate questions such as “are you having black stools, frank red blood in your stool, hematuria, hemoptysis etc.” Sometimes the drop in Hgb can be dilutional (all cell lines drop) but that is not always the case and it is always better to be safe. Also be mindful that Creatinine may be in normal range but **an increase by .3** is suggestive of acute kidney injury. This must be worked up to differentiate the cause.



- 4) Read the most recent consult service notes and open your internal medicine progress notes in the morning (leave them unfinished). This is in case the attending wants to write their attestation early. You can always continue and complete them by the afternoon or a later time.
- 5) **PRE-ROUND.** Come early so you have time to review the electronic chart AND have time for a physical exam and conversation with your patient. Ask the patient how their night went? Any new complaints? Ask them about if the presenting symptoms they came with are improving or resolved. **If anyone looks extremely sick, STOP what you are doing and get HELP! This includes a nurse and getting your senior resident. If you get a set of vitals and they are alarming or someone’s clinical status abruptly changes, call RAPID RESPONSE.**
- 6) Come back from pre-rounding around 8:30ish for senior rounds, troubleshoot any issues, answer any questions, and “**run the list**”
- 7) Morning rounds start **9:15-9:30am** and end at **10:30am**, senior resident goes to IDRs. After this time you can put in orders, call consults/family, and work on notes.

## Presenting on rounds

### A) **New Patient**

#### 1) **The Story:**

- 1<sup>st</sup> sentence: Age, Gender, relevant past medical history presents for \_\_symptoms\_\_ for \_\_duration\_\_.
  - Elaborate on the story
  - **ED course** (including initial vital signs in the ED, initial blood work, and medication, images, and consultations made by ED).
  - He/She is being admitted for \_\_\_\_\_ (presumed diagnosis).
- 2) **Interval Events/Subjective Hx:** How are they feeling now? (when you pre-rounded)
  - 3) **Vital signs:** Most recent vital signs
  - 4) **Physical exam:** Your physical exam (make note of pertinent positives )
  - 5) **Most recent labs :** Make note of any trends
  - 6) **Imaging:** Go over any imaging (CXR, CT, MRI, US etc.)
  - 7) **Orders:** get into the of habit of saying the medication, dose, and indication out loud
  - 8) **Assessment** (brief 1-2 liner which includes your first sentence and what they are being admitted for/current active issues) and **Plan** (In order of most important/serious/active diagnosis with plan of action).
  - 9) As you progress through residency you will start having to think about **disposition of the patient**. Are they completely independent and can go home with continued treatment? Are they deconditioned and having difficulty ambulating and will need SAR (Subacute Rehab), or are they end of life and need hospice set up?

### B) **Known Patient**

- 1) **Quick One Liner:** Brief 1-2 liner which includes your age, gender, relevant past medical history and what they are being admitted for/current active issues)
- 2) **Overnight events**
- 3) **Subjective History** (How is the patient feeling this morning etc.)
- 4) **Vital signs:** Most recent vital signs
- 5) **Physical exam:** Your physical exam make note of pertinent positives
- 6) **Most recent labs :** Make note of any trends
- 7) **Imaging:** Go over any imaging (CXR, CT, MRI, US etc.)
- 8) **Orders:** get into the of habit of saying the medication , dose, and indication out loud
- 9) **Assessment** (brief 1-2 liner which includes your first sentence and what they are being admitted for/current active issues) and **Plan** (In order of most important/serious/active diagnosis with plan of action).

## NOTES

### Progress Notes:

- a) Make sure to update the overnight and subjective portion on the top of the progress note
- b) Make sure to update your physical exam as appropriate
- c) Make sure to update the assessment portion remember (brief 1-2 liner which includes your age, gender, relevant past medical history and what they are being admitted for/current active issues)
- d) **Plan:** People active issues change so make sure the plan is updated. Under each problem should be a **brief and succinct** description of the problem and your **thought process**. Do not just copy and forward from old notes. Although it is **OK to copy and forward** make sure you are **updating the plan and changing the diagnosis** and the patient progresses. For example if the patient has a diagnosis of Sepsis with an unspecified source on their problem list which has since resolved, make sure to mention it has resolved or to change it to whatever the active infection is (Community Acquired Pneumonia, E. Coli Bacteremia, Cellulitis) etc.
- e) **Cosign the note to the respective attending**

### H&P:

Very similar to progress note but will have a **history portion**:

The history should start off with Age, Gender, relevant past medical history presents for symptoms for duration.

Then elaborate on the story (what we learned in medical school). Include relevant information from previous hospitalizations if available as well as an ED course as described above. Assessment and plan as per above.

### Provider Handoff

This will be printed and given to the night team at sign out.

- **Brief Patient Summary (top left corner)** : Usually you can copy and paste your assessment from your note.
- **Primary To Do List (underneath patient summary)**: A list of things to do and follow
- **Coverage To Do (underneath primary to do)**: This is a list of things the night float team should perform. This is also an area to write if a sick patient is a "WATCHER" . You can also write baseline physical exam findings if you would like the night team to auscultate someone's lungs or perform a serial abdominal exam. This is also an area to note any important PRN medications for example, if a patient gets agitated or is in pain.
- **Hospital Course (on the right)**: a brief summary of what transpired throughout the day.

## Guide to Electrolyte Repletion (in patients with normal renal function)

### **Magnesium (replace Mg before K)**

1.6-1.8 mEq/L -> 2 grams MgSO<sub>4</sub> IVPB (i.e. 8mEq)

1.2-1.5 mEq/L -> 4 grams MgSO<sub>4</sub> IVPB (i.e. 16mEq)

< 1.2 mEq/L -> 4 grams MgSO<sub>4</sub> IVPB and re-check in 4h If there are sx of bronchospasm, EKG changes, can give 2 grams over 15 min. If asymptomatic, give no faster than 8mEq/hr

### **Potassium: (also check Mg level and correct) Goal is >4 in cardiac patients.**

- every 10mEq of KCl should increase K level by 0.1

3.7-3.9 mEq/L -> 20mEq KCl PO (pill or solution) or can hold off if taking PO

3.0-3.6 mEq/L -> 40mEq KCl PO (pill or solution) or IVPB x 3-4

2.5-2.9 mEq/L -> 80mEq KCl PO (pill or solution) or IVPB and recheck

< 2.5 mEq/L -> 120mEq KCl PO (pill or solution) or IVPB and recheck

-if Cl is > 110mEq/L, use potassium acetate

- if Phos is < 3, use potassium phosphate - preferred route is oral, but giving > 40mEq/L can give GI side effects (consider giving 40mg orally every 2-3hrs)

- IV replacement max rate is 10mEq/hr. If painful for the patient, you can slow down the rate

### **Calcium:**

8.0-8.5 and alb > 3.5 (or ionized Ca 3.5-4.0) -> 1 gram Ca gluconate (4.5mEq) over 15-30min

< 8.0 and alb > 3.5 (or ionized Ca < 3.5) -> 2 grams Ca gluconate (9mEq) over 30 min and recheck in 2hrs

If albumin is < 3.5: Ca (corrected) = (4 – serum albumin) x 0.8 + Ca(measured)

### **Phosphate:**

2.6-3.0 and K < 3.5-4.0 -> K-phosphate 15mmol IVPB (= 22mEq of phos)

2.6-3.0 but K > 4.0 -> Sodium phosphate 15mmol IVPB (= 22mEq of phos)

1.5-2.5 and K < 3.5 -> K-phosphate 30mmol IVPB and page senior

< 1.5, give phosphate as above, check all lytes Max phosphate is 5mmol/hr or can cause decrease in Mg, Ca and EKG changes -can also give packets of Neutra-phos or Neutra-phos-potassium orally (NB both contain sodium)

### Useful Phone Numbers at Lenox Hill

- Dial “4” before any 4 digit number: For example if you receive a page from “3224”, to call them back dial (43224)
- Dial “91” before any 10 digit number: For example if you want to call 917-219-1234, to call them dial “919172191234).

Operator: 5858 or 0

Hospitalist on call: 646-235-5371

Laboratory/Phlebotomy: 2300

Blood Bank: 2510

Epidemiology: 3442

Pharmacy: 3226

Bed-board: 3220

Radiology reading room: 2882

CT Scan: 42921

MRI: 2996

Dialysis: 3260

X-ray tech: 917-205-6388 ( usually they don't pick up and easier to use Vocera and say “call X ray tech”)

Echo Lab: 42177

Nuclear Medicine 2630 or 2649

General Surgery: 917-313-9199 (Have multiple numbers depending on team )

Vascular Surgery: 5745 for consult

ENT: 91-7-205-2739

Urology: 917-205-6565

Orthopedics: 917-219-1221

Podiatry: 917-205-2377

Cardiology: 917-205-6306

Pulmonology: 917-205-3663

Renal: 917-219-0550

Psychiatry: 2810

Palliative Care: 4325

Speech Swallow: 3021

Physical Therapy: 2462

### Calling Consult:

- 1) Introduce yourself: Name and what team you are on
- 2) What the consult is for
- 3) Give name, MRN, and location
- 4) Proceed with a brief story, what the patients clinical status is now, and what you are currently doing for them.

## Blood Work

Phlebotomy has timed blood draws from 10am, 12pm, 2pm, 4pm, 6pm, 8pm, 10pm. **All stat labs must be drawn by you or a nurse if he/she is willing to help**

- **Lactate must be sent on ice**
- **ABG must be sent on ice** (never a lab draw) must be drawn by resident
- **Type and Screen must be dated and signed/initialed or will be rejected**

Lenox Hill Hospital Northwell Health		<b>SPECIMEN CONTAINER COLOR GUIDE</b>		Effective 07/11/2018 Approved by Dana, Vele M.D. Director of Clinical Pathology
<b>CHEMISTRY PANELS</b>	<b>TDM/TOXICOLOGY</b>	<b>CSF TESTS</b>	<b>BACTERIAL CULTURE</b>	<b>LEGEND:</b> BLU, light blue PST, mint green LAV, lavender GOLD PINK, all Blood Bank Specimens GRV, gray DRK GRN, dark green RED, NO GEL GREINER, two tubes for each test Double swab, red top no gel for MRSA Double swab, blue top gel for Group A Strep e-swab for culture and Gram stain Isolator tube GEN-PROBE® APTIMA® collection kit MS viral transport media Ova & Parasite kit (Formalin 10% and Zinc-PVA fixative) Cary Blair media Sterile cup or yellow top tube Sterile cup/tube
Basic Metabolic (NA, K, CL, CO2, GLU, BUN, CRET, CA)	Acetaminophen Alcohol Digoxin Dilantin (Phenytoin) Gentamicin Random Gentamicin Trough Lithium Phenobarbital Salicylate Theophylline Valproic Acid (Depakene) Vancomycin Random Vancomycin Trough	Cell Count Chemistry (TP, GLU) Meningitis/encephalitis panel by PCR	Blood Site: _____ Bone Marrow Catheter Tip Eye Genital Site: _____ N, Gonorrhoeae Site: _____ Group B Strep Site: _____ Fluid with Gram Stain Source: _____ BAL or BW (includes Gram Stain) Source: _____ Sputum (includes Gram Stain) Stool Tissue with Gram Stain Source: _____ Throat Urine □ Clean Catch □ Indwelling □ Straight Cath	
Comp Metabolic (NA, K, CL, CO2, GLU, BUN, CRET, CA, ALKP, ALT, AST)		<b>SEROLOGY</b> Hep A Ig G Ab Hep A IgM Ab Hep B Core Ab Hep B Core Ab IgM Hep B Surface Ab Hep B Surface Ag Hepatitis C Ab HIV Ab HIV Needlestick Ab Maternal HIV Screen Syphilis screen Rubella Ab IgG Rubeola (Measles) Ab IgG Mumps IgG Screen Varicella-Zoster Ab IgG	Wounds Source: _____ Wound Deep with Gram Stain Wound Surface with Gram Stain	
Lipid (CHOL, TRIG, HDL, LDL)			<b>AFB CULTURE</b> NOTE: swabs are not accepted for AFB culture Source: _____ AFB Culture w/ Smear AFB Blood/Bone Marrow	
Iron (FE, UIBC, TIBC, IRONSAT)			<b>FUNGAL CULTURE</b> Source: _____ Fungal Culture Fungal Blood/Bone Marrow	
Electrolytes (NA, K, CL, CO2)			<b>VIRAL CULTURE</b> Source: _____ Respiratory Viral Culture Non-Resp. Viral Culture	
<b>HEMATOLOGY TESTS</b>	<b>ENDOCRINE</b>	CT/GC by NAAT Malaria Smear CD4 Count HIV-1 RNA Quant. (2 lavender tubes req)	<b>QuantIFERON TB-Gold Plus:</b> For accurate results, follow strictly the collection instructions provided with the kit which includes four unique collection tubes.	
CBC w/o Differential CBC with Auto Diff Sedimentation Rate Reticulocyte Count	Cortisol A.M. Cortisol P.M. Hemoglobin A1C Intra-operative PTH Free T3 Free T4 T4 Total TSH			
<b>COAGULATION TESTS</b>	<b>URINE CHEMISTRY</b>			
Provide the lab with the anticoagulants the patient is on	Chloride, Random Urine Creatinine, Random Urine Osmolality, Random Urine Sodium, Random Urine Microalbumin, Random Urine			
Prothrombin Time with INR Activated PTT Fibrinogen Fibrin D-Dimer Platelet Function Assay Lupus Anticoagulant Aspirin Pits Response P2Y12 Pits Response tubes HIT PF4 Abs	<b>24 HR URINE</b> Creatinine, Timed Total Protein, Timed Glucose, Timed			
<b>URINE TESTS</b>	<b>STOOL TESTS</b>	ABC & Rh with Antibody screen ABO, RH, DAT (CORD) DIRECT ANTIGLOBULIN TEST COLD AGGLUTININS OTHER BLOOD BANK TEST		
Urinalysis Legionella antigen	Occult Blood in Stool WBC in Stool C, Diff GDH and Toxins A&B Ova & Parasites Gastrointestinal panel			
<b>CHEMISTRY SINGLE TESTS</b>				
Ammonia (ON ICE) Amylase Beta HCG Quantitative Beta-Hydroxybutyrate C-Reactive Protein Ferritin Haptoglobin GGT Glucose Fasting Glucose Random Lactic Acid (ON ICE) Lactate dehydrogenase Lipase Magnesium Osmolality, Serum Prostate Specific Ag Phosphorus Tropoin-T				

### Common confusing lab trends:

- If patient is on a **Heparin drip, you must order PTT every 6 hours** to make sure they are in the therapeutic range. (Heparin normogram is available in EMR which depends on weight). If there are 3 PTTs in a row (done every 6 hours) that are in the therapeutic range, PTT can now be drawn daily. If you are not checking PTT the patient can't be **subtherapeutic and not actively being treated** or can be **supratherapeutic and is now at risk for a major bleed**.
- If a patient is on **Vancomycin, a vancomycin trough must be ordered 1 hour before the 4<sup>th</sup> dose. For example:** is a patient is getting Vancomycin 1g Q12H starting at 9pm. 1<sup>st</sup> dose is given at 9pm, second dose is given at 9am, third dose is given at 9pm, now you must get a vancomycin troph at 8am which is 1 hour before the 4<sup>th</sup> dose given at 9am.

## FEVER

Fever = temperature > 100.4 , if patient is hovering around 99 or slightly less than <100.4 orally, obtain a rectal temperature (contraindicated if they are neutropenic).

- 1) Obtain **full set of vitals**.
- 2) Ask yourself **reason for admission** and is fever expected? Is the fever curve trending down?
- 3) Go to bedside and **ask ROS** including cough/sputum/SOB, CP, dysuria, diarrhea, recent surgery and wounds, PE/DVT risk factors, abd pain, headache, IV lines, transfusion reaction, drug reaction, malignancy
- 4) **Physical Exam**:: mental status, agitation, lethargy; photophobia, neck stiffness, pulse volume Brudzinski's sign: flex the neck; if pt's hips and legs flex, it's positive Kernig's sign: flex hip and knee; if straightening the leg causes pain/resistance, it's positive Skin temp and color (hot and flushed with septic vasodilation; cold and clammy if hypotensive). Look for sources, including wounds, rashes, cellulitis, DVT, line infections.
- 5) **Tests**: 2 complete sets of Blood Cultures (may not be necessary if has active cultures in the past 48 hours), including peripheral culture and culture from each lumen of central lines (label the samples!); UA and UCx, CXR Portable, sputum culture, consider stool studies (C.diff PCR), Head CT if any neuro signs, LP if concern for meningitis, diagnostic paracentesis in pt with ascites.
- 6) **Differential dx**: Infection of (lung, UTI, wounds, IV sites, CNS, abd, pelvic), PE and DVT, Drug-fever, neoplasm, atelectasis, septic shock, meningitis  
Hidden sources: AEIOU: abscess, endocarditis, IV catheters, osteomyelitis, UTI (foley)  
Recall 5W's of Postop Fever:  
Wind: atelectasis (POD 1-2, doesn't really cause a fever by itself), pneumonia, PE  
Water: UTI  
Wound: IV line or wound infxn POD 5-7  
Walking: DVT, PE, thrombophlebitis  
Wonder drugs: drug fever
- 7) **Management**:
  - If pt is stable, make the diagnosis before starting abx.
  - If pt is unstable, neutropenic, or you are concerned for meningitis, start abx right away and find your senior
  - D/c foley and lines if NOT needed, but ensure IV access and give IVF.
  - **Fever + hypotension = septic shock: aggressive IVF; broad spectrum Abx, pressors**



### Abdominal Pain

Could be something benign such as constipation/gas or could be something very serious.

- 1) **First** if any concern for surgical abdomen, get a full set of vitals , alert your senior, and go to bedside immediately
- 2) **Hx:** severity of pain, onset; (red flags: sudden, severe, fever, hypotension)
- 3) **PE:** serial abd exams, look for peritoneal signs, rebound tenderness (pain w/ percussion of abd) (Unlikely to be peritoneal if pt can cough, laugh, sit up or roll, or if not bothered when you nudge the bed) Abd: Bowel sounds (high with SBO, absent with ileus), percussion – tympany, shifting dullness, palpation – guarding, rebound, Murphy’s, psoas, obturator, CVA tenderness Consider rectal or pelvic exam
- 4) **Tests:** consider CBC, Chem, amylase/lipase, ABG, anion gap, lactic acid, LFTs, UA, INR if suspect liver disease or sepsis. Also consider bHCG, cultures, type & screen
- 5) **Studies:** Immediate portable abdominal XR, Have films read by radiology resident dial 42882; look for dilated colon (>7cm); air under diaphragm or between viscera and subcutaneous tissue on lat decub; air/fluid levels suggesting obstruction; gallstone or pancreas calcifications consider abdominal CT or US, (no oral contrast if obstructed), EKG.
- 6) **Differential DX** -Do not miss: acute abdomen: AAA rupture, bowel perforation, ascending cholangitis, acute appendicitis, mesenteric ischemia, incarcerated hernia (happens every once in a while) -myocardial infarction -shock (hypovolemia or sepsis),spontaneous bacterial peritonitis
- 7) **Management:** If acute abdomen, **notify general surgery. When in doubt, consult general surgery.** If not acute abdomen, continue serial abdominal exams & document them. NPO, give IVF, hold analgesics while evaluating. If suspect obstruction: NPO, place Sump (with low-intermittent suction), serial abd exams q2 hours.

## Nausea and Vomiting

\*\*\*\*Is this an anginal equivalent/atypical chest pain? \*\*\*\*

\*\*\*\*Is this due to evolving process in the brain?\*\*\*\*

Watch for complications – dehydration, electrolytes, acid/base

Tx:

PO if mild, IV if severe (**make sure to check QTC**)

- Ondansetron (Zofran) 4mg IV (esp with chemo);
- Promethazine (Phenergan) 12.5-25mg po/IV q4-6h (sedating)
- Prochlorperazine (Compazine) 5-10mg IV/PO/IM q4-6h PRN, or suppository 25mg bid
- Metoclopramide (Reglan) 10mg PO/IV q6h prn (not with obstruction)
- Low dose IV Ativan can help as well

Tx of GI upset: PUD, reflux:

- Maalox (aluminum hydroxide/magnesium hydroxide)
- Pepcid
- Protonix

## Oliguria

Definitions Normal: 0.5cc/kg/hr, oliguria: < 500cc/day, anuria <50cc/day

Anuria is often seen in 2 conditions: shock and bilateral urinary tract obstruction

- 1) **History:** vital signs, amount of urine in last 24hrs/last 8hrs, flush/replace Foley, review I/Os over past few days, recent procedure with contrast, any new meds (ACE-I can cause AKI, anticholinergics like benadryl, general anesthesia can cause retention), most recent lytes (BUN, Cr, HCO<sub>3</sub>, K)
- 2) **Physical exam:** Orthostatics, weight changes, JVD, friction rub, crackles, skin turgor, ascites, enlarged bladder Tests: bladder scan. UA. Check urine electrolytes AND urine creatinine (these need to be ordered separately) to calc FENa(Calculate FeUrea if patient is on diuretics)
- 3) **Management:**

**R/o Urinary Retention:** bladder scan. Foley; or try a Coude catheter to pass enlarged prostate; beware of post-obstruction diuresis; replace lost fluids. If there's a problem with a suprapubic catheter -> call senior and then urology resident

**Determine volume status** If dry, pre-renal -> fluid challenge with 250-500cc of normal saline, followed by maintenance (caution with heart failure) If wet, CHF -> diuresis with Lasix; (escalating doses); add this point you might need to consult cardiology and add metolazone PO; dobutamine (if need inotrope) and stepped up. If contrast-induced nephropathy -> (up to 2 days post-contrast), ensure adequate hydration

**Follow chem panel:** do not miss hyperkalemia with renal failure or other electrolyte abnormalities

- 4) **Additional measures** with renal failure: stop nephrotoxic meds: NSAIDs, ACE-I (if new addition), aminoglycosides; stop digoxin, check vanc level. Consider renal u/s (won't get done urgently, but you can place the order)
- 5) **Emergent dialysis:** "AEIOU" -> i.e. indications for a stat renal consult (call your senior) Acidosis, EKG changes from hyperkalemia, Intoxication, overloaded with fluid (refractory to lasix), Uremia with pericarditis or encephalopathy

## Hyperkalemia

Is the specimen hemolyzed? If suspicious of result, repeat lab

**Causes:** renal insufficiency, medications (ACE-I/ARBs/K-sparing diuretics/K supplements/heparin) acidosis, type 4 RTA, tissue destruction (bowel infarct, rhabdo, hemolysis)

**Evaluation:** look for ECG changes (peaked T-waves with shortened QT interval -> lengthening of the PR interval and QRS duration -> P wave may disappear -> QRS widens further -> sinusoidal wave pattern -> flat line)

**Management:** If there are ECG changes, call your senior (patient might need to be stepped up to medical telemetry)

- THEN proceed in this order:
- calcium gluconate (cardiac protection. Avoid w/ digoxin)
  - Insulin 10 units IV with an amp of glucose 50meQ to prevent hypoglycemia
  - B-agonist -> albuterol nebs
  - Diuretics: furosemide 40mg IV if renal function adequate
  - Kayexalate (sodium polystyrene sulfonate) 15-45gms PO or as enema (not in the critically ill)
  - Dialysis

## Altered Mental Status

Initially: Determine if acute, acute on chronic, or chronic, If acute get full set of vitals and go to bedside. Pts with FEVER or decrease in LOC require urgent evaluation.

**\*\*Levels of consciousness: alert -> lethargic (arousable but falls asleep) -> stupor -> coma\*\***

**If patient is acutely altered and has any abnormal vital signs, tell your senior resident immediately and/or call a rapid response.**

Hx: time course, history of sundowning, change in level of consciousness, trauma, diabetic patient, recent meds (narcotics, sedatives, benzodiazepines), alcohol history and time of last drink, baseline mental status

**Tests:** Fingerstick, CBC, Clin Chem, Ca, Mg, Phos, Lactate ABG, TSH, LFTs, ammonia Noncontrast CT if concern for bleeding or CVA, Cultures, LP for infections, EtOH or tox screen

### **Differential Dx: "MOVE STUPID"**

Metabolic (Na, Ca, thiamine, B12)

Oxygen

Vascular (hypo/hypertension, CVA)

Endocrine (glucose, DKA, thyroid, adrenal)

Seizure

Trauma, tumor, TTP

Uremia or hepatic encephalopathy

Psychiatric

Infections (inc sepsis, fever)

Drugs (opiates, alcohol, illicit, benzodiazepines) Do not miss: sepsis, meningitis, EtOH withdrawal, increased ICP or mass; Delirium Tremens

### **Quick Management:**

- Hypovolemia – hang 1L NS or Low blood sugar – 1 amp D50
- Hypoxia – facemask, CXR, ABG (DDx PE, aspiration, volume overload). If altered do not place on BiPAP, call rapid response for possible intubation.
- Seizure – suction, Ativan 2mg IVP stat, oxygen, monitor, protect airway, elevate head of the bed
- Trauma or CVA – stat head CT (without contrast). If altered do not place on BiPAP, call rapid response for possible intubation.
- If suspect meningitis: start empiric abx, fundoscopic/neuro exam (or head CT), followed by LP
- Alcohol withdrawal: give Ativan 2mg IV q2-4hrs scheduled, with 1mg PRN (increase as needed); give thiamine first, then glucose. DO NOT MISS Delirium Tremens and if patient is requiring large amounts of Ativan, consult ICU team.
- If overdosed on pain meds (i.e. too much morphine): give naloxone

## Hypertension

It is important to distinguish between HTNsive Urgency and Emergency.

- **1<sup>st</sup>: Review baseline BP:**
- Acute increases in BP are more dangerous.
- Assess for chest pain, back pain (dissection), change in MS, change in vision, unilateral weakness or decreased sensation (stroke), SOB (pulmonary edema).
- If there is any evidence of end-organ damage (myocardial ischemia, hematuria, proteinuria, CNS symptoms), this is **Hypertensive Emergency**

Often times when covering night float, nursing will page you around 5-5:30am stating that the patient is hypertensive. Do not immediately react, check to see if the patient is due for morning anti-hypertensive medications.

### **Quick short acting anti-hypertensive medications (band-aids) can give IV**

- Hydralazine (can cause rebound tachycardia)
- Labetalol (avoid if HR < 65)
- Enalaprilat
- Nifedipine

Try to optimize patients oral blood pressure medications if possible or treat underlying cause of HTN (pain/anxiety).

### **Hypertensive Emergency:**

see pt, EKG, IV access – will need MICU

- Evidence of end-organ damage
  - Neuro:** encephalopathy (HA, N/V, confusion, seizures), CVA, SAH (HA, stiff neck)
  - Cardiac:** MI, angina, LVF, aortic dissection (back & chest pain)
  - Pulm:** pulmonary edema (SOB) obtain immediate CXR
  - Renal:** ARF, proteinuria, hematuria
  - Treatment:** Goal: decrease MAP by 25% (max.) over 1hr to avoid watershed infarct –

- While transferring to the MICU: Nifedipine 5-10mg po and may repeat in 30min, or Labetalol 20mg IV q15min or 200mg PO

- In the MICU: Nitroglycerine IV 5mcg/min(first-line for cardiac patients), Nitroprusside 0.3mcg/kg/min(usual is 0.5-10mcg/kg/min), Esmolol load 500mcg/kg, then 50mcg/kg/min infusion

If active myocardial ischemia or infarction, also use Bblocker (also consider for h/o MI or CVA)

**If Cocaine-induced hypertension: avoid B-blockers** that cause unopposed alpha stimulation; use labetalol, nitroprusside, phentolamine

## Tachycardia

A nurse pages you about a HR > 100 BPM. You must ask yourself “Is this new for the patient? What is their overall trend? Do they have a history of a tachyarrhythmia?” If the patient is **symptomatic** alert your senior right away or call rapid response.

- 1<sup>st</sup> Always ask for a full set of vitals (patient may be compensating for hypotension)
- Obtain a STAT EKG to evaluate the rhythm

### Tests:

EKG; consider CMP (assess for lytes), glucose, Mg, Ca, thyroid studies, ABG if low pulse ox or considering PE, CXR

Differential DX:

### Narrow Complex Tachycardia:

Regular: sinus tach, SVT, atrial flutter

Irregular: atrial fibrillation, MAT, a. flutter w/ variable conduction

### Wide Complex Tachycardia: (USUALLY DANGEROUS)

V. Fib, V. Tach, Torsades etc

### Atrial Fibrillation Management: Goal HR <110 [RACE II trial]

- place patient on monitor
- Lopressor (beta blocker): Can give for a total of three doses
- Esmolol (beta-blocker): given via drip
- Diltiazem (aka Cardizem)-EXCELLENT DRUG-CCRBà give bolus then start on drip. RATE REDUCTION IN 85% of cases. (Adverse effects: Decreased BP and cardiac depression, avoid in patient in acute decompensated HF )
- Amiodarone (slows conduction through AV node)-Usually given over 24 hours. May cardiovert patient.
- Digoxin-DO NOT GIVE FOR ACUTE RATE CONTROL
- **UNSTABLE: D/C cardioversion**
- 

### Supraventricular Tachycardia (SVT)

- place patient on monitor
- may be broken with valsalva, carotid massage (r/o bruits 1st)
- adenosine 6mg IVP followed by rapid saline flush
- then repeat adenosine 12mg IVP if needed (record on a rhythm strip!!)

### Sinus Tachycardia

Sinus tachycardia (uniform P wave and PR intervals): usually indicative of another problem (fever, shock, anxiety, pain)

- TREAT UNDERLYING CAUSE

### WIDE COMPLEX Tachycardia (discuss management)

## **Bradycardia**

A nurse pages you about a HR < 60 BPM. You must ask yourself “Is this new for the patient? What is their overall trend? Do they have a history of bradyarrhythmia?” If the patient is **symptomatic** alert your senior right away or call rapid response.

Evaluate for : falls, dizziness, lightheadedness syncope, h/o CAD, drug hx (b-blocker, non-dihydropyridine CCB, digoxin)

Tests: EKG; consider CMP (assess for lytes), glucose, Mg, Ca, thyroid studies

### **PLACE THE PATIENT ON PACER PADS AND MONITOR IF INDICATED**

**Differential dx:** drugs (beta-blockers, digoxin, CCB, amiodarone); sick sinus; MI; AV block; hyperkalemia; hypothyroid; hypothermia

### **Management:**

Oxygen, telemetry, correct electrolytes (Mg, K),

Call your senior and consider atropine (as above)

Consider transfer to cardiac tele or CCU

If digoxin toxicity: correct K, Mg;

If B-blocker overdose, may give glucagon 50mcg bolus, then infusion



### Important Locations:

- 1<sup>st</sup> Floor: Emergency Department, ED CT Scan, Physicians Lounge, **EXIT (lol)**
- 2<sup>nd</sup> Floor: Cafeteria, Echo lab, Endoscopy Suite
- 3<sup>rd</sup> Floor: Dialysis , Radiology (CT/MRI/XR,US), 3wollman (COVID unit)
- 4<sup>th</sup> floor: 4loggia (code 542), 4uris, Float Room, connecting hallway to get to 6 Black Hall
- 5<sup>th</sup> floor: 5lachman 5uris (cardiac tele), 5east (CCU)
- 6<sup>th</sup> floor: Ob/Gyn
- 7<sup>th</sup> floor: 7uris 1, 7uris 2, 7wollman, 7lachman (medical telemetry), 7east (MICU)
- 8<sup>th</sup> floor: 8east (surgical ICU), 8lach (surgical tele), 8uris (Psych), 8woll (ortho)
- 9<sup>th</sup> floor: 9uris (surgical floor), 9lach (CT Sx tele), 9east (CT ICU),
- 10<sup>th</sup> floor: PACU
- 11<sup>th</sup> floor: Lab/Blood Bank

