ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI

Intern Guide | Mount Sinai Internal Medicine

Updated June 2020 by James Womer | please email james.womer@mountsinai.org with corrections

Adapted from: Kaitlin Klipper's "How to be An Allstar Intern on Sinai Floors"

DISCLAIMER

While we have made every effort to ensure this guide is up to date, policy changes throughout the year may render parts of this document inaccurate. We encourage you to use this guide as a supplement to information disseminated by the residency, departmental, and institutional leadership. If you note any errors, please contact one of the Medicine Chief Residents so the guide can be updated.

INTRODUCTION

The inpatient floors at Mount Sinai can be fast-paced and challenging, but we hope you find your time on the floors rewarding, educational, and fun! You will always be working as a member of a close knit team led by an attending physician and a senior resident who are responsible for teaching and guiding you in the care of your patients. The Medicine Chief Residents are committed to your education and wellbeing, so please do not hesitate to contact them with questions or concerns.

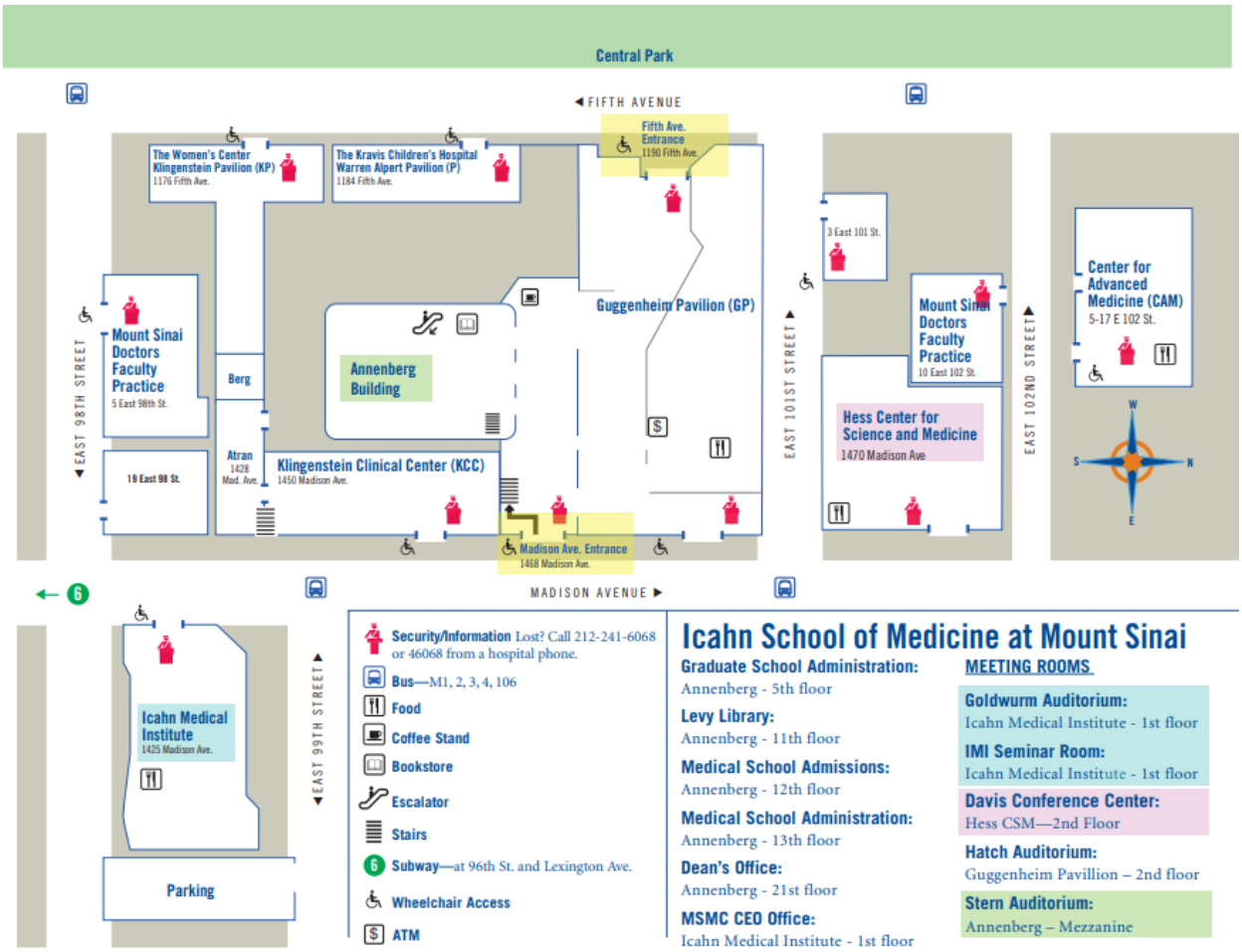
THE FIRST DAY

Before the First Day: Getting Epic Access and Signout

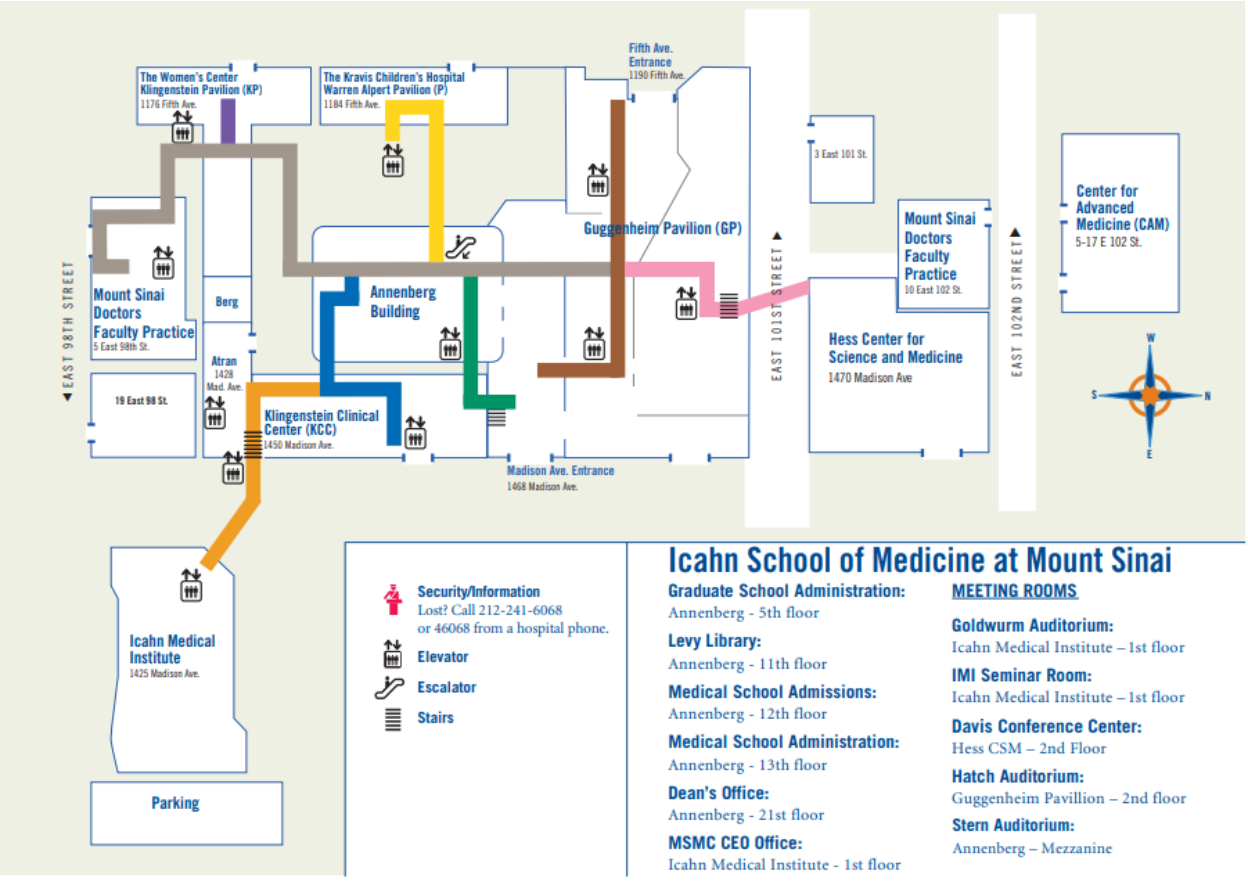
Try to ensure your Epic access is up and working. If you encounter any problems, your first step is to call 4HELP (Epic Helpline). If they cant solve your problem, then next best place to go for questions is the medicine office (9W-178). Your resident and you should receive sign-out from the prior team via email. Call for verbal sign-out if you don't receive this or have further questions.

Dress Code: Long call days/ICU's/nights: scrubs; Short call days/clinic: professional business attire

Campus Map Aboveground



Campus Map with Connecting Tunnels



Icahn School of Medicine at Mount Sinai

Graduate School Administration:
Annenberg - 5th floor

Levy Library:
Annenberg - 11th floor

Medical School Admissions:
Annenberg - 12th floor

Medical School Administration:
Annenberg - 13th floor

Dean's Office:
Annenberg - 21st floor

MSMC CEO Office:
Icahn Medical Institute - 1st floor

MEETING ROOMS

Goldwurm Auditorium:
Icahn Medical Institute – 1st floor

IMI Seminar Room:
Icahn Medical Institute – 1st floor

Davis Conference Center:
Hess CSM – 2nd Floor

Hatch Auditorium:
Guggenheim Pavillion – 2nd floor

Stern Auditorium:
Annenberg – Mezzanine

Daily Schedule

Time	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
6:30 AM	Arrive, get overnight signout and pre-round	Arrive, get overnight signout and pre-round	Arrive, get overnight signout and pre-round	Arrive, get overnight signout and pre-round	Arrive, get overnight signout and pre-round	Arrive, get overnight signout and pre-round	Arrive, get overnight signout and pre-round
7:30 AM	Work rounds with resident	Work rounds with resident	Work rounds with resident	Work rounds with resident	Work rounds with resident	Work rounds with resident	Work rounds with resident
8 AM	Attending Rounds	Attending check-in 8:30-9:30 AM Grand Rounds Social Work/ Discharges	Attending Rounds	Attending Rounds	Attending Rounds	Attending Rounds **(Resident presents new patients)**	Attending Rounds **(Resident presents new patients)**
10 AM	Social Work and Discharges	Attending Rounds	Social Work and Discharges	Social Work and Discharges	Social Work and Discharges	Clinical work	Clinical work
11 AM	Clinical work	Clinical work	Clinical work	Clinical work	Clinical work		
12 PM	Noon conference	Noon conference	Noon conference	Noon conference	Noon conference		
1 PM	Clinical work	Clinical work	Clinical work	Clinical work	Clinical work		
Short Call	3PM signout	3PM signout	3PM signout	3PM signout	3PM signout	**6:30PM Signout**	**6:30PM Signout**
Long Call	8PM signout	8PM signout	8PM signout	8PM signout	8PM signout		

AM Signout

Signout from the night float interns is 6:30 AM, at the latest. Being that it is your first day and you aren't familiar with the system, I would come at 6 AM for signout. Signout is typically in the 10W team room and you will be getting signout from the NF covering your service. Specialty services typically sign out in their own team rooms, or on their floors. You should get an introductory email prior to the rotation describing where this typically happens.

To get to the main team room, ask for the West Elevators of the Guggenheim Pavilion when you get to the hospital main entrance. Take west elevators to 10th floor and walk down long hallway in the direction of '10W'. Before the room with a vending machine, you will have the option to go right (to the ward) or left. Go left and the team room is the last door on the right.

***Where to store your belongings*:** the medicine locker rooms are in the back hallway of 11E. The rooms are accessible with your life number. Find an empty/open locker, and set a 4-digit code for the day (make sure to remember your code!)

Pre-Rounding

(1) Get sign out as above, you'll see everyone you get sign out about; don't worry about seeing new patients from overnight

(2) Print a patient list, and utilize your own system for tracking patient data or one of the templates found at https://sinaimedchief.wordpress.com under "Clinical Tools"

(3)To print a patient list: Log onto epic; context is 'Medicine' or '40'. Once you get to main screen, click 'patient lists' tab on top left

(4) **Under "Available Lists" on bottom left, click on folders: Services MSH > Medicine > ex: Silver B. Your resident will teach you all how to make patient lists the first day and personalize them.**

(5) Open the patient list of your team (see above). Click on one of your patients to preview; double-click to open their chart.

(a) Under the 'Summary' tab, you'll find subheadings that allow you to view patient Vitals; there is often also a 'Meds History' tab that allows you to view recent medications they received or are due to receive.

(b) Under 'Chart Review' and 'Notes' you'll find recent notes filed by RN and the patient's consulting and primary teams

(c) Under 'Results Review' you'll find recent laboratory testing results

(6) Remember, the most important part of pre-rounding is physically **seeing and assessing** the patient, and please text or call your senior if anyone appears to be unstable or decompensating. We'll figure out all the patient data information later, together.

Typical Day

6:30 AM - Latest time to receive signout

6:30 - 7:30 AM - Pre-round

7:30 - 8:00 AM - Meet up with resident to work round/run the list (RTL)

8:00 - 10:00 AM - Round with the attending(s). Hear about new patients from intern overnight. See them together if time allows

10:00 AM - 12:00 PM - We take care of business. Discharge, place consults, orders, and follow up tests. The resident may also go see patients during this time. Depending on the rotation, there may be social work rounds during this time, e.g. on Silver medicine

12:00 PM - 1:00 PM - **Noon conference.** This is a must-go, and unless a patient is unstable we will strive to go every day, and resident will hold your pager for intern report on Tuesdays.

1:00 - 3:00 PM - finish up remainder of work. Early resident/intern will leave for the day.

3:00 - 8:00 PM - finish up remainder of work/notes, complete and print signout.

8:00 PM - sign out to night float in 10W team room

PM Sign Out

The most important things to remember are emphasizing recent events in hospital course. What are events you would like to know about? Did the patient have a procedure this AM? Did they refuse dialysis? Did they recently start/get a dose of a med that frequently leads to adverse events, such as heparin or furosemide? Please highlight potential overnight events: things you anticipate happening overnight (hypoxia in someone getting aggressive fluids, fever in a septic pt, hypotension, etc) with a description of EXACTLY what you would want night float to do about it.

Also be sure to update them nightly on what are the pertinent **to do's**. Our night float is helping us admit patients and is an important member of our team, so we can work together on making sure our patients continue to receive the best care possible even overnight. Sometimes to do's are simple: repleting electrolytes, going to check on a patient, but if there's someone you are worried about, consider seeing the patient with night float so they can get a baseline.

Where to Go

Most of your patients will be located in the Guggenheim Pavilion (GP), some will be on KCC5N (Klingenstein Clinical Center) as well. Unless otherwise specified, patient units are in GP.

On cardiology: Most of your patients will be on 7C, some may be on 7E, rarely 7W

On Heme/Onc: Most will be on 11E (homebase), 11C, and 10C

On Liver: Home base is 9C but patients can be on other floors

Step down unit: Located on 9W, some may overflow to 10E or 6W (in early July 2020 most will be on Annenberg 8, but they should be back on 9W in Guggenheim Pavilion by mid-July)

MICU is on 5W

CCU is on KCC6S

Medical Alert – Hospital Code Team

This means **cardiac arrest.** It is either called overhead (not always) or the message is sent to your work phone with location. We run to these! Minutes= myocardium. If you are on long call on gen med, you are on the code team. The intern job at a code is to rotate in and out to do compressions. If you are part of the primary team for the patient, then you will also be expected to deliver a one-liner to the code leader and provide the most up-to-date available data that might be pertinent.

How to Manage Sick Patients/Rapid Response Team:

- Call your resident first! They will help get things in motion.

- At the same time, call **the Rapid Response Team (RRT)** — page (41300 — 1778) our rapid response team is often automatically triggered by the nurses if there are multiple vital sign abnormalities, such as tachycardia *and* hypotension, or hypoxia. RRT is a group of critical care physicians, nurse practitioners and respiratory therapist. They can be your best friends in a tight spot, and can also help with **triaging patients**, e.g. upgrade to MICU vs determining if an admission is safe for the floor.

THE NITTY GRITTY

Paging/pagers:

To page someone in medicine: amion.com (password msmed), enter text page

This will also have your schedule for the month

To page someone at Sinai NOT in medicine: amion.com (password mssm)

To page using the phone: Dial 41300 > Enter 4 digit pager **then** pound (#) > Enter your call back number number and pound again (#)

Phone extensions:

All internal phone numbers at Sinai as 5 digits, starting with the numbers '4', '5' or '8'. To call an internal number from outside hospital, you can use the exchanges '241', '824' and '659' respectively. For example, if you get paged to 45678 and aren't in the hospital, you can call (212) 241-5678 to reach that number.

If you get paged '42259' just dial that number at one of the black phones at all of the nursing stations.

Discharging a Patient:

To discharge a patient, you need to complete

(1) On day (or even 2 days) prior to discharge, place order for **IDP** (Implement discharge plan). It signals to the care team to start working on d/c

(2) Let the **social worker** know in ADVANCE (she should be updated at SW rounds every AM as well). Also needs to be informed of services the patient will need at home and transport patient will require home

(3) **Discharge follow-up appointments**: Write the dates and times out in the d/c summary. We have wonderful discharge coordinators to help us with appointment scheduling. Please refer to the inpatient app for their names/contact information (varies by floor). You can send them a message via Epic Secure Chat (or Cureatr) to request appointments for a patient. Can also send email to discharge.followups@mountsinai.org

(4) **Discharge med rec:** Discharge (tab on left) > Med Rec > (a) confirm home meds, (b) reconcile meds (decide what you want to resume on discharge [and what dose] and what you want to stop, (c) New orders for discharge [new meds you will be starting on d/c under 'place new orders' AND 'Discharge Orders- Mount Sinai Hospital'] > (d) Review and sign

(5) **Complete discharge summary:** Start by selecting new note, under 'Note Type' type in 'Discharge Summary' All discharge summaries are due in the chart within 48 hrs of discharge, however if a pt is going to SAR or nursing home, the SW will often need this PRIOR to the patient leaving

I need to transfer a patient

(1) Write a transfer of care note, which should include HPI (copied and pasted from original H&P) and hospital course

(2) Make sure all medications are still ordered, and note that patients coming from ICU's might have labs ordered for 1 AM; these should be changed to 6 AM

(3) Call the team and give sign out if the patient is being upgraded/downgraded in particular

IMPORTANT PHONE NUMBERS

For an on-the-go resource, download the Mount Sinai Inpatient App:
https://inpatient.careteamapp.com

Acute Rehab: 45417
Bedboard: 47461, 45030
Bloodbank: 46101
Body Reading Room: 30048
Cath Lab: 45881
Dialysis: 48081
ER CT: 47606
ED US: 47606
ED XR: 41862
ENT consult: p2510
Film Library: 47407
Hammer/Niebart (ID): p2562, 212-427-9550 (office)
Hemophilia: 48303
HLA typing: 44175, 34207
ID Approval: p9407
Infection Control: 89450
Interventional Radiology: p7237, 40856
Medical Examiner: 212-447-2030, 212-447-2413
Medical Records: 47601
Microbiology: 88162
MRI Reading Room: Extremities - 48607, Body - 59414
Neuroradiology: 44261
Nuclear Cardiology: 41719
Nuclear Medicine: 46969
OR Desk: 41990
Pain Service: Acute - 646-592-0195, Chronic - 646-592-0084
Pathology slides: 42675
Pathology reports: 47373
Patient Rep: 88990
Physical Therapy Hotline: 42363
Psychiatry consult: p1702, 88828
Radiation Oncology: 47500 (outpatient), 46158 (inpatient)
Rapid-Response Team: p1RRT (1778)
Respiratory Therapy Supervisor: p2244
SLP: p9897, 49542
Social Work: 46800
Transport: 44443
Ultrasound: 48913 (outpatient), 47431 (inpatient)
Ultrasound Reading Room: 39806
Vascular Access: p2VAS, 47854
XR/General Radiology: 47401 MRI: 49182

DAY TO DAY USEFUL FACTS AND TIPS

Useful order sets: In 'Order' start typing as below, and make sure to add these sets to your favorites!
-General Medicine Admission: for new admission
-Diabetic Agent: to order insulin
-Heparin drip protocol: standard target vs. low target
-Stop Sesis Order set: allows pt to get first dose of abx faster; use lowers mortality from sepsis
-Blood administration set: to transfuse
-Hyperkalemia order set: will allow you to select one or more pre-set medications to treat hyperK

Consents:
-located in 'Patient Works' on desktop. Can ask BA for help with this. No matter what computer you use, will print to main printer by BA
-consent patient or phone consent proxy; place signed consent in front of chart

Risks of basic procedures:
-*Blood transfusion:* fever, allergic reaction, infection, shortness of breath, rarer risk includes damage to internal organs including lungs and blood cells
-*Paracentesis:* pain, bleeding, infection, rarer risk includes damage to internal organs including bowel (can inform pt that we use ultrasound to significant decrease risk of damage to organs)
-*Internal jugular triple lumen catheter placement:* pain, bleeding, infection, rarer risk include pneumothorax (can inform pt that we use ultrasound to significant decrease risk of pneumothorax)
-*Lumbar puncture*: back pain, headache, leg pain, bleeding, infection, rarer risks include lower extremity weakness/numbness and other neurological damage

For when your patient needs to be NPO:
-can order 'NPO except sips with meds' if meds necessary, be sure to indicate timing, e.g. 'starting now' vs 'effective at midnight'
-insulin orders > half lantus (if type 2 DM) and hold mealtime lispro when pt is NPO

What procedures require NPO:
-all surgical procedures, any procedure with sedation or anesthesia, EGDs, RUQ u/s, abdominal ultrasound, Upper GI series, Renal artery dopplers, TEE, cath, and any other procedure for which you are told to make the pt NPO

Calling a consult:

-all consultant pagers on amion (password: mssm)

How to call a consult:
-Introduce yourself to consultant
-State reason for consult
-Give pt's name, MRN and location
-Prepare a concise, **focused** story (ie, If you are calling an ID consult, you should know the fever curve,

WBCs, prior culture data, etc. If you are calling a renal consult you should know the electrolytes, UOP, volume status, etc)
-Ask if there is any more information (labs, imaging, etc) the consultant would like

Learning the Lingo:

-*BA:* Business Associate, sits at the front of each floor; answers phones and does administrative tasks

-*MAPA:* Medical Admitting Physician Assistant, will call your resident with admissions; assist with transfers to other teams/services. Contact x43319, x40042, or 78773

-*MCR:* Medical consult Resident > will help you overnight with sick patients, provides medical assistance to non- medicine services as a consultant

-*ED location terminology:*

Resus = resuscitation area, or sick patients;

RETU = observation area;

Intake = more urgent-care-type patients

Troubleshooting/Frequent RN Calls:

Hypertension: Goal to differentiate btw HTN emergency and HTN urgency

HTN emergency: BP >180/120 with signs of end organ damage, brain: encephalopathy, ICH, CVA; heart: MI, angina, pulmonary edema, aortic dissection; renal: AKI, decreased UOP. These patients should get an IV drip medication to control BP and should go to an ICU.

Tx: bring down BP; goal MAP <25% decrease in 2 hours with IV agents (do not drop >25% or else can cause CVA)

-If AMS or change in neuro exam: stat HCT (r/o bleed), nicardipine drip -CP/SOB: CXR, trop, EKG: nitroglycerin drip (can only go to 7C or ICU)

-Utilize caution with IV pushes (labetalol IVP, hydralazine IVP)- can drop BP too quickly. If you need IV meds for hypertensive emergency, use a drip that you can titrate

HTN urgency: BP >180/120 *without* end organ damage Tx: PO antiHTNs (DO NOT use IV meds); look at pt's med list; if due for meds, give meds early; if not on max dose of med then increase dose of current antiHTN

For an urgency, BP needs to be lowered over hours, so PO meds are sufficient if the patient has enteric access or can take PO

-Adverse effects of different PO antiHTNs: all can cause hypotension. Beta blockers=bradycardia (do not give if bradycardic); ACEi/ARB= AKI, hyperkalemia (do not give in AKI or if K elevated); hydralazine= reflex tachycardia

Hypotension: Always go see the patient; check vital sign trend. Is this low BP much different than baseline BPs? Does pt have AMS? Check meds- did pt just get BP meds? If so then consider bolus fluids, though **be**

careful in patients who are ESRD or HFrEF. If in **SHOCK,** call your senior and **RRT.** Examine for cause > sepsis vs. cardiogenic vs. hypovolemic

Within shock, the bedside exam is often extremely helpful in distinguishing cause. One group of shock etiologies will cause patients to be cold with delayed capillary refill (>2s); the other group will be warm with brisk capillary refill (<2s). This can help you quickly narrow your differential.

Shock type	Temp	Cap refill	JVP	Causes	Clues	Treatment
Septic	Warm	Brisk <2s	Low	Infection	WBC count? Prolactin? Foca symptoms?	ANTIBIOTICS, SOURCE CONTROL Fluids, pressors as needed
Anaphylactic	Warm	Brisk <2s	Low	Drug exposure, IV contrast, food exposure	Recent exposure, history of allergies/atopy	IM epinephrine, benadryl, steroids
Neurogenic	Warm	Brisk <2s	Normal	Stroke, intracranial hemorrhage/infection, spinal injury, brain/spine trauma	Recent fall? Risk factors for stroke? Spinal metastases? Changed neuro exam? Often accompanied by bradycardia	R/o other causes Localize neuro insult (neuro, neurosurg helpful), intervene as needed; fluids/vasopressors
Hypovolemic	Cool	Delayed >2s	Low	Hemorrhage, abdominal compartment syndrome, dehydration e.g. in polyuric phase o ATN	Risk factors for bleeding? UOP? Signs/sx of active bleed? Hg trend?	Volume resuscitation; blood if bleeding, IVF if other cause. I hemorrhagic, identify/control source
Obstructive	Cool	Delayed >2s	High	PE, tamponade, tension pneumothorax	Heart/lung exam: are there decreased hear or breath sounds? Signs of DVT?	Relieve obstruction, e.g. needle thoracostomy, thrombectomy/thrombolysis, needle decompression. Vasopressors to stabilize; fluids may not help or worsen
Cardiogenic	Cool	Delayed >2s	High	Decompensated CHF, MI, arrhythmia	Peripheral edema, history of CHF/CAD, EKG findings, JVP	Depending on cause, may require cath, cardioversion, diuresis, inotropic support. Fluids likely to cause harm in this case.

In ALL of these cases, your senior resident and RRT should be called as soon as possible!

Tachycardia:

-Ask for other VS over the phone; hypotension and hypoxia would be more of an emergency.

-Go see patient; obtain an EKG

-*Afib/Aflutter:* metoprolol 5 IVP or diltiazem 10mg IVP if BP ok; if non-responsive to metoprolol then give diltiazem. BP slightly low then amiodarone bolus followed by amiodarone drip; if HD unstable then synchronized cardioversion (call cardiology)
-*SVT:* Trial vagal maneuvers, carotid massage (avoid in elderly/pts with carotid plaques); adenosine IVP 6, 6, 12 (need 2 way stopcock). If HD unstable then cardioversion.
-*Vtach*: **Cards fellow should be called; always ask for help!** For monomorphic VT > if stable then amiodarone 150mg bolus; if unstable then synchronized cardioversion; For polymorphic VT > load with Mag
-Once rate controlled: check basic labs including Mag (replete lytes), if new afib/flutter (pan-culture, trop, TTE, CXR; TSH but unlikely to be helpful in acute illness) *Goal rate for afib/aflutter with RVR is <110 ; goal for SVT is to break pt out of SVT

Chest pain:
-Examine pt; ask RN to check VS while you are walking to see pt. Chart check for age, comorbidities
-Assess characteristics of pain
-Should get an EKG if you have even slightest clinical suspicion; can reserve trops for pts that you have somewhat higher clinical suspicion for MI if EKG negative (no one will fault you for getting trops if you are unsure)
-if EKG changes in contiguous leads or trops, escalate care to a senior; don't forget other causes of CP other than ACS: pericarditis, PE, PNA, ptx, GERD, esophageal spasm, MSK pain

GI bleed:
-Vital signs; ask RN to save emesis or stool -Melena/coffee ground emesis, elevated BUN more c/w UGIB; BRBPR either LGIB vs. rapid UGIB
-Labs: stat CBC, type/screen, coags -Start on protonix ggt. If h/o cirrhosis with question for varices then start octreotide ggt as well
-Stop all anticoagulants; reverse with ffp if INR elevated >2
-Consult GI

Altered Mental Status:
-Go see patient; check to see if MS is different from baseline
-Vital signs, f/s, basic labs (CBC, BMP, ICU venous panel), EKG,
-History : ESRD > uremic? (call renal for HD); Cirrhosis> hepatic encephalopathy? (start or increase lactulose); COPD > hypercapnea? (can trial BiPAP is not completely altered, but would have low threshold to intubate)
-Recent meds? Opiates > ?Narcan if depressed RR or retaining CO2,
-Examine (change in neuro exam?) > Stat HCT; s/s of infection (pan-culture and consider starting abx)

Insomnia:
-find out cause - if pain, then treat pain, if urinating frequently on Lasix (move Lasix dose to earlier)
-always try to redirect; everyone does not needs to be medicated
-avoid Benadryl, especially in elderly
-if need to give meds, can try ramelteon (melatonin) > trazadone 50 > hydroxyzine 25

Pain: *Mild pain:* use non-opioids (Tylenol 650mg > can get up to 4g daily, liver pt can get up to 2g daily) or ibuprofen 400 q6h (avoid in renal dysfx) *Moderate/severe pain*: opioid + non-opiod (from above); *don't forget that some of the opioids such as Percocet contain Tylenol. Starting doses for PO formulations are morphine 10 mg PO q4h; oxycodone 5-10mg q4h; hydromorphone 1mg PO q4h; if IV formulation needed starting doses are hydromorphone IV 0.2 q4h and morphine IV 2-4 q4h

-avoid morphine pts with ESRD; decrease dose of dilaudid in ESRD
-caution with both dilaudid and morphine in liver dysfunction
-pts who are already taking opioids will require higher doses
-IV narcotics take 10 minutes to work; PO narcotics take 30-40 minutes to work

Constipation:
-opioids cause constipation; these pts need a bowel regimen
-if abdominal pain; consider an 'obstructive series' to ensure no obstruction or ileus; if pt impacted, then needs manual disimpaction. If not then....
-start with: docusate 100mg PO TID + senna 2 tabs PO qhs
-then, add miralax or lactulose 30mg PO daily (can titrate up)
-if still constipated, would then try bisacodyl suppository; then can tap water vs. docusate enema (nothing per rectum to neutropenic pts)

Labs:

Repletion:
-Do not replete lytes in patients with ESRD or CKD/AKI without checking with your resident first

Potassium:
-goal >4 in cardiac patients and >3.5 in everyone else -always replete Mag before repleting K
-always try to replete PO if possible (Kdur- pills vs. powder, powder usually more tolerable)
-if repleting IV, can do 10mEq/hr if peripheral IV or 20mEq/hr if pt has central line
-every 10 mEq of K given is expected to raise the K by 0.1 (ie. if you give 40mEq of K to a pt with K of 3.4, expect the repeat K to be 3.8)

Magnesium:
-goal >2 in cardiac patients and >1.5 in everyone else
-can give magnesium sulfate 1g if mag <1.5; if <1.2 can give 2g of Mag sulfate

Phosphorus:
oral: Neutraphos; IV: sodium phosphate or potassium phosphate (do not give Kphos if K is high)
-IV: -2.1-2.4 give 15mmol of phos IV -1.5-2.0 give either PO neutraphos 0.25 or IV 0.25mmol phos -<1.5 give 0.5 mmol phos IV (would have to give in multiple runs)

Calcium:
-calcium chloride- 13.6 mEq of elemental Ca; DO NOT give peripherally, may cause thrombophlebitis -calcium gluconate
- if iCa <1.0. Give 1g Calcium gluconate/ hr Lab abnormalities:

Hyperkalemia:
-check to see if blood is hemolyzed, if so then order stat plasma K. Also make sure blood wasn't drawn off IV running K; if so then drawn from other arm
-if ESRD, talk to your resident→→may need to call renal for urgent dialysis; even if patient is going to get urgent dialysis, you should still medically manage their hyperkalemia until dialysis happens
K 5-5.5 > recheck later that day to ensure not uptrending
K 5.5-6.0 > kayexalate 30g, recheck **(there is a hyperkalemia order set)**
K >6.0 > EKG (if peaked T waves or other evidence of cardiac destabilization, give STAT calcium gluconate 1g); medically manage with kayexalate 30g, insulin 10u (5u if renal dysfunction) + D50

Elevated INR (from oral AC):
If not bleeding: do NOT need to transfuse FFP
Above therapeutic range for <5: hold for one night
>5 but <9: hold next 1-2 doses
>9: hold next few doses until normalizes, give vitamin K 5mg orally
If bleeding→→tell your resident; order FFP (2u to start) if INR >2 bleeding

Transfusion goals: (if NOT actively bleeding)
Hemoglobin: Hgb>7 in most patients; if ACTIVE ischemia then transfuse to Hgb >9
Platelets: Plts >10; >20 (if febrile); >50 if bleeding
Lab Tube colors:
BMP/Hepatic panel = gold
Troponin/BNP=green

CBC = lavender
PT(INR)/PTT/Fibrinogen/Dimer = blue
Urine lytes=yellow
Type and screen = pink

Tip! If a patient has had a CBC drawn, you can request a peripheral smear through typing in "heme/onc slide request" and entering a tube station (211 is 10C), selecting "add on" and "lab collect"
Tip! if any hepatic labs or amylase/lipase were drawn by the ED, then a gold top tube was collected→→can add on a BMP/other lytes to this by calling the lab
Tip! Mag and phos NOT included in BMP or CMP
Tip! An ICU venous panel is just as good at evaluating acid/base status and lactate. The only reason to order an arterial panel over a venous panel are: (1) evaluating hypoxemia (2) in calculating an A-a gradient to decide if PCP pt needs steroids, (3) severe hypercapnia, (4) mechanically ventilated pts (questionable); for hypoxia, SaO2 just as good as PaO2
Tip! lactate is a marker of severe sepsis; only order if fulfills sepsis criteria; do not order for basic fever
Tip! if you forget to order an AM lab, but ordered another lab with the same tube color, you can add on the lab. To do so→→re-order the lab as 'Add-on" and call 4LABS to let them know
Tip! type and screen needs to be renewed q72hrs so if you have someone who may require transfusions order schedule t/s every T/Th/Sat for AM labs

Fluids:

Bolusing fluids: The main reasons you would bolus is for hypotension and tachycardia (after you determine it is NSR on EKG). Be very cautious bolusing patients predisposed to volume overloaded (ESRD, cirrhosis, CHF). Discuss with your resident before giving fluids to anyone with ESRD, cirrhosis or CHF. Patients with none of these comorbidities can usually tolerate 1L IVF. You should inform your resident if a patient requires >2L IVF. Which fluid to use? Generally start with NS. Would switch to more balanced solution like plasmalyte if giving >3L as NS can cause metabolic acidosis. Avoid plasmalyte in pts with hyperkalemia or any condition that can predispose to high K (ie renal disease). Can bolus bottle of 5% albumin if pt with cirrhosis

OXYGEN/VENTILATORY SUPPORT:

Hypoxemia:
-Goal O2 saturation >92% in most patients; for COPD goal is 88-92%
-If called that a patients is hypoxic, check to make sure there is a good waveform on monitor
-Workup: CXR, ICU arterial panel (not necessary unless you want to calculate A-a gradient); alert resident
-Stepwise uptitration of oxygen in hypoxemia: NC (can go up to 4L) → Facemask (can deliver 6-12L O2, 28-50% FiO2) or NRB (10-15L, 60-100% FiO2) → High Flow Nasal Cannula if pure hypoxia (no hypercarbia on gas) vs trial of BiPAP if also hypercarbic, then should be intubated.
-COPD, would trial bipap before considering intubation
- Always call your senior and RRT if you have to escalate O2 therapy past nasal cannula

Hypercapnea: To understand if acute, look at pt's baseline pCO2 as well as pt's pH and HCO3. If normal pH and elevated bicarb than hypercapnea is likely chronic.
-If acutely worsens, can trial bipap if no contraindications. Trend pCO2 on serial gases. If pCO2 improves than can stop bipap (may need nightly bipap). If pCO2 does not improve then pt requires intubation (see below)

BiPAP: Call respiratory therapy (have the BA page) to bring the machine and help set it up
Indications: Hypercapnea with COPD, cardiogenic pulmonary edema, moderate to severe dyspnea with

increased WOB
How to use: set PEEP and PSV. In most patients can start at 10/5 vs. 12/5; may need more for pts with h/o poor ventilation
Contraindications: Severe AMS, vomiting, copious secretions, inability to protect airway, HD instability, severe UGIB, poor mask fit
Monitoring: Trend PCO2s to ensure respiratory acidosis improving

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Indications to intubate: Ask yourself 4 questions
(1) Failure of airway maintenance or protection? AMS, inability to clear secretions
(2) Failure of of oxygenation? Remains hypoxic after brief trial of bipap
(3) Failure of ventilation? pCO2 did not improve with bipap
(4) Is there an anticipated need for intubation? Increased WOB

Preparation for intubation: Page anesthesia, RRT
-Obtain (1) ambu-bag (bag and valve), (2) 1L NS (to run wide open), (3) yankauer for suction, (4) intubation tray; (5) sedation on floor, have RN draw up 2 of versed and 2 of dialudid (don't give any, just have it ready)
-Place patient on cardiac monitor; ensure IV access
-Know: (1) most recent K, (2) BP (LV/RV dyxfx), (3) h/o difficult intubations, (4) recent cervical spinal injuries, (5) large body habitus?
*Always order a CXR after intubation so tube placement can be confirmed

ANTIBIOTICS/MICROBIOLOGY:

-Always try to get cultures prior to antibiotic administration > blood culture and urine culture. For blood culture, need 2 sets (4 bottles) from 2 different sites
-if BCx positive, order daily cultures until cleared x3-5 days
-pan-culture means: order blood cultures (x2), urine culture, respiratory culture (CXR also recommended)
-we generally do not start abx for a **single** fever in non-immunocompromised patient with otherwise stable vital signs
-if patient becomes septic on floors, order first dose of abx through 'stop sepsis' order set; will allow pt to get abx sooner
-when deciding which broad spectrum abx to order, check 'micro' section of epic to see what organisms pt has grown before and what previous organisms have been resistant to
-Specific broad spectrum abx that require ID approval: (cefepime, zosyn, all carbepenems, aztreonam, linezolid, daptomycin, caspofungin, etc).; IV vancomycin does NOT require ID approval. To get ID approval, page p9407. This number will also be in the Epic order for antibiotics that require approval
-when calling ID approval or ID, always have pts weight, Cr and calculated Cr clearance ready
-Best website for dosing IV vanc: http://www.cumc.columbia.edu/dept/id/downloads/Vancomycin_5-26-05.pdf (don't forget to order vanc troughs or levels!)
-always keep track of day of abx -narrow abx as soon as culture results return

COMMON PROCEDURES

Diagnostic paracentesis:
Before starting: [ ] ultrasound, [ ] consent from patientworks

Setup: [ ] chucks, [ ] sterile drapes (x3), [ ] bucket for supplies [ ] **paracentesis kit**

Prep: [ ] 3 chlorapreps, [ ] sterile gloves, [ ] 4x4 gauze sponges

Procedure:
[ ] 1% lidocaine (without epi), [ ] 25G (orange) needle for injecting lidocaine,
[ ] 20G (grey) needle for drawing up lidocaine, [ ] 5-10cc syringe for lidocaine,
[ ] 22G (green) needle for performing dx tap, 30-60cc syringe for drawing up ascetic fluid,
[ ] additional 22G syringe for transferring fluid into tubes
[ ] tegaderm

Tubing:
[ ] 2 purple top tubes (for cell count, gram stain/culture→→only send one; hold onto 2nd in case lab loses original),
[ ] 2 yellow (not gold) tubs for LDH, protein, albumin, [ ] blood culture bottles,
[ ] specimen bags to send tubes (tube to station 91)

Special for LVP (in addition to everything required for dx tap):
[ ] order albumin (25%, not 5%; order 1 bottle for ever 2L you intend on removing),
[ ] 1-2 large orange 4L bottles; [ ] paper tape,
[ ] scissors for IV tubing, [ ] angiocath (get from BA on 9C if pt is on 9C),
[ ] IV tubing- cut with one screw top end remaining

Ultrasound guided IV:
[ ] ultrasound [ ] 20G (pink IV) x2,
[ ] IV starter kit, [ ] sterile flushes x2, [ ] alcohol swabs