DISCLAIMER

Medicine is an ever-changing field. Standard safety precautions must be followed and allowances must be made for new discoveries, drugs, and changes to standards of care. Though every effort has been made to ensure that the information in this book is correct and up to date, readers are advised to verify for themselves, relying on their experience and knowledge of their patient to determine if the recommendations made are actually the best for their individual patient. Neither the author nor the Department of Internal Medicine assume any liability for any injury and/or damage to persons or property arising from this handbook.
**On Studying**

Study what you can, when you can, ESPECIALLY on Medicine Wards, and ESPECIALLY as an Intern. You’re going to be busy and probably pretty tired, so just read something and don’t worry if you’re not reading New England Journal of Medicine from cover-to-cover every week. Push yourself, but be realistic.

You will find that as you focus your studying on your patients, you will have an easier time of retaining the information. As a general rule get in the habit of *reading SOMETHING every day*, even if it is only a few pages. You are going to be busy but a little daily reading can go a long way over 3 years.

**MKSAP**

- Try to keep up with MKSAP reading and questions! It is a great way to stay current on your board studying throughout residency while also reinforcing important concepts. It is generally a good idea to do about 5 questions a day (2 to 3 in the morning before work while sipping that 1st cup of coffee at home and 2 to 3 in the evening). This will easily get you through all of the questions that will be covered for the monthly exam.
- Record the ones you miss and keep doing them until you get them right (the Breck Nichols Strategy). For example, out of 50 questions, say I miss 25 of them. I then go back and redo the 25 I missed. This time, I miss 10. I go back and do those 10. This time I miss 4…. By the time you no longer miss any of the questions, you’ve repeated the ones you had the most trouble with a few times, and hopefully, the reasoning behind the question will stick better.

**MedStudy**

- The MedStudy people always offer deals to residents when they buy in bulk. Some initiative-taking person should look into this, then send an email and talk with the other interns/residents about buying a bunch at once to save money; Also some of the graduating 3rd years will want to sell theirs at a discount
- MedStudy books are board-review style texts that are organized by system, and are great for ELECTIVES. Make it a priority to get through the MedStudy section that corresponds with the elective you’re on. Ambulatory would also be a good time to crack open MedStudy. This will help you both on the elective and in preparing for the boards.

**Ambulatory Core Curriculum**

- The Ambulatory Core Curriculum is compiled from a great collection of articles with corresponding cases and questions to help you think critically about patient care in the outpatient setting. This will be available on the Chief’s Website. Read these articles and think about the answers so you’re prepared in clinic! It will help you be a better physician!

**UpToDate** is a great resource best used when you need information quickly, but it’s probably not the best tool to use when studying for the boards. Pocket Medicine is another great resource for quick information

Review articles and primary research literature is best used when preparing a presentation. New England Journal of Medicine, Annals of Internal Medicine, JAMA, and Lancet should be sought out in this regard.
Other Somewhat Random Tips

Buy a flash drive with a decent amount of gigs and keep it with you at all times. Start a collection of good articles (and organize them by system). This is also a good place to keep presentations. Of course, back it up from time to time on your home computer.

Another tip: save info on interesting patients – PF number, and a note about why you thought it was interesting. Be careful that you don’t violate HIPAA by leaving your flash drive with a life insurance company or something, but you want to keep track of good cases. Useful for Grand Rounds/Master Professor Rounds, teaching med students or other residents (especially cool radiographs), case presentations on various rotations, etc. You can always access the patient’s old chart, labs, imaging, etc. with the PF.

Take advantage of the times you DON’T have to be in the hospital, particularly the ever rare golden weekends.

Recommendations:

- **The beach!** We Recommend Malibu (Zuma beach) and Manhattan Beach. If going on a weekend, try to leave early to beat the crowd and the traffic.

- **The mountains.** The San Gabriels are the mountains you see north of Pasadena on a clear day. Lots of hikes and nice views. Hit up the Sam Merrill Trail at the end of Lake Ave in Pasadena for a nice view of the LA Basin. Tons of other Trails are all over the city. And of course, Big Bear and Mammoth are both within reach during the winter if you ski/snowboard.

- **Eat.** Yelp.com is one of my favorite websites for restaurant reviews. You can find any type of food in this city that you want.

- **Wine Tasting.** There are great wineries within a couple of hours of L.A. Try the Santa Ynez Valley (think “Sideways”) for nice Pinots and Syrahs. Other places to enjoy vino are Paso Robles and Temecula.

- **Farmer’s Markets.** If you’re into cooking, fresh produce, people watching, or being outside, then there are tons of farmers markets across the city. The one in Hollywood is Sunday mornings and has a nice selection of stuff, but there are probably local ones near where you live as well.
The County Way
1. Patients come first.
2. Do your best to make the lives of the people you work with easier.
3. Split the work as fairly as possible.
4. Start the D/C summary as you do the H&P.
5. Drop off study requests as early in the day as possible. Call consults early in the day.
6. Treat everyone with respect - you never know when you will need their help.
7. Be nice, even when you are really tired.
8. Let someone know if you need help.

Tips for the Ward team
1. Fill-out/stamp request forms (U/S, CT, MRI, Nuclear Med, Stress test) and drop them off at 7:30 am or on Work rounds.
2. While one team member is presenting, someone else should take a blank order form and write down any orders the attending recommends then place it in the chart.
3. Write down all other post-round tasks the attending recommends during rounds so that nothing gets missed during the afternoon. If the attending recommends a study (U/S, CT, etc.) fill out and stamp the appropriate form & gather the necessary info then submit them at the earliest opportunity.
4. Write PRN orders on nearly all of your patients: TYLENOL 650 mg po/pr q4h prn HA/Fever/Pain, MAALOX 30cc po q6h prn dyspepsia, MOM 30cc po q6h prn constipation, BENADRYL 25mg po qhs prn insomnia, REGLAN 10mg IV/IM q6h prn nausea (there is a check box for many of these on the Admission Orders set). Make sure you go through the PRN’s and make sure patients don’t have any contraindications (i.e. renal failure w/MOM or elderly w/Benadryl)
5. Record a pain score, list it as a separate problem, and treat it appropriately.
6. Order an admit panel on most of your admissions: CBC w/diff, BMP, Mg, Phos, LFTs, PT/INR, UA
7. Complete as much of the D/C summary as possible as you complete the H&P.
8. Know why each of your patients is still here and what you need to do to get them out of here.
9. Know which of your patients is sickest and make sure it is relayed to night float and med consult when appropriate.
10. Try to anticipate problems your patient may give the Night Float and warn them/sign out what you want done.

Daily General Medicine Itinerary:
6:00 - 7:00 Get Sign-Out from your Night Float and Pre-Round/See New Patients
7:00 - 8:00 Work rounds with Senior Resident
8:00 - 9:00 Resident Morning Report, Interns perform patient care/write notes except M/Th when interns attend Morning Report as well
9:00 - 11:00 Attending rounds
11:30 - 12:00 Patient care
12:00 - 13:00 Go to lecture (take lunch with you)
13:00 - 17:30 Patient care & Admissions (will change with long call and short call this year)
17:30 Sign Out to Senior Resident and Night Float
GENERAL PAIN MANAGEMENT

Mild Pain
Tylenol (Acetaminophen) 650mg po q4h prn mild pain
Motrin (Ibuprofen) 600mg po q6h prn mild pain

Moderate Pain
Toradol (Ketorolac) 15-30mg IV/IM or 10mg po q6h prn mod pain (max dose 40mg/day for 5 days), careful in renal failure
Ultram (Tramadol) 50-100mg po q4h (max 400mg/day)
Naprosyn (Naproxen) 500mg po then 250mg q8h (max 1250mg/day) prn mod pain
Tylenol #3 (Acetaminophen with Codeine) 2 tabs po q4h prn mod pain

Severe Pain
Percocet (Oxycodone/Acetaminophen) 2 tabs po q6h prn
Percodan (Oxycodone/ASA) 2 tabs po q6h prn
Vicodin (Hydrocodone/Acetaminophen) 2 tabs po q4h prn
Dilaudid (Hydromorphone) 2-4mg po/PR/IM/SQ/IV q4h prn severe pain
Morphine 0.1mg/kg (up to 15mg) IM/SQ/slow IV q4h prn (good starting dose is 2mg IV q 4h PRN pain)
Demerol (Meperidine) 1.8mg/kg (max 150mg) IM/SQ/PO q4h prn severe pain

Pain Management with Opioids
(Stolen from a lecture by Dr. Close – our Palliative Care Expert)

Kinetics
-- PO/PR max concentration in 1 hour; 4 hour ½ life
-- SC/IM max concentration in 30 minutes
-- IV max concentration in 10-15 minutes

Breakthrough Pain
-- use immediate release formulations
-- dosing interval based on time to max concentration

Equianalgesic Dosing

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<td>Fentanyl</td>
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Transdermal Fentanyl – Morphine 50 mg po in 24 hours ~ Fentanyl 25 mcg patch q72

Adverse Effects of opioids
-- nausea/vomiting
-- most effective are dopamine blocking agents
-- Reglan 10 mg q6
-- Haldol 1 mg q6
-- prochlorperazine 10 mg q6
-- odansetron (Zofran) 4mg IV q 8h PRN

Most common side effect will be constipation.... Although often secondary to opioids, patients can often be constipated from being bedbound and hospitalized without the use of opioids. You should always ask about it or you will not find out!!

Treating Constipation:

- We put pretty much everyone on Colace 100mg PO BID but it is unlikely to have much effect
- Minimize opioids if possible
- Miralax (polyethelene glycol) works well (17grams in 8 oz H20 daily, can increase to BID)
- Senna 8.6mg 2 tabs PO BID
- Bisacodyl 5mg or 10mg PO works well, can also give PR which often time works even better
- Avoid fiber or bulking agents if patient is on opioids. It just makes the problem worse
- If not BM for several days, you must consider obstruction/ileus but not the case most of the time
- Always check bowel sounds ask if patient is passing flatus as you don’t want to miss obstruction/illeus
- Check Abdominal Series to further evaluate before giving any further treatments if suspecting obstruction/illeus
**Using Affinity**

It is **HIGHLY RECOMMENDED** that you review the LAC+USC Medical Software Instructional Videos on the Chief's Website under FAQs. You will use Affinity to check labs, read dictated reports from imaging studies, find pathology reports, get vitals, ins and outs, etc.

**The Affinity System:**

- Double-click on the Affinity icon on the desktop
- Click on "Live" and click "OK" or press Enter
- Enter your user code which is 'p' plus your lab number, e.g., "p123456"
- Enter your password. You will be typing it a lot so make it easy like "qqqqq1"
- Select "Patient Charting"
- Using the patient’s PF number to find the patient and place him or her in your list on the left. Your patient’s name may be listed more than once if they have been to different clinics within the County system (e.g., Roybal or Hudson). In this case, you will be best served by moving all of the names to your list so that you can read through what are likely subspecialty clinic notes
- Access labs and dictated reports under the “Results” tab. If you want to see if a test was ordered but not yet back, click "Unresulted Tests" on the bottom right of the screen to check which labs are still pending, and “Resulted Tests” to look through a list of tests that have been done. If you need to check more than one result for multiple dates (e.g., blood cultures), click on the lab you want on the left side of the screen (the row should then be highlighted), then click "Print Selected" and choose “Current Device.” The results will be listed on the screen. For echocardiogram results, you need to select “Echo” from the dropdown menu on the left (default is “Network”)
- You can view all the results for a particular section, ie "Microbiology" by selecting that section from the dropdown menu then selecting “Grid Contents” and "Print Selected" then choose “Current Device”
- There are also tabs for vital signs, in’s and out’s, Ancillary staff notes, in addition to looking at a “Snapshot” of the patient’s objective data.
- If someone forgets to logout of Affinity, hit Escape, then Enter. You can then start the program using your username and password.
Check List for admitting a patient

1. **ID:** You will receive a call from Med Consult, your Senior Resident, or Co-Intern that you have received a patient. Ask for the name, PF, and location.
2. Check to see if the patient is a bounce back – if so, notify your Senior Resident & Med Consult
3. Check **Labs** write the important ones on a lab sheet.
4. Check Affinity for **Discharge Summaries** and any **Clinic Notes**. Check **Affinity & Quantim EDM** for old chart and any other useful information about the patient’s history. If you know the patient has been admitted before and Quantim doesn’t have the d/c summary, call Medical Records at 226-6221 for the old chart.
5. Check Synapse (to review) and Affinity (to read dictations) for any imaging done in ER or prior to admission.

**Briefly assess the patient (vital signs, brief exam)**
- Look at the patient from across the room for general impression.
- Introduce yourself to the patient and/or family members and tell them you are going to briefly check on the patient.
- Mental Status: find out if the patient is AA&Ox4 (person, place, time, and situation)
- Check Vital signs
  - Take the pulse for six seconds and multiply by 10
  - Count respirations for thirty seconds then multiply by 2
  - Get a pulse ox if you are worried at all about their respiratory status, consider an ABG
  - Ask the nurse for the other vitals and for orthostatics
- Get a brief HPI, ask also if they have med allergies and their weight
- Assess whether the patient is critical, guarded, or stable. If they are not stable and not in the ICU
  - call your Senior resident or Med Consult (323) 409-1644

**After Initial Assessment:**
- Review ER sheet to see what was done and include a brief ER course in your H&P
- Go to the chart and write admit **Orders** (include your admit panel and prn’s).
- **Medications** will need to be written on the Medication Reconciliation Form (PADI). If the PADI form is not signed then pharmacy will not be able to dispense medications.
- Do full **H&P** (Template available on Chiefs’ Website) don’t be afraid to call the patient’s family, doctor, ER physician etc. for more info. Modify orders as necessary
- Start **D/C Summary**. If you are confident the patient will be discharged the next day, start **prescriptions**.
ADMIT ORDERS

Use the mnemonic **CAD VANDISMAL**

**C: Condition:**  
- Stable, Guarded, Critical, etc.

**A: Admit**  
- Firm (Gold/White/Cardinal), Team (A,B,C,D)  
- Attending, Resident, Intern

**D: Diagnosis**  
- Ex: CHF exacerbation, PNA, etc (this should be the admitting dx)

**V: Vitals:**  
- Usually “per routine” is sufficient (this is q 4 hours on the floor and q 1h in ICU)  
- If particularly concerned about a patient you can initially check more frequently (ex: q 1 hour x 2, then q 4h)

**A: Allergies:**  
- Ex: PCN (anaphylaxis), Morphine (rash), etc.

**N: Nursing:**  
- Usually per routine unless special concerns (i.e. strict Is/Os, daily weights, dressing changes, seizure precautions, “O2 to keep Sat > 92%”, “foley to gravity”, etc.)

**D: Diet:**  
- Regular, 1800 ADA/Consistent Carbohydrate, 2gm Na, Low Fat, Soft Mechanical, Clear liq, Full liq, Puree, Dysphagia, Neutropenic, (see diet sheet on next page)

**I: IV Fluids:**  
- You can just write “SLIV” for saline lock which means the nurse periodically flushes the line and no standing IVF  
- If the patient is not eating, does not have Renal Failure, Cirrhosis or CHF you can consider given maintenance fluids w/ ½ NS  
- consider D5 w/ ½ NS if patient is not diabetic  
- One trick is to add 40 to their weight in kg and use that is your rate in cc/hr (ex: 70kg person would get 110cc/hr of IVF)  
- If patient ETOH intoxication or withdrawal can give **banana bag**: 1mg Folate, 100mg Thiamine, 10cc MVI, 2gm MgSO4 in 1L NS at ~100cc/h

**S: Studies:**  
- EKG, CXR, ,U/S, CT, MRI, etc.

**M: Meds**  
- Make sure you fill out and sign the med reconciliation sheet (otherwise the patient will not get their meds)  
- Check off PRN’s on the admission orders (Benadryl, MOM, etc.) but make sure they don’t have any contraindications  
- Make sure you address PRN pain medications. All opioids have to be written “x 72 hours” or they will fall off after 1 day. You can write “x indefinite (cancer)” if the patient has a malignancy and it will stay on for the admission

**A: Activity:**  
- “as tolerated” unless you don’t want them getting out of bed in which case you and write “bed rest”,  
- “bed rest with BRP (bathroom privileges)” if they are not a fall risk is also acceptable  
- If you are worried they will not get out of bed and you want them to you can write “out of bed to chair tid”

**L: Labs:**  
- order CBC w/ diff, BMP, Mg, Phos, LFTs, PT/INR and UA on nearly everyone then add any more specific labs  
- if labs were drawn a few hours ago (in ER or Clinic) no need to repeat until AM unless you need something specific  
- if no labs were drawn in last few hours, everything should be sent STAT  
- Don’t forget to fill out the separate Radiology Request form.
## DIET ORDER GUIDELINES

<table>
<thead>
<tr>
<th>CORRECT ORDER</th>
<th>INCORRECT ORDER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>House, H, DAT</td>
<td>No restrictions</td>
</tr>
<tr>
<td>Lacto / Ovo Vegetarian</td>
<td>Vegetarian</td>
<td>No beef, chicken, pork, or fish (dairy &amp; eggs allowed)</td>
</tr>
<tr>
<td>Vegan</td>
<td></td>
<td>No animal products</td>
</tr>
<tr>
<td>Neutropenic</td>
<td>Low Bacteria</td>
<td>Regular Diet eliminating fresh fruits and vegetables</td>
</tr>
</tbody>
</table>

### Texture Modifications

| Mechanical Soft | Soft | Foods that are soft, easy to chew & swallow |
| GL Soft         | Bland | Eliminates raw, highly seasoned, and fried foods |
| Puree           | Semi Solid | Foods that require no chewing. Moist consistency |
| Dysphagia 1 or 2 | Dysphagia | Dysphagia 1 - puree diet w/ honey thick liquids |
|                  |       | Dysphagia 2 - mech soft diet w/ nectar thick liquids |
| Wire Jaw        | Semi Liquid / Blenderized | Liquids & semisolid foods thinned (consumed by straw) |

### Liquid Diets

| Full Liquid       | Medical Liquid | Foods that are liquids at room temp, milk products |
| Clear Liquid      | Liquid         | Liquids that don’t stimulate extensive digestive processes |

### Sodium Restrictions

| No Added Salt (NAS) | 4gm Sodium | Regular diet without salt packet |
|                    | Low Sodium, Low Na | Salt containing foods restricted, no processed foods |
| 2gm Na, Low fat, Low Chol or Cardiac | Low Na, Low Chol or Low Na, Low Fat | Limits total fat, cholesterol, and sodium |

### Fat Restrictions

| Low Fat | Low Lipid / Fat Free | < 30% of kcal from fat, lean meats and skim milk used |

### Diabetic (ADA) Diets

| No Concentrated Sweets | No Sweets | Restricts foods high in sugar, low fat |
| Musi Specify Kcal Level | Diabetic / ADA | Consistent carbohydrate intake, low fat, and consistent timing of meals & snacks |
| (1200 - 3000 kcals) AP | Gestational Diabetic | Diabetic diet + additional snacks, additional restrictions |

### Renal Diets (40-100 gm protein available)

| 60 gm protein, 2 gm Na, Low K Low Phos (ward 4200 standard) | Renal Low Protein gm protein / kg BW | Restricts foods high in sodium, potassium, protein, phos (patients usually on dialysis) Further restrictions in protein |
| 40 gm protein, 2gm Na Low Phos (standard on wards) | | |

### Protein Modifications

| 2gm Na + supplement | Hepatic / Liver *Consult RD. not at imminent risk for encephalopathy |
| 40 gm protein, 2gm Na | High Protein Regular Diet + 1 can of Ensure at each meal |

### Pediatrics

| Toddler | Diet For Age 1-3 years |
| Pediatric | 4-7 years |
| Chic | 8-12 years |
| Juvenile | 13-17 years |
**Tips for doing and presenting a good H&P**

**The History**
1. Write HPI last after you have written everything else, so it will make sense, and include all pertinent info.
2. The HPI should be chronologic it should start from the point when the person last felt in their usual state of health and proceed forward with the presentation of each new symptom or problem.
3. Along the way you should provide a description of each problem in depth. Two useful Mnemonics for this are PQRST or the ridiculously long L PQRST CWAP:
   - **L**ocation (part of body), **P**roblem (pain, vomit, cough, SOB), **Q**uantity/ **Q**uality, **R**adiation, associated **S**ymptoms, **T**iming (onset duration), **C**ontext (when does it happen?, what are you doing when it happens?), **W**orse/Better (what makes it worse or better?), **A**nyone else sick like this at home, **P**rior Episodes
4. Another good mnemonic is **C**C, **H**PI, **R**OS, **L**ast meal/drink/BM/menses, **A**llergies, **M**eds, **P**SH, **P**MH, **S**H, **F**H
5. For SH there is the famous **H**EADS exam: **H**ome (who lives there, where were you born), **E**ducation, **A**ctivities (work, school, travel), **D**rugs (alcohol, tobacco, illicit drugs), **S**ex (men/women/both, oral/anal/vaginal, last, #partners, protected?, prior STI’s), **S**uicide.
6. Go over the Labs, CXR and EKG carefully and include your assessment of these in your presentation
7. Record a pain score, list it as a separate problem, and treat it appropriately

**The assessment and plan section**
1. Make a problem list which addresses every abnormality from the history, PE, labs, and studies.
2. List them in order of importance
3. For each problem provide an assessment that lists the findings that support and go against your diagnosis
4. Include a differential diagnosis from most to least likely
5. Give a plan for ruling in and out and treating each diagnosis

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<th>Problem:</th>
<th>Plan:</th>
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<tr>
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<td>Findings which go against</td>
<td>Studies</td>
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<tr>
<td>Ddx</td>
<td>Treatment</td>
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Running a Code

**Check Responsiveness**

**Airway** (head tilt, chin lift)

**Breathing** (look listen feel, 2 slow breaths)

**Circulation** (start CPR 15 compressions:2 breaths)

Call A CODE and ask for all of the following as if it were one word:

**O2** Oral Airway, bag valve mask, prepare to intubate

**IV** 2 large bore peripheral IVs or central line and obtain stat labs:

   - Glucose ABG with Lytes, and Tox screen

**Monitor** look at the rhythm and Vital Signs and Pulse Ox

Analyzing the Rhythm

**Asystole:** Epi 1mg

**PEA:** Epi 1mg or Atropine 1mg if brady

**Bradycardia:** Atropine 1mg unless

   - 2° Mobitz II or 3° Heart block (use transcutaneous pacing)

**Tachycardia:**

   - Afib/Flutter: <48hrs/WPW: Amiodarone 150mg

   - >48hrs: Diltiazem 10mg

**Narrow:** Vagal maneuvers, Adenosine 6mg/12mg/12mg

**Wide:**

   - **Stable:** Amiodarone 150mg, Lidocaine 1mg/kg, Mg 2g

   - **Unstable:** Explain, Fentanyl 50mcg, Versed 1mg

      - then Cardiovert 100/200/200

   - **Pulseless:** Defibrillate 200/300/360

      - Epi 1mg q3min or Vasopressin 40U

      - Then Amiodarone 300mg or Lidocaine 1mg/kg

      - Drug … Shock(360) … Epi … Shock(360)

**The worst run codes are those without a leader:**

One of the most important things you can do is **take charge of the code or force someone else to do it**. Even if you are the most junior person there, ask who is in charge. If no one speaks up then announce that you are in charge.

**Look for and treat reversible causes:**

   - Have someone look the chart, review the recent orders, review the patient’s labs, talk to the patient’s nurse, and of course do a focused physical exam.
**Tips for generating a good Differential Diagnosis:**

To come up with a complete differential (or truthfully to do anything else complicated) I usually need a memory aid of some kind. Here are three useful approaches:

1) **Pathology**: VINDICATE
- Vasculitis
- Infectious
- Neoplasm
- Degenerative (Aging)
- Iatrogenic (Procedures/Drugs)
- Congenital
- Allergic/Autoimmune
- Trauma
- Environmental (Poisons/Chemicals)

2) **Anatomy**
   - This works well with pain: RUQ pain: think of what anatomical structures are in the area or nearby: liver, gallbladder, colon, R kidney, stomach, pancreas, lower lobe of right lung . . .

3) **Pathophysiology**
   - This works well with things like acute anemia where based on pathophysiology it should be:
     1. Decreased production due to problems in the bone marrow or erythroocyte precursors.
     2. Increased destruction due to things like autoimmune destruction or MAHA.
     3. Blood loss due to internal or external bleeds.
**Writing your daily note:**

Another useful mnemonic that can be used for writing a daily note is: CON ME LVN

1. Find the Chart
2. Look at the recent Orders find out what happened to your patient since you last saw them
3. Look at the recent Notes to see if any consultants have made useful suggestions or recommendations
4. Check the nursing Medicine sheets (MAR) for the meds your patient is actually getting compare that to what you have ordered, look at the prn meds and the insulin the patient received in the last 24h. You can also go to the PADI on the intranet and look and click on transfer meds and it will show you all the meds the patient should be getting.
5. Examine and interview the patient
6. Check the computer for new Labs and to see which labs are still pending
7. Check the Vital signs
8. Talk with the Nurse or read the nursing assessment in affinity
9. Write your note

**Daily Note Template:**

**Medicine (Red A, B, C, etc.) R1 Progress Note**

**ID:** ex: 50 YO F w/ DM admitted for PNA

**Problem List**

*(Keep this dynamic. Move things up or down on the list depending on what is most important. Putting together a relevant problem list and updating it is an important skill to have. Don’t make the mistake of copying the PMH into the problem list. They are 2 different things.)*

1. PNA
2. Strep Bacteremia
3. DM
4. HTN

**S:**

*No overnight events. Pt remains febrile overnight*

**Meds**

*(keep this updated, check PADI daily and cross-reference with your signout, especially abx)*

Abx (date started, D
Heart Meds
Other Meds
Prn Meds

**IVF:**

**Hardware:** (foley, NG, NC, leg squeezers
**central line** (when placed, Day #)

**O:**

VS: T, HR, RR, BP, O2 sat, Is/Os

**Results:**

*(include important information, don’t copy and paste every lab and study the patient has had from the beginning of time. Only what’s relevant!)*
Labs: (CBC, CMP, etc)

Micro: (any blood cultures, urine cultures, stool, etc…)

Imaging: (any relevant imaging)

Assessment:
(this is where you should put a good “one liner” that summarizes why the patient was admitted to the hospital and how the patient is doing. Keep it simple enough to be one line but informative enough that anyone reading your note would understand what is going on. Writing this is harder than you think and it takes time to get good at it. Very important skill to have)

50 YO F w/ h/o DM admitted for PNA found to have strep bacteremia, now improving and afebrile x 24 hours.

Plan:
(go through each problem daily and update. This is the most important part of your note. If the rest of your note is 20 pages and this part is 1 page…you have a problem. Really make sure your plans are good. This is what consult services read and more importantly your attending will read and is an easy way to tell if an intern has a good understanding of their patient)

#1 PNA-improving
- cont ceftriaxone and azithromycin, today day # ....
- sputum culture negative
- bcx positive for strep, see below

#2 Strep Bacteremia -improving
- on abx today day #
- surveillance cultures negative
- afebrile x 24 hours

#DM -controlled
- cont weight based insulin and ISS
- adjust as needed

#HTN-well controlled
- cont home doses of benazapril and HCTZ

Prophylaxis/FEN
- PPI (yes or no)
- DVT prophylaxis (leg squeezers, fragmin, etc.)
- Diet (ADA, 2 gram Na, etc.)

Notes on Ordering Studies

When in doubt about which imaging modality is best make the diagnosis, you can always call your friendly neighborhood radiologist for some advice. This might also help in prophylaxing against rejected radiology requests!
For CT's:
- Order CT head **without contrast** before any LP to rule out increased intracranial pressure OR if looking for intracranial bleeding
- Order with IV contrast when looking for tumor or any significant source of inflammation/infection (e.g., abscess). Check renal function before hitting their kidneys with contrast! Hydrate and use Mucomyst if necessary
- Order IV contrast AND po contrast (10 cc's Gastrograffin in 400 cc H2O) when checking the bowels (for tumor, other cause of obstruction, diverticular disease, etc). Give the po contrast 1 hour before the procedure and a second dose immediately before the patient goes to CT.

For MRI's
fill out the radiology request form INCLUDING the bottom questions – stable, metal, claustrophobic, AMS/dementia, over 300 pounds

For **Nuclear Med scans** such as the Gallium, WBC Scan, or MUGA
fill out a Radiology form.

For myocardial perfusion scans (eg, stress thallium), make a copy of the patient’s EKG, fill out a radiology form, and go to the Non-Interventional Cardiology area in the D&T Building to complete the stress test form and submit it all together.

**Insulin Management**
**Insulin Sliding Scale**

<table>
<thead>
<tr>
<th>Finger Stick Glucose</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-50</td>
<td>1 amp D50 and call MD</td>
</tr>
<tr>
<td>50-150</td>
<td>nothing to do</td>
</tr>
<tr>
<td>151-200</td>
<td>2U CZI (crystalline zinc insulin)</td>
</tr>
<tr>
<td>201-250</td>
<td>4U CZI</td>
</tr>
<tr>
<td>251-300</td>
<td>6U CZI</td>
</tr>
<tr>
<td>301-350</td>
<td>8U CZI</td>
</tr>
<tr>
<td>351-400</td>
<td>10U CZI</td>
</tr>
<tr>
<td>&gt;400</td>
<td>12U CZI and call MD</td>
</tr>
</tbody>
</table>

To calculate an insulin regimen give 0.6 units/kg in DM2 and 0.3 mg/kg in DM1.
Take 2/3 of the total calculated to be admin in the am 2/3 NPH and 1/3 regular.
Take 1/3 of the total and give it in the pm ½ reg before dinner and ½ NPH at bedtime.
For example:

To calculate a patient’s avg bs based on their HbA1c
\[ (\text{HbA1c} - 4.0) \times 30 + 60 = \text{avg bs} \]
so if HbA1c is 13.3 the avg bs is 339
\[ (13.3 - 4.0) \times 30 + 60 = 339 \]

If you’d like to use Lantus & Humalog, in general start the Lantus dose at 10 units sq qhs with Humalog 4 -5 units sq qAC (before meals)

**PROCEDURES:**

**Procedure Consents:** Always obtain consent prior to procedures – use iMedConsent for forms

**Lumbar puncture:** we will use a needle to take some spinal fluid for analysis
- Risks: bleeding, infection, nerve damage, brain herniation, and very rarely death
- Benefits: diagnosis for appropriate therapy
- Alternatives: no LP, Benefits of alternative: none, Risks: incorrect diagnosis and therapy
**Thoracentesis**: we will use a needle to take out some of the abnormal fluid from around the lung
Risks: bleeding, infection, perforation of a lung, and very rarely death
Benefits: diagnosis for appropriate therapy
Alternatives: no thoracentesis, Benefits of alternative: none, Risks: incorrect diagnosis and therapy

**Paracentesis**: we will use a needle to take out some of the abnormal fluid from abdomen
Risks: bleeding, infection, perforation of an internal organ, and very rarely death
Benefits: diagnosis for appropriate therapy
Alternatives: no paracentesis, Benefits of alternative: none, Risks: incorrect diagnosis and therapy

**Central Line**: we place a catheter in a vein for long term venous access
Risks: bleeding, infection, perforation of an internal organ, and very rarely death
Benefits: administration of special medicines easier
Alternatives: no central line, Benefits of alternative: none, Risks: incorrect diagnosis and therapy

**Procedure Tubes**

**LP**: collect 4-5 red top tubes depending on what you suspect
- #1 = 1 cc for cell count
- #2 = 1 cc for prot/glucose
- #3 = 3 cc for bact, fungal, and AFB Cx
- #4 = 1cc for a second cell count (to help ddx between traumatic and Subarachnoid Hemorrhage)
- #5 = 3+ cc send for special tests (these often require a lot of CSF). If you suspect one of the following:
  - TB send for AFB Cx and AFB PCR
  - Neurosyphilis send for VDRL or FTA-ABS
  - HSV send for HSV PCR
  - HIV pt with CNS sx's send for CSF toxo titer, crypto latex agglutination, cocci titer

For **Thoracentesis** it is the same except for tubes 2 and 5
- #2 = 2 cc for protein, glucose, and LDH
- #5 = if fluid looks milky send it for triglycerides and cholesterol

For **Paracentesis** it is the same as Thoracentesis except for tube 2
- #2 = 2 cc for protein, glucose, LDH, albumin, and amylase
  - Use albumin to caculate SAAG (Serum Ascites Albumin Gradient = Ser Alb - Asc Alb)
  - if > 1.1 (transudative) sugg portal HTN
  - if <1.1 (exudative) consider CA, Nephrotic syndrome, Pancreatitis, Tb peritionitis
  - If Asc amylase > Ser amylase = pancreatic dz

**Procedure Note**

<table>
<thead>
<tr>
<th>Type of Procedure</th>
<th>Prepped and draped in sterile fashion ...</th>
<th>Operating MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication</td>
<td>Site</td>
<td>Supervising MD</td>
</tr>
<tr>
<td>Consent</td>
<td>Technique</td>
<td>Assisting RN</td>
</tr>
<tr>
<td>Anesthesia: Lido, MSO4, etc...</td>
<td>Findings/Complications</td>
<td></td>
</tr>
</tbody>
</table>
**ABG's**

They are useful but very painful and not without risk. Be sure to perform the Allen test prior to performance of an ABG to make sure the radial and ulnar arteries are both functional in the wrist you will be sticking. Have patient make a fist clamp down on ventral side of wrist on both sides have them open their hand it should be pale. Release one finger watch for adequate perfusion then repeat same for other artery on same wrist. If both are perfusing fine it should be safe to attempt ABG. Push plunger on syringe down to 1 or 1.5 cc. Locate artery with two fingers. Hold syringe like a pencil enter artery (usually it is very superficial if you do not get it on the way in come out slowly and you may get it on the way out. The tube should fill on its own without drawing back on the plunger. Take note of any supplemental O2 and pt’s position

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**Interpreting ABG's**

Adapted from: “Interpretation of Arterial Blood Gases (ABGs)”. Kaufman, David A. MD

---

**Step 1**
- Is there alkalemia or acidemia present?
  - pH < 7.35 acidemia
  - pH > 7.45 alkalemia

**Step 2**
- Is the disturbance respiratory or metabolic?
  - If PH and CO2 go in opposite directions = likely respiratory
  - If PH and CO2 go in same direction = likely metabolic

**Step 3**
- Is there appropriate compensation for the primary disturbance? compensation does not always return normal pH (7.35 – 7.45).
  - Metabolic Acidosis PaCO2 = (1.5 x [HCO3-]) +8 (correction factor ± 2)
  - Acute respiratory acidosis Increase in [HCO3-] = ∆ PaCO2/10 (correction factor ± 3)
  - Chronic respiratory acidosis (3-5 days) Increase in [HCO3-] = 3.5(∆ PaCO2/10)
  - Metabolic alkalosis Increase in PaCO2 = 40 + 0.6(∆HCO3-)
  - Acute respiratory alkalosis Decrease in [HCO3-] = 2(∆ PaCO2/10)
  - Chronic respiratory alkalosis Decrease in [HCO3-] = 5(∆ PaCO2/10) to 7(∆ PaCO2/10)

**Step 4**
- Calculate the anion gap (if a metabolic acidosis exists): AG= [Na+]-([Cl-] + [HCO3-] -12 ± 2
- A normal anion gap is approximately 12 meq/L.
- In patients with hypoalbuminemia, the normal anion gap is lower.
- About 2.5 meq/L lower for each 1 gm/dL decrease in the plasma albumin

**Step 5**
- If there is an anion gap, assess the relationship between the increase in the anion gap and the decrease in [HCO3-]
- Assess the ratio of the change in the anion gap (∆AG ) to the change in [HCO3-] (∆[HCO3-]/∆[HCO3-] = 1.0 and 2.0 if an uncomplicated anion gap metabolic acidosis is present.
- If this ratio falls outside of this range, then another metabolic disorder is present:
  - If ∆AG/∆[HCO3-] < 1.0, then a concurrent non-anion gap metabolic acidosis is likely to be present.
  - If ∆AG/∆[HCO3-] > 2.0, then a concurrent metabolic alkalosis is likely to be present.
Useful Heme related stuff:

Brief review of clotting factors:

PT  Extrinsic pathway  Warfarin  7
     \  10, 5, 2, 1 (common to both pathways)
     /  8

PTT  Intrinsic pathway  Heparin  12, 11, 9, 8

8 is involved in Classic Hemophilia & is the only one not made in the liver
9 is involved in Christmas Disease
2,7,9,10 are Vit K dependent

Heparin increases the activity of Antithrombin III which binds 9,10,11, & 12 decreasing their effect

<table>
<thead>
<tr>
<th>Anemia</th>
<th>Disease</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Aplastic anemia</td>
<td>Folate/B12 defic</td>
</tr>
<tr>
<td>MCV</td>
<td>Myelodysplastic Sd</td>
<td>Immune Hemolysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cold agglutinins</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CLL</td>
</tr>
<tr>
<td>Normal</td>
<td>Normal</td>
<td>Early Iron/Folate Defic</td>
</tr>
<tr>
<td>MCV</td>
<td>Chronic Disease</td>
<td>Hemoglobinopathy</td>
</tr>
<tr>
<td></td>
<td>Transfusion</td>
<td>Myelofibrosis</td>
</tr>
<tr>
<td></td>
<td>Chemo</td>
<td>Sideroblastic anemia</td>
</tr>
<tr>
<td></td>
<td>CLL, CML</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bleeding</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Thalassemia trait</td>
<td>Iron Defic</td>
</tr>
<tr>
<td>MCV</td>
<td>Chronic Dz</td>
<td>Beta thal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAHA</td>
</tr>
<tr>
<td></td>
<td>Normal RDW</td>
<td>High RDW</td>
</tr>
</tbody>
</table>
Micro and the use of Antibiotics

G+

<table>
<thead>
<tr>
<th>Cocci</th>
<th>Staph, Strep</th>
<th>PCN, Oxacillin, Vanc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterococcus</td>
<td>PCN G or Ampicillin</td>
<td></td>
</tr>
<tr>
<td>Rods</td>
<td>Listeria</td>
<td>Ampicillin</td>
</tr>
<tr>
<td>anaerobic Rods</td>
<td>Clostridia</td>
<td>Metronidazole</td>
</tr>
</tbody>
</table>

G-

<table>
<thead>
<tr>
<th>Cocci</th>
<th>Neisseria</th>
<th>Ceftriaxone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coccobacilli</td>
<td>H inf, Moraxella</td>
<td>Cefotaxime</td>
</tr>
<tr>
<td>Rods</td>
<td>Pseudomonas, Salm, Shig, Proteus, E coli, KlebLevoquin</td>
<td>Ampicillin</td>
</tr>
<tr>
<td>anaerobic Rods</td>
<td>Bacteroides</td>
<td>Metronidazole</td>
</tr>
<tr>
<td>Vibrios</td>
<td>Campylobacter</td>
<td>Levoquin</td>
</tr>
<tr>
<td></td>
<td>V. cholerae</td>
<td>Levoquin</td>
</tr>
</tbody>
</table>

pages 47-53 in Sanford

Pneumonia

CAP = S pneum, H inf, Mycoplasma, Chlamydia, Legionella, Moraxella, Kleb, S aur, S pyog
Ceftriaxone 1g IV q12 and Azithro 500mg IV qd

HAP = G-rods including Pseud, Kleb, Enterobacter, Serratia
Imipenem 500mg IV q 6 or Ceftriaxone 1g IV q 12 and Gent 2mg/kg/dose q 8

Aspiration = G-rods and S. aureus
Clinda 900mg IV q8

pages 27-28 in Sanford

Fever with Neutropenia

Neutropenia: ANC < 500, ANC = WBCx(%Neut+%bands)
Fever: two T>100.4 in 24 hours or one over 101

Begin with Cefepime 2g IV q8 and Gent 2mg/kg/dose IV q8
(check Gent peak and trough s/p 3rd dose)
If central line add Vanc 1g IV q12

CSF interpretation for LP results

<table>
<thead>
<tr>
<th>CSF Interp</th>
<th>WBC</th>
<th>Glucose</th>
<th>Protein</th>
<th>RBC</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>&lt;10</td>
<td>60-80</td>
<td>15-50</td>
<td>occas</td>
<td>clear colorless</td>
</tr>
<tr>
<td>Partially Txd bact</td>
<td>&gt;500</td>
<td>20-40</td>
<td>&gt;100</td>
<td>occas</td>
<td></td>
</tr>
<tr>
<td>Bacterial</td>
<td>&gt;500</td>
<td>0-20</td>
<td>&gt;100</td>
<td>occas</td>
<td>G stain, purulent</td>
</tr>
<tr>
<td>Abcess</td>
<td>20-75</td>
<td>50-80</td>
<td>&gt;50</td>
<td>occas</td>
<td></td>
</tr>
<tr>
<td>Viral (eg: HSV)</td>
<td>&gt;10</td>
<td>60-80</td>
<td>50-150</td>
<td>(20-150 in HSV)</td>
<td>HSV PCR</td>
</tr>
<tr>
<td>TB</td>
<td>20-200</td>
<td>0-20</td>
<td>200-2000</td>
<td>20-150</td>
<td>AFB PCR</td>
</tr>
<tr>
<td>Fungal</td>
<td>20-200</td>
<td>50-80</td>
<td>&gt;50</td>
<td>occas</td>
<td>India Ink</td>
</tr>
</tbody>
</table>

17
Mnemonic for the EKG:

OVRRAIL-W

Overall: just look at the EKG in general and see what jumps out at you
Voltage: Is it standard or ½ standard look at the square shaped waves at the leftmost side of the EKG
Rate: the EKG represents a 10 second picture so count all of the QRS’s on any line of the EKG then multiply by 6 to get the rate
Rhythm: make sure a p-wave proceeds each QRS—checking for heart block
Axis: look at I and aVF which represent simple vectors I=0° and aVF=90° to assess the axis of the heart
Intervals: check for a normal PR (should be less then 1 large box) and QT interval (should be less than ½ of the RR interval)
Leads: check to see if the patient is having a heart attack. For this look for T wave inversions, ST elevations, or q-waves in any of the following patterns. To remember think HI SAL

Waves: look at the
p’s (LAE if wide notched p in II or biphasic p in V1 and larger hump on the bottom, RAE if tall peaked p in II or biphasic p in V1 with larger hump on top), QRS’s (for BBB QRS > 120 ms, if V1 and V6 rabbit ears then LBBB, if biphasic then RBBB, for LVH S in V1 or V2 + R in V5 or V6 > 35, for RVH R>S in V1 or Deep S in V6), and check T’s for hyperK.

Useful and important formulas

Corrected Ca
\[ \text{Corrected Ca} = \text{Ca} + [(4.0 - \text{Alb}) \times 0.8] \]

Water Deficit in HyperNa

\[ \text{Water Deficit in HyperNa} = (\text{Kg} \times 0.6) \times \left[ \frac{(140 - \text{serum Na})}{140} \right] \]

Try to give half in the first 8 hours then the rest in the next 24.

Usually it is best to give free water po or per NG if possible.

Aa Gradient

\[ \text{Aa Gradient} = (713x \text{FiO2}) - (\text{PaCO2}/0.8) - \text{PaO2} = \text{Normal is 0.29} \times \text{age} \longrightarrow \]

FeNa

\[ \text{FeNa} = \left( \frac{\text{UNa/PNa}}{\text{UCr/PCr}} \right) \text{if < 1% and patient not on diuretics its prerenal} \]

CrCl

\[ \text{CrCl} = \left[ \frac{24 \times \text{UrCr in g/TVol}}{\text{SerCr}} \right] \times 0.07 = 80 - 120 \text{ is normal } m2 = \left[ \frac{(3.6 \times \text{kg}) + 9}{100} \right] \]

SAAG = SerAlb - Ascitic Albumin

≥ 1.1 portal HTN from Liver Failure, Budd-Chiari, Myxedema, SBP
< 1.1 Peritoneal TB or CA, Nephrotic Syndrome, or Pancreatitis.

Light’s Criteria for Transudative Effusion failing any one of the criteria makes it an exudate

1. Effusion Protein / Serum Protein < 0.5  
2. Effusion LDH / Serum LDH < 0.6  
3. Effusion LDH <200

Etiology: Transudate: CHF, Kidney Dz, Cirrhosis
Exudate: Parapneumonic (>1,000 WBC), Empyema (>100,000 WBC) + positive gram stain of pleural fluid, TB, PE, CA, RA, Esophageal rupture, Pancreatic Fistula, SLE
Anion Gap:
\[ \text{Na} - (\text{Cl} + \text{HCO}_3^-) = \text{Normal 10 – 14} \]

Causes of Increased AG:
- Lactic Acidosis: Drugs, Toxins, Shock
- Rhabdomyolysis
- Ketoacidosis: DKA, Alcoholic, Starvation
- Poisoning: ASA, Alcohols
- Chronic kidney disease

Managing Electrolytes:
Below are suggestions for electrolyte replacement but each clinical scenario may differ. When in doubt, you can always call pharmacy (x97641) and they can talk you through it or you can check with your senior.

**Very Important: ALL BETS ARE OFF** if patient is in renal failure. If creatinine is abnormal or patient is not making urine, make sure you are checking with your senior. Especially in the beginning of the year.

**Potassium**:

<table>
<thead>
<tr>
<th>Plasma K</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 6.5</td>
<td>Call resident</td>
</tr>
<tr>
<td></td>
<td>Consider giving Insulin 10-20U IV with ½ an amp of D50</td>
</tr>
<tr>
<td>&gt; 5.2 with Sx or EKG changes</td>
<td>Give Ca Gluconate 10% 10cc IVP over 2-3min if QRS widening (not just for peaked T’s)</td>
</tr>
<tr>
<td>&gt; 5.2 with out Sx’s or EKG changes</td>
<td>Give Insulin 10-20U IV with ½ an amp of D50</td>
</tr>
<tr>
<td>&gt; 4.0</td>
<td>Nothing to do</td>
</tr>
<tr>
<td>3.8-3.9</td>
<td>20 mEq PO x 1 or IV over 2h</td>
</tr>
<tr>
<td>3.6-3.7</td>
<td>40 mEq PO x 1 or IV over 4h</td>
</tr>
<tr>
<td>3.4-3.5</td>
<td>60 mEq PO x 1 or IV over 6h</td>
</tr>
<tr>
<td>3.2-3.3</td>
<td>40 mEq PO q4h x 2 or 80 mEq IV over 8h</td>
</tr>
<tr>
<td>3.0-3.1</td>
<td>40 mEq PO q4h x 3 or 80 mEq IV over 8h</td>
</tr>
<tr>
<td>&lt; 3.0</td>
<td>80 mEq IV over 8h then recheck K and continue</td>
</tr>
</tbody>
</table>

*general rule is that 10 meq of K should raise the serum K by 0.1 as long as their isn’t any renal failure
**can only do 10 meq of K per hour on the floor
***PO options for K include KDUR (horse pill) or K elixir (both are dosed the same)

If your patient is not eating you need to replace the approximately 60 mEq of K they will lose each day that is why if they are **NOT in renal failure and are peeing you should be giving them K in their fluids. Be very careful with patients in renal failure as they will not pee out the K you give them**

At 120 cc/h you will be giving them about 3 liters of fluid a day so to achieve 60mEq of KCl you should give them 20mEq/L

At 60 cc/h you will be giving the about 1.5 liters of fluid a day so to achieve 60mEq of KCl you should give about 40mEq/L

**Magnesium**

<table>
<thead>
<tr>
<th>Plasma Mg</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0-7.5</td>
<td>Ca Gluconate 1g IVP</td>
</tr>
<tr>
<td>1.9-4.9</td>
<td>Nothing to do</td>
</tr>
<tr>
<td>1.6-1.9</td>
<td>Mg Sulfate 2g IV over 8h or 7 - 400mg tabs MgOxide (causes diarrhea)</td>
</tr>
<tr>
<td>1.2-1.4</td>
<td>4g IV over 16h (or 16h on the floor) or fourteen 400mg tabs</td>
</tr>
</tbody>
</table>

**Phosphorus**

<table>
<thead>
<tr>
<th>Plasma Phos</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 4.5</td>
<td>if Phos x Ca &gt; 65 give Amphojel 10cc PO TID with meals</td>
</tr>
<tr>
<td></td>
<td>if Phos x Ca &lt; 65 give CaCO3 650mg PO TID with meals</td>
</tr>
<tr>
<td>2.3-4.5</td>
<td>Nothing to do</td>
</tr>
<tr>
<td>1.0-2.5</td>
<td>Kphos or Na Phos (depending on serum K and Na) can do 15 mmol of either over 8h</td>
</tr>
<tr>
<td></td>
<td>K phos 500mg PO TID x 1 day, renew each day if phos low on subsequent checks</td>
</tr>
<tr>
<td>&lt; 1.0</td>
<td>Kphos or NaPhos 30mmol over 16 hours</td>
</tr>
</tbody>
</table>

* general rule is that 10 meq of K should raise the serum K by 0.1 as long as their isn’t any renal failure
**can only do 10 meq of K per hour on the floor
***PO options for K include KDUR (horse pill) or K elixir (both are dosed the same)