

# Transitions of Care Capstone Course 2017 – Internal Medicine

## Part I: Transitions and Handovers Small Group Exercise

*Estimated time: 45 minutes*

### Case Discussion

#### History of Present Illness / Hospital course to date

Louden Jones is a 71 year-old-male patient with a prior history of congestive heart failure, diabetes mellitus type 2, and one previous myocardial infarction who was admitted to Emory University Hospital with several days of progressive shortness of breath and orthopnea. In the Emergency Department, he is found to be in considerable respiratory distress, with oxygen saturations of 80% on room air, and prominent crackles on pulmonary examination. His CXR shows fluffy bilateral infiltrates. He is placed on BiPAP and admitted to the medical ICU for care of his CHF exacerbation. After one day in the ICU, he is transferred to a medical-surgical floor for further care.

#### Past Medical History

Coronary Artery Disease s/p myocardial infarction two years ago, with coronary stenting  
Congestive Heart Failure, last EF 35%  
Diabetes Mellitus Type 2  
Atrial fibrillation  
Hypertension  
Gout  
Mild dementia

#### Medications on Admission

Furosemide 40 mg PO BID  
ASA 81 mg PO Qday  
Clopidogrel 75 mg PO Qday  
Warfarin 3 mg PO QHS  
KDur 20 mEq Qday  
Carvedilol 6.25 mg PO BID  
Benazepril 20 mg PO Qday  
Pioglitazone 30 mg PO Qday  
Metformin 1000 mg PO BID  
Allopurinol 200 mg PO Qday  
Multivitamin one PO qday

**Social History:** Lives at home with his wife, who also has several medical problems. They have no children. He is a former smoker, quitting a ½ pack-per-day habit 15 years ago. He drinks only sporadically. He is independent in his basic and instrumental activities of daily living (ADLs).

#### Physical exam (morning of transfer):

Vs: 116/62 HR 102 RR 24 He is on 4L of O<sub>2</sub> by nasal canula; his O<sub>2</sub> sat is 92%  
Gen: Moderately obese male, increased WOB, otherwise NAD  
Neck: Jugular venous pulses visible at his jawline when sitting upright.  
Cardiovascular: Irregular rhythm, on average ~100 BPM.  
Lungs: Bilateral decreased breath sounds with rales to mid-lung. No accessory muscle use but unable to complete full sentences  
Neuro: Alert and oriented except to year. No other neurologic deficits.

Abdomen: Obese without fluid wave or organomegaly.  
 Extremities: warm with bilateral 3+ pitting edema

**Laboratory and other diagnostic tests on admission:**

Has an unremarkable CBC.

Na: 132

K: 4.5

Cl: 105

CO2: 23

BUN: 40

Creatinine: 2.3

INR: 3.2

CPK 155, MB 7, Troponin 0.08

EKG: Sinus rhythm with left axis deviation. Inferior Q waves (unchanged from priors).

Chest X-ray shows bilateral fluffy infiltrates.

Your team received this patient during a long call as an ICU transfer. He was transferred to a step down floor where he can receive BIPAP if needed. After reviewing the transfer note, you notice he has been having agitated delirium at night and has had restraints which had been taken off at transfer. At 5pm, you were called to the step down unit for your patient who complained of chest pain, which was new this admission. Exam is unchanged from the morning. Stat EKG shows no change from admission and stat cardiac enzymes show CPK of 200, MB of 5 and troponin of 0.10 (0.08 on admission).

**Tasks**

- In groups of two, structure the WRITTEN portion of your overnight sign-out using the table provided on the worksheet. To help you decide what to include in the written sign-out, use points made in the handover lecture to guide your brainstorming.**

- Try to anticipate any cross-cover issues that may arise.

<u>Patient info</u>	<u>HPI</u>	<u>Problem List</u>	<u>Meds</u>	<u>To Do</u>
<p>Jones, Louden            DOB: 1/1/1942            MRN: 1234567            Room: 10A12</p> <p><i>Emergency contact:</i>            Ms. Nancy Collier (wife)            770-404-1234</p> <p><i>Intern:</i> Lindsey Earning  <i>Attending:</i> Jane Doitright</p>	<p>P/w CHF (EF 35%) requiring ICU stay for BiPAP, was in severe respiratory distress with hypoxia (80% on RA) on admit. Transferred to floor today (4/10). Mild dementia – alert, oriented to everything but year.</p>	<ol style="list-style-type: none"> <li>Chest pain *new* - trop 0.08 -&gt; 0.1, EKG unchanged.</li> <li>Delirium *new* -&gt; req restraints in ICU</li> <li>Acute CHF, EF 35%. Sig. vol overload still. 4L O2, BiPAP prn. RR low 20s..</li> <li>Acute renal failure, creat 2.3.</li> </ol>		<p><input type="checkbox"/> Please f/u on cardiac enzymes and EKG (ordered @ 10p); if troponin &gt; 1.0 or EKG is changed, or pt has unrelieved c/p, please call the cardiology fellow.</p> <p><input type="checkbox"/> If called for delirium, please go see patient, check VS, blood gas prior to re-</p>

		5. Afib, HR 100s 6. DM 7. HTN 8. Gout 9. CAD, h/o stent		prescribing haloperidol 0.5 mg po. Pt has sitter.  Full code
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**Facilitators:**

Let the group discuss for 5-10 minutes. Use the whiteboard to draw the grid. You should write on whiteboard possible inclusion points on a signout, let them discuss the need for these.

- *What is the relevant patient information that should be included in the written signout?*
  - Basic patient information usually auto-populates (location, MRN, DOB, etc).
  - Next-of-kin (or POA) contact information should be provided in case any emergencies occur overnight.
  - BRIEF presentation and hospital course; items that will help in decision-making overnight.
- *What problems should be included on the written portion?*
  - ALL active problems plus any problems that have resolved but may recur.
  - You can leave off problems that have resolved and are unlikely to recur – for example, if the patient was in acute renal failure upon admission but improved with resuscitation.
  - IF the patient is anything other than A&O x 4, their baseline mental status should be on the sheet so any overnight changes can be assessed.
- *Are there any events that occurred today that should be on the signout? Any tasks you need your colleague to perform overnight?*
  - Key learning point is that they provide if-then statements (e.g., IF you are called for confusion or agitation, THEN check oxygen saturation...etc.). At this point they may not be able to form the ‘then’ statement but they need to attempt to include it.
  - Given the patient’s recent chest pain, they may want the cross-covering intern to f/u on cardiac enzymes, EKG, or ensure that patient is CP free.
- *What anticipatory guidance should be provided?*
  - Other points they may discuss: shortness of breath, sundowning, AMS
  - If a patient is DNR, discuss what that means. Are they comfort care only? Or, do they want aggressive care up until the point of resuscitation? Often students will use code status as a surrogate for goals of care and may not provide care in the same way based on something that should only apply during a cardiac or respiratory arrest.

At the end of this exercise, the group should have a working list of “must-have” handover items, which students will be able to draw upon as they perform the next exercise.

**2. Role play exercise: In groups of two, you will role play a cross-covering intern and an intern ready to leave for the day.**

Try to use the mnemonic S<sub>2</sub>AIF-IR to structure your communication. (Sickest first; Summary statement, Active issues, IF-then contingency planning; then for the “receiving” provider – Interactive questioning, Read back)

Intern 1: You will form a verbal handover for this patient. You will sign out to your partner. Intern 1 will have 2 minutes to get ready to signout.

- Tip: Try to use the mnemonic S<sub>2</sub>AIF-IR to structure your communication.

Intern 2: You are the cross-cover intern and will be receiving signout. While your partner is signing out, you can refer to the list of necessary handover items your group generated to ensure you have all the necessary data. Be sure to ask clarifying questions and repeat back important information.

### ***Facilitators:***

- The students will attempt to do this in pairs first. They will have a few minutes to prepare what they want to say and the format for the signout will have been determined/written on the white board.
- After 5 minutes, ask for one of the pairs to volunteer to demonstrate their handover. Intern 1 will model strong verbal signout. Intern 2 will ask appropriate and directed questions concerning patient condition or tasks overnight.

Key components to include are below. Here, it is presented using the S<sub>2</sub>AIF mnemonic. It is not crucial that they follow the mnemonic as long as all the information is included in a logical order:

- Sickest first:
  - Although there's only one patient in this case, when they have multiple patients they will need to prioritize.
  - Can discuss that this patient would likely be the first patient in the verbal sign out.
- Summary statement:
  - This should be 1-3 sentences at most; this is NOT an overview of the patient's hospital course.
  - As an example "Mr. Jones is a 71 yo gentlemen admitted in severe respiratory distress with acute on chronic CHF with an EF of 35%. He was initially admitted to the ICU yesterday for BiPAP but was transferred out to step down this morning."
- Active issues:
  - What happened today that the cross-covering provider should be aware of?
    - The team's thought process can be provided here to help guide any decision-making overnight.
  - As an example: "He is better than on admission but is still breathing in the low 20s and is requiring 4 L of O<sub>2</sub> by NC. He had an episode of chest pain a couple of hours ago; his EKG and a stat troponin was unchanged from his baseline."
- IF-then contingency planning:
  - Are there any studies or tasks pending that the overnight cross-covering provider NEEDS to follow up on (stress to the students they should only sign out tasks that need to be managed before the following day; if they are signing out a lab, they should tell the cross-covering provider what time that result is likely to be back).
  - If there are studies to follow up on, what should they do with results (IF the hemoglobin drops and there is not further bleeding, THEN please transfuse two units of blood)?
  - Are there events that may occur with this patient that the day team can provide "anticipatory guidance" for? We can't predict everything, but likely events should be discussed. See the sign out sheet for some examples.
- Interactive questioning and Read back:
  - The "receiving" provider should demonstrate active listening skills by clarifying information and repeating important tasks.

*After the final role play, you may have a wrap-up discussion to reinforce the important principles in a handover.*

## **Part II: Discharge Exercise**

*Estimated time: 45 minutes*

After seven days in the hospital, the team decides that Mr. Jones is ready to be discharged. His shortness of breath is much improved, with the patient saying that he is “80% back” to his respiratory baseline. His hospital course was complicated by a UTI, but was otherwise uneventful. He is now off oxygen at rest, but his saturations go down to 88% on room air when ambulating 20 feet. Otherwise, his vital signs on the day of discharge are:

Temperature: 37C  
Pulse: 82  
BP: 100/70  
Respiratory Rate: 16  
O2 saturation: 94% on room air at rest

### Latest laboratory tests:

CBC- unremarkable  
Na: 132  
K: 3.4  
Cl: 104  
CO2: 28  
BUN: 27  
Creatinine: 0.9  
INR 2.4

### Current Medications:

Furosemide 80 mg I.V. bid  
ASA 81 mg PO Qday  
Clopidogrel 75 mg PO Qday  
Warfarin 3 mg PO Q day  
KDur 20 mEQ Qday  
Carvedilol 12.5 mg PO bid  
Lisinopril 20 mg PO Qday  
Hydralazine 25 mg PO Q 8 hrs.  
Isosorbide dinitrate 20 mg PO Q 8 hrs  
Insulin Glargine 15 units QHS  
Insulin Aspart 5 units Qac  
Sliding scale insulin as per protocol  
Allopurinol 200 mg PO Qday  
Multivitamin one PO qday  
Protonix 40 mg PO qday  
Calcium 50 mg PO bid  
Vitamin D 800 units daily  
Ceftriaxone 1 gm IV daily

Physical Function: Prior to hospitalization, he able to walk 2 blocks before getting short of breath. Now only able to go a few steps without SOB, and he fatigues easily. He is able to transfer and use the bathroom on his own.

**Tasks:**

**As a group, perform the following exercises:**

**1. Reconcile the patient's current medications with his admission medications, and devise a discharge medication regimen.**

***Facilitators:***

This exercise should get the group thinking about the harms that can come from a poorly done medication reconciliation. There are not right or wrong answers, but there are certain principles we would like to follow:

- a. As much as feasible, the regimen should be simple. Therefore, if there are equivalent medications that have fewer daily doses, then those should be considered.
- b. Medications should be reconciled with the home regimen, and consideration should be given to returning to prior medications and their doses.
- c. However, reconciliation needs to account for new realities. If the patient was admitted with congestive heart failure, then he may need more diuretic than previous.
- d. Also consider evidence-based medications, and when patients should be on these – while being aware there may be other reasons (e.g., past history of intolerance) that their PCPs may have them on something different.
- e. The COSTS of medication should be considered. Is the medication on their insurance's formulary (assuming the patient HAS insurance)? Is it something that requires prior authorization?

Medication points to consider:

- Furosemide may need to be higher than at admission, but the patient will likely need a post-discharge visit soon (in a week or two) and instructions on how to monitor response (daily weights, for e.g.).
- Coumadin is a high risk medication; review for new interacting medications and don't prescribe more than they need before their next clinical appointment.
- Patient was switched to carvedilol; you can discuss that atenolol has once daily dosing but carvedilol has better supporting evidence for use in heart failure (this is more to get them thinking than to review treatment of heart failure!).
- Patient was on benazepril before and is on lisinopril in the hospital.
- Is hydralazine necessary for this patient? Pressure is low normal, and it is a TID drug.
- Do we keep the patient on insulin?
- The last K level was 3.4. Does he need a higher daily Kdur dose?
- PPIs are commonly started in the ICU but then never d/c'd.

**2. What would be a proper discharge setting for the patient? What types of services would he need to have set up for him?**

***Facilitators:***

The default should be for the patient to go home. Considering that he needs little assistance with ADLs, home seems reasonable. However, he is below his functional baseline. Therefore, home health services with physical therapy would be useful. You may consider discussing the significance of the wife having her own medical issues. Would it be helpful to engage other family members? It is important to consider

that home health services may provide help with homemaking, but not necessarily with basic ADLs like toileting and transfers.

### **3. What aspects of communication will be critical for the physician to share with:**

- **The discharging nurse**
- **The social worker**
- **The patient and his wife**

#### ***Facilitators:***

The physician is one member of the inter-professional team, but s/he has a leading role in the discharge process. After deciding on discharge medications and the site of discharge, communicating with the above persons is important.

It would be worth bringing Coleman's Four Pillars of Care Transitions:

- Medication reconciliation
- Patient-centered discharge record (this is institution-dependent, and may not be applicable to this discussion)
- Follow-up appointment
- Discussion of red flags

*With the discharging nurse:* Should go over the patient's medications, and ensure that the patient's health literacy and ability to be adherent to a discharge regimen is compatible with what we have prescribed. In many hospitals, nurses perform most education on discharge medications, so a thorough discussion of the medication regimen and its rationale would be useful. Lastly, we would need to ensure that the patient has been educated on self-administration of insulin.

Also consider that the nurse may have a better sense of whether the patient needs a physical therapy evaluation than the physician might.

*With the social worker:* The physician team will discuss the site of discharge with the social worker/case manager, and ensure that the patient has the needed home services. A discussion of the need for physical therapy should be a part of this. Finally, the team should also ensure that the patient has the needed follow-up appointments. What should these appointments be (PCP, cardiology)? A conversation of the need to communicate with the receiving physician should ensue.

*With the patient/family:* The physician should complement the nurse's discussion on medications and answer their questions related to this and other discharge issues. In keeping with one of Coleman's four pillars, there should be an emphasis on red flags. In the case of CHF, these could include:

- Signs and symptoms of under-diuresis (important of daily weights, etc) or over-diuresis (again, daily weights); diet education; who to follow up with.
- Should also discuss hypoglycemic symptoms (the patient is new to being on insulin). Can review whether the patient needs diabetic education.

### **4. Who else might you want involved in his care?**

#### ***Facilitators:***

Have the students consider:

Nutritionist

Physical therapist

Diabetic educator