NURSE PRACTICIONER SATURDAY MORNING DISCHARGES

At our last Shareholders Meeting, the cardiology attending decided to ask the night nurse practitioners to discharge patients on Saturday mornings. This would alleviate some of the burden on the Saturday weekend rounding team, and allow patients to leave the hospital earlier Saturday morning (sometimes the non-call team arrives later). The majority of these patients have minimal problems, and some could almost be discharged without being seen.

The night NP would probably round in the cath lab recovery area (CVR) around 6 AM, before the pacemaker companies have arrived to check the devices. Usually it is fine to write to discharge the patient "if OK with device representative."

Here are some points to keep in mind:

- In an ideal world, the cardiologist will enter all the discharge orders into the computer, enter the followup appointments into the computer, sign all of the prescriptions, write at least a brief procedure note in the computer that contains specific directions about how to discharge the patient. All of this would be pre-arranged, and the NP would only have to do the following things:
    - Read the procedure note in the chart and make sure the plan is being followed
    - Talk to / examine the patient
    - Write a brief discharge note in the chart
    - Tell the CVR nurse to send the patient home
- However, the world is not ideal, and so we are including detailed instructions should any of these steps be skipped/forgotten.
- We realize the NPs are new at this. If either the patient or the NP seems uncomfortable, or if the patient is having a complication, the patient may wait for the attending cardiologist to come by in a few hours and check on the patient. Please avoid paging cardiologists at 6 AM if possible; ask the CVR team to notify them around 8 or 9 AM.
- Please have a low threshold to keep these patients an extra day or order stat echo's/ bloodwork. Keep in mind that we have just been poking things in their heart…
- Even if the NP doesn't discharge every single patient in CVR, discharging just a few patients would still greatly help the weekend rounding team.

Update 6/2020: Night NPs will now discharge everything except VT ablations or patients where "Attending to discharge" is written

PACEMAKER / ICD DISCHARGE

I. Subjective: Is everything OK? Pain controlled? Any chest pain/ dyspnea? Any hiccups (could be pacemaker stimulation of diaphragm)?
II. Objective
  A. Vitals- Hypotensive?
  B. Physical exam- Is wound well dressed? Any large hematoma?
  C. CXR- Pneumothorax? Make sure you look at the official report and act on any incidental findings (spots on the CXR that needed to be followed up- they could be cancer)
  D. Device Interrogation- OK?
III. Assessment:
  A. Have a low threshold to order a stat echo for chest pain, hypotension, any sign of tamponade
  B. Hematomas that are rapidly expanding and painful need urgent surgery (and pressure!). Hematomas that are large but are not painful can be managed conservatively (warm compress)
  C. Diaphragm stimulation -> ask device rep to reprogram LV lead
IV. Plan:
  A. Discharge Instructions
    1. OK to take showers. Do not go underwater for 2 weeks.
    2. One week followup appointment is automatically set up. They will remove the dressing, check the wound/device, and answer any questions you have
    3. No big pulls or stretches with your arm for 2 months, but please keep your arm limber and don't get a frozen shoulder. Remove the shoulder sling the day after the surgery.
    4. No driving for 2-3 days. If the patient is 100% paced, no driving until the 1 week followup visit, especially if the patient had syncope.
    5. OK to use microwave, electric blanket, cell phone, normal everyday items. No arc welding or chainsaws. Avoid close contact (arms length) with electric fields/devices.
    6. For ICDs: if you get shocked and feel OK, call us the next day. Call 911 for multiple shocks or severe symptoms.
    7. Have a low threshold to call us with any new/worsening symptom
  B. Blood thinners: if held, resume 3 days after surgery. Coumadin/plavix/effient/brilinta are sometimes not held prior to surgery however. If the procedure is done on uninterrupted coumadin, continue coumadin after the procedure.
  C. Pain management: usually tylenol is OK but some patients may ask for Norco (5/325 mg po qid prn, dispense #12, no refills)
    1. Exception: subcutaneous ICDs (placed on left chest wall) -> generally need Oxycodone 10 mg po qid prn dispense #56 (2 weeks worth), write "Z95.810 Surgery" on prescription
  D. Followup: 1-2 week followup for device check only is usually automatically set up, followup with the provider will be arranged at that point
  E. Discharge Order: "Discharge written if CXR OK and if OK with device representative" (Note: you should remind yourself to look at the official CXR report and make sure there are not any incidental findings that need to be followed up)
  F. Discharge medication reconciliation: check to make sure it is done
  G. Discharge Note: put brief note in the chart, state that the device check was OK
  H. Discharge DEPART: usually not needed
  I. Billing: 99217 (Observation discharge), 92388 (Pacemaker check) or 93289 (ICD check)

Short Worry List: Pneumothorax, Chest/pericardial pain, Large hematoma

SVT/PVC/VT ABLATION DISCHARGE

I. Subjective: Is everything OK? Any chest pain/ dyspnea?
II. Objective
  A. Vitals- Hypotensive? Tachycardic? Bradycardic?
  B. Physical exam- Any groin hematomas? Groin bruits?
  C. Telemetry- No SVT? Severe bradycardia?
III. Assessment:
  A. Have a low threshold to order a stat echo for chest pain, hypotension, any sign of tamponade
  B. Bruits/hypotension/hematomas from arterial access can be life-threatening and attending should be notified. Typical workup: type and cross (and just transfuse if they are really unstable), stat CT with iv contrast to rule out retroperitoneal hemorrhage or ultrasound to rule out pseudoaneurysm, consider stat vascular surgery consult, consider transfer to ICU
  C. Problems with venous access are usually not life threatening and can be managed with pressure/ conservatively
IV. Plan:
  A. Discharge Instructions
    1. No showers or driving for 24 hours
    2. If arterial access (rare): no heavy lifting or vigorous activity for 10 days
    3. If venous access: no heavy lifting or vigorous activity for 3 days
  B. Blood thinners: if held, resume the day after surgery. THIS IS DIFFERENT THAN AN A FIB ABLATION. Patients with left atrial or left ventricular procedures should be on aspirin for one month at least. Most SVT procedures are right atrial.
  C. Antiarrhythmic/beta blocker/calcium channel blocker: Often are stopped after this procedure, but sometimes are continued until the followup visit. Refer to the medication list/procedure note for details. It's usually not wrong to keep them on it.
  D. Discharge Order: "Discharge written"
  E. DEPART: arrange followup with nurse practitioner in 1-2 weeks unless otherwise specified
  F. Discharge medication reconciliation: check to make sure it is done
  G. Discharge Note: put brief note in the chart
  H. Billing: 99217 (Observation discharge)

Short Worry List: Groin complications, Arrhythmias on telemetry (tachycardia/ bradycardia)

ATRIAL FIBRILLATION ABLATION DISCHARGE

I. Subjective: Is everything OK? Any chest pain/ dyspnea?
II. Objective
  A. Vitals- Hypotensive? Tachycardic? Bradycardic?
  B. Physical exam- Pericardial friction rub? Any groin hematomas? Groin bruits? Dr. Mahlow places sutures in the groin- has the nurse removed the sutures?
  C. Telemetry- No A fib?
III. Assessment:
  A. Have a low threshold to order a stat echo for chest pain, hypotension, any sign of tamponade
  B. Problems with venous access are usually not life threatening and can be managed with pressure/ conservatively
IV. Plan:
  A. Discharge Instructions
    1. No showers or driving for 24 hours
    2. No heavy lifting or vigorous activity for 3 days
    3. Resume regular activity gradually
  B. Blood thinners: Patients must be continuously anti-coagulated after atrial fibrillation ablation. If they are on heparin, give one dose of eliquis/NOAC/lovenox before discharge and shut off the heparin at discharge, write "Discharge after they receive first dose of eliquis". Some patients may have received Pradaxa last night with the plan to resume their home NOAC when they go home. If they are on coumadin and INR is < 2, they should be bridged with lovenox until INR > 2.
  C. Antiarrhythmic/beta blocker/calcium channel blocker: Often are stopped after this procedure, but sometimes are continued until the followup visit. Refer to the medication list/procedure note for details. It's usually not wrong to keep them on it.
  D. GI Prophylaxis: If they are not already on a PPI, they get protonix 40 mg or omeprazole 40 mg qd for a month. If they are already on a PPI, they get the PPI bid for a month. If they were given carafate in the hospital they should go home on carafate tabs qid for a month.
  E. Followup: with nurse practitioner in 1-2 weeks unless otherwise specified
  F. Discharge Order: "Discharge written"
  G. Discharge medication reconciliation: should be done
  H. Discharge Note: put brief note in the chart
  I. Discharge DEPART: enter followup visit
  J. Billing: 99217 (Observation discharge)

Short Worry List: Make sure they are anti coagulated, Make sure they are on a PPI (omeprazole, etc.), Chest/pericardial pain, Groin complications

Update 6/2020: Night NPs will now discharge everything except VT ablations or patients where "Attending to discharge" is written

discharge are pacemakers/ICDs, I think its completely reasonable to have this pt seen by an attending, since you had a question about patient.

3) Write the prescription for lovenox (for example, lovenox 80 mg sq bid, dispense #7, refills 1). In the depart, make a free text followup appointment to "Check INR" in several days (within a week). Or, write a discharge instruction to check INR. Write a communication order to the nurse for "lovenox education." The nurse will show the patient how to administer the shot.

4) I haven't heard of any problems. I suspect that we have probably not done the discharge orders for you and that you have had to do the discharge med rec yourself. If you are comfortable doing that on occasion, then I'm fine with it to- but please let us know if we need to tweak things.

Dr. Mahlow

From: Monroe, Marissa D (UPA) <MDMonroe@utmck.edu>
Sent: Wednesday, January 29, 2020 11:41 PM
To: Mahlow, Jeremy <JMahlow@utmck.edu>
Subject: CVR Patient Discharge

Dr. Mahlow,

Good morning. There was a CVR patient discharged this past weekend and I was hoping to get some clarity on the situation (Mr. Redmon MR 0657282). He had an A Flutter ablation with Dr. Hirsh. Your discharge instructions have been extremely helpful and I reference them on every patient. The A Fib discharge instructions say that if a patient is on coumadin then they should be bridged with lovenox until INR >2. This patient takes coumadin 5 mg daily. His INR the day of the procedure was 1.36 and the following morning was 1.23. Since his INR had decreased and was <2 I assumed he needed to be bridged with lovenox. I had never been in that situation before and wasn't exactly sure what to do, so I delayed discharge until the attending could evaluate. Upon following up with the CVR nurse on Monday I learned that the attending discharged the patient on his normal coumadin dose without lovenox. My specific questions are:

1) Does the A Fib ablation discharge instructions also apply to A Flutter ablation discharges
2) Was I wrong to delay discharge with this patient
3) What specific steps should be taken to discharge a patient with a new lovenox prescription (so that I can complete the task and not defer to the attending)
4) Have there been any problems or other learning opportunities identified

As always thank you for your time and any feedback is greatly appreciated.
Marissa Monroe

Re: CVR Patient Discharge

Mahlow, Jeremy <JMahlow@utmck.edu>

Thu 1/30/2020 4:08 AM

To: Monroe, Marissa D (UPA) <MDMonroe@utmck.edu>

Hey Marissa,

Thanks so much for your help discharging patients on Saturday! I've been so busy that I haven't had much time to check to see how this was going. How are things going with that in general? Here are the specific answers to your questions:

1) Yes, A flutter discharge instructions should be the same as A fib. Please note that this patient actually did not have an ablation for A flutter however. Here is the short procedure note:

indication - Aflutter - atypical
Findings - multiple different focal atrial tachycardias
Ablated most stable focus.
Plan - watch overnight and home tomorrow.

You can see that the indication for the procedure was a flutter, but the finding was atrial tachycardia. So this was an ablation for atrial tachycardia (a form of SVT) rather than an ablation for atrial flutter.

I think that its critical to continue uninterrupted blood thinners (lovenox in this case) for a fib and a flutter ablations. We do often hold blood thinners for a few hours to let the groin stop bleeding, but then we should resume them ASAP. With most EP procedures we access the femoral veins rather than the femoral arteries. Therefore the bleeding risk is much lower. You should always check for a hematoma however and don't give someone a blood thinner if they have a huge hematoma, even if it was a venous stick. I had one patient who had a hematoma and they were sent home immediately (by one of the attendings) on blood thinners. They should have been kept an extra day and not given lovenox.

Therefore as far as this patient is concerned, it would not be wrong to give lovenox, and it would also not be wrong to just resume the Coumadin- it's just a matter of preference, since this was not a flutter or fib ablation. It's considered reasonable to hold blood thinners for up to a week for a fib/AFL patients, as long as they don't have a metal valve.

A long time ago, Hirsh said that he would rather the attending discharge a fib ablations, since they are complicated procedures. I think this is still the case. Pacemakers, defibrillators, and garden variety SVT ablations (like this one) could be discharged by the NP.

2) We don't ever want you to feel that its wrong to have the attending see the patient. Please do that if you feel the least bit uncomfortable with things. Our goal is to write all the discharge orders and med rec the day before. Please let me know if we are forgetting to do that and I will send out a reminder (to myself as well). Since most of the patients that you

CATH/PCI DISCHARGE

I. Subjective: Is everything OK? Any chest pain/ dyspnea?
II. Objective
    A. Vitals- Hypotensive? Tachycardic? Bradycardic?
    B. Physical exam- Any groin hematomas? Groin bruits?
III. Assessment:
    A. Have a low threshold to order a stat echo for chest pain, hypotension, any sign of tamponade
    B. Bruits/hypotension/hematomas from arterial access can be life-threatening and attending should be notified. Typical workup: type and cross (and just transfuse if they are really unstable), stat CT with iv contrast to rule out retroperitoneal hemorrhage or ultrasound to rule out pseudoaneurysm, consider stat vascular surgery consult, consider transfer to ICU
IV. Plan:
    A. Discharge Instructions
        1. No showers or driving for 24 hours
        2. No heavy lifting or vigorous activity for 10 days
    B. Blood thinners: Patients with stents should always be on a baby aspirin AND either plavix, brilinta, or effient after the procedure. **Tell patient it is very important not to miss one dose.**
    C. Discharge Order: "Discharge written"
    D. DEPART: arrange followup with cardiologist or nurse practitioner in 1-2 weeks unless otherwise specified
    E. Discharge medication reconciliation: check to make sure it is done
    F. Discharge Note: put brief note in the chart
    G. Billing: 99217 (Observation discharge)

Short Worry List: Groin complications, Chest pain, MAKE SURE THEY ARE ON DUAL ANTIPLATELET THERAPY (ASPIRIN AND PLAVIX/BRILINTA/EFFIENT) IF THEY HAD A STENT