1. Does Jane Smith have a PT order?
   1. Yes. This information can be found under the Other Orders tab in her chart.
2. Find Jane’s admission note. Why was Jane brought to the ED?
   1. Remember most recent notes will appear at the top of the screen, scroll down to the bottom of the notes section to find Jane’s ED provider note. It seems Jane suffered a fall in her home and now complains of low back pain. Jane was unable to get up until she was found by her daughter.
3. What elements of Jane’s past medical and surgical history are concerning from a physical therapy standpoint?
   1. Jane’s history of osteoarthritis and osteoporosis are common diagnoses we see with our older adult patients. These musculoskeletal conditions are certainly relevant to a PT examination and development of a plan of care. Jane also has a history of breast cancer, which should always raise a red flag to therapists to be mindful of any other signs of cancer recurrence or metastasis. This is less applicable in the acute setting, but keep in mind the contraindications to certain modalities with cancer. Some signs that may be related to a cancer recurrence if present may be unrelenting pain with insidious onset that is often worse at night, unexplained weight loss (>10% body weight in 2-4 weeks without trying), a palpable mass, any insidious changes in other organ systems-changes in bowel/bladder habits, pain that is affected by food intake etc. that may indicate changes in organ function due to cancer.
   2. Jane was treated for her breast cancer with a lumpectomy and chemotherapy. Even years after treatment, patients can experience side effects such as cancer-related fatigue, mental health challenges, MSK complaints due to surgery etc. A cholecystectomy is the removal of the gall bladder, keep this in mind when screening for GI function and nutrition.
4. What was Jane’s diagnosis upon admission?
   1. Jane was admitted due to failure to thrive. This diagnosis may or may not be associated with a terminal or chronic illness but generally is associated with poor appetite, loss of weight, increased fatigue and progressive functional decline. These individuals may also be classified as frail with any 3 of these 5 criteria: weight loss, exhaustion, low physical activity, slowness, or weakness.
5. What anthropometric data sticks out to you?
   1. Jane is underweight based on her BMI of 16.8.
6. What were the results of Jane’s radiology report?
   1. Jane did not have any fractures as a result of her fall in her lumbar spine or pelvis. The x-ray does show some degenerative changes and old compression fractures in her thoracic spine. This is important to keep in mind when considering interventions for Jane later on.
7. What impression do you have about Jane’s nutritional status?
   1. Based on the registered dietitian’s note, Jane has likely not been getting balanced nutrition. It is unclear how long she has been eating sugary foods and neglecting fruits, vegetables and adequate protein sources, but her nutrition is likely related to her underweight status, fatigue levels and maybe even her mental status changes.
8. What labs has Jane had done? What values are concerning to you and why?
   1. Upon admission to the ED, Jane had a complete blood count, basic metabolic panel and lipid panel drawn. Utilize the Lab Values Booklet to help you review normal ranges and identify values outside of that range. Hemoglobin and hematocrit values are slightly lower than normal range while white blood cell count is right on the upper limit of normal. The BMP reveals Jane demonstrates hypocalcemia which could contribute to her mental status changes
9. Have you identified any changes or lab values in Jane’s chart that could be attributed to normal aging processes?
   1. Remember that hematocrit and hemoglobin values can be slightly lower in healthy older adults. In the absence of other symptoms, these values would not be of great concern.
   2. Older adults demonstrate a decreased max HR but their resting HR and RR should remain generally within normal values. Older adults are at risk for developing pathologic changes in pulse rate and heart rhythm. Due to increased blood vessel stiffness that is normal with aging, older adults are at risk for developing HTN however this is not the case according to Jane’s vitals.
10. Do you notice any trends in Jane’s vital signs?
    1. When Jane was first admitted her vitals were elevated, but with each subsequent measurement they seem to normalize. Remember that when patients are in the hospital, especially those who are agitated or confused, they may be distressed and show that through their vitals. Always look at trends when you are considering a patient’s vital signs rather than a single point in time.
11. What medications is Jane taking? What PT implications are there to consider?
    1. You can find medications Jane is taking under that tab in the chart and also in the Snapshot tab. Jane is taking a bisphosphonate (Alendronate) and a selective estrogen receptor modulator (Raloxifene) to manage her post-menopausal osteoporosis. Bisphosphonates present generally low risk, but therapists should be aware of the rare side effects of osteonecrosis of the jaw and atypical subtrochanteric hip fractures. Estrogen therapy generally can increase risk of cardiovascular disease and cancer, however Raloxifene is a part of an alternative class of drugs called SERM that decrease the patients risk for cancer, have favorable effects on the cardiovascular system and can be indicated for patients with hyperlipidemia as well.
    2. Jane also takes ibuprofen as needed and appears to have seasonal allergies treated with Fexofenadine.
    3. The main PT implication to keep in mind is looking for signs of declining bone health or pathologic fractures.
12. What have you learned about Jane’s social support? What concerns or barriers to care have you identified?
    1. Jane lives alone and lives a relatively isolated lifestyle, only leaving the house once a week to have afternoon coffee with a neighbor. Jane’s daughter seems supportive but also works full time and lives 20 minutes away which precludes her from going to see Jane more than a couple times a week. Some further questions to address in the examination may be what access Jane has to transportation and if she is still driving or if her neighbors would be available to help if she needed it. Especially since it seems Jane may have dementia, it is concerning she would not have 24/7 supervision at home as she seems to need help with nutrition and likely has generalized weakness. Her home has steps to enter without a railing, so in order to go home safely she would need to demonstrate the ability to ascend and descend 3 stairs without a handhold independently. Even before you examine a patient, you should be thinking about the support system they have at home to begin thinking about whether discharge home is a plausible option.
13. Have you identified any red flags or contraindications for mobility/PT examination? Is Jane an appropriate patient for a physical therapy examination?
    1. Right now, the only red flag in Jane’s chart is her apparent change in mental status. Some additional screening will be necessary to determine more clearly what her baseline cognitive status is through interviewing her daughter. This alone is not cause to hold the PT examination, Jane is an appropriate patient for physical therapy evaluation.
14. If you feel Jane is an appropriate patient, what do you imagine her mobility will be like for activities such as transfers and locomotion?
    1. Based on her refusal of OOB mobility with nursing so far, her confused and somnolent state in the hospital and low activity levels prior to hospitalization, it could be expected that Jane may need min-mod assistance with transfers and locomotion. Even though Jane has been ambulating without an AD at home, we don’t know how safe this was and the combination of her fall and hospitalization have likely caused a decrease in her functional mobility.
15. What things should you bring with you to her room?
    1. It would be a good idea to bring a rolling walker and gait belt to her first PT session to assess her need for an AD with transfers and gait tasks. If she progresses further than expected in her examination and is ready to stair train, a cane may be necessary due to the difficulties in stair training with a walker. Make sure you bring a pair of non-slip socks to the room as well. Jane is not on supplemental oxygen and doesn’t seem to have many if any invasive tubing besides a peripheral IV. You may bring a hemostat to pin her IV tubing to her gown but you may also be able to discontinue fluid administration during OOB mobility with approval from the nurse. Jane does not have any isolation precautions listed, so you should be ok with the PPE located in the patient’s room.

Additional Case Information

1. If a patient is NPO, what are some PT considerations?
   1. When patients are NPO, this means they should take nothing by mouth. Jane had a Nasogastric Tube placed for nutrition and continues to receive fluids through her peripheral IV. Many patients don’t understand why they cant eat solid food anymore, afterall they have been doing it at home! Some simple education to reinforce the SLPs findings about risk for aspiration and lung infections may be helpful to implement when you see Jane next. Remember, if a patient who is NPO asks for water you cannot just fill up a cup for them! Be aware of how their intake recommendations change, they may graduate to thickened liquids in which case you will need to mix a thickening agent in their water.
2. What do you notice about Jane’s new lab and vital measurements?
   1. Jane now has an elevated white blood cell count and body temperature which is consistent with her hospital acquired infection. She is hypotensive, tachycardic and tachypnic.
   2. On the morning of the 16th her vitals have stabilized a little but are still outside of a normal range.
   3. Jane also requires supplemental oxygen now to maintain her SpO2 above 90% which will have implications for her activity tolerance.
3. What is your analysis of Jane’s Arterial Blood Gases?
   1. You will get more instruction on this concept in your Cardiopulmonary PT course, but briefly Jane is demonstrating uncompensated respiratory alkalosis. Her pH value is more basic than the normal range and her partial concentration of CO2 is low. This is likely due to her hyperventilation where she is exhaling more CO2 (acidic compound) than she would if she demonstrated a normal respiratory rate. This state can cause increased confusion and dizziness on top of that from her hypotension.
4. What red flags do you see in the additional case information?
   1. The main red flag is her hypotension. Her latest BP of 82/63 and MAP of 69 is not below the threshold to hold activity, but it should be taken into account when thinking about mobility. If she is already hypotensive laying down, it will only get worse when coming to a sitting or standing condition so proper guarding will be important.
5. Jane is supposed to have a treatment session today based on your plan of care, is she appropriate to attempt a PT session?
   1. This would be a situation where you should definitely contact Jane’s nurse to discuss her current condition as it seems to be changing more rapidly than the medical record can keep up with. For now, based on her most recent vitals and labs she is still appropriate to attempt a PT session. It is important to be aware her performance and activity tolerance may be vastly different than it was the day before. Keep in mind your predictions about her vitals responses to activity and proceed to attempt treatment with careful continuous monitoring of signs and symptoms that would indicate terminating the session. It is also worth mentioning that Jane may not consent to participating in a session although it is our job to encourage her to try and share information about the importance of early mobility in the hospital setting.