**Academic Half Day – Coagulation/Anticoagulation**

**Learner Guide**

Agenda:

1:10 – 1:20 pm Theory Burst

1:20 – 2:15 pm Small Groups: Case 1

2:15 2:30 pm Questions with the Expert

2:30 – 2:40 pm Break

2:40 – 3:20 pm Small Groups: Cases 2 & 3

3:20 – 3:30 pm Questions with the Expert

**While waiting for theory burst, how much of the coagulation cascade can you remember? Draw what you remember.**

**Case #1**

**Mrs. Deevee Tea is a 60 yo Female pmh CAD and NSTEMI s/p PCI DES mLAD 3 months ago comes to clinic with 1 week of right swollen, painful leg. You are initially concerned for cellulitis, but her doppler demonstrates an acute proximal DVT. You call her to tell her the news and need to gather a bit more history now that you’ve found the DVT.**

1. **What are a few major history points you want to know when assessing DVT**

**She states that she has never had a DVT before – nor has anyone in her family. Her newly diagnosed DVT is in the right femoral vein, is causing some associated pain and swelling in her leg. Aside from her hospitalization a few months ago, she cannot identify any provoking factors. She never received any femoral central venous access during her NSTEMI a few months ago. Her only past medical history is CAD/NSTEMI, and she has never been pregnant. Her medications include aspirin, clopidogrel, atorvastatin, carvedilol, and valsartan.**

1. **What agent would you like to treat with? For how long would you like to treat her?**
2. **What should you do with her DAPT?**
3. **You are calling this an unprovoked DVT, so you decide to start treating with apixaban. The patient is tolerating the therapy well and asks you if she should be tested for hypercoagulablity disorders. What patient populations should or should not be tested for hypercoagulability disorders?** ***Try to answer the question and then review tables 2 and 3 in the appendix.***
4. **If you did decide to order a hypercoagulable workup (not saying you should...), what tests would you order? *Try to answer the question and then review tables 4 and 5 in the appendix.***
5. **The patient also read online that blood clots can be a sign of cancer and a side effect of medications. She asks if she should be tested for cancer? Are there any medications that she should avoid?**

**Case 1 Continued**

**She is now on apixaban. One week later, you are working in the ED, when she presents with hematemesis, melena, hypotension, and altered mental status.**

1. **Spacing back to GIB AHD – How many pharmacologic therapies and non-pharmacologic interventions can you remember to start ordering?**

|  |  |
| --- | --- |
| **Pharmacologic** | **Non-pharmacologic** |
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1. **Unfortunately, she is too confused to answer any of your history questions and med-rec. Is there an objective way to monitor her coagulopathy?**
2. **Are there any reversal agents for the following anticoagulants?**

* **Apixaban/Rivaroxaban**
* **Dabigatran**
* **Warfarin**
* **Heparin**

1. **Would you consider placing an IVC filter in the patient? Why or why not?**

**Case 2**

**Paul-Wong Patty is a 60 yo female who is currently in the PACU for an elective hip replacement. Preop coags were sent and they found a prolonged PTT. You are on the Hematology consult team, and the Anesthesiologist asks you what to do next.**

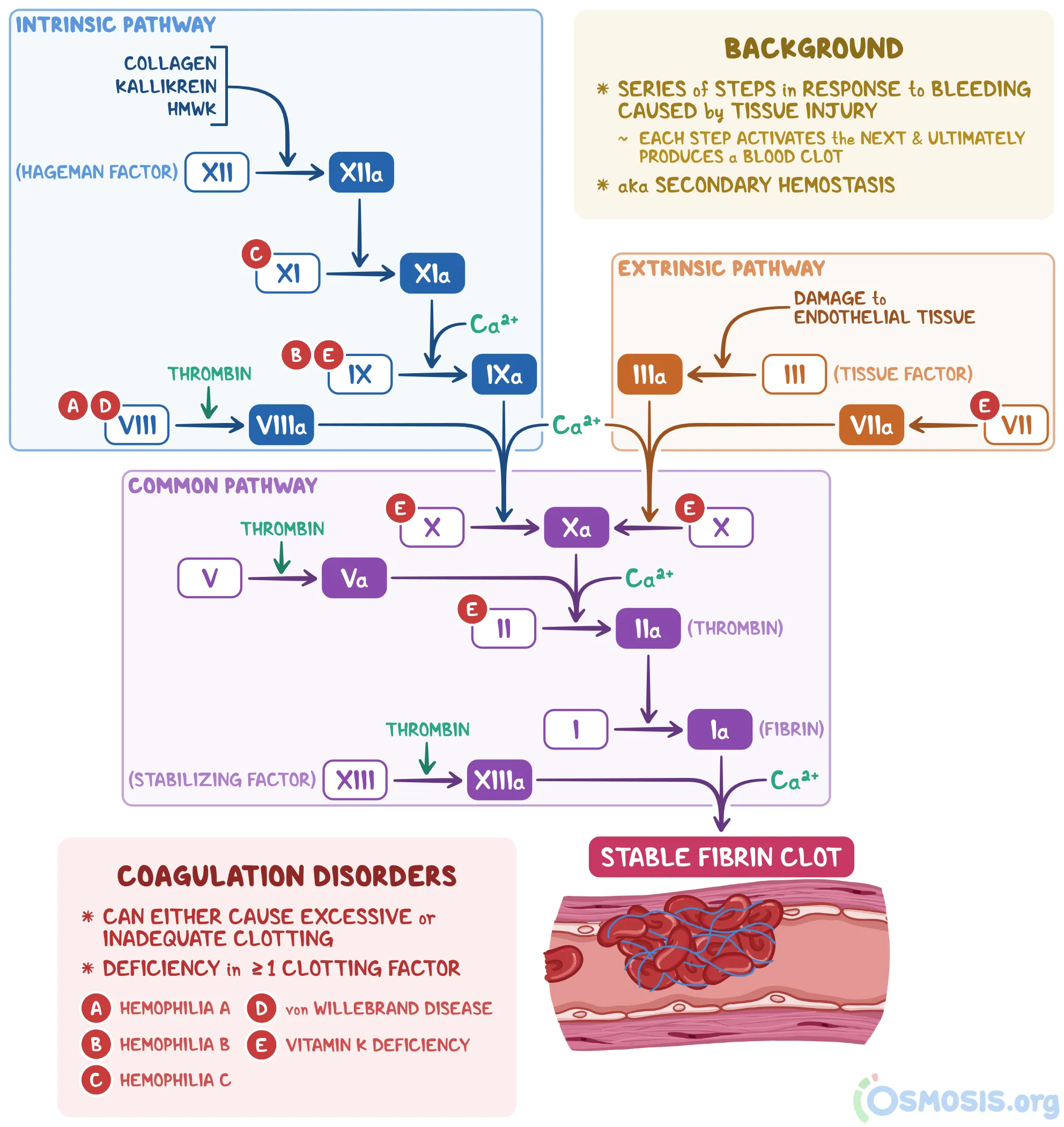
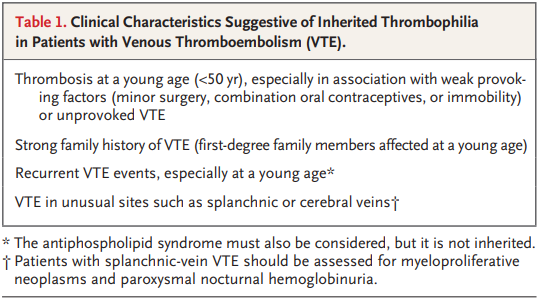
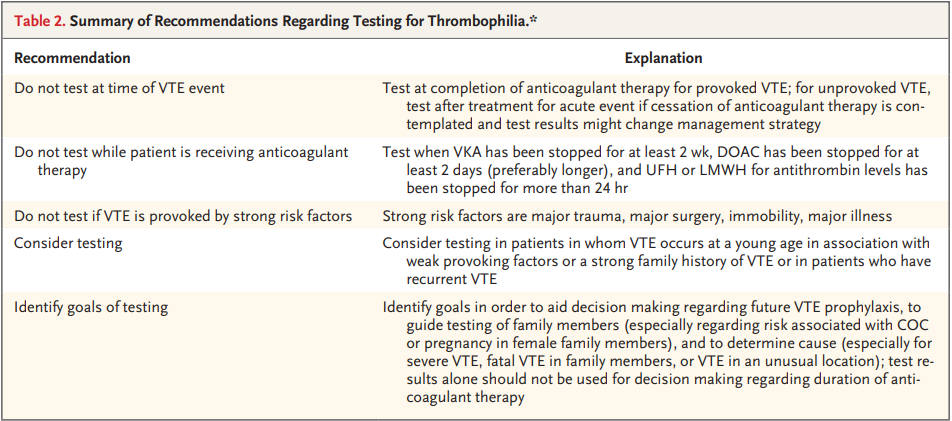
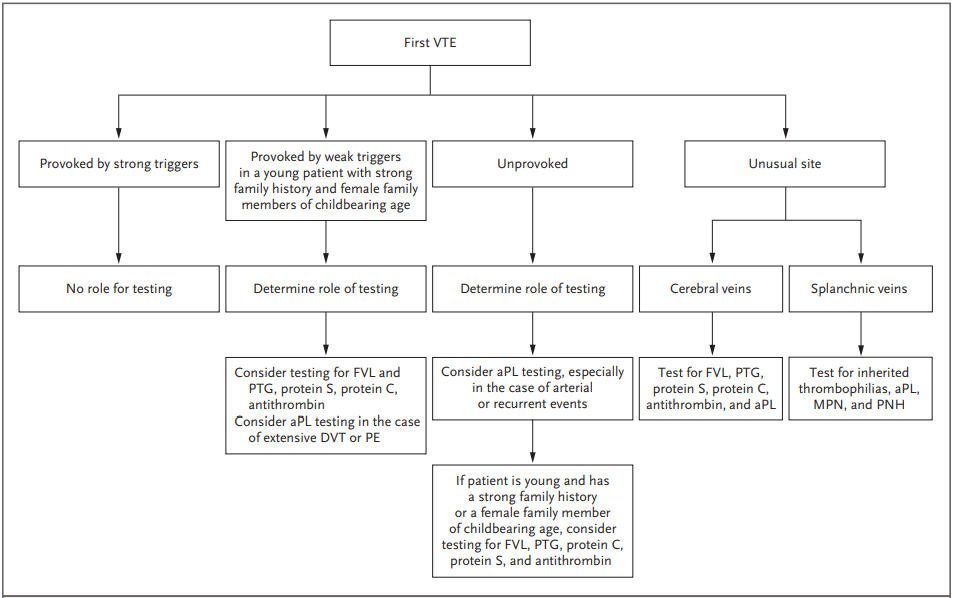
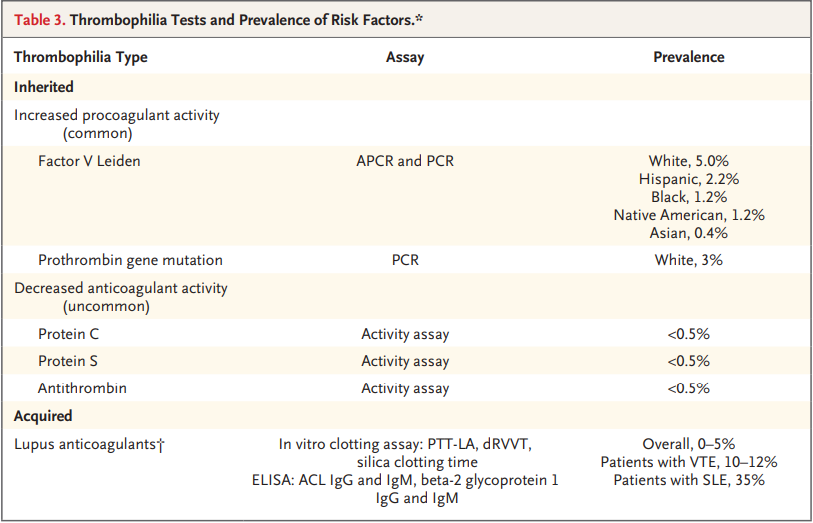
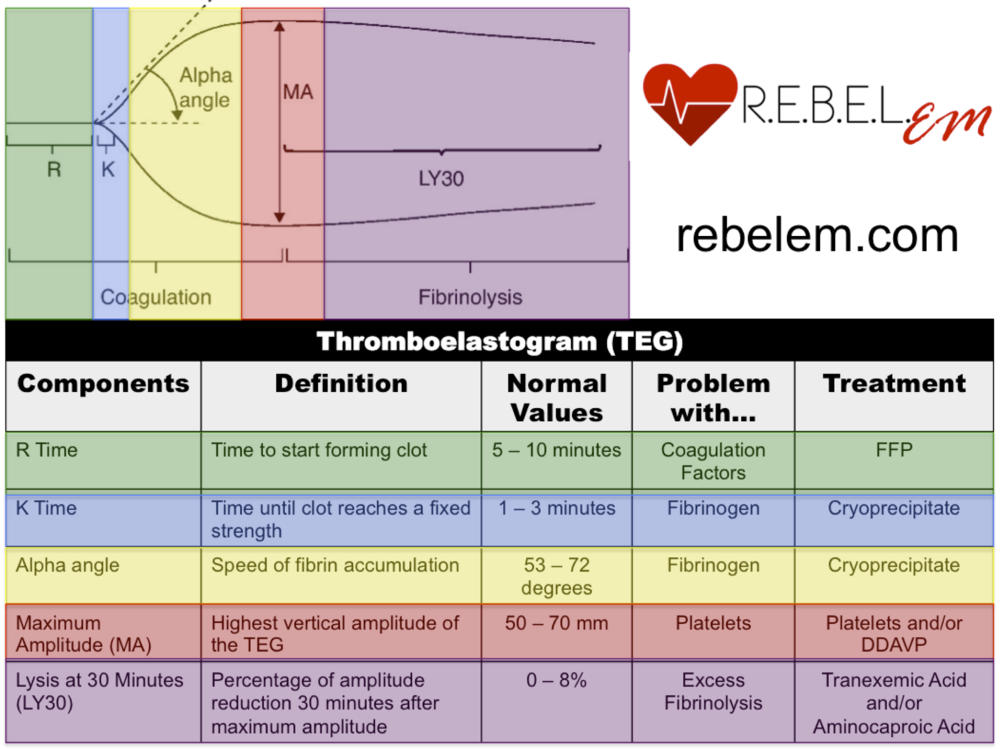
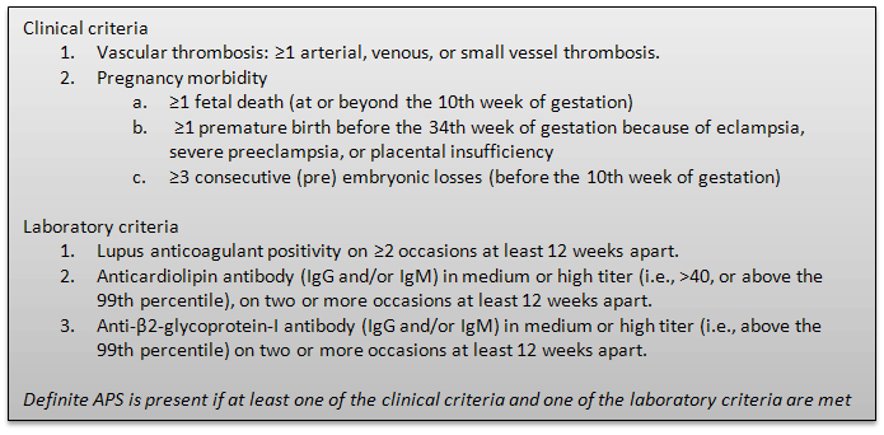
1. **What history would you like to obtain from this patient? As you ask history questions, explain why you asked that history question.**
2. **Do you have a way of thinking through prolonged coags? *Think through it, and then refer to number 1 in the appendix.***
3. **Compare and contrast coags, factor levels, and platelets in liver disease vs DIC. How can you distinguish between them?**
4. **In this patient with a prolonged PTT, what workup would you like to obtain?**
5. **Could this be a new diagnosis of hemophilia? Why or why not?**
6. **How do you perform and interpret a mixing study?**
7. **This patient’s mixing study does not correct. Also, her lupus anticoagulant just resulted which is significantly elevated. What do you think is going on? How do you make the diagnosis of antiphospholipid syndrome? *Think through it then refer to number 8 in the appendix.***

**Case 3**

**You are working in the CVICU, taking care of Mr. Lo Platite. He is a complex 60 yo M pmh NICM EF 15% s/p Bi-V ICD, atrial fibrillation, who has been hospitalized for 5 days for a heart failure exacerbation, and he has multiple previous hospitalizations in the last one month. Since admission, his medications have included sacubitril-valsartan, carvedilol, spironolactone, furosemide, and a heparin drip. You bring up on rounds that you’ve noticed that his platelets have been downtrending. When he came in his platelets were at 350, and now they are only at 90.**

1. **What is your differential for thrombocytopenia? What additional workup could you consider?**
2. **Your workup is largely negative, except that now you have found an acute, proximal lower extremity DVT. How does this change your ddx? What score could you use to assess the risk of this diagnosis?**
3. **What additional workup would you like to confirm your presumed diagnosis?**
4. **This patient’s immunoassay returns elevated. How would you like to manage this patient moving forward? *Talk about it as a group then look at number 9 in the appendix.***

**Appendix**:

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 