

Name: _____

Some comments

This is obviously quite different. For this exam, **due via email May 6th**, you have access to all of your notes, my recorded lectures, your textbook, and the entirety of Google.

You also have unfettered access to one another. Use everything at your disposal, especially your fellow students. I expect lively discussion on the forum regarding these questions! Indeed, your final participation grade will be based on your discussion of this exam!

Below are your questions. Each of you will turn in your own answers to the questions, but again, you're free to discuss them on the forum. Now, considering your access to literally everything, some of these questions may require you to research a bit. That's what the posts have (hopefully) been preparing you for! I'm expecting great performance on this test.

Good luck!

Questions

1. (2) Research the disease lupus and summarize what it is, making sure that you reference the specific types of immune cells involved.

2. (2) *Patient presents at the emergency department with acute pain in his right flank. He's 52 years old. His heart rate and respiratory rate were within normal limits, and his abdomen was soft with diffuse tenderness, primarily over the right lower quadrant. His urine had a trace of protein in it. The pain was rated 10/10, and had been constant for 3 hours before he was given morphine. He vomitted (emesis) twice. He reported no chest pain, breathing problems, or bladder issues. (a) What is the most likely diagnosis? (b) What would you expect an abdominal MRI to show if your answer in (a) is correct?*

3. (2) *Examination of a patient shows high blood pressure and high blood sugar, notable fat deposition around the back, stretch marks, and muscle weakness. The patient's spouse reports that they've been extremely irritable. Finally, the patient mentions that their peripheral vision is gone. (a) What hormone links the symptoms in the first two sentences? (b) What could cause all of these symptoms?*

4. (2) *Your friend's uncle has been overweight, and in recent weeks has been seen urinating very frequently, and has constantly been thirsty. You insist they go to the doctor, and the doctor finds high ketone levels in his urine.* (a) What organ do you suspect is misbehaving? (b) What disorder do you suspect?

5. (2) *A passing stranger, rudely not wearing a mask, sneezes in your face. The droplets of liquid they spew from their nose are laden with viral particles that you inhale.* Please describe the various barriers the virus will have to overcome to successfully infect you.

6. (2) *Choose one type of immune cell and describe* (a) where it is typically found (b) what humoral agents it reacts to (c) one other immune cell it directly interacts with and (d) what, if any, role it plays in autoimmune disorders

7. *A 64-year-old patient comes to see you, and he is complaining about having been constipated a lot lately. You've seen him before, and know that he suffers from hypertension and high cholesterol. Further testing reveals that he is mildly anemic. A rectal exam is negative. A week later he returns complaining of severe constipation and abdominal pain. CT Scans reveal a tumor. Where do you think it is?*

8. *An otherwise healthy woman with a history of depression and asthma comes to see you. She has been vomiting most days for the past three weeks, and has pain in her lower right abdomen. Her blood work showed abnormally high concentrations of bilirubin, and her sclera had a slight yellow tinge.* What organ(s) are most likely to be misbehaving?

9. *A patient complains of extreme cold intolerance, progressive weight gain of 30 pounds in the past year, fatigue, loss of memory, dry skin, and you notice that her voice is deeper than it used to be.* What organ(s) are most likely to be misbehaving?

10. *Patient was admitted to the hospital with a general malaise, swollen ankles, jaundice, and a distended abdomen. The patient also showed signs of alcohol withdrawal.* What organ(s) are most likely to be misbehaving?

11. (4) I want you to make four PowerPoint slides. Two for Leukemia, and two for Lupus. They should be in the style of our normal lecture slides, and you should include in the Notes section of each slide all of the information that should be said aloud while presenting those slides.