Hematuria Scenario:
A 55-year-old female is presenting to an outpatient setting with the complaint of blood in her urine.
Using the Epi-logical approach, what should be the probable diagnoses?
The clinician should not consider any prostate pathology, such as infection or cancer. Henoch Schonlein Purpura, IgA nephropathy, and Alport syndrome are more common in children. The clinician should consider the rest of the differentials on the clinical mind map. Since this is a situation where the patient is complaining about blood in her urine, as opposed to a lab reporting such, the clinician must get a clear understanding of her chief complaint before moving on to the rest of the evaluation. The patient says that she has noticed blood mixed in her urine every time she urinates, and this has been occurring for about 3 days. When asked about her menses, the possibility of blood in her stool, or a superficial skin ulcer, the patient says that she has not had menses in over 2 years, did not have any staining in her undergarments, did not see any blood in her stool, and has not noticed any skin irritation to suggest a skin ulcer. This establishes the fact that the patient presentation is hematuria as she reported.
How should a clinician address urgent/emergent situations?
The patient's vital signs include BP 120/76, HR 78, T 98F, O2sat 98% and her BMI is 28. The patient appears to be in no distress, but she is slightly anxious. Based upon this information, there is no urgent/emergent situation. As stated in the discussion under the hematuria mind map, there are very few life-threatening conditions associated with hematuria as a chief complaint. Nonetheless, there are serious diagnoses which the clinician must be cognizant of during the weighing process.

Weighing and Removing Anchor Bias:

The Clinician's Question s	**The Patient's Responses**	**How does this information help with the weighing process?**
You mentioned that you noticed blood about 3 days ago. Is it the first time it has happened, or did it happen before?	Well, it has been going on for a while, but it just goes away on its own.	The differentials for chronic hematuria (except prostate pathology) are more likely. The causes of acute hematuria are less likely, although more questions must be asked to clarify the duration.
Oh, I see. So how long do you think it has been going on? Weeks? Months? Years? *(This is a leading question, and can be asked in several ways)*	I have noticed it off and on for 6 months.	The chronic hematuria differentials are more likely.
How frequently does it occur, and on average, how long does each episode last*? (This is asking about her pattern)*	It lasts about 3 to 4 days each time, and then I go to urgent care, and get some antibiotics.	The chronic recurrent UTI and differentials for chronic hematuria are likely

Do you have any pain with this?	I do have low back and shoulder pain off and on.	This pain may not be related to hematuria. The question needs to be rephrased.
Do you have any pain with urination whenever this occurs? Do you feel like urinating too frequently?	Yes, I am urinating every few minutes, and have pain with urination as well.	Recurrent cystitis (UTI) is likely.
Although this seems to be a straight-forward case of recurrent cystitis, the clinician should remove anchor bias, and ask additional questions.		
Do you have any joint pain, muscle aches, or rash?	Like I said, I do have pain in my back and shoulders, but no rash.	Systemic conditions such as lupus is likely.
Have you lost any weight in the last 6 months?	Not really.	Renal cell cancer and bladder cancer are unlikely, although weight loss does not have to be present.
Do you take any medicines other than antibiotics when this occurs?	I take a whole bunch of ibuprofen and Tylenol for my pain.	Although ibuprofen can cause IgA nephropathy and acute renal failure, hematuria is usually not associated with that.
Do you have any other current or past medical conditions?	I developed thyroid cancer at age 42, and I needed to get surgery and radiation for that. Other than that, I am healthy.	Radiation exposure places her at risk for bladder cancer, if it was systemic therapy.
Was it whole body radiation or only to your neck?	Only to my neck.	Radiation exposure probably did not increase the risk for bladder cancer.
How about any cancer in your family?	None that I can recall.	Neutral.
Do you smoke, drink, or use any drugs?	No.	The patient has no cancer risk from smoking.
The clinician should do a physical exam		
General and renal	Mild suprapubic tenderness, no appreciable mass, no flank tenderness. No skin rash.	Neutral.

Based upon the evaluation so far, recurrent UTI/cystitis, bladder cancer, and renal cell cancer are likely. Based upon the patient's age and gender, lupus nephritis must be considered as well. The patient's urinalysis shows several red blood cells with normal morphology, proteins, and no bacteria, leukocyte esterase or nitrite. The lack of leukocyte esterase and nitrite suggests that the patient does not have cystitis, and the presence of normal red blood cell morphology suggests that the source of her hematuria is more likely to be her bladder than nephrotic. Imaging must be ordered. Cystoscopy reveals an irregular bladder wall mass, and biopsy confirms transitional cell cancer.