



## FAQ section



- Significance of atypical cells after treatment of CIS?
- Significance of squamous cells in urine?
- Why not use urine test for screening?
- Why isn't cytology routine?
- Anything available for in home monitoring?
- Can urine test replace cystoscopy?
- Is 'test A' better than 'test B'?
- Why collect an early morning sample?

### **What is the significance of atypical cells after treatment of CIS?**

**Dr. Max Kates:** So, atypical cells are very common particularly after BCG. BCG causes an inflammatory response in the bladder. By design, it causes a lot of particularly immune cells to enter into the bladder. And so when part of the bladder lining is shed with urine, none of those cells will look normal again. So, it's almost expected to see atypical cells after particularly BCG and many intravesical treatments in the bladder.

**Dr. Phil Abbosh:** Yeah, I will agree with Max. And I would also go as far as saying I, typically, I don't really sweat atypical cells very much. I know it sounds very malignant, and I think patients tend to get very worked up when they find out that they have atypical cells in their urine, but it's very, very unusual for me to find an atypical cell, an atypical cytology that I'm worried about. And it really does depend on the clinical scenario. Certainly after BCG I don't really sweat atypical cells. If I see something that looks abnormal in the bladder, and I'm debating about whether to biopsy it, and a urine cytology comes back atypical, at that point I may consider doing a biopsy depending on the clinical scenario. But I typically don't get too worked up about atypical cells.

### **What is the significance of squamous cells in urine?**

**Dr. Phil Abbosh:** I'll mention, there's a question in the pre-webinar, that was solicited pre-webinar, about squamous cells. Squamous cells, again, may sound very malignant, but they're really just normal cells that are sloughed off by the urinary tract into the urine, and they're detected by the pathologist, the cytopathologist. They're really just very... Really, they look like large flat cells with a very small nucleus and a lot of cytoplasm. They're often considered contaminants. So, you guys may remember, if you give a urine sample in your doctor's office, they will often give you a little sanitary pad or sanitary napkin to sort of clean off the opening of your urethra. The point of doing that is to try to reduce the number of squamous cells in the urine sample because, as I mentioned, they tend to be contaminants.

### **Why not use urine tests for screening?**

**Dr. Max Kates:** The reason we would not use a urine test as like a large screening test for people is quite simply the test is not good enough, in that it would lead to over treatment. So what do I mean by that is that it would... It's best utilized when there's a clinical index of suspicion. So when somebody has gross hematuria or something like that, or has had a history of bladder cancer and you're worried about a recurrence. If you were to screen an entire population, then it would lead to a lot of unnecessary procedures. And I'll just kind of leave it at that.

### **Why isn't cytology routine?**

**Dr. Phil Abbosh:** Yeah. It's sort of along the same lines. We don't use it for screening because, as Max mentioned, a lot of people might have, for instance, atypical cytology. And because it's very often not really anything that's clinically significant, it might lead to anesthesia, bladder biopsies, etc. We don't use it routinely even in patients that have known bladder cancers because cytology is really not very good for patients with low-grade disease, low-grade superficial cancers. Cytology is very good for people with CIS, and high-grade, for instance, high-grade T1 bladder cancers. But if you have a low-grade history of... If you have a history of low-grade TA tumors, which is probably, I don't know, 30, 40, 50% of patients with a history of bladder cancer, cytology, even if the urologist visualizes a tumor in the bladder with their own eyes, often the cytology will be negative. And that's because those low-grade tumors often have normal cytological reports.

### **Is anything available for in-home monitoring? Can cytology be a replacement for cystoscopy?**

**Dr. Max Kates:** So, yeah. So, I'll first just say I am a paid consultant for Pacific Edge which makes Cxbladder, but they do have a home monitoring option. So, it's a send out test from home. But really, that test should be done and needs to be ordered by the urologist. There are certain situations in which that may make sense. Phil mentioned one area is to help adjudicate or clarify a cytology that's either suspicious or in certain situations may be atypical. But otherwise, there's really no replacement at this point for a cystoscopy. Although, obviously, scientists like Phil and like many people are really looking for ways to replace cystoscopy. I really don't think that is... I just... By... Oh, my gosh. I just combined both questions, but anyway. I didn't realize that the last question was going down that road as well. There's really no replacement for cystoscopy. Phil, do you want to follow on from that?

**Dr. Phil Abbosh:** Sure, yeah. I agree. There's not a urine test right now, but certainly scientists are working on that. The problem is although cystoscopy is an uncomfortable test that patients have while they're awake, because it's a very quick test and usually it can be done without any significant complications, it's going to be a really high bar to replace cystoscopy with a urine test. That's my opinion.

### Is test A better than test B?

**Dr. Phil Abbosh:** And then there were several people that asked about whether test A was better than test B. In other words, is a BTA test better than NMP22? Or is UroVysion better than cytology? Etc. Those kinds of tests, those kinds of questions haven't really been able to be asked in like a clinical trial because they all are made by different companies, and no one really wants to know if their test sizes up with their competitors' tests. By and large, cytology is the workhorse of the urine diagnostic testing. I don't know, Max. How much do you tend to use these other, NMP, BTA, UroVysion?

**Dr. Max Kates:** Yeah, I mean... The... Really, the only test besides urine cytology I'll use is the Cxbladder test, and I'll use that in specific scenarios.

### Why collect early morning urine samples?

**Dr. Phil Abbosh:** So, often a doctor, a urologist, may want an early morning sample. The idea there is that most people don't really drink a lot of water while they're sleeping, and they tend to have very concentrated urine. Concentrated urine preserves the cells that are present in the urine a little bit better than a more dilute sample would. So, I will tell my patients, for instance, if I know they're coming back for their routine, I don't know, every three months cystoscopy, I'll tell them to try to be a little bit thirsty when they show up so they have a very concentrated urine, which again, will preserve some of those abnormal cells if they're present in the urine sample.

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