



Did you know? **Submission of Urine for Urine Cytology**

As part of a routine urinalysis, urine sediment is examined by a laboratory technician. Sediments that contain epithelial cells in moderate numbers and/or with unusual morphology are further evaluated by our clinical pathologists.

If bladder cancer is suspected by the clinician, urine should be specifically collected, prepared and submitted for urine cytology using a cytology test request. Direct smears and cytospin smears prepared from samples submitted for urine cytology will be stained and examined by a clinical pathologist. Collecting and preparing the sample specifically for urine cytology best preserves the morphology of the cells by removing them from the urine supernatant and delaying their degeneration.

To obtain more diagnostic cells, collect the urine by catheterization adjacent to a strictured area and/or mass lesion seen on imaging (free catch is ok). Cystocentesis and/or direct FNA of a bladder mass may seed the needle tract with tumor cells and should be avoided. Centrifuge half of the urine, make direct smears of the sediment, and allow them to air dry **completely** before packaging. Add a few drops of saline or patient's serum to the remaining sediment in the tube and submit the diluted urine sediment, the remaining unspun urine, and dried sediment smears (labeled) for cytology. Please indicate method of collection.

Note that inflammation, infection, uroliths, etc. can result in urinary tract epithelial cells becoming reactive. These reactive cells can be difficult to distinguish from neoplastic cells, even in stained preparations (see example below with pyuria, bacteriuria and clusters of epithelial cells). Therefore, treating for inflammation and re-evaluating epithelial cells on urine cytology while the patient is still on antibiotics, may be necessary in some cases.

