New Instrumentation Allows Reporting of Urine Microscopic Examination

Two Fairview laboratories, one located in Fairview Ridges Hospital and one in University of Minnesota Medical Center, Fairview, each has acquired a new automated instrument for urinalysis testing, the Iris iQ200. The new instrument fits well in lab Lean environments, integrating chemical and microscopic analysis into a single process using automated flow imaging and auto-particle recognition for the microscopic examination. Testing previously required a labor-intensive, manual microscopic method.

The urine microscopy portion of the test significantly aids in the diagnosis of renal and urinary tract disease, and is used both as a routine diagnostic screen and to monitor disease progression or therapeutic efficacy. Therefore, the complete urinalysis—chemical screen and microscopic examination—will be the default order unless the physician specifically orders the chemical screen only.

FDA Warns of Possible Falsely Elevated Glucose Results

Recently, the FDA issued a warning on the use of blood glucose meters that may give falsely elevated results. Fairview personnel have checked all of the meters used in the Fairview system and determined them to be safe. However, physicians should be aware of this concern in the event the patient or clinic is using a meter that might be affected.

Serious injuries and deaths from these false glucose readings continue to occur, despite the fact that this problem has been discussed widely in the literature and identified in the Clinical Laboratories Standards Institute document titled, “Glucose Monitoring in Settings Without Laboratory Support; Approved Guideline” (AST 4-A2).

Self-monitoring glucose devices and laboratory glucose assays all use one of the following test methods: glucose dehydrogenase pyroloquinolinequinone (GDH-PQQ), glucose dehydrogenase nicotinamide adenine dinucleotide (GDH-NAD), glucose oxidase or glucose hexokinase. The test method is specified in the device’s operating manual or obtained from the device manufacturer. The GDH-PQQ method cannot distinguish glucose, maltose, galactose or xylose from each other and may provide higher readings in the presence of any of these sugars. GDH-NAD, glucose oxidase and glucose hexokinase methods are not affected.

Medical products such as intravenous immunoglobulin solutions, oral xylose and peritoneal dialysis solutions may contain or be metabolized to maltose, galactose or xylose, and as a result induce falsely high readings.

To prevent false glucose readings due to the limitations of the glucose monitoring systems, personnel performing glucose monitoring should use only GDH-NAD, glucose oxidase or glucose hexokinase methods if the patient has received intravenous immunoglobulin solutions within the last 24 hours, taken oral xylose within the last 24 hours or is on peritoneal dialysis.

References:
According to the 2001 Bethesda System for Pap test reporting, cytotechnologists and pathologists should report benign endometrial cells if the patient is 40 years or older, regardless of the date of the last menstrual period (LMP). We found that the reporting of these cells may have lead to some confusion about how to follow the patient.

In researching guidelines for follow-up of benign endometrial cells identified for patients over 40, we found that there are no consensus guidelines for this diagnosis from either the American Society for Colposcopy and Cervical Pathology (ASCCP) or the American College of Obstetricians and Gynecologists (ACOG). A recent literature search suggests that a finding of benign-appearing endometrial cells alone does not warrant an endometrial biopsy or curetting.

To help delineate the diagnosis, the University of Minnesota Medical Center, Fairview cytology laboratory recently started adding the phrase “endometrial cells correlate with the menstrual history provided” when the patient is in the first 14 days of the menstrual cycle. Those cases with benign endometrial cells that correlate with history are not sent to the pathologist and should not be considered an abnormal finding unless correlation of clinical symptoms suggests an abnormality.

If no LMP is provided and benign endometrial cells are present, the cytotechnologist will refer the case to the pathologist for further investigation. If benign endometrial cells are present and the patient is out of cycle or postmenopausal, the case is also sent to the pathologist.

If the final cytologic interpretation is “Other: Negative for intra-epithelial lesion or malignancy” and benign endometrial cells are present, the collecting physician should review this finding in light of the clinical signs and symptoms (if any), the patient’s other clinical risk factors for endometrial cancer, and whether she is taking hormone replacement therapy.\(^1\)\(^2\) Depending on this assessment, the physician may need to perform a biopsy to rule out endometrial hyperplasia or malignancy.

Signs and symptoms should be the primary reason for performing a biopsy when benign endometrial cells are present.\(^2\) Abnormal uterine bleeding is one of the most common symptoms of endometrial cancer. Other symptoms may include unusual vaginal discharge, difficult or painful urination, pain during intercourse and pain in the pelvic area.

If, in the physician’s judgment, there are no suggestive clinical findings, he or she should not consider benign endometrial cells a clinically significant finding and should not perform an endometrial biopsy.\(^1\)\(^2\)

**Pap Limitations:**

The Pap test is a screening test designed to detect squamous cell carcinoma of the cervix and its precursors. As a screening test, it has about 5 to 10 percent false-negative results. This rate appears to be reduced, but not eliminated, by liquid based (“thin-layer”) Pap tests. While the Pap test was designed for squamous lesions of the cervix, it also may detect glandular lesions of the cervix. The Pap test, however, is inaccurate for the detection of endometrial lesions and should not be used as a primary screening tool to evaluate women with suspected endometrial abnormalities.

Therefore, remind your patient to consult you immediately if she experiences any suspicious signs or symptoms, regardless of her Pap test result.

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\(^1\) Browne TJ; Genest DR; Cibas ES. The Clinical Significance of Benign-Appearing Endometrial Cells on a Papanicolaou Test in Women 40 Years or Older. Am J Clin Pathol. 2005;124(6):834-837.


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**Lab Focus Updates**

**Regulatory Inspections for Laboratories Will Occur Unannounced**

The College of American Pathologists (CAP), the primary regulatory organization that inspects laboratories, will now conduct unannounced inspections. The American Association of Blood Banks (AABB) coordinated inspections will be announced as well.

**Laboratory Discontinues Beta Quantitation**

Effective immediately, the University of Minnesota Medical Center, Fairview laboratories are no longer offering the Beta-Quantification (BQUANT), previously performed by the Collaborative Studies Clinical Laboratory (CSCL). The laboratories recommend that clinicians order Lipoprotein Electrophoresis (LIPO) instead, which is sent to ARUP Laboratories, a reference laboratory.