ALBERTA PRECISION LABORATORIES
Leaders in Laboratory Medicine

Laboratory Bulletin

DATE:	23 November 2026
TO:	All Zones: Physicians, Nurses, Other Healthcare Providers and Laboratory Staff
FROM:	Clinical Biochemistry, Alberta Precision Laboratories
RE:	**Changes to Automated Urinalysis Microscopy Reflex Criteria**

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Key Message

- Effective November 26, 2026, Alberta Precision Laboratories (APL) will update urine microscopy reflex criteria at Community Hub laboratories in Edmonton and Calgary and the urban and regional hospital laboratories using Beckman Coulter DxU urinalysis analyzers (see Appendix 1 and 2 below).
- The protein threshold that triggers a reflex for microscopy, when protein is the only abnormal urinalysis finding, will increase from ≥0.1 g/L to ≥0.5 g/L. Protein results ≥0.1 g/L will continue to report and be flagged as abnormal in the patient's medical record.
- Reflex microscopy will not occur when slightly cloudy appearance is the only abnormal finding. Slightly cloudy appearance will continue to report and be flagged as abnormal in the patient's medical record.
- These changes are expected to reduce unnecessary microscopy testing, improve testing efficiency, and preserve the clinical utility of urinalysis testing.

Background

- In 2026, APL implemented Beckman Coulter DxU automated urinalysis instruments across Community Hub and urban and regional hospital laboratories, replacing legacy urinalysis instruments (see Appendix 1 below and APL Bulletin: Replacement of Urinalysis Instrument for details).
    - The new instruments use a more sensitive urine protein dipstick, with the lowest abnormal protein category of 0.1 g/L compared to 0.3 g/L on legacy instruments.
    - Following implementation, urine microscopy reflex rates increased, resulting in increased microscopy workload, operational challenges and testing delays.
- A post-implementation data review demonstrated limited clinical utility for reflex microscopy when 0.1 g/L protein was the only abnormal urinalysis finding.
- Urine turbidity is classified by the automated urinalysis instruments as clear, slightly cloudy, or cloudy, with all specimens other than clear currently triggering reflex microscopy. Review of specimens with slightly cloudy appearance as the only abnormal finding demonstrated no significant differences in clinically relevant microscopy findings compared to clear specimens with no abnormal chemistry result.
- Most slightly cloudy specimens were associated with calcium oxalate crystals that were observed more frequently in community specimens and were likely due to refrigerated transport and storage conditions.

Action Required

- Healthcare providers should continue to interpret urinalysis results according to the clinical context.
- Reporting and flagging of urine results for abnormal protein and slightly cloudy remains unchanged.

Questions/Concerns

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Approved by

- Dr. Kate O'Connor, Acting Chief Medical Laboratory Officer, APL

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Appendix 1: APL performing sites affected

- Edmonton Base Laboratory
- University of Alberta Hospital
- Grande Prairie Regional Hospital
- Grey Nuns Community Hospital
- Misericordia Community Hospital
- Royal Alexandra Hospital
- Sturgeon Community Hospital
- Northern Lights Regional Hospital
- Red Deer Regional Hospital
- Calgary Hub Laboratory
- Foothills Medical Centre
- Peter Lougheed Centre
- South Health Campus
- Rockyview General Hospital
- Chinook Regional Hospital
- Medicine Hat Regional Hospital