ALBERTA PRECISION LABORATORIES
Leaders in Laboratory Medicine

Laboratory Bulletin

DATE:	22 June 2026
TO:	All Healthcare Providers
FROM:	Clinical Biochemistry, Alberta Precision Laboratories (APL)
RE:	**Replacement of Urinalysis Instruments: Community Hub and Urban/Regional Hospital Laboratories**

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Key Message

- Provincial implementation of new automated urinalysis instrumentation (Beckman Coulter DxU Iris) for the 2 community hub laboratories and 13 urban and regional hospital laboratories (Appendix 1 and 2) will occur over several months:
  - June 23, 2026: Calgary Community Hub Laboratory
  - July 6, 2026: Edmonton Community Hub Laboratory and University of Alberta Hospital
  - July 8, 2026: Red Deer Regional Hospital
  - July 20, 2026: Grande Prairie Regional Hospital
  - Other sites: dates in 2026 based on site readiness and will be communicated via site memo.
- Some tests (e.g. protein) will have reporting and performance differences (Appendix 1 and 2).

Why this is important

- This initiative replaces aging urinalysis instrumentation and supports provincial standardization.
- Key test interpretation changes based on replacement of current Urinalysis instrumentation:
  - Macroscopic reporting changes at impacted sites: see Appendix 1 and 2.
  - Microscopic reporting changes: No changes to reporting.
- Laboratories at urgent care centres and rural hospitals are not impacted by these changes.

Action Required

- Familiarize yourself with new urinalysis reporting changes at your site.
- Be aware that the new instruments have improved sensitivity for detecting low protein concentration, which will result in more abnormal flagging.
- Manual analyzers may still be used when automated analyzers are not available for testing. Results may differ from automated instruments (Appendix 2).

Inquiries and feedback may be directed to

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- Dr. Yury Butorin, Clinical Biochemist, yury.butorin@aplabs.ca
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This bulletin has been reviewed and approved by

- Dr. Carolyn O'Hara, Chief Medical Laboratory Officer, APL

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Appendix 1: Macroscopic urinalysis reporting changes for sites switching from <u>current</u> *automated urinalysis* instruments to <u>new</u> *automated urinalysis* instruments.

- Note 1: No changes in microscopic urinalysis reporting.
- Note 2: Bolded categories represent reference interval(s)
- Note 3: Performing sites in this category and their go-live dates:
  - Calgary Hub Laboratory (June 23, 2026)
  - Edmonton Hub Laboratory (July 6, 2026)
  - University of Alberta Hospital (July 6, 2026)
  - Red Deer Regional Hospital (July 8, 2026)
  - Grande Prairie Regional Hospital (July 20, 2026)
  - Foothills Medical Center (Summer 2026)
  - Peter Lougheed Centre (Summer 2026)
  - South Health Campus (Summer 2026)
  - Rockyview General Hospital (Date to be determined)

	Current automated analyzer reportable categories	New automated analyzer reportable categories	Summary of macroscopic urinalysis reporting changes
Instrumentation	iChemVELOCITY	DxU 810c Iris	Transition to a new automated instrument.
Color	**Colorless** **Yellow** **Amber** Orange Red Brown Black Other		No change Reflex to microscopic urinalysis when color is abnormal (outside of colorless, yellow, amber)
Clarity	**Clear** Slightly Cloudy Cloudy Turbid		No change Reflex to microscopic urinalysis when clarity is abnormal (outside of clear)
Specific Gravity	<1.005 **1.005** **1.010** **1.015** **1.020** **1.025** **1.030** >1.030		No change
pH	**5.0** **6.0** **7.0** **8.0** 9.0	**5.0** **5.5** **6.0** **6.5** **7.0** **7.5** **8.0** 8.5 9.0	Addition of 0.5 increments

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Leukocyte Esterase	**Negative** 25 Leu/µL 75 Leu /µL 250 Leu /µL 500 Leu /µL		No change Reflex to microscopic urinalysis when leukocyte esterase is at or greater than 25 Leu/µL
Nitrite	**Negative** Positive		No change Reflex to microscopic urinalysis when nitrite is positive
Protein	**Negative** 0.3 g/L 1.0 g/L >=3.0 g/L	**Negative** 0.1 g/L 0.5 g/L 1 g/L 3 g/L >= 6 g/L	Changes in categories. Improved sensitivity for detecting low protein concentration (0.1 g/L), which may result in more abnormal flagging Reflex to microscopic urinalysis when protein is at or above 0.1 g/L
Glucose	**Negative** 2.8 mmol/L 8.3 mmol/L >=28 mmol/L	**Negative** 2.8 mmol/L 5.6 mmol/L 11 mmol/L 28 mmol/L >= 56 mmol/L	Changes and addition of new categories. Higher upper reportable limits. Reflex to microscopic urinalysis when glucose is at or above 56 mmol/L
Ketones	**Negative** Trace 2.0 mmol/L >=7.8 mmol/L	**Negative** 0.5 mmol/L 2 mmol/L 4 mmol/L 6 mmol/L 8 mmol/L 10 mmol/L 15 mmol/L >15 mmol/L	Changes and addition of new categories Higher upper reportable limits.
Blood	**Negative** 5-10 Ery/ µL 50 Ery/ µL 300 Ery/ µL		No change Reflex to microscopic urinalysis when Blood is at or greater than 5-10 Ery/ µL In the presence of ascorbic acid, reflex to microscopic urinalysis will be performed as ascorbic acid falsely reduces “Blood” estimation by dipstick.

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Appendix 2: Macroscopic urinalysis reporting changes for sites switching from <u>current</u> *manual* instruments to <u>new</u> *automated* instruments.

- Note 1: No changes in microscopic urinalysis reporting.
- Note 2: Bolded categories represent reference interval(s)
- Note 3: Performing sites in this category and their go-live dates:
  - Chinook Regional Hospital (Summer 2026)
  - Medicine Hat Regional Hospital (Summer 2026)
  - Grey Nuns Community Hospital (Date to be determined)
  - Misericordia Community Hospital (Date to be determined)
  - Northern Lights Regional Hospital (Date to be determined)
  - Royal Alexandra Hospital (Date to be determined)
  - Sturgeon Community Hospital (Date to be determined)

	Current manual analyzer reportable categories	**New automated analyzer reportable categories**	**Summary of changes**
Instrumentation	Siemens Clinitek and manual microscopy	DxU 810c Iris	Transition to new automated instrument
Color	**Colorless** **Yellow** **Amber** Orange Red Brown Black Other		No change Reflex to microscopic urinalysis when color is abnormal (outside of colorless, yellow, amber)
Clarity	**Clear** Slightly Cloudy Cloudy Turbid		No change Reflex to microscopic urinalysis when clarity is abnormal (outside of clear)
Specific Gravity	<1.005 **<=1.005** **1.010** **1.015** **1.020** **1.025** **>=1.030** >1.030	<1.005 **1.005** **1.010** **1.015** **1.020** **1.025** **1.030** >1.030	No change
pH	5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5	**5.0** **5.5** **6.0** **6.5** **7.0** **7.5** **8.0** 8.5 9.0	Additions of a new category

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Leukocyte Esterase	**Negative** 15 Leu/µL 70 Leu/µL 125 Leu/µL 500 Leu/µL	**Negative** 25 Leu/µL 75 Leu /µL 250 Leu /µL 500 Leu /µL	Changes in categories Reflex to microscopic urinalysis when leukocyte esterase is at or greater than 25 Leu/µL
Nitrite	**Negative** Positive		No change Reflex to microscopic urinalysis when nitrite is positive
Protein	**Negative** Trace 0.3 g/L 1.0 g/L >=3.0 g/L	**Negative** 0.1 g/L 0.5 g/L 1 g/L 3 g/L >= 6 g/L	Changes in categories. Improved sensitivity for detecting low protein concentration (0.1 g/L), which may result in more abnormal flagging. Reflex to microscopic urinalysis when protein at or greater than 0.1 g/L
Glucose	**Negative** 5.5 mmol/L 14 mmol/L 28 mmol/L >= 55 mmol/L	**Negative** 2.8 mmol/L 5.6 mmol/L 11 mmol/L 28 mmol/L >= 56 mmol/L	Changes and addition of new categories. Reflex to microscopic urinalysis when glucose at or greater than 56 mmol/L
Ketones	**Negative** Trace 1.5 mmol/L 3.9 mmol/L >=7.8 mmol/L	**Negative** 0.5 mmol/L 2 mmol/L 4 mmol/L 6 mmol/L 8 mmol/L 10 mmol/L 15 mmol/L >15 mmol/L	Changes and addition of categories Higher upper reportable limits.
Blood	**Negative** Trace-Lysed Trace-Intact 25 Ery/ µL 80 Ery/ µL 200 Ery/ µL	**Negative** 5-10 Ery/ µL 50 Ery/ µL 300 Ery/ µL	Changes and consolidation of categories Reflex to microscopic urinalysis when Blood is at or greater than 5-10 Ery/ µL In the presence of ascorbic acid, reflex to microscopic urinalysis will be performed as ascorbic acid falsely reduces “Blood” estimation by dipstick.