

## Precision Diagnostics and Therapeutics Program Laboratory Medicine- Bulletin

Official Communication. Date: 2024-10-07

### Changes to Biochemistry Tests and Reporting

**Audience:** External and Internal Clients  
**Issuing Division:** Division of Clinical Biochemistry, Precision Diagnostics & Therapeutics Program  
**Enquiry:** Dr. Matthew Lafreniere, Biochemist (416) 480-6100 ext. 6-2688 [matthew.lafreniere@sunnybrook.ca](mailto:matthew.lafreniere@sunnybrook.ca)  
Dr. Paul Yip, Division Head of Biochemistry (416) 480-6100 ext. 6-1594 [paul.yip@sunnybrook.ca](mailto:paul.yip@sunnybrook.ca)  
Mary Rozmanc, Manager, Biochemistry and Point-of-Care (416) 480-6100 ext. 6-7384  
[Mary.Rozmanc@sunnybrook.ca](mailto:Mary.Rozmanc@sunnybrook.ca)

**Effective 8 October 2024**

With the recent changes in instrumentation in the biochemistry laboratory, the following test changes will be implemented:

Test	Current Reference Interval	New Reference Interval
Ferritin <sup>1,2</sup>	20 – 400 µg/L	0 - 18 Y 20 – 400 µg/L ≥19 Y 30 – 400 µg/L
TSH	0.5 – 5.0 mIU/L	0.3 – 4.2 mIU/L
Triglycerides, Pediatric <sup>3</sup>	0 Y 0.35 – 1.15 mmol/L 1-8 Y 0.35 – 1.15 mmol/L 9-18 Y 0.40 – 1.65 mmol/L	0-9 Y <2.20 mmol/L 10-18 Y <2.40 mmol/L

Test	Current Critical limit	New Critical limit
Valproic acid	≥700 µmol/L	≥1000 µmol/L

Test	Current test names	New test name
C-reactive protein	<ul style="list-style-type: none"><li>• CRP (Acute Phase Reactant)</li><li>• CRP (Cardiovascular Risk)</li></ul>	<ul style="list-style-type: none"><li>• CRP (Acute Phase Reactant or Cardiovascular Risk)</li></ul>

*Consolidation of CRP test names will include interpretation for both indications.*

Test	Current methodology	New methodology
Creatinine	Jaffe reaction	Enzymatic reaction

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### Hemoglobin A1c (HbA1c)

Current reporting units and comment	New reporting units and comment
Reference interval <0.060 (decimal fraction)	Reference interval <6.0% (percent)
Canadian Diabetes Association (2013)	Diabetes Canada Clinical Practice Guideline (2018)
<p>Diagnostic cut-offs:</p> <p>0.060 to 0.064 prediabetes</p> <p>≥ 0.065 diagnostic of diabetes in non-pregnant adults (with a repeat confirmatory lab tests, not for suspected type 1 diabetes)</p> <p>Recommended targets for glycemic control:</p> <p>≤ 0.070 in most patients with type 1 and type 2 diabetes</p> <p>0.071 – 0.085 in type 1 and type 2 diabetics with: limited life expectancy, a higher level of functional dependency, a history of severe hypoglycemia, advanced co-morbidities, and failure to attain established glucose targets despite treatment intensification.</p>	<p>Diagnostic cuff-offs:</p> <p>6.0% - 6.4% prediabetes</p> <p>≥ 6.5% diagnostic of diabetes in non-pregnant adults (with a repeat confirmatory lab test; not recommended for diagnostic purposes in children AND adolescents, pregnant women as part of routine screening for gestational diabetes, those with cystic fibrosis or those with suspected type 1 diabetes)</p> <p>Recommended targets for glycemic control</p> <p>≤ 7.0% in most patients with type 1 or type 2 diabetes;</p> <p>7.1% - 8.0% functionally dependent</p> <p>7.1% - 8.5% recurrent severe hypoglycemia and/or hypoglycemia un-awareness, limited life expectancy, frail elderly and/or with dementia.</p>

If you have any questions or need further information, please contact Dr. Matthew Lafreniere at ext. 6-2688 or email [matthew.lafreniere@sunnybrook.ca](mailto:matthew.lafreniere@sunnybrook.ca).

### References:

1. Ontario Health – Ontario Laboratory Medicine Program (OLMP) Info Bulletin: Change in clinical decision limit for serum ferritin testing (issued September 4, 2024).
2. Naveed K, Goldberg N, Shore E, et al. Defining ferritin clinical decision limits to improve diagnosis and treatment of iron deficiency: A modified Delphi study. Int J Lab Hematol. 2023 Jun; 45(3):377-86.
3. Khoury M, Bigras JL, Cummings EA, et al. The Detection, Evaluation, and Management of Dyslipidemia in Children and Adolescents: A Canadian Cardiovascular Society/Canadian Pediatric Cardiology Association Clinical Practice Update. Can J Cardiol. 2022 Aug; 38(8):1168-1179.

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