

# Provincial Laboratory Services



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**Health PEI**  
One Island Health System

## Non-fasting Lipid Testing September 06, 2018

**This information applies to:** Physicians, Nurse Practitioners, Clinical Instructors/Educators, PEI Hospital Laboratories

Standard lipid testing is typically performed after overnight fasting. The 2016 Canadian Cardiovascular Society (CCS) guidelines recommended non-fasting lipid profile (total Cholesterol, LDL Cholesterol, HDL Cholesterol, Triglycerides and non-HDL Cholesterol) for screening and CVD risk assessment in adults<sup>1</sup>. A summary of the CCS guidelines is provided on Clinical Chemistry website at: <http://www.healthpei.ca/src/clinicalchemistry>.

**As of September 12, 2018**, fasting will not be mandatory for lipid testing in Health PEI facilities. The determination of fasting is at the discretion of the ordering physician and **the status of fasting must be clearly indicated on the Blood Test Request Form**. Fasting and non-fasting lipid profiles will include:

Fasting	Non-fasting
<ul style="list-style-type: none"><li>• Cholesterol</li><li>• HDL Cholesterol</li><li>• LDL Cholesterol</li><li>• D-LDL Cholesterol</li><li>• Non-HDL Cholesterol</li><li>• Triglycerides</li><li>• Chol/HDL Ratio</li></ul>	<ul style="list-style-type: none"><li>• Cholesterol Non Fasting</li><li>• HDL Cholesterol Non Fasting</li><li>• LDL Cholesterol Non Fasting</li><li>• D-LDL Cholesterol Non Fasting</li><li>• Non-HDL Cholesterol Non Fasting</li><li>• Triglycerides Non Fasting</li><li>• Chol/HDL Ratio Non Fasting</li></ul>

### Limitations of non-fasting lipid testing

1. Not recommended for individuals with:
  - a. History of high triglycerides (> 4.5 mmol/L)<sup>1</sup>
  - b. Diabetes<sup>2</sup>
  - c. Severe dyslipidemia and hypertriglyceridemia<sup>2</sup>
2. Directly measured LDL Cholesterol (D-LDL Cholesterol) is superior to calculated LDL Cholesterol in patients with high triglycerides. D-LDL Cholesterol will be only measured when triglycerides is >4.5 mmol/L.
3. Non-HDL is not affected by eating and therefore is recommended for initial screening and CVD risk assessment<sup>1</sup>.
4. If non-fasting lipids are high and triglycerides is >10 mmol/L, only repeat triglycerides testing is recommended after 1-2 weeks under fasting conditions.

### Utilization notes

1. Screening should be done for men and women at 40 years of age or older. Screening can be done at earlier age in certain ethnic groups or regardless of age in patients with various conditions such as Diabetes and Chronic Kidney Disease.
2. Repeat lipid testing every 3-5 years for individuals with FRS <5% and every year for individuals with higher FRS<sup>1,3</sup>.
3. A full lipid profile is required before starting lipid modification therapy.

### References

1. Anderson et al., 2016 Canadian Cardiovascular Society Guidelines for the Management of Dyslipidemia for the Prevention of Cardiovascular Disease in the Adult. Can J Cardiol. 32 (2016) 1263
2. Catapano et al. 2016 ESC/EAS Guidelines for the Management of Dyslipidaemias. Eur Heart J. 37 (2016) 2999
3. Anderson et al. 2012 Update of the Canadian Cardiovascular Society Guidelines for the Diagnosis and Treatment of Dyslipidemia for the Prevention of Cardiovascular Disease in the Adult. Canadian Journal of Cardiology 29 (2013) 151

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