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Department of Pathology and Laboratory Medicine memorandum

To:	NSHA Central Zone Physicians, Health Service Managers (Inpatient, Outpatient, and Emergency Dept), Nova Scotia Zone Laboratories
From:	Dr. Bassam A. Nassar, Chief of Service, Division of Clinical Chemistry Dr. Manal Elnenaei, Division of Clinical Chemistry Ms. Cindy Andrews, Technical Manager, Division of Clinical Chemistry Dr. Kevork Peltekian, Division of Digestive Care & Endoscopy
Date:	December 1, 2015
Message:	**Appropriate Ordering of 'Liver Function Tests'**

Effective January 11, 2016, the general term 'Liver Function Tests' (LFT) must not be used on the laboratory request form. Specific tests must be selected according to the clinical question. For the first three months after this date only ALT will be offered when LFTs are requested; after April 06, 2016 no tests will be offered if LFTs are requested.

This decision is based on the fact that there is no consensus on a standard 'liver function tests' panel. The current menu for this request (ALT, AST, GGT, ALP, total and direct bilirubin) is often unnecessary for general screening or follow up of confirmed liver disease.

General considerations when selecting and interpreting liver function or liver enzyme tests:

- For general screening of a liver disorder, ALT is considered a specific marker for hepatic cell injury, whilst ALP may point more towards an obstructive or biliary tract disorder.
- AST is less specific to the liver than ALT and, although the AST/ALT ratio may be used to differentiate viral, alcoholic and toxic liver disease, this is not very sensitive.
- When an isolated elevation in ALP is noted, GGT measurement will confirm the source of the increase to be the biliary system rather than other sources such as the bone. A mild/moderately raised GGT and/or ALP is not uncommon in patients with fatty liver disease and/or alcoholic liver disease but is neither specific nor sensitive for either condition.
- For screening purposes a total bilirubin only should be selected. A direct bilirubin may produce misleading results if total bilirubin is normal or mildly raised and should therefore be requested only if jaundice is clinically confirmed or suspected.
- An isolated mild/moderately raised bilirubin (usually <70 umol/L), may reflect a benign liver condition (e.g., Gilbert's disease), if hemolytic anemia has been ruled out.
- A low albumin and raised INR occur in late stages of liver dysfunction, but a low albumin may be due to other causes.

If you have further questions, please contact Dr. Elnenaei at 902-473-5194, Dr. Lou at 902-473-1528 or Dr. Nassar at 902-473-2225.

CC. Dr. Godfrey Heathcote, Ms. Shauna Thompson, Ms. Catherine Lambert, Ms. Sandy Schlay, Ms. Gail MacLennan