

Pathology and Laboratory Medicine Memorandum

To: Central Zone Primary Care Providers
From: Drs. Amy Lou & Manal Elnenaei, Division of Clinical Chemistry
Drs. Julie Zhu & Magnus McLeod, Digestive Care and Endoscopy, Hepatology
Date: March 11, 2024
Message: **Implementation of FIB-4 fibrosis index in Central Zone- pilot study**

Effective April 3, 2024, FIB-4 fibrosis index testing, as part of a pilot program, will be offered to Central Zone primary care physicians.

What is FIB-4 fibrosis index?

FIB-4 fibrosis index is considered as the first-line assessment for stratification of non-alcoholic fatty liver disease (NAFLD) patients at risk of advanced fibrosis in primary care setting. Non-alcoholic fatty liver disease (NAFLD) or metabolic dysfunction associated steatosis liver disease (MASLD) is now the most common form of liver disease which carries the risk of progression to liver fibrosis and cirrhosis. FIB-4 is calculated based on patient age, and values of AST, ALT and platelets with the formula of: $\text{Age ([yr]} \times \text{AST [U/L]} / ((\text{PLATELET [10}^9/\text{L]}) \times (\text{ALT [U/L]})^{(1/2)})$.

When to order FIB-4 fibrosis index?

Suspected NAFLD that meets the following criteria:

- Incidental finding of an abnormally elevated ALT, without evidence of other causes of liver disease
- Incidental ultrasound finding of fatty liver
- Presence of ≥ 2 out of the following 5 cardiometabolic risk factor(s):
 - BMI ≥ 25 or waist circumference $> 94\text{cm}$ (M) 80cm (F)
 - Fasting glucose ≥ 5.6 mmol/L OR 2-hour post load glucose ≥ 7.8 OR HgbA1C $\geq 5.7\%$ OR type 2 diabetes OR treatment for type 2 diabetes
 - Blood pressure $\geq 130/85$ mmHg OR specific antihypertensive drug treatment
 - Plasma triglyceride ≥ 1.7 mmol/L OR lipid lowering treatment
 - Plasma HDL-cholesterol ≤ 1.0 mmol/L (M) and ≤ 1.3 mmol/L OR lipid lowering treatment

DO NOT

- Order FIB-4 for patients who consume a significant amount of alcohol (defined as $> 20\text{g/d}$ for women and $> 30\text{g/d}$ for men)
- Repeat FIB-4 index within 1 year

How to order FIB-4 fibrosis index?

- Write “Fibrosis-4” on a laboratory requisition form CD0002A_01_2023 or CD0002B_01_2023 under “Other tests”
- FIB-4 scores will be automatically reported by the lab

How to interpret FIB-4?

FIB-4 score < 1.3: low- risk for advanced fibrosis

- No further fibrosis staging is necessary
- repeat FIB-4 every 1-2 years if T2DM or ≥ 2 metabolic risk factors
- repeat FIB-4 every 2-3 years if no T2DM and no other metabolic risk factors

FIB-4 score 1.3 - 2.67: intermediate risk for advanced fibrosis

- Secondary assessment, such as FibroScan, may be considered if T2DM or ≥ 2 metabolic risk factors.

FIB-4 score ≥ 2.67 : high risk for advanced fibrosis

- Secondary assessment, such as FibroScan, should be considered
- Consider hepatologist referral

Please refer to the following links for FIB-4 based algorithm and AASLD Practice guidance for clinical assessment and management of patients at risk for or with established NAFLD:

1. journals.lww.com/hep/ layouts/15/oaks.journals/ImageView.aspx?k=hep:2023:05000:00031&i=F2&year=2023&issue=05000&article=00031&type=Fulltext
2. [AASLD Practice Guidance on the clinical assessment and manag... : Hepatology \(lww.com\)](#)

For laboratory related questions, please contact:

Dr. Amy Lou, 902- 473- 1528 or Amy.Lou@nshealth.ca

For FIB-4 related clinical questions, please contact:

Dr. Julie Zhu, by email Julie.zhu@nshealth.ca