

Patient Information	Specimen Information	Client Information
CURTIS, TONY DOB: 04/12/1965 AGE: 59 Gender: M Fasting: Y Phone: 512.522.9119 Patient ID: 35238 Health ID: 8573004993549023	Specimen: DZ229007M Requisition: 0002254 Lab Ref #: 5Q1F350759 Collected: 10/15/2024 / 08:55 CDT Received: 10/16/2024 / 00:14 CDT Reported: 10/19/2024 / 16:07 CDT	Client #: 73929702 MAIL992 HARRIS, SUSAN FORUM HEALTH-COPPELL 705 E MAIN STREET COPPELL, TX 75019

COMMENTS: 0;
 FASTING: YES

Test Name	In Range	Out Of Range	Reference Range	Lab
LIPID PANEL, STANDARD				
CHOLESTEROL, TOTAL		237 H	<200 mg/dL	IG
HDL CHOLESTEROL	58		> OR = 40 mg/dL	IG
TRIGLYCERIDES	88		<150 mg/dL	IG
LDL-CHOLESTEROL		160 H	mg/dL (calc)	IG
Reference range: <100				
Desirable range <100 mg/dL for primary prevention; <70 mg/dL for patients with CHD or diabetic patients with > or = 2 CHD risk factors.				
LDL-C is now calculated using the Martin-Hopkins calculation, which is a validated novel method providing better accuracy than the Friedewald equation in the estimation of LDL-C. Martin SS et al. JAMA. 2013;310(19): 2061-2068 (http://education.QuestDiagnostics.com/faq/FAQ164)				
CHOL/HDL-C RATIO	4.1		<5.0 (calc)	IG
NON HDL CHOLESTEROL		179 H	<130 mg/dL (calc)	IG
For patients with diabetes plus 1 major ASCVD risk factor, treating to a non-HDL-C goal of <100 mg/dL (LDL-C of <70 mg/dL) is considered a therapeutic option.				
HEMOGLOBIN A1c	5.3		<5.7 % of total Hgb	IG
For the purpose of screening for the presence of diabetes:				
<5.7% Consistent with the absence of diabetes				
5.7-6.4% Consistent with increased risk for diabetes (prediabetes)				
> or =6.5% Consistent with diabetes				
This assay result is consistent with a decreased risk of diabetes.				
Currently, no consensus exists regarding use of hemoglobin A1c for diagnosis of diabetes in children.				
According to American Diabetes Association (ADA) guidelines, hemoglobin A1c <7.0% represents optimal control in non-pregnant diabetic patients. Different metrics may apply to specific patient populations. Standards of Medical Care in Diabetes(ADA).				
MAGNESIUM	2.2		1.5-2.5 mg/dL	IG
URIC ACID	5.8		4.0-8.0 mg/dL	IG
Therapeutic target for gout patients: <6.0 mg/dL				
TSH	3.35		0.40-4.50 mIU/L	IG
T4, FREE	1.4		0.8-1.8 ng/dL	IG
T3, FREE	3.4		2.3-4.2 pg/mL	IG

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Test Name	In Range	Out Of Range	Reference Range	Lab
THYROGLOBULIN ANTIBODIES	<1		< or = 1 IU/mL	IG
THYROID PEROXIDASE ANTIBODIES	3		<9 IU/mL	IG
CBC (INCLUDES DIFF/PLT)				IG
WHITE BLOOD CELL COUNT		3.4 L	3.8-10.8 Thousand/uL	
RED BLOOD CELL COUNT	5.09		4.20-5.80 Million/uL	
HEMOGLOBIN	15.6		13.2-17.1 g/dL	
HEMATOCRIT	47.0		38.5-50.0 %	
MCV	92.3		80.0-100.0 fL	
MCH	30.6		27.0-33.0 pg	
MCHC	33.2		32.0-36.0 g/dL	
For adults, a slight decrease in the calculated MCHC value (in the range of 30 to 32 g/dL) is most likely not clinically significant; however, it should be interpreted with caution in correlation with other red cell parameters and the patient's clinical condition.				
RDW	12.6		11.0-15.0 %	
PLATELET COUNT	213		140-400 Thousand/uL	
MPV	9.2		7.5-12.5 fL	
ABSOLUTE NEUTROPHILS	1788		1500-7800 cells/uL	
ABSOLUTE LYMPHOCYTES	1061		850-3900 cells/uL	
ABSOLUTE MONOCYTES	411		200-950 cells/uL	
ABSOLUTE EOSINOPHILS	109		15-500 cells/uL	
ABSOLUTE BASOPHILS	31		0-200 cells/uL	
NEUTROPHILS	52.6		%	
LYMPHOCYTES	31.2		%	
MONOCYTES	12.1		%	
EOSINOPHILS	3.2		%	
BASOPHILS	0.9		%	
IRON, TOTAL	118		50-180 mcg/dL	IG
FERRITIN		23 L	38-380 ng/mL	IG
VITAMIN B12	751		200-1100 pg/mL	IG
FOLATE, RBC	415		>280 ng/mL RBC	IG
RHEUMATOID FACTOR	<10		<14 IU/mL	IG
DHEA SULFATE	120		32-279 mcg/dL	IG
INSULIN	3.5		uIU/mL	IG

Reference Range < or = 18.4

Risk:
 Optimal < or = 18.4
 Moderate NA
 High >18.4

Adult cardiovascular event risk category cut points (optimal, moderate, high) are based on Insulin Reference Interval studies performed at Quest Diagnostics in 2022.

LH	3.7		1.5-9.3 mIU/mL	IG
PROGESTERONE	<0.5		<1.4 ng/mL	IG
ESTRADIOL	<15		< OR = 39 pg/mL	IG

Reference range established on post-pubertal patient population. No pre-pubertal reference range established using this assay. For any patients for

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Test Name	In Range	Out Of Range	Reference Range	Lab
<p>whom low Estradiol levels are anticipated (e.g. males, pre-pubertal children and hypogonadal/post-menopausal females), the Quest Diagnostics Nichols Institute Estradiol, Ultrasensitive, LCMSMS assay is recommended (order code 30289).</p> <p>Please note: patients being treated with the drug fulvestrant (Faslodex(R)) have demonstrated significant interference in immunoassay methods for estradiol measurement. The cross reactivity could lead to falsely elevated estradiol test results leading to an inappropriate clinical assessment of estrogen status. Quest Diagnostics order code 30289-Estradiol, Ultrasensitive LC/MS/MS demonstrates negligible cross reactivity with fulvestrant.</p>				
PSA, TOTAL	0.20		< OR = 4.00 ng/mL	IG
<p>The total PSA value from this assay system is standardized against the WHO standard. The test result will be approximately 20% lower when compared to the equimolar-standardized total PSA (Beckman Coulter). Comparison of serial PSA results should be interpreted with this fact in mind.</p> <p>This test was performed using the Siemens chemiluminescent method. Values obtained from different assay methods cannot be used interchangeably. PSA levels, regardless of value, should not be interpreted as absolute evidence of the presence or absence of disease.</p>				
SEX HORMONE BINDING GLOBULIN	39		22-77 nmol/L	IG
TESTOSTERONE, FREE (DIALYSIS) AND TOTAL, MS				Z3E
TESTOSTERONE, TOTAL, MS	282		250-1100 ng/dL	
<p>Men with clinically significant hypogonadal symptoms and testosterone values repeatedly in the range of the 200-300 ng/dL or less, may benefit from testosterone treatment after adequate risk and benefits counseling.</p> <p>For additional information, please refer to https://education.questdiagnostics.com/faq/FAQ165 (This link is being provided for informational/educational purposes only.) (Note)</p> <p>This test was developed and its analytical performance characteristics have been determined by medfusion. It has not been cleared or approved by the FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.</p>				
TESTOSTERONE, FREE (Note)	36		35.0-155.0 pg/mL	
<p>This test was developed and its analytical performance characteristics have been determined by medfusion. It has not been cleared or approved by the FDA. This assay has been validated pursuant to the CLIA regulations and is</p>				

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Test Name	In Range	Out Of Range	Reference Range	Lab
used for clinical purposes.				

MDF
 med fusion
 2501 South State Highway 121, Suite 1100
 Lewisville TX 75067
 972-966-7300
 Ithiel James L. Frame, MD, PhD

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Summary

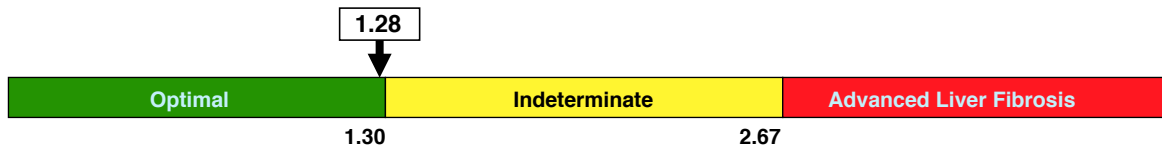
Current FIB-4 index is 1.28. Patient's previous FIB-4 index measured on 07/09/2024 was 1.13 and has increased by 0.15.

FIB-4 Index

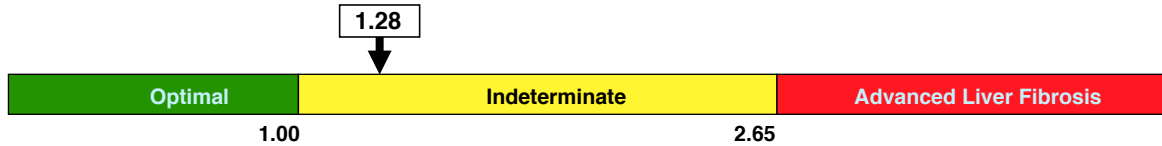
Lab:IG

FIB - 4 index: Current Result **1.28**

Index Ranges by Condition:



Individuals with NAFLD: FIB-4 index result <1.30 is consistent with the absence of advanced liver fibrosis (F3-F4).



Individuals with Hepatitis B: FIB-4 index result 1.00-2.65 is indeterminate for advanced liver fibrosis (F3-F4).



Individuals with Hepatitis C: FIB-4 index result <1.45 is consistent with the absence of advanced liver fibrosis (F3-F4).

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FIB-4 Panel Results

Test Name	Patient Results	Reference Range
GLUCOSE	101 H	65-99 mg/dL
UREA NITROGEN (BUN)	23	7-25 mg/dL
CREATININE	1.08	0.70-1.30 mg/dL
EGFR	79	> OR = 60 mL/min/1.73m2
BUN/CREATININE RATIO	SEE NOTE:	6-22 (calc)
SODIUM	139	135-146 mmol/L
POTASSIUM	5.3	3.5-5.3 mmol/L
CHLORIDE	102	98-110 mmol/L
CARBON DIOXIDE	27	20-32 mmol/L
CALCIUM	9.5	8.6-10.3 mg/dL
PROTEIN, TOTAL	7.2	6.1-8.1 g/dL
ALBUMIN	4.8	3.6-5.1 g/dL
GLOBULIN	2.4	1.9-3.7 g/dL (calc)
ALBUMIN/GLOBULIN RATIO	2.0	1.0-2.5 (calc)
BILIRUBIN, TOTAL	1.9 H	0.2-1.2 mg/dL
ALKALINE PHOSPHATASE	60	35-144 U/L
AST	28	10-35 U/L
ALT	37	9-46 U/L
PLATELET COUNT	213	140-400 Thousand/uL

Comments

Analyte Name
GLUCOSE
Fasting reference interval For someone without known diabetes, a glucose value between 100 and 125 mg/dL is consistent with prediabetes and should be confirmed with a follow-up test.
BUN/CREATININE RATIO
Not Reported: BUN and Creatinine are within reference range.

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FIB-4 Index Comments

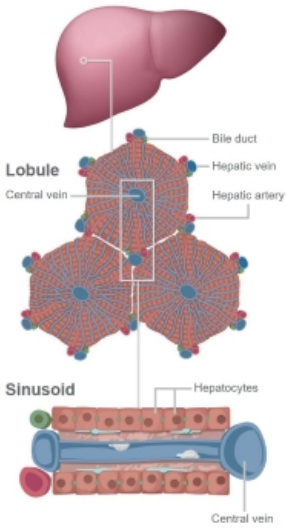
<p>Individuals with NAFLD: FIB-4 index result <1.30 is consistent with the absence of advanced liver fibrosis (F3-F4).</p> <p>Individuals with Hepatitis B: FIB-4 index result 1.00-2.65 is indeterminate for advanced liver fibrosis (F3-F4).</p> <p>Individuals with Hepatitis C: FIB-4 index result <1.45 is consistent with the absence of advanced liver fibrosis (F3-F4).</p> <p>FIB-4 Index Additional Test Information:</p> <p>The FIB-4 index is a score calculated from patient age and three laboratory measures (AST, ALT, and platelet count) to assess likelihood of advanced liver fibrosis (stage F3 or F4) in individuals with NAFLD (nonalcoholic fatty liver disease), Hepatitis B, or Hepatitis C. Patient characteristics and clinical features should guide interpretation. The application of the FIB-4 index to evaluate NAFLD in pediatric age groups is limited.</p> <p>FIB-4 index ranges for individuals with NAFLD: Low <1.30 Indeterminate 1.30-2.67 High >2.67</p> <p>FIB-4 index ranges for individuals with Hepatitis B: Low <1.00 Indeterminate 1.00-2.65 High >2.65</p> <p>FIB-4 index ranges for individuals with Hepatitis C: Low <1.45 Indeterminate 1.45-3.25 High >3.25</p> <p>References:</p> <p>Shah AG, Lydecker A, Murray K, et al. Comparison of noninvasive markers of fibrosis in patients with nonalcoholic fatty liver disease. Clin Gastroenterol Hepatol. 2009;7(10):1104-1112. doi:10.1016/j.cgh.2009.05.033</p> <p>Kumar R. Teo EK, How CH, et al. A practical clinical approach to liver fibrosis. Singapore Med J. 2018;59(12):628-633. Doi:10.11622/smedj.2018145</p> <p>For additional resources, please visit: www.QuestDiagnostics.com/NAFLD</p>
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Progression of Nonalcoholic Fatty Liver Disease

Healthy Liver

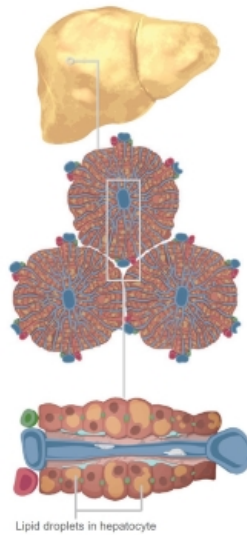
Each liver segment is divided into hexagonal arrangements of hepatocytes called lobules. The hepatocytes radiate from a central vein. The spaces between the plates of hepatocytes are called sinusoids.



Steatosis (fatty liver)

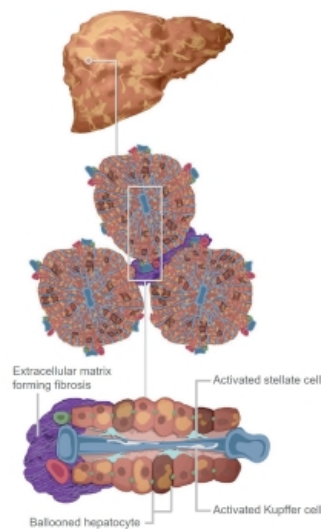
Certain metabolic factors, including type 2 diabetes, obesity, insulin resistance, and/or a surplus of caloric and dietary fat intake, result in excess release of fatty acids into the bloodstream. These fatty acids, in the form of triglycerides, accumulate in hepatocytes via

- increased hepatic lipogenesis
- decreased exportation of hepatic lipid stores
- diminished oxidation of free fatty acids in the liver



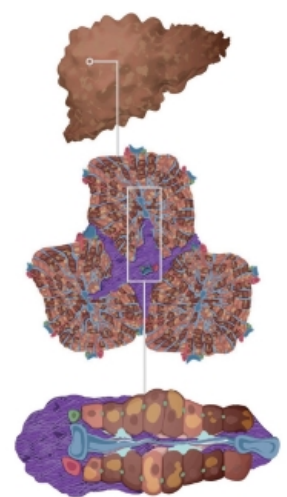
Early nonalcoholic steatohepatitis (NASH)

The fat-storing capacity of hepatocytes becomes overwhelmed, leading to lipotoxicity and causing cellular damage and the release of liver enzymes (ALT, AST). Lipotoxic metabolites, elevated levels of cholesterol and uric acid, comorbid sleep apnea, and dysregulation of the gut microbiome all contribute to oxidative stress. The resulting inflammatory responses include the activation of stellate cells, which begin to lay down extracellular matrix (ECM).



Late NASH with fibrosis

Excessive ECM deposition can lead to advanced liver fibrosis, cirrhosis, and ultimately liver failure (requiring transplantation) and hepatocellular carcinoma.



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Cardio IQ®

Test Name	Current		Risk/Reference Interval			Units	Historical
	Result & Risk		Optimal	Moderate	High		Result & Risk
	Optimal	Non-Optimal					07/09/2024
INFLAMMATION							
HS CRP		3.8	<1.0	1.0-3.0	>3.0	mg/L	8.5
METABOLIC MARKERS							
VITAMIN D, 25-OH, TOTAL	43		30-150	20-29	<20 or >150	ng/mL	33
VITAMIN D, 25-OH, D3	43					ng/mL	33
VITAMIN D, 25-OH, D2	<4.0					ng/mL	<4.0

For details on reference ranges please refer to the reference range/comment section of the report.

Medical Information For Healthcare Providers: If you have questions about any of the tests in our Cardio IQ offering, please call Client Services at our Quest Diagnostics-Cleveland HeartLab Cardiometabolic Center of Excellence. They can be reached at 866.358.9828, option 1 to arrange a consult with our clinical education team.

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PATIENT PROGRESS SUMMARY

Optimal **Moderate** **High**

Test Name	10/16/2024	07/09/2024
	(Current)	

INFLAMMATION		
HS CRP	3.8	8.5

METABOLIC MARKERS		
VITAMIN D, 25-OH, TOTAL	43	33
VITAMIN D, 25-OH, D3	43	33
VITAMIN D, 25-OH, D2	<4.0	<4.0

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Reference Range/Comments

Analyte Name	In Range	Out Range	Reference Range	Lab
HS CRP		3.8	<1.0 mg/L	Z4M
Reference Range: Optimal <1.0 mg/L, according to Jellinger PS et al. Endocr Pract.2017;23(Suppl 2):1-87. The AHA/CDC Guidelines recommend hs-CRP ranges for identifying Relative Cardiovascular Risk in patients ages >17 years: <1.0 mg/L Lower Relative Cardiovascular Risk; 1.0-3.0 mg/L Average Relative Cardiovascular Risk; 3.1-10.0 mg/L Higher Relative Cardiovascular Risk. If result is between 3.1 and 10.0 mg/L, consider retesting in 1-2 weeks to exclude a benign transient elevation secondary to infection or inflammation from the baseline CRP value. Persistent elevations of >10.0 mg/L upon retesting may be associated with infection and inflammation. The AHA/CDC recommendations are based on Pearson TA, Mensah GA, Alexander RW, et al. Markers of inflammation and cardiovascular disease: application to clinical and public health practice: A statement for healthcare professionals from the Centers for Disease Control and Prevention and the American Heart Association. Circulation 2003; 107(3): 499-511.				
VITAMIN D, 25-OH, D2	<4.0		ng/mL	Z3E
(Note) Reference range: Not established This test was developed and its analytical performance characteristics have been determined by medfusion. It has not been cleared or approved by the US Food and Drug Administration. This assay has been validated pursuant to the CLIA regulation and is used for Clinical purposes. MDF med fusion 2501 South State Highway 121,Suite 1100 Lewisville TX 75067 972-966-7300 Ithiel James L. Frame, MD, PhD				
VITAMIN D, 25-OH, D3	43		ng/mL	Z3E
Reference range: Not established				
VITAMIN D, 25-OH, TOTAL	43		30-100 ng/mL	Z3E
(Note) Vitamin D, 25-Hydroxy reports concentrations of two common forms, 25-OHD2 and 25-OHD3. 25-OHD3 indicates both endogenous production and supplementation. 25-OHD2 is an indicator of exogenous sources such as diet or supplementation. Therapy is based on measurement of Total 25-OHD, with levels <20 ng/mL indicative of Vitamin D deficiency, while levels between 20 ng/mL and 30 ng/mL suggest insufficiency. Optimal levels are > or = 30 ng/mL. For additional information, please refer to http://education.QuestDiagnostics.com/faq/FAQ199 (This link is being provided for information/educational purposes only.)				

End Notes:

CARDIO IQ(R) VITAMIN D,

Lab: Z3E

For additional information, please refer to <http://education.QuestDiagnostics.com/faq/FAQ199> (This link is being provided for informational/ educational purposes only.)

PERFORMING SITE:

IG QUEST DIAGNOSTICS DALLAS LAB, 4770 REGENT BOULEVARD, IRVING, TX 75063-2445 Laboratory Director: CLARE MCCORMICK-BAW, MD PHD, CLIA: 45D0697943
 Z3E MEDFUSION, 2501 SOUTH STATE HIGHWAY 121 SUITE 1100, LEWISVILLE, TX 75067-8188 Laboratory Director: ITHIEL J FRAME,MD,PHD, CLIA: 45D2004217
 Z4M CLEVELAND HEARTLAB INC, 6701 CARNEGIE AVENUE SUITE 500, CLEVELAND, OH 44103-4623 Laboratory Director: SAMI ALBEIROTI,PHD,DABCC, CLIA: 36D1032987