

PATIENT INFORMATION

GOSS, LAUREN

REPORT STATUS **Final**

QUEST DIAGNOSTICS INCORPORATED

DOB: 01/26/1988 Age: 31

SEX: F

ORDERING PHYSICIAN

CARLOS RAMOS

CLIENT INFORMATION

57941

BFA MYQUEST

3 GIRALDA FARMS

MADISON, NJ 07940

SPECIMEN INFORMATION

SPECIMEN: 91007188

REQUISITION: 37455038

LAB REF NO:

ID:

COLLECTED: 01/29/2019 00:00

RECEIVED: 01/30/2019 11:13

REPORTED: 02/05/2019 16:12

Test Name	In Range	Out of Range	Reference Range	Lab
CBC (DIFF/PLT)				EZ
WBC	7.3		3.8-10.8 Thousand/uL	
RBC	4.63		3.80-5.10 Million/uL	
HGB	13.0		11.7-15.5 g/dL	
HCT	40.7		35.0-45.0 %	
MCV	87.9		80.0-100.0 fL	
MCH	28.1		27.0-33.0 pg	
MCHC		31.9 L	32.0-36.0 g/dL	
PLT	236.0		140-400 Thousand/uL	
MPV	10.7		7.5-12.5 fL	
RDW	14.2		11.0-15.0 %	
Absolute Neutrophils	5170		1500-7800 cells/uL	
Absolute Lymphocytes	1660		850-3900 cells/uL	
Absolute Monocytes	330		200-950 cells/uL	
Absolute Eosinophils	30		15-500 cells/uL	
Absolute Basophils	50		0-200 cells/uL	
Neutrophils	71.5		%	
Lymphocytes	22.9		%	
Monocytes	4.5		%	
Eosinophils	0.4		%	
Basophils	0.7		%	
HEMOGLOBIN A1C WITH EAG				EZ
Hemoglobin A1c	5.1		<5.7 % of total Hgb	
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).				

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Test Name	In Range	Out of Range	Reference Range	Lab
HEMOGLOBIN A1C WITH EAG (Continued)				
eAG (mg/dL)	100		mg/dL	
eAG (mmol/L)	5.5		mmol/L	
IL-6, Highly Sensitive	0.98		0.31-5.00 pg/mL	EZ

This test was performed using a kit that has not been cleared or approved by the FDA. The analytical performance characteristics of this test have been determined by Quest Diagnostics Nichols Institute San Juan Capistrano. This test should not be used for diagnosis without confirmation by other medically established means.

Vitamin B12 and Folate Folate, Serum	12.6		<3.4 LOW ng/mL 3.4-5.4 BORDERLINE >5.4 NORMAL	EZ
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Pediatric Reference Ranges for Folate, Serum:

<5 years	Not established
5-9 years	>7.1 ng/mL
10-17 years	>8.0 ng/mL

Vitamin B12	568		200-1100 pg/mL	
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Please note: although the reference range for Vitamin B12 is 200-1100 pg/mL, it has been reported that between 5 and 10% of patients with values between 200 and 400 pg/mL may experience neuropsychiatric and hematologic abnormalities due to occult B12 deficiency; less than 1% of patients with values above 400 pg/mL will have symptoms.

VITAMIN E (TOCOPHEROL) Alpha-Tocopherol	15.2		5.7-19.9 mg/L	*SPL
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Pediatric Term Infants (Cord Blood) 1.8 - 5.8 mg/L

Levels of alpha-tocopherol < 5 mg/L are consistent with Vitamin E deficiency in adults

Beta-Gamma-Tocopherol	1.5		< 4.4 mg/L	
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Vitamin supplementation within 24 hours prior to blood draw may affect the accuracy of results.

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Creatine Kinase, Total		264 H	29-143 U/L	EZ
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Test Name	In Range	Out of Range	Reference Range	Lab
LIPID PANEL, STANDARD				EZ
Cholesterol, Total		229 H	<200 mg/dL	
Triglycerides, Serum		159 H	<150 mg/dL	
HDL Cholesterol	87		>50 mg/dL	
LDL Chol, Calculated		115 H	<100 mg/dL	

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

For additional information, please refer to <http://education.QuestDiagnostics.com/faq/FAQ164>

(This link is being provided for informational/educational purposes only.)

Cholesterol/HDL Ratio	2.63		<5.0 calc
Non-HDL Cholesterol		142 H	<130 mg/dL (calc)

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.

Lactate Dehydrogenase(LD)				EZ
LD		225 H	100-200 U/L	
COMPREHENSIVE METABOLIC PNL				*SPL
Glucose	65		65-99 mg/dL	
			Fasting reference interval	
Urea Nitrogen (BUN)	19		7-25 mg/dL	
Creatinine, Serum	0.81		0.50-1.10 mg/dL	
eGFR Non-African American	97		> 59 mL/min/1.73m2	
eGFR African American	112		> 59 mL/min/1.73m2	
BUN/Creatinine Ratio	Not Applicable			
Sodium	141		135-146 mmol/L	
Potassium	4.6		3.5-5.3 mmol/L	
Chloride	101		98-110 mmol/L	
Carbon Dioxide	24		20-32 mmol/L	
			Reference range for high altitude clients: 18-30 mmol/L	
Calcium	9.9		8.6-10.2 mg/dL	
Protein, Total	7.1		6.1-8.1 g/dL	
Albumin	4.8		3.6-5.1 g/dL	
Globulin (calc)	2.3		1.9-3.7 g/dL	
Albumin/Globulin Ratio	2.1		1.0-2.5	
Bilirubin, Total	0.3		0.2-1.2 mg/dL	
Alkaline Phosphatase	59		33-115 U/L	
Aspartate Aminotransferase		40 H	10-30 U/L	
ALT	28		6-29 U/L	

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Test Name	In Range	Out of Range	Reference Range	Lab
Cortisol, Total, LC/MS	9.7		mcg/dL	EZ

Adult Reference Ranges for Cortisol, Total:

8-10 AM 4.6-20.6 mcg/dL
 4-6 PM 1.8-13.6 mcg/dL

Cortisol Response to ACTH
 Peak >20.0 mcg/dL
 Peak >16.0 mcg/dL after IM injection

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INSULIN, B-CHAIN

EZ

Insulin, B-chain 6.0 <13.7 uIU/mL

Fasting insulin levels less than 7.6 microIU/mL are below the 75th percentile of the reference population. Insulin levels above the 75th percentile are associated with a higher risk of insulin resistance, diabetes and coronary heart disease.

The reference range is based on the 95th percentile (observed) of a reference population of unmedicated adults in the fasting state with a glucose of <100 mg/dL.

Insulin levels vary widely in specimens taken from non-fasting individuals. Interpret results accordingly.

References:

1. Lorenzo et al. The metabolic syndrome as predictor of type 2 diabetes: the San Antonio heart study. Diabetes Care. 2003;26:3153
2. Zavaroni et al. Hyperinsulinemia in a normal population as a predictor of non-insulin-dependent diabetes mellitus, hypertension, and coronary heart disease: the Barilla factory revisited. Metabolism. 1999;48:989-94

Humalog (Lispro) is a known interference with this assay. If Patient is taking this compound results may be artificially elevated.

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Test Name	In Range	Out of Range	Reference Range	Lab
Testosterone, T, MS				*SPL
Testosterone, Total, MS	13		2-45 ng/dL	

**Data from J Clin Invest 1974;53:819-828 and J Clin Endocrinol Metab 1973;36:1132-1142. 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.

For additional information, please refer to <http://education.questdiagnostics.com/faq/FAQ165> (This link is being provided for informational/educational purposes only.)

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Estradiol, Ultrasen, LC/MS				EZ
Estradiol, Ultrasen, LC/MS	63		pg/mL	

Adult Female Reference Ranges for Estradiol, Ultrasensitive:

Follicular Phase: 39-375 pg/mL
 Luteal Phase: 48-440 pg/mL
 Postmenopausal Phase: < or = 10 pg/mL

Pediatric Female Reference Ranges for Estradiol, Ultrasensitive:

Pre-pubertal
 (1-9 years): < or = 16 pg/mL
 10-11 years: < or = 65 pg/mL
 12-14 years: < or = 142 pg/mL
 15-17 years: < or = 283 pg/mL

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Test Name	In Range	Out of Range	Reference Range	Lab
Omega-3 and -6 Fatty Acid				EZ
Omega-3 (EPA+DHA) Index	1.4		1.4-4.9 %	

Risk: Optimal > 3.2%; Moderate 2.2-3.2%; High < 2.2%

Cardiovascular event risk category cut points for Omega3 index (optimal, moderate, high) are based on quartiles of adult U.S reference population. Association between Omega3 index and cardiovascular events is based on Albert et al. NEJM. 2002;346:1113.

Risk High

The Omega-3 index is associated with a high risk of cardiovascular disease because it is in the bottom population quartile. The Omega-3 index categories are based on the top (75th percentile) and bottom (25th percentile) quartiles of the reference population. Consumption of foods high in omega-3 fatty acids (EPA and DHA) or supplements containing omega-3 fatty acids can increase the omega-3 index.

Index <2.2: High
 Index 2.2-3.2: Moderate
 Index >3.2: Optimal

Omega-6/Omega-3 Ratio	21.3		5.7-21.3
EPA/Arachidonic Acid Ratio	<0.1		0.2 OR LESS
Arachidonic Acid	5.4		5.2-12.9 %
EPA	0.4		0.2-1.5 %
DHA		1.0 L	1.2-3.9 %

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hs-CRP	<0.2		mg/L	EZ
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For Ages > 17 Years:

hs-CRP mg/L Risk According to AHA/CDC Guidelines

<1.0	Lower Relative Cardiovascular Risk.
1.0-3.0	Average Relative Cardiovascular Risk
3.1-10.0	Higher Relative Cardiovascular Risk. Consider retesting in 1 to 2 weeks to exclude a benign transient elevation in the baseline CRP value secondary to infection or inflammation.
>10.0	Persistent elevations upon retesting, may be associated with infection and inflammation.

IgA				EZ
Immunoglobulin A	170		81-463 mg/dL	

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Test Name	In Range	Out of Range	Reference Range	Lab
Vitamin D, 25-Hydroxy, IA				*SPL
Vitamin D, 25-OH, Total, IA	31		30-100 ng/mL	

Vitamin D Status 25-OH Vitamin D:

Deficiency: <20 ng/mL

Insufficiency: 20 - 29 ng/mL

Optimal: > or = 30 ng/mL

For 25-OH Vitamin D testing on patients on D2-supplementation and patients for whom quantitation of D2 and D3 fractions is required, the QuestAssured(TM) 25-OH VIT D, (D2,D3), LC/MS/MS is recommended: order code 92888 (patients >2yrs).

For more information on this test, go to:
<http://education.questdiagnostics.com/faq/FAQ163> (This link is being provided for informational/educational purposes only.)

Osmolality, Serum	293		278-305 mOsm/kg	EZ
TSH	1.06		0.40-4.50 mIU/L	EZ

Female Reference Ranges for TSH:

Premature Infants, (28-36) weeks

1st week of life 0.20-27.90 mIU/L

Term infants, (>37 weeks)

Serum or Cord Blood 1.00-39.00 mIU/L

1-2 days 3.20-34.60 mIU/L

3-4 days 0.70-15.40 mIU/L

5 days-4 weeks 1.70-9.10 mIU/L**

1-11 months 0.80-8.20 mIU/L

1-19 years 0.50-4.30 mIU/L

> or = 20 years 0.40-4.50 mIU/L

** TSH levels decline rapidly during the first week of life in most children, but may remain transiently elevated in a few individuals despite normal free T4 levels. For proper interpretation of an abnormal TSH from a newborn thyroid screen, a Free T4 by Dialysis (TC 35167) or T4, Total (Thyroxine) (TC 17733) should be considered.

Pregnancy Ranges

First Trimester 0.26-2.66 mIU/L

Second Trimester 0.55-2.73 mIU/L

Third Trimester 0.43-2.91 mIU/L

For additional information, please refer to
<http://education.QuestDiagnostics.com/faq/FAQ138>
 (This link is being provided for informational/educational purposes only.)

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Test Name	In Range	Out of Range	Reference Range	Lab
Transferrin	231		188-341 mg/dL	*SPL
Prealbumin	28		17-34 mg/dL	*SPL
TOTAL IRON BINDING CAPACITY				EZ
Iron Binding Capacity	298		250-450 mcg/dL (calc)	
Iron, Total	92		40-190 mcg/dL	
TIBC should be ordered with iron for optimal utility.				
% Saturation	31		11-50 %	
Ferritin	23		10-154 ng/mL	EZ
Mercury, Blood	4		< 11 mcg/L	*SPL
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Carotene	72		6-77 mcg/dL	*SPL

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Performing Laboratory Information:

*SPL Quest Diagnostics Valencia Nichols Institute 27027 Tourney Road Valencia CA 91355-5386

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Laboratory Director: I Maramica MD, PhD, MBA