TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Laboratory Results

Patient

Name:
Phone #:
Patient ID #:
Fasting Status: FASTING
Gender: FEMALE
Birthdate:
Age:
Height: 5 ft 8 in
Weight: 130 lbs
BMI: 19.8
Prev. BMI:

Specimen

Collection Time: 9:10 am
Specimen ID:
Collection Date: 2/22/2016
Report Type: COMPLETE
Received Date: 2/23/2016
Report Date: 2/25/2016

Provider

Requesting Provider:
TONY BOGGESS, DO
NATURAL BALANCE WELLNESS MEDICAL CENTER
1310 S. MAIN ST
ANN ARBOR, MI 48104
Client ID:

	Laboratory Test	Notes	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
Lipids	Total Cholesterol (mg/dL)				155	≥ 240	200 - 239	< 200	
	LDL-C Direct (mg/dL)				87	≥ 130 CHD & CHD risk eq. > 100	100 - 129 CHD & CHD risk eq. 70 - 100	< 100 CHD & CHD risk eq. < 70	
	HDL-C (mg/dL)				64	< 50		≥ 50	
	Triglycerides (mg/dL)				63	> 199	150 - 199	< 150	
	Non-HDL-C (mg/dL) (calculated)				90	≥ 160	130 - 159	< 130	
Inflammation/ Oxidation	Fibrinogen (mg/dL)				269	< 126 or > 517	438 - 517	126 - 437	
	hs-CRP (mg/L)				< 0.3	> 2.9	1.0 - 2.9	< 1.0	
	Lp-PLA$_2$ (ng/mL)§				165	> 383	291 - 383	< 291	
Lipoprotein Genetics	Apolipoprotein E (T471C, C609T)§ rs429358, rs7412			2/3		Estimated Genotype Frequency: 2/2 (~1-2%), 2/3 (~15%), 2/4 (~1-2%), 3/3 (~55%), 3/4 (~25%), 4/4 (~1-2%)			
Coagulation Genetics	Factor V Leiden (G1691A)§ rs6025				Arg/Arg	**Optimal**=Non-carrier (Arg/Arg); **At Risk**=(Arg/Gln or Gln/Gln)			
	Prothrombin Mutation (G20210A)§ rs1799963				G/G	**Optimal**=Non-carrier (G/G); **At Risk**=(G/A or A/A)			
	MTHFR (C677T)§ rs1801133 (Methylenetetrahydrofolate Reductase)		T/T			Estimated Genotype Frequency: C/C (~49.3%), C/T (~39.8%), T/T (~10.9%)			
	MTHFR (A1298C)§ rs1801131				A/A	Estimated Genotype Frequency: C/C (~7-12%), A/C (~30%), A/A (~58-63%)			

Lab Notes: **F2-Isoprostanes HDL** unable to perform: No urine received. NOTE: The method for the LpPLA2 assay has been changed. A new baseline establishment is recommended.

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True Health Diagnostics, LLC | Dr. Christopher Byers | Laboratory Director | CLIA No. 45D2082195 | NPI No. 1619376316
 | 6170 Research Road, Suite 211 | Frisco, TX 75033 | Phone: 1-877-443-5227 | Fax: 804-343-2704

TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Laboratory Results

Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		

Height:	Weight:	BMI:	Prev. BMI:
5 ft 8 in	130 lbs	19.8	

Specimen

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9:10 am	

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Provider

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Client ID:

	Laboratory Test	Notes	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
Metabolic	1,5-anhydroglucitol (µg/mL)			15.8		< 12.6	12.6 - 16.6	> 16.6	
	25-hydroxy-Vitamin D (ng/mL)			29		≤ 14	15 - 29	30 - 100	
	Uric Acid (mg/dL)				4.1	≥ 8.0	7.0 - 7.9	2.0 - 6.9	
	TSH (µlU/mL)				1.25	< 0.27 or > 4.20		0.27 - 4.20	
	Homocysteine (µmol/L)				6	> 13	11 - 13	< 11	
	Vitamin B_{12} (pg/mL)				953	< 211	211 - 400	> 400	
	RBC Folate (ng/mL)				> 1406	< 700	700 - 750	> 750	
	Cotinine (ng/mL)				< 6	> 6		≤ 6	
	CoQ10 (µg/mL)§		0.67			< 1.11	1.11 – 2.00	> 2.00 Target of therapy for patients on statins is > 2.0 µg/mL.	

TSH is analyzed using reagents from Roche Diagnostics by electrochemiluminescence immunoassay. These values should not be used in conjunction with values from other reagent manufacturers or methodologies.

Metabolic	Cortisol (µg/dL)		30.0			Morning hours 7-10 a.m.: 6.2-19.4 Afternoon hours 4-8 p.m.: 2.3-11.9 Other or unknown collection time: 2.3-19.4			

Renal	Cystatin C (mg/L)				0.71	≥ 1.04	0.96 - 1.03	≤ 0.95	
	Estimated Glomerular Filtration Rate (eGFR, mL/min/1.73m2)				149	< 60	60 - 89	> 89	
	Creatinine, serum (mg/dL)				0.6	> 0.9		0.5 - 0.9	

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TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Sterols

Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		

Height:	Weight:	BMI:	Prev. BMI:
5 ft 8 in	130 lbs	19.8	

Specimen

Collection Time:	Specimen ID:
9:10 am	

Collection Date:	Report Type:
2/22/2016	COMPLETE

Received Date:	Report Date:
2/23/2016	2/25/2016

Provider

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1310 S. MAIN ST
ANN ARBOR, MI 48104

Client ID:

Laboratory Test		Notes	Hyper	Optimal	Hypo	Hyper Range	Optimal Range	Hypo Range	Previous Results
Sterol Absorption Markers	Campesterol (µg/mL)§			2.21		≥ 4.44	2.11 - 4.43	≤ 2.10	
	Campesterol Ratio (10^2 mmol/mol Cholesterol)			138		≥ 241	115 - 240	≤ 114	
	Sitosterol (µg/mL)§			1.73		≥ 3.18	1.43 - 3.17	≤ 1.42	
	Sitosterol Ratio (10^2 mmol/mol Cholesterol)			104		≥ 169	76 - 168	≤ 75	
	Cholestanol (µg/mL)§			2.74		≥ 3.48	2.02 - 3.47	≤ 2.01	
	Cholestanol Ratio (10^2 mmol/mol Cholesterol)			176		≥ 195	117 - 194	≤ 116	
Sterol Synthesis Markers	Desmosterol (µg/mL)§			0.67		≥ 1.28	0.50 - 1.27	< 0.50	
	Desmosterol Ratio (10^2 mmol/mol Cholesterol)			43		≥ 65	31 - 64	≤ 30	

Results of the sterol analysis should be used in conjunction with atherogenic lipid and lipoprotein measurements (LDL-P, Apo B and LDL-C) to determine the most appropriate therapy for patients. If the patient has elevated atherogenic lipoproteins, regardless of the sterol concentrations, the first line therapy should be LDL lowering with a statin, or combination therapy (statin plus niacin, fibrate, ezetimibe) if appropriate. Sterol absorption markers may be used to help select the most appropriate combination therapy. Based on the sterol analysis, it is recommended that the following changes in lipid lowering therapy be performed:

- If sterol absorption markers (campesterol and/or sitosterol) are elevated with normal or low desmosterol, sterol absorption inhibition (ezetimibe, colesevelam, plant stanols, etc.) should be considered in combination with a statin to lower atherogenic lipoproteins. For mild elevations of lipoproteins, monotherapy with a sterol absorption inhibitor could be considered if sterol absorption markers are increased.
- If desmosterol is elevated and cholesterol absorption markers are normal or decreased, statin therapy alone or combination therapy (statin plus niacin or fibrate), if appropriate, will be most effective. Sterol absorption inhibition is not recommended.
- If both sterol absorption markers and desmosterol are increased, combination therapy with statin and sterol absorption inhibition will most effectively lower atherogenic lipoproteins.

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TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Laboratory Results

Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		

Height:	Weight:	BMI:	Prev. BMI:
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9:10 am	

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Client ID:

Laboratory Test	Notes	Moderate to Strong Positive	Weak Positive	Negative	Moderate to Strong Positive Range	Weak Positive Range	Negative Range	Previous Results
Celiac Disease								
Deamidated Gliadin Peptide Antibody, IgA‡ (U)				5	> 30	20 - 30	< 20	
Deamidated Gliadin Peptide Antibody, IgG‡ (U)				< 9	> 30	20 - 30	< 20	
Tissue Transglutaminase (tTG) Antibody, IgA (U/mL)				1	> 10	4 - 10	< 4	
Tissue Transglutaminase (tTG) Antibody, IgG (U/mL)				2	> 9	6 - 9	< 6	

All autoantibodies to tissue transglutaminase (tTG) and deamidated gliadin peptide (DPG) were negative.

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Diabetes Prevention & Management Summary

understanding cardio metabolic disease

TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		

Height:	Weight:	BMI:	Prev. BMI:
5 ft 8 in	130 lbs	19.8	

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Diagnosis

Glycemic Control

▶ **Normal**

Comments: Glucose and hemoglobin A1c are in the normal range and are consistent with normoglycemia. There is some evidence of postprandial glucose elevations.

Potential Treatment Suggestions:

▶ **If HbA1C or glucose are abnormal, follow American Diabetes Association (ADA) guidelines**

Underlying Mechanisms

Insulin Resistance

Comments: There is evidence of insulin resistance. There is evidence of adipose tissue insulin resistance.

Potential Treatment Suggestions:

1. If there are features of IR present, consider:

- ▶ **Diet and Lifestyle modification (see Clinical Treatment Suggestions)**
- ▶ **Quick release bromocriptine mesylate (Cycloset®)**
- ▶ **Metformin**
- ▶ **Pioglitazone (Actos®)**

2. If there are features of adipose IR present:

- ▶ **Pioglitazone (Actos®) may be particularly useful**

Beta Cell Functionality/ Strain

Comments: There is some evidence of hyperinsulinemia, suggesting beta cell strain. The intermediate Proinsulin/C-peptide ratio suggests there may be some beta cell dysfunction.

Potential Treatment Suggestions:

▶ **If there is evidence of beta cell strain, dysfunction or failure, consider adding DPP4 or GLP-1**

NOTE: If Anti-GAD positive *and* glucose and HbA1c are in the diabetic range, consider insulin. Sulfonylureas and/or insulin may be considered for the treatment of diabetes but should NOT be used in the setting of prediabetes or insulin resistance because of potential for hypoglycemia.

*Medications and fasting status may have an effect on test results. There are no medications specifically FDA approved for the treatment of pre-diabetes or insulin resistance.

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TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Diabetes Prevention & Management
understanding cardio metabolic disease

Patient

Name:
Phone #:
Patient ID #:
Fasting Status: FASTING
Gender: FEMALE
Birthdate:
Age:
Height: 5 ft 8 in
Weight: 130 lbs
BMI: 19.8
Prev. BMI:

Specimen

Collection Time: 9:10 am
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Collection Date: 2/22/2016
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*Ranges of ferritin used for assessment of insulin resistance and diabetes risk differ from reference ranges used for diagnosis of conditions specifically related to iron nutrient status, such as iron deficiency or hemochromatosis.

	Laboratory Test	Notes	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
Glycemic Control	Glucose (mg/dL)				94	> 125	100-125	70 - 99	
	HbA1c (%)				5.0	≥ 6.5	5.7 - 6.4	≤ 5.6	
	Estimated Average Glucose (mg/dL) (calculated)				96.8	≥ 139.9	116.9 - 139.8	≤ 116.8	
	Fructosamine (µmol/L)				279	> 346	302 - 346	< 302	
	Glycation Gap				-1.42	> 0.77	0.45 - 0.77	< 0.45	
	Postprandial Glucose Index			6.3		> 7.9	6.0 - 7.9	< 6.0	
Insulin Resistance	Leptin (ng/mL)				12	> 43	20 - 43	< 20	
	Leptin:BMI Ratio				0.59	> 1.17	0.66 - 1.17	< 0.66	
	Adiponectin (µg/mL)			14		< 10	10 - 14	> 14	
	Free Fatty Acid (mmol/L)		0.75			> 0.70	0.60 - 0.70	< 0.60	
	Ferritin (ng/mL) *				26	> 108	61 - 108	< 61	
	α-hydroxybutyrate (µg/mL)§				3.3	> 5.7	4.5 - 5.7	< 4.5	
	Oleic Acid (µg/mL)§		80			> 79	60 - 79	< 60	
	Linoleoyl-GPC (µg/mL)§				21.0	< 10.5	10.5 - 13.0	> 13.0	
	HOMA-IR (calculated)				1.7	> 4.2	2.6 - 4.2	< 2.6	
Beta Cell Function	Insulin (µU/mL)				7	≥ 12	10 - 11	3 - 9	
	Proinsulin (pmol/L)			9		> 16	8 - 16	< 8	
	C-peptide (ng/mL)				2.0	> 4.6	3.1 - 4.6	1.0 - 3.0	
	Proinsulin:C-peptide Ratio			4.5		> 4.9	3.6 - 4.9	< 3.6	
	Anti-GAD (IU/mL)				< 5	> 5 Positive		≤ 5 Negative	

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TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Laboratory Results

Patient

Name:	Phone #:	Patient ID #:

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FASTING	FEMALE		31

Height:	Weight:	BMI:	Prev. BMI:
5 ft 8 in	130 lbs	19.8	

Specimen

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Electrolytes	Result	Flag	Reference Interval
Na+ (mmol/L)	138		133 - 145
K+ (mmol/L)	4.0		3.5 - 5.3
Cl- (mmol/L)	102		98 - 110
CO_2 (mmol/L)	25		19 - 31
Anion Gap (calculated)	11		6 - 18
Calcium (mg/dL)	9.9		8.8 - 10.5
Magnesium (mg/dL)	1.8		1.6 - 2.4
Phosphorus (mg/dL)	3.8		2.7 - 4.5

Liver	Result	Flag	Reference Interval
ALT / GPT (U/L)	21		< 34
AST / GOT (U/L)	14		< 33
ALP (U/L)	60		< 16 years: 62 - 356 16 - 20 years: 37 - 119 21 - 90 years: 35 - 125 > 90 years: 37 - 129
Total Bilirubin (mg/dL)	1.0		Up to 1.2

Renal	Result	Flag	Reference Interval
Creatinine, serum (mg/dL)	0.6		0.5 - 0.9
BUN (mg/dL)	9		6 - 20
BUN:Creatinine Ratio (calculated)	17		< 11 years: 14 - 34 11 - 15 years: 10 - 30 16 - 20 years: 9 - 25 21 - 70 years: 10 - 27 > 70 years: 10 - 29

Bone	Result	Flag	Reference Interval
PTH, Intact (pg/mL)	31		15 - 65

Others	Result	Flag	Reference Interval
Albumin (g/dL)	5.0		3.7 - 5.1
% Albumin (calculated)	69		54 - 71
Globulin (g/dL) (calculated)	2.2		1.9 - 3.5
Albumin:Globulin Ratio (calculated)	2.25		1.15 - 2.50
Total Protein (g/dL)	7.2		6.1 - 8.0
CK (U/L)	25	L	26 - 192
Myeloperoxidase (pmol/L)§	207		< 557

Autoimmune	Result	Flag	Reference Interval
Rheumatoid Factor (IU/mL)	< 10		≤ 14
Immunoglobulin IgA (mg/dL)	153		66 - 433
Immunoglobulin IgE (ng/mL)	213		Children aged 1-5 yrs < 144 Children aged 6-9 yrs < 216 Children aged 10-15 yrs < 480 Adults < 240
Immunoglobulin IgG (mg/dL)	934		635 - 1741
Immunoglobulin IgM (mg/dL)	83		45 - 281
Antibody to Cyclic Citrullinated Peptide (anti-CCP) (U/mL)¥	< 8.0	L	Positive: ≥ 17.0 Negative: <17.0
Anti-nuclear Antibodies (ANA) Screen	Negative		Negative

Complement	Result	Flag	Reference Interval
Complement C3 (mg/dL)	129		87 - 200
Complement C4 (mg/dL)	20		16 - 61

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Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		

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5 ft 8 in	130 lbs	19.8	

Specimen

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Anemia	Result	Flag	Reference Interval
Iron (µg/dL)	133		37 - 145
Direct TIBC (µg/dL)	450		250 - 450
Methylmalonic Acid (µmol/L)§	0.08		≤ 0.40
Transferrin Saturation (%) (calculated)	30		15 - 50
Ferritin (ng/mL)	26		13 - 150

Thyroid	Result	Flag	Reference Interval
TSH (µlU/mL)	1.25		0.27 - 4.20
T4 (µg/dL)	8.0		4.5 - 11.7
T4, free (ng/dL)	1.25		0.93 - 1.70
T3 (ng/dL)	125		80 - 200
T3, free (pg/mL)	3.3		> 19 yrs - 2.0 – 4.4
Reverse T3 (ng/dL)§	12		8 – 24
Anti-Thyroglobulin Antibody (IU/mL)Ŧ	11		< 115
Anti-Thyroid Peroxidase Antibody (IU/mL)	16		< 34

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Laboratory Results

Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		

Height:	Weight:	BMI:	Prev. BMI:
5 ft 8 in	130 lbs	19.8	

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Client ID:

Male and Female Hormones	Result	Flag	Reference Interval
Dehydroepiandrosterone sulfate (µg/dL)	146		15 - 19 yrs: 65 - 368 20 - 24 yrs: 148 - 407 25 - 34 yrs: 99 - 340 35 - 44 yrs: 61 - 337 45 - 54 yrs: 35 - 256 55 - 64 yrs: 19 - 246 65 - 74 yrs: 9 - 205 > 74 yrs: 12 - 154
Estradiol (pg/mL)	271.5		Follicular phase: 12.4 – 233.0 Ovulation phase: 41.0 – 398.0 Luteal phase: 22.3 – 341.0 Postmenopause: < 138.0 1st trimester pregnancy: 154.0 – 3243.0 2nd trimester pregnancy: 1561.0 – 21280.0 3rd trimester pregnancy: 8525.0 – >30000.0
FSH (mIU/mL)	4.0		Follicular phase 3.5 - 12.5 Ovulation phase 4.7 - 21.5 Luteal phase 1.7 - 7.7 Postmenopause 25.8 - 134.8
LH (mIU/mL)	8.2		Follicular phase 2.4 - 12.6 Ovulation phase 14.0 - 95.6 Luteal phase 1.0 - 11.4 Postmenopause 7.7 - 58.5
Progesterone (ng/mL)	0.56		Follicular phase: 0.2 – 1.5 Ovulation phase: 0.8 – 3.0 Luteal phase: 1.7 – 27 Postmenopause: 0.1 – 0.8
Human sex hormone-binding globulin (nmol/L)	86		20 - 130
Testosterone (ng/dL)	24		12 - 82
Free Testosterone (ng/dL) (calculated)	0.22		0.06 - 0.92
Dihydrotestosterone (ng/dL)§	9		Adult: 4 - 22 Prepubertal: < 3
Insulin-like Growth Factor 1 (ng/mL)	206		14 - 15 Years 107 - 487 16 - 17 Years 108 - 463 18 - 19 Years 108 - 440 20 - 25 Years 106 - 398 26 - 30 Years 101 - 353 31 - 35 Years 94 - 315 36 - 40 Years 86 - 283 41 - 45 Years 78 - 256 46 - 50 Years 68 - 235 51 - 55 Years 60 - 217 56 - 60 Years 54 - 203 61 - 65 Years 48 - 193 66 - 70 Years 43 - 186 71 - 75 Years 40 - 183 76 - 80 Years 39 - 184 81 - 85 Years 37 - 189 86 - 90 Years 37 - 197
Pregnenolone (ng/dL)§	87		Adult: < 151 Prepubertal: 20 - 140
Prolactin (ng/mL)	10.06		4.79 - 23.30

Lab Notes: **F2-Isoprostanes HDL** unable to perform: No urine received. NOTE: The method for the LpPLA2 assay has been changed. A new baseline establishment is recommended.

§This test was developed and its performance characteristics determined by True Health, LLC. It has not been cleared or approved by the U.S. Food & Drug Administration (FDA). The FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is certified under CLIA-88 as qualified to perform high complexity clinical laboratory testing.

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True Health Diagnostics, LLC | Dr. Christopher Byers | Laboratory Director | CLIA No. 45D2082195 | NPI No. 1619376316

TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Laboratory Results

Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		31

Height:	Weight:	BMI:	Prev. BMI:
5 ft 8 in	130 lbs	19.8	

Specimen

Collection Time:	Specimen ID:
9:10 am	

Collection Date:	Report Type:
2/22/2016	COMPLETE

Received Date:	Report Date:
2/23/2016	2/25/2016

Provider

Requesting Provider:
TONY BOGGESS, DO
NATURAL BALANCE
WELLNESS MEDICAL CENTER
1310 S. MAIN ST
ANN ARBOR, MI 48104

Client ID:

CBC with Differential / Platelet	Result	Flag	Reference Interval
Erythrocyte Sedimentation Rate (ESR) (mm/hour)	1		< 50 years: < 20 ≥ 50 years: < 30
WBC (x10^3/µL)	5.0		4.0 - 10.5
RBC (x10^6/µL)	4.8		3.8 - 5.1
Hemoglobin (g/dL)	14.6		11.5 - 15.0
Hematocrit (%)	44		34 - 44
MCV (fL)	91		80 - 98
MCH (pg)	30		27 - 34
MCHC (g/dL)	33		32 - 36
RDW (%)	12.7		11.7 - 15
Platelets (x10^3/µL)	221		140 - 415
Neutrophils (%)	56		40 - 74
Lymphocytes (%)	35		14 - 46
Monocytes (%)	6		4 - 13
Eosinophils (%)	1		0 - 7
Basophils (%)	1		0 - 3
Immature Granulocytes (%)	0		0 - 1
Neutrophils (absolute) (x10^3/µL)	2.8		1.8 - 7.8
Lymphocytes (absolute) (x10^3/µL)	1.7		0.7 - 4.5
Monocytes (absolute) (x10^3/µL)	0.3		0.1 - 1.0
Eosinophils (absolute) (x10^3/µL)	0.1		0.0 - 0.4
Basophils (absolute) (x10^3/µL)	0.1		0.0 - 0.2
Immature Granulocytes (absolute) (x10^3/µL)	0.0		0.0 - 0.1

Lab Notes: **F2-Isoprostanes HDL** unable to perform: No urine received. NOTE: The method for the LpPLA2 assay has been changed. A new baseline establishment is recommended.

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TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Tumor Markers

Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		

Height:	Weight:	BMI:	Prev. BMI:
5 ft 8 in	130 lbs	19.8	

Specimen

Collection Time:	Specimen ID:
9:10 am	

Collection Date:	Report Type:
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Client ID:

Tumor Markers	Result	Flag	Reference Interval	Flag	Previous Results
AFP (ng/mL)†	4.4		< 8.4		
CEA (ng/mL)†	0.5		Non-smoker < 5.1 ng/mL, Smoker < 6.6 ng/mL		

Lab Notes: **F2-Isoprostanes HDL** unable to perform: No urine received. NOTE: The method for the LpPLA2 assay has been changed. A new baseline establishment is recommended.

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TRUE HEALTH DIAGNOSTICS
EMPOWERING HEALTH THROUGH INSIGHT

Omega 3 and Omega 6 Fatty Acids Profile

Patient

Name:	Phone #:	Patient ID #:

Fasting Status:	Gender:	Birthdate:	Age:
FASTING	FEMALE		

Height:	Weight:	BMI:	Prev. BMI:
5 ft 8 in	130 lbs	19.8	

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Client ID:

Laboratory Test	Notes	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
Index HS-Omega-3 Index® (RBC EPA+DHA)[a]		3.5			< 4.0%	4.0% - 8.0%	> 8.0%	

Comments:

Your HS-Omega-3 Index is well below the target range of 8%.

The HS-Omega-3 Index is the EPA+DHA content of RBC membranes. Increasing the intake of EPA+DHA by 1 to 2 grams (1,000 - 2,000 mg) per day, from either oily fish or fish oil supplements, should significantly improve the index. The exact amount of EPA+DHA needed will vary person to person. A re-check should be done in 3 - 4 months.

Omega-3 Fatty Acids

Fatty Acids	Range	Current	Previous
Omega-3 Total	0.1% - 14.1%	**6.1%**	
Alpha-Linolenic (ALA)[§]	0.1% - 0.4%	< 0.1%	
Docosapentaenoic (DPA)[§]	0.6% - 4.1%	2.5%	
Eicosapentaenoic (EPA)[§]	0.1% - 2.5%	0.2%	
Docosahexaenoic (DHA)[§]	0.1% - 8.4%	3.3%	

Omega-6 Fatty Acids

Fatty Acids	Range	Current	Previous
Omega-6 Total	28.6% - 44.5%	**35.3%**	
Arachidonic (AA)[§]	10.5% - 23.3%	16.4%	
Linoleic (LA)[§]	4.6% - 21.3%	11.9%	

Other Fatty Acids

Fatty Acids	Range	Current	Previous
cis-Monounsaturated Total	11.5% - 20.5%	**17.2%**	
Saturated Total	36.6% - 42.0%	**40.6%**	
Trans Total	<0.1% - 1.8%	**0.9%**	

Content of EPA and DHA (mg/3 oz serving) in Fish[1]

Higher Omega-3	EPA	DHA	EPA+DHA
Herring, Pacific	1056	751	1807
Anchovy (canned in oil, European, drained solids)	649	1099	1748
Herring, Atlantic	773	939	1712
Salmon, Atlantic[2]	468	1227	1695
Salmon, Coho[2]	462	903	1365
Tuna, Bluefin	309	970	1279
Herring, Atlantic (pickled)	717	464	1181
Mackerel (canned, drained solids)	369	677	1046
Salmon, Sockeye	353	690	1043
Salmon, Chum (canned)	402	597	999
Salmon, Pink (canned, total can contents)	275	569	844
Sardines (canned in oil, Atlantic, drained solids w/bone)	402	433	835

Intermediate Omega-3	EPA	DHA	EPA+DHA
Swordfish[3]	108	656	764
Rainbow Trout (farmed)[4]	220	524	744
Tuna, White (canned in water, w/out salt)[3]	198	535	733
Sea Bass	175	473	648
Pollock, Atlantic	77	383	460
Oysters (farmed, eastern)[4]	195	179	374
Crab, King (cooked, moist heat)	251	100	351
Walleye	94	245	339
Crab, Dungeness (cooked, moist heat)	239	96	335
Flat Fish (flounder/sole)	143	112	255
Clams (cooked, moist heat)	117	124	241
Shrimp (mixed, cooked, moist heat)	115	120	235
Tuna, Light (canned, w/out salt)	40	190	230

Lower Omega-3	EPA	DHA	EPA+DHA
Halibut, Atlantic and Pacific	68	132	200
Northern Lobster (cooked, moist heat)	99	66	165
Scallops (cooked, steamed)	61	88	149
Catfish[2]	51	88	139
Haddock	43	93	136
Cod, Pacific	36	100	136
Cod, Atlantic	3	131	134
Mahi-Mahi (dolphin fish)	22	96	118
Tilapia	4	110	114
Orange Roughy	5	21	26

[1]From the USDA Nutrient Database. Values are for fish cooked with dry heat unless otherwise noted.
[2]This value averages EPA+DHA from farmed and wild fish.
[3]Because of the possibility for mercury contamination, the FDA and Environmental Protection Agency recommend that these fish (along with king mackerel and tilefish) not be consumed by women who are already or are trying to become pregnant, nursing mothers, and children under the age of two. For all other people, the intake of these fish should be limited to 6 oz. per week (or 12 oz. per week for albacore tuna).
[4]Although there has been some concern regarding the presence of small amounts of environmental pollutants in some types of farmed fish, the overall health benefit from the omega-3 fatty acids present in these fish has been calculated to far outweigh the risks (JAMA, 2006;296:1885-1899).

[a]The HS-Omega-3 Index cutpoints are based on Harris and von Shacky, Preventive Medicine 2004;39:212-220.
[§]This test was developed and its performance characteristics determined by True Health, LLC. It has not been cleared or approved by the U.S. Food & Drug Administration (FDA). The FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is certified under CLIA-88 as qualified to perform high complexity clinical laboratory testing.

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Client ID:

Comments:

Increased Non-Esterified "Free" Fatty Acid concentration. Elevated free fatty acids have been associated with the metabolic syndrome and increased risk for the development of type 2 diabetes.

Vitamin D (25(OH)D) concentration is in the intermediate range. Decreased vitamin D has been associated with hypertension, inflammation, and the metabolic syndrome. More recently, low serum 25(OH)D has been associated with increased incidence of cardiovascular events and all cause mortality.

ApoE genotype is 2/3. Apolipoprotein E2 and E3 patients respond well to statin drugs. Omega-3 fatty acid supplementation has been shown to benefit apoE2 and apoE3 patients. If the patient also has insulin resistance, a low carbohydrate or Mediterranean diet may be appropriate. Therapy should be individualized.

This patient is homozygous for the MTHFR C677T (T/T) polymorphism and has the normal or wild-type genotype for MTHFR A1298C (A/A). The C677T T/T genotype results in significantly reduced activity of MTHFR, potentially leading to diminished production of L-methylfolate, the active form of folate. Reduced levels of L-methylfolate lead to decreased production of neurotransmitters, reduced conversion of homocysteine to methionine, and reduced s-adenosylmethionine (SAMe) concentrations. CNS neurochemical deficiency, along with buildup of homocysteine and decreased availability of methyl groups from SAMe, may increase an individual's risk for developing cardiovascular disease. Additionally, this may predispose an individual to certain psychiatric disorders and/or memory and attention deficits. Patients who are homozygous for the MTHFR C677T polymorphism should consider supplementation with the active L-methylfolate in combination with vitamin B12 (methylcobalamin). Increased homocysteine levels may reflect other conditions (B-vitamin deficiencies, renal disease, etc.), which should be evaluated prior to initiating supplementation.

The Cotinine value is associated with exposure to nicotine. If not an active smoker, High Risk Cotinine levels suggest significant exposure to, but are not limited to, second hand smoke, use of tobacco products, or smoking cessation products.

All SNP genotyping tests performed at True Health Diagnostics, Richmond, VA use Biosearch Technologies BHQplus chemistry and are greater than 99% accurate. As with all PCR-based tests, this method is subject to rare interference by factors such as inhibitors and low quality or quantity of DNA. If present, the interference usually yields no result, rather than an inaccurate one. Very infrequent mutations or polymorphisms occurring in primer or probe binding regions may also affect testing and could produce an erroneous result. True Health Diagnostics recommends patients and physicians discuss genetic counseling options when reviewing the implications of genetic test results. Note: Non-carrier = Wildtype.

†Tumor markers are analyzed using reagents from Roche Diagnostics by elctrochemiluminescence immunoassay. These values should not be used in conjunction with values from other reagent manufacturers or methodologies. An elevated value suggests increased risk for cancer associated with each particular tumor marker antigen, and cannot be interpreted as absolute evidence of the presence or absence of malignant disease. Clinical correlation is needed. Refer to guidelines for appropriate patient follow up. AFP results are not interpretable for pregnant females.

₮ Anti-Thyroglobulin Antibody is analyzed using reagents from Roche Diagnostics by electrochemiluminescence immunoassay. These values should not be used in conjunction with values from other reagent manufacturers or methodologies.

¥Anti-CCP results were obtained with the Elecsys Anti-CCP electrochemiluminescence immunoassay. Results from assays of other manufacturers cannot be used interchangeably.

‡Celiac disease antibody screening results were obtained with INOVA QUANTA Lite™ reagents and other methods may not yield interchangeable values (concentrations do not correlate to endpoint titers).

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Client ID:

Comments:

††The comments, videos, and other educational information provided by True Health Diagnostics are intended to be general in nature and are NOT a substitute for professional medical advice. The treatment options offered by the DPMP Potential Treatment Algorithm are not a replacement for professional medical judgment and the treatment options may cause other side effects or present other serious medical risks.

ᵀAll tests were analyzed by True Health Diagnostics, 737 N. 5th Street, Suite 103, Richmond, VA 23219, CAP 7224971, CLIA 49D1100708, unless noted with ᵀ.

Lab Notes: **F2-Isoprostanes HDL** unable to perform: No urine received. NOTE: The method for the LpPLA2 assay has been changed. A new baseline establishment is recommended.

End of Report

ATTN PATIENT: Please contact True Health Diagnostics at 1-877-443-5227 to set an appointment with your Clinical Health Consultant to discuss your diet and exercise needs at no charge.