

Patient	Name: MICHELLE M MURPHY	Phone #: (425) 441-3330	Patient ID #: 14-077-0938	Specimen	Collection Time: 9:00 am	Specimen ID: 17032101190	Provider	Requesting Provider: MICHELLE MURPHY, FNP	
	Fasting Status: NON-FASTING	Gender: FEMALE	Birthdate: 7/29/1975		Age: 41	Collection Date: 3/15/2017		Report Type: COMPLETE	PEAK PERFORMANCE
	Height: 5 ft 10 in	Weight: 134 lbs	BMI: 19.2		Prev. BMI: 18.9 (3/28/2016)	Received Date: 3/21/2017		Report Date: 3/23/2017	1707 3RD STREET SE
							PUYALLUP, WA 98372		
							Client ID: 56-98371-18-0003971		

Laboratory Test	Notes	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
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Lipids	Total Cholesterol (mg/dL)			197	≥ 240	200 - 239	< 200	230
	LDL-C Direct (mg/dL)			89	≥ 130 CHD & CHD risk eq. > 100	100 - 129 CHD & CHD risk eq. 70 - 100	< 100 CHD & CHD risk eq. < 70	128
	HDL-C (mg/dL)			98	< 50		≥ 50	97
	Triglycerides (mg/dL)			41	> 199	150 - 199	< 150	85
	Non-HDL-C (mg/dL) (calculated)			99	≥ 160	130 - 159	< 130	133

Lipoprotein Particles and Apolipoproteins	Apo B (mg/dL)		84		≥ 100	81 - 99	≤ 80	89
	LDL-P (nmol/L) [§] , by NMR			875	≥ 1360	1020 - 1359	< 1020	1546
	Small LDL-P (nmol/L) [§] , by NMR				> 1000	501 - 1000	< 501	258
	HDL-P (μmol/L) [§] , by NMR			46.8	≤ 34.0	34.1 - 38.0	> 38.0	48.4
	Lp(a)-P (nmol/L) [§]			< 50	> 125	75 - 125	< 75	< 50

Inflammation/Oxidation	Fibrinogen (mg/dL)				< 126 or > 517	438 - 517	126 - 437	344
	hs-CRP (mg/L)			< 0.3	> 2.9	1.0 - 2.9	< 1.0	0.5
	Lp-PLA ₂ (ng/mL) [§]			190	> 383	291 - 383	< 291	157
	Myeloperoxidase (pmol/L) [§]				≥ 332	256 - 331	≤ 255	187

Endothelial Function	Asymmetric Dimethylarginine (ng/mL) [§]				> 108	97 - 108	< 97	92
	Symmetric Dimethylarginine (ng/mL) [§]				> 104	88 - 104	< 88	81
	L-arginine (ng/mL) [§]				< 4500 or > 22500		4500 - 22500	16204
	Asymmetric Dimethylarginine/Arginine Ratio (calculated)				> 9.8	7.8 - 9.8	< 7.8	5.7

Lab Notes: Unable to quantitate small LDL-P. **Coenzyme Q10, Total** unable to perform: Specimen stability exceeded. **Sedimentation Rate** unable to perform: Specimen stability exceeded.

Provider Notes:

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Patient	Name: MICHELLE M MURPHY	Phone #: (425) 441-3330	Patient ID #: 14-077-0938
	Fasting Status: NON-FASTING	Gender: FEMALE	Birthdate: 7/29/1975 Age: 41
	Height: 5 ft 10 in	Weight: 134 lbs	BMI: 19.2

Specimen	Collection Time: 9:00 am	Specimen ID: 17032101190
	Collection Date: 3/15/2017	Report Type: COMPLETE
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Provider	Requesting Provider: MICHELLE MURPHY, FNP
	PEAK PERFORMANCE 1707 3RD STREET SE PUYALLUP, WA 98372
	Client ID: 56-98371-18-0003971

Laboratory Test	Notes	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
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Myocardial Structure/Stress/Function	Galectin-3 (ng/mL)				> 25.9	17.9 - 25.9	< 17.9	7.6
	NT-proBNP (pg/mL)				> 449	125 - 449	< 125	42

Lipoprotein Genetics	Apolipoprotein E (T471C, C609T) [§] <small>rs429358, rs7412</small>				Estimated Genotype Frequency: 2/2 (~1-2%), 2/3 (~15%), 2/4 (~1-2%), 3/3 (~55%), 3/4 (~25%), 4/4 (~1-2%)			3/3
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Coagulation Genetics	MTHFR (C677T) [§] <small>rs1801133</small> (Methylenetetrahydrofolate Reductase)				Estimated Genotype Frequency: C/C (~49.3%), C/T (~39.8%), T/T (~10.9%)			C/C
	MTHFR (A1298C) [§] <small>rs1801131</small>				Estimated Genotype Frequency: C/C (~7-12%), A/C (~30%), A/A (~58-63%)			A/A

Metabolic	1,5-anhydroglucitol (µg/mL)		13.7		< 12.6	12.6 - 16.6	> 16.6	13.1
	25-hydroxy-Vitamin D (ng/mL)				≤ 14	15 - 29	30 - 100	55
	25-hydroxy-Vitamin D (ng/mL)			49	< 20	20 - 29	30 - 100	
	Uric Acid (mg/dL)			4.8	≥ 8.0	7.0 - 7.9	2.0 - 6.9	3.6
	TSH (µIU/mL)			0.96	< 0.27 or > 4.20		0.27 - 4.20	1.45
	Homocysteine (µmol/L)				> 13	11 - 13	< 11	6
	Vitamin B ₁₂ (pg/mL)			1065	< 211	211 - 400	> 400	914
	CoQ10 (µg/mL) [§]				< 1.11	1.11 - 2.00	> 2.00 <small>Target of therapy for patients on statins is > 2.0 µg/mL.</small>	2.49

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NON-FASTING	FEMALE	7/29/1975	41	
Height:	Weight:	BMI:	Prev. BMI:	
5 ft 10 in	134 lbs	19.2	18.9	3/28/2016

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	9:00 am	17032101190
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3/15/2017	COMPLETE	
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3/21/2017	3/23/2017	

Provider	Requesting Provider:
	MICHELLE MURPHY, FNP PEAK PERFORMANCE 1707 3RD STREET SE PUYALLUP, WA 98372
	Client ID: 56-98371-18-0003971

Laboratory Test	Notes	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
								3/28/2016

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	Test	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
Cortisol (µg/dL)	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							16.0
	Morning hours 6-10 a.m.: 5.5-19.8 Afternoon hours 4-8 p.m.: 2.7-10.5 Other or unknown collection time: 2.7-19.8			8.5				

Renal	Test	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
Creatinine, serum (mg/dL)		1.1			> 0.9		0.5 - 0.9	0.8

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Laboratory Test	Notes	Hyper	Optimal	Hypo	Hyper Range	Optimal Range	Hypo Range	Previous Results 3/28/2016
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Sterol Absorption Markers	Campesterol (µg/mL) ^s		3.72		≥ 4.44	2.11 - 4.43	≤ 2.10	6.00
	Campesterol Ratio (10 ² mmol/mol Cholesterol)		182		≥ 241	115 - 240	≤ 114	252
	Sitosterol (µg/mL) ^s		2.87		≥ 3.18	1.43 - 3.17	≤ 1.42	3.83
	Sitosterol Ratio (10 ² mmol/mol Cholesterol)		136		≥ 169	76 - 168	≤ 75	155
	Cholestanol (µg/mL) ^s		3.49		≥ 3.48	2.02 - 3.47	≤ 2.01	3.60
	Cholestanol Ratio (10 ² mmol/mol Cholesterol)		176		≥ 195	117 - 194	≤ 116	156

Sterol Synthesis Markers	Desmosterol (µg/mL) ^s		1.07		≥ 1.28	0.50 - 1.27	< 0.50	1.28
	Desmosterol Ratio (10 ² mmol/mol Cholesterol)		55		≥ 65	31 - 64	≤ 30	56

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, colesvelam, 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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Diagnosis

Glycemic Control

▶ Normal

Comments: Glucose and hemoglobin A1c are in the normal range and are consistent with normoglycemia. Elevated fructosamine suggests recent (approximately the past 2 weeks) sustained hyperglycemia. 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 may be some evidence of insulin resistance.

Potential Treatment Suggestions:
If there are features of insulin resistance, diet and lifestyle modifications should be considered (see Clinical Treatment Suggestions). Per the American Diabetes Association (ADA), pharmaceutical intervention may also be appropriate if patient demonstrates ADA-defined levels of glucose and HbA1c abnormality.

Beta Cell Functionality/ Strain

Comments: There is no evidence of hyperinsulinemia or beta cell dysfunction.

Potential Treatment Suggestions:
If there are features of impaired beta cell function, diet and lifestyle modifications should be considered (see Clinical Treatment Suggestions). Per the American Diabetes Association (ADA), pharmaceutical intervention may also be appropriate if patient demonstrates ADA-defined levels of glucose and HbA1c abnormality.

*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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*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 3/28/2016
Glycemic Control	Glucose (mg/dL)				96	> 125	100-125	70 - 99	97
	HbA1c (%)				5.2	≥ 6.5	5.7 - 6.4	≤ 5.6	5.3
	Estimated Average Glucose (mg/dL) (calculated)				102.5	≥ 139.9	116.9 - 139.8	≤ 116.8	105.4
	Fructosamine (µmol/L)			336		> 346	302 - 346	< 302	324
	Glycation Gap				-2.32	> 0.77	0.45 - 0.77	< 0.45	
	Postprandial Glucose Index			7.3		> 7.9	6.0 - 7.9	< 6.0	
Insulin Resistance	Leptin (ng/mL)				2	> 43	20 - 43	< 20	
	Leptin:BMI Ratio				0.11	> 1.17	0.66 - 1.17	< 0.66	
	Adiponectin (µg/mL)				21	< 10	10 - 14	> 14	
	Free Fatty Acid (mmol/L)				0.37	> 0.70	0.60 - 0.70	< 0.60	0.49
	Ferritin (ng/mL) *				47	> 108	61 - 108	< 61	
	α-hydroxybutyrate (µg/mL) [§]	9.7				> 5.7	4.5 - 5.7	< 4.5	3.4
	Oleic Acid (µg/mL) [§]				21	> 79	60 - 79	< 60	33
	Linoleoyl-GPC (µg/mL) [§]				31.2	< 10.5	10.5 - 13.0	> 13.0	26.4
HOMA-IR (calculated)				1.0	> 4.2	2.6 - 4.2	< 2.6		
Beta Cell Function	Insulin (µU/mL)				4	≥ 12	10 - 11	3 - 9	5
	Proinsulin (pmol/L)				6	> 16	8 - 16	< 8	7
	C-peptide (ng/mL)				1.7	> 4.6	3.1 - 4.6	1.0 - 3.0	1.7
	Proinsulin:C-peptide Ratio				3.3	> 4.9	3.6 - 4.9	< 3.6	
	Anti-GAD (IU/mL)				< 5	> 5 Positive		≤ 5 Negative	< 5

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Electrolytes	Result	Flag	Reference Interval
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Na+ (mmol/L)	138		133 - 145
K+ (mmol/L)	5.4	H	3.5 - 5.3
Cl- (mmol/L)	101		98 - 110
CO ₂ (mmol/L)	26		19 - 31
Anion Gap (calculated)	11		6 - 18
Calcium (mg/dL)	10.0		8.8 - 10.5
Magnesium (mg/dL)	2.1		1.6 - 2.4

Liver	Result	Flag	Reference Interval
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ALT / GPT (U/L)	12		< 34
AST / GOT (U/L)	19		< 33
ALP (U/L)	26	L	< 16 years: 62 - 356 16 - 20 years: 37 - 119 21 - 90 years: 35 - 125 > 90 years: 37 - 129
Total Bilirubin (mg/dL)	0.4		Up to 1.2

Renal	Result	Flag	Reference Interval
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Creatinine, serum (mg/dL)	1.1	H	0.5 - 0.9
BUN (mg/dL)	20		6 - 20
BUN:Creatinine Ratio (calculated)	19		< 11 years: 14 - 34 11 - 15 years: 10 - 30 16 - 20 years: 9 - 25 21 - 70 years: 10 - 27 > 70 years: 10 - 29

Anemia	Result	Flag	Reference Interval
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Ferritin (ng/mL)	47		13 - 150
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Others	Result	Flag	Reference Interval
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Albumin (g/dL)	4.8		3.7 - 5.1
% Albumin (calculated)	66		54 - 71
Globulin (g/dL) (calculated)	2.5		1.9 - 3.5
Albumin:Globulin Ratio (calculated)	1.90		1.15 - 2.50
Total Protein (g/dL)	7.3		6.1 - 8.0

Thyroid	Result	Flag	Reference Interval
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TSH (μIU/mL)	0.96		0.27 - 4.20
T4 (μg/dL)	6.3		4.5 - 11.7
T4, free (ng/dL)	1.43		0.93 - 1.70
T3 (ng/dL)	94		80 - 200
T3, free (pg/mL)	3.1		> 19 yrs - 2.0 - 4.4
Reverse T3 (ng/dL) ^s	13		8 - 24
T uptake (TBI)	0.94		0.80 - 1.30
Anti-Thyroglobulin Antibody (IU/mL) [†]	15		< 115
Anti-Thyroid Peroxidase Antibody (IU/mL)	< 10		< 34

Male and Female Hormones	Result	Flag	Reference Interval
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Estrone (pg/mL) ^s	22		Post-menopausal: 10 - 55 Pre-menopausal: 13 - 135
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CBC with Automated Differential / Platelet	Result	Flag	Reference Interval
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WBC (x10 ³ /μL)	4.9		4.0 - 10.5
RBC (x10 ⁶ /μL)	4.3		3.8 - 5.1
Hemoglobin (g/dL)	13.1		11.5 - 15.0
Hematocrit (%)	42		34 - 44
MCV (fL)	99	H	80 - 98
MCH (pg)	31		27 - 34
MCHC (g/dL)	31	L	32 - 36
RDW (%)	13.9		11.7 - 15
Platelets (x10 ³ /μL)	315		140 - 415
Neutrophils (%)	67		40 - 74
Lymphocytes (%)	31		14 - 46
Monocytes (%)	0	L	4 - 13
Eosinophils (%)	1		0 - 7
Basophils (%)	1		0 - 3
Neutrophils (absolute) (x10 ³ /μL)	3.3		1.8 - 7.8
Lymphocytes (absolute) (x10 ³ /μL)	1.5		0.7 - 4.5
Monocytes (absolute) (x10 ³ /μL)	0.0	L	0.1 - 1.0
Eosinophils (absolute) (x10 ³ /μL)	0.0		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

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For autoimmune testing, hs-CRP assay is utilized to measure CRP. Standard reference intervals for both hs-CRP and CRP are reported. ▼

Autoimmune	Result	Flag	Reference Interval
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hs-CRP (mg/L)	< 0.3		< 5.0
Rheumatoid Factor (IU/mL)	< 10		≤ 14
Antibody to Cyclic Citrullinated Peptide (anti-CCP) (U/mL)*	< 8.0		Positive: ≥ 17.0 Negative: <17.0

ANA Screen	Result	Flag	Reference Interval
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ANA Screen	Negative		Negative
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Lipids		3/14	5/15	12/15	3/16	3/17	Trend Line	High Risk Range	Intermediate Risk Range	Optimal Range
	Total Cholesterol (mg/dL)	201	210	233	230	197		≥ 240	200 - 239	< 200
LDL-C Direct (mg/dL)	103	131	150	128	89		≥ 130 CHD & CHD risk eq. > 100	100 - 129 CHD & CHD risk eq. 70 - 100	< 100 CHD & CHD risk eq. < 70	
HDL-C (mg/dL)	95	84	85	97	98		< 50		≥ 50	
Triglycerides (mg/dL)	136	97	97	85	41		> 199	150 - 199	< 150	
Non-HDL-C (mg/dL) (calculated)	107	126	148	133	99		≥ 160	130 - 159	< 130	

Lipoprotein Particles and Apolipoproteins		3/14	5/15	12/15	3/16	3/17	Trend Line	High Risk Range	Intermediate Risk Range	Optimal Range
	Apo B (mg/dL)	71	98	110	89	84		≥ 100	81 - 99	≤ 80
LDL-P (nmol/L) [§] , by NMR	1057	1503	1957	1546	875		≥ 1360	1020 - 1359	< 1020	
Small LDL-P (nmol/L) [§] , by NMR	< 200	302	816	258			> 1000	501 - 1000	< 501	
sdLDL-C (mg/dL) [§]	25						> 30	21 - 30	< 21	
Apo A-I (mg/dL)	191						< 130	130 - 150	> 150	
HDL-P (μmol/L) [§] , by NMR	35.7	41.2	49.8	48.4	46.8		≤ 34.0	34.1 - 38.0	> 38.0	
HDL2-C (mg/dL) [§]	46						≤ 12	13 - 16	≥ 17	
Apo B:Apo A-I Ratio (calculated)	0.37						≥ 0.81	0.61 - 0.80	≤ 0.60	
Lp(a) Mass (mg/dL)	6						≥ 30		< 30	
Lp(a)-P (nmol/L) [§]		< 50	< 50	< 50	< 50		> 125	75 - 125	< 75	

Inflammation/ Oxidation		3/14	5/15	12/15	3/16	3/17	Trend Line	High Risk Range	Intermediate Risk Range	Optimal Range
	Fibrinogen (mg/dL)	298							< 100 or > 464	391 - 464
Fibrinogen (mg/dL)					344			< 126 or > 517	438 - 517	126 - 437
hs-CRP (mg/L)	0.4	< 0.3	< 0.3	0.5	< 0.3			> 2.9	1.0 - 2.9	< 1.0
Lp-PLA ₂ (ng/mL) [§]			260	157	190			> 383	291 - 383	< 291
Myeloperoxidase (pmol/L) [§]				187				≥ 332	256 - 331	≤ 255

Myocardial Stress		3/14	5/15	12/15	3/16	3/17	Trend Line	High Risk Range	Intermediate Risk Range	Optimal Range
	Galectin-3 (ng/mL)	5.4				7.6			> 25.9	17.9 - 25.9
NT-proBNP (pg/mL)	21				42			> 449	125 - 449	< 125

Patient	Name: MICHELLE M MURPHY	Phone #: (425) 441-3330	Patient ID #: 14-077-0938
	Fasting Status: NON-FASTING	Gender: FEMALE	Birthdate: 7/29/1975 Age: 41
	Height: 5 ft 10 in	Weight: 134 lbs	BMI: 19.2 Prev. BMI: 3/28/2016 18.9

Specimen	Collection Time: 9:00 am	Specimen ID: 17032101190
	Collection Date: 3/15/2017	Report Type: COMPLETE
	Received Date: 3/21/2017	Report Date: 3/23/2017

Provider	Requesting Provider: MICHELLE MURPHY, FNP PEAK PERFORMANCE 1707 3RD STREET SE PUYALLUP, WA 98372
	Client ID: 56-98371-18-0003971

	3/14	5/15	12/15	3/16	3/17	Trend Line	High Risk Range	Intermediate Risk Range	Optimal Range
	Metabolic								
Insulin (µU/mL)	38	12	15	5	4		≥ 12	10 - 11	3 - 9
C-peptide (ng/mL)			3.5	1.7	1.7		> 4.6	3.1 - 4.6	1.0 - 3.0
Free Fatty Acid (mmol/L)	0.49		0.38	0.49	0.37		> 0.70	0.60 - 0.70	< 0.60
Glucose (mg/dL)	164	70	101	97	96		> 125	100-125	70 - 99
HbA1c (%)	5.4	5.3	5.2	5.3	5.2		≥ 6.5	5.7 - 6.4	≤ 5.6
1,5-anhydroglucitol (µg/mL)				13.1	13.7		< 12.6	12.6 - 16.6	> 16.6
Estimated Average Glucose (mg/dL) (calculated)	108.3	105.4	102.5	105.4	102.5		≥ 139.9	116.9 - 139.8	≤ 116.8
25-hydroxy-Vitamin D (ng/mL)	30	65	49	55			≤ 14	15 - 29	30 - 100
Uric Acid (mg/dL)	2.8	3.7	5.1	3.6	4.8		≥ 8.0	7.0 - 7.9	2.0 - 6.9
TSH (µIU/mL)	1.24	1.00	0.94	1.45	0.96		< 0.27 or > 4.20		0.27 - 4.20
Homocysteine (µmol/L)	6			6			> 13	11 - 13	< 11
Vitamin B ₁₂ (pg/mL)		748	1612	914	1065		< 211	211 - 400	> 400
Fructosamine (µmol/L)			305	324	336		> 346	302 - 346	< 302
Proinsulin (pmol/L)			13	7	6		> 16	8 - 16	< 8

	3/14	5/15	12/15	3/16	3/17	Trend Line	High Risk Range	Intermediate Risk Range	Optimal Range
	Renal								
Cystatin C (mg/L)	0.54						≥ 1.04	0.96 - 1.03	≤ 0.95
Estimated Glomerular Filtration Rate (eGFR, mL/min/1.73m ²)	> 150						< 60	60 - 89	> 89
Creatinine, serum (mg/dL)	0.8	0.9	1.0	0.8	1.1		> 0.9		0.5 - 0.9

	3/14	5/15	12/15	3/16	3/17	Trend Line	High Risk Range	Intermediate Risk Range	Optimal Range
	Omega Acids								
HS-Omega-3 Index® (RBC EPA+DHA) ^a	5.8	9.1	8.8	8.0	9.0		< 4.0%	4.0% - 8.0%	> 8.0%
Omega-3 Total	8.3	12.6	12.4	11.5	12.3			0.1% - 14.1%	
Omega-6 Total	33.5	29.2	29.6	30.0	29.6			28.6% - 44.5%	
Trans Total	1.1	0.9	0.7	0.7	0.7			<0.1% - 1.8%	

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Male and Female Hormones		3/14	5/15	12/15	3/16	3/17	Trend Line	High Risk Range	Intermediate Risk Range	Optimal Range	
	Dehydroepiandrosterone sulfate (µg/dL)	175	160	185	147				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)	196.4	73.2						Women: Follicular phase: 12.5 - 166.0 Ovulation phase: 85.8 - 498.0 Luteal phase: 43.8 - 211.0 Postmenopause: < 54.7 1st Tri. Pregnancy: 215.0 - 4300.0 Girls (1-10 years): 6.0 - 27.0		
	Estradiol (pg/mL)			47.7	59.0				Follicular phase: 12.4 - 233.0 Ovulation phase: 41.0 - 398.0 Luteal phase: 22.3 - 341.0 Postmenopause: < 138.0 1 st trimester pregnancy: 154.0 - 3243.0 2 nd trimester pregnancy: 1561.0 - 21280.0 3 rd trimester pregnancy: 8525.0 - >30000.0		
	FSH (mIU/mL)	9.3	3.6	3.1	7.7				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)	31.0	4.9	4.2	6.0				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)	1.03	10.54	1.59	0.38				Follicular phase: 0.2 - 1.5 Ovulation phase: 0.8 - 3.0 Luteal phase: 1.7 - 27 Postmenopause: 0.1 - 0.8		
Testosterone (ng/dL)	43	12	< 12	< 12					12 - 82		

Patient	Name:	Phone #:	Patient ID #:	
	MICHELLE M MURPHY	(425) 441-3330	14-077-0938	
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NON-FASTING	FEMALE	7/29/1975	41	
Height:	Weight:	BMI:	Prev. BMI:	
5 ft 10 in	134 lbs	19.2	18.9	3/28/2016

Specimen	Collection Time:	Specimen ID:
	9:00 am	17032101190
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	MICHELLE MURPHY, FNP PEAK PERFORMANCE 1707 3RD STREET SE PUYALLUP, WA 98372
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Laboratory Test	Notes	High Risk	Intermediate Risk	Optimal	High Risk Range	Intermediate Risk Range	Optimal Range	Previous Results
								3/28/2016

Index	HS-Omega-3 Index® (RBC EPA+DHA) ^a			9.0	< 4.0%	4.0% - 8.0%	> 8.0%	8.0
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Omega-3 Fatty Acids			
Fatty Acids	Range	Current	Previous
Omega-3 Total	0.1% - 14.1%	12.3%	11.5%
Alpha-Linolenic (ALA) [§]	0.1% - 0.4%	0.1%	0.2%
Docosapentaenoic (DPA) [§]	0.6% - 4.1%	3.2%	3.3%
Eicosapentaenoic (EPA) [§]	0.1% - 2.5%	2.3%	1.6%
Docosahexaenoic (DHA) [§]	0.1% - 8.4%	6.6%	6.4%

Omega-6 Fatty Acids			
Fatty Acids	Range	Current	Previous
Omega-6 Total	28.6% - 44.5%	29.6%	30.0%
Arachidonic (AA) [§]	10.5% - 23.3%	13.1%	13.2%
Linoleic (LA) [§]	4.6% - 21.3%	12.1%	12.1%

Other Fatty Acids			
Fatty Acids	Range	Current	Previous
cis-Monounsaturated Total	11.5% - 20.5%	15.7%	15.4%
Saturated Total	36.6% - 42.0%	41.7%	42.4%
Trans Total	<0.1% - 1.8%	0.7%	0.7%

Content of EPA and DHA (mg/3 oz serving) in Fish¹

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

¹From the USDA Nutrient Database. Values are for fish cooked with dry heat unless otherwise noted.

²This value averages EPA+DHA from farmed and wild fish.

³Because 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).

⁴Although 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).

^aThe HS-Omega-3 Index cutpoints are based on Harris and von Shacky, Preventive Medicine 2004;39:212-220.

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Comments:

<p>Apolipoprotein B concentration is increased. Studies have shown that elevated apoB concentration is associated with increased risk for coronary heart disease even in the presence of optimal LDL cholesterol values.</p>
<p>ApoE genotype is 3/3. Apolipoprotein E2 and E3 patients respond well to statin drugs, such as atorvastatin, pravastatin, or lovastatin. 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.</p>
<p>This patient has the normal or wild-type genotype for the MTHFR polymorphisms C677T (C/C) and MTHFR A1298C (A/A). Patients with this genotype combination are expected to have normal enzyme activity.</p>
<p>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.</p>
<p>† 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.</p>
<p>‡ Anti-CCP results were obtained with the Elecsys Anti-CCP electrochemiluminescence immunoassay. Results from assays of other manufacturers cannot be used interchangeably.</p>
<p>††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.</p>
<p>All tests were analyzed by True Health Diagnostics LLC, 737 N. 5th Street, Suite 103, Richmond, VA 23219, CAP 7224971, CLIA 49D1100708, 1-877-443-5227 unless otherwise noted.</p>
<p>§This test was developed and its performance characteristics determined by True Health Diagnostics LLC. This test 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.</p>

Lab Notes: Unable to quantitate small LDL-P. **Coenzyme Q10, Total** unable to perform: Specimen stability exceeded. **Sedimentation Rate** unable to perform: Specimen stability exceeded.

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.