



10401 Town Park Dr.
Houston, TX 77072
Laboratory Director:
Lipid Science Director:

Tel: 713-621-3101 800-227-5227
CLIA ID 45D0710715 Fax: 713-621-3234
John F. Crawford, Ph.D.
Jan M. Troup, Ph.D.

Name: Arakawa, Thomas

Batch: B6327

DOB: October 15, 1955

Accession No: N19564

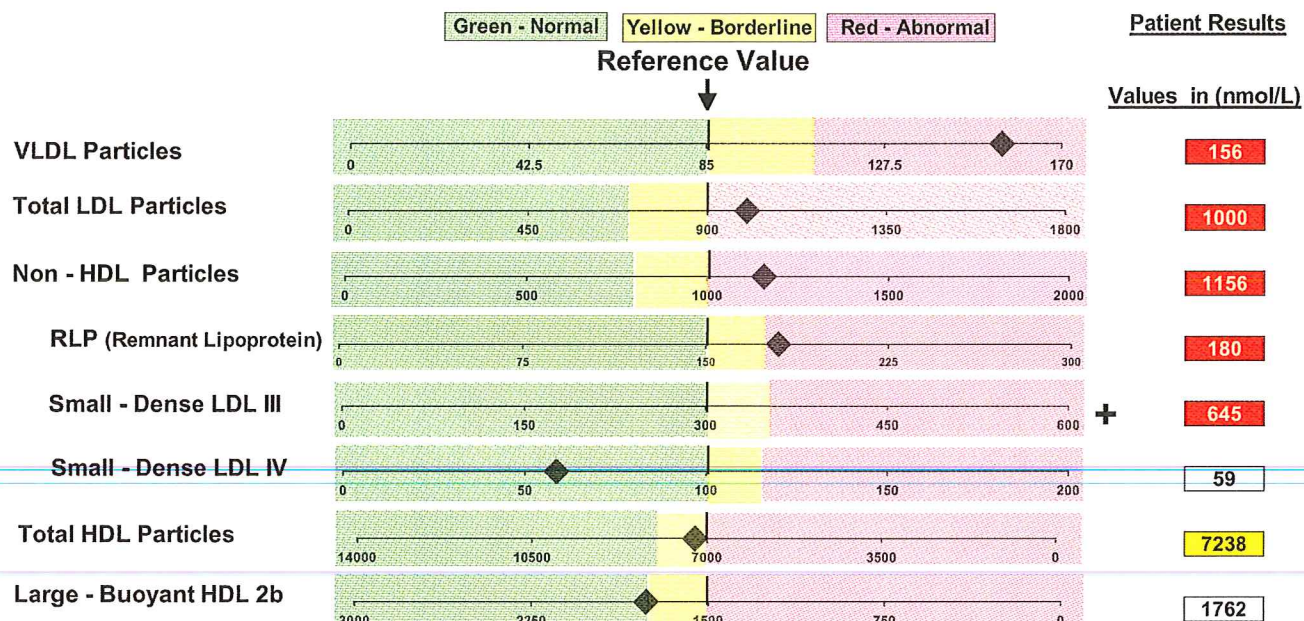
Physician: Longevity Medical Clinic - Kirl

Draw September 23, 2014

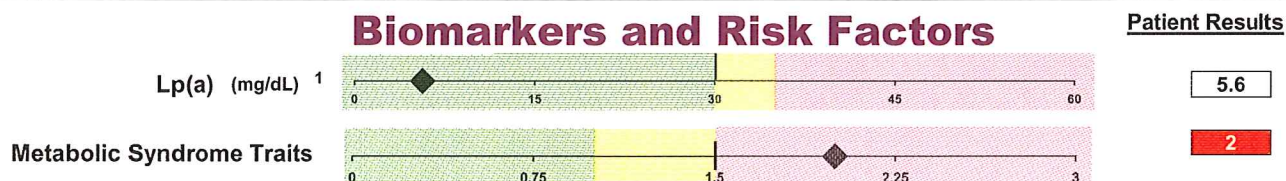
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Report Date: September 26, 2014

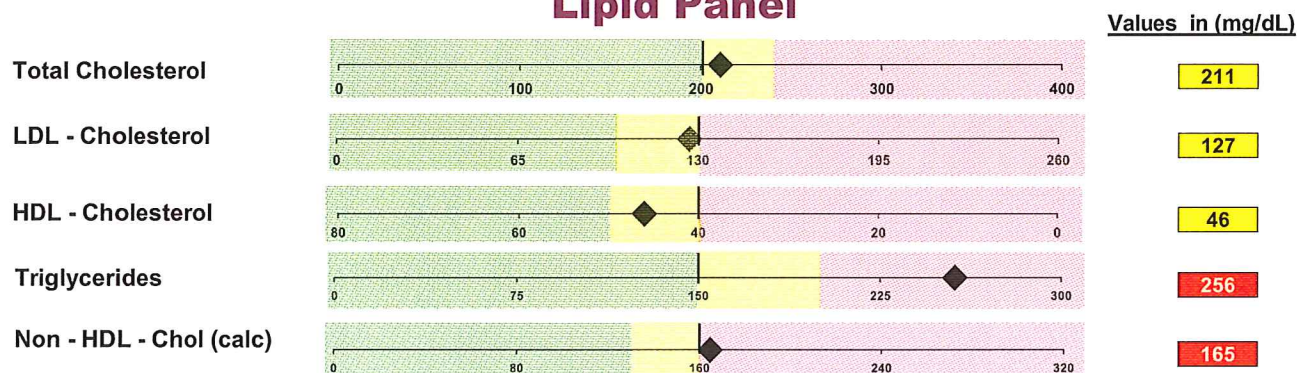
Lipoprotein Particle Numbers



Biomarkers and Risk Factors



Lipid Panel



Comments:

1. Reference Value for Blacks is 50.0 mg/dL

Name: **Arakawa, Thomas**

DOB: **October 15, 1955**

Physician: **Longevity Medical Clinic - Kirkland**

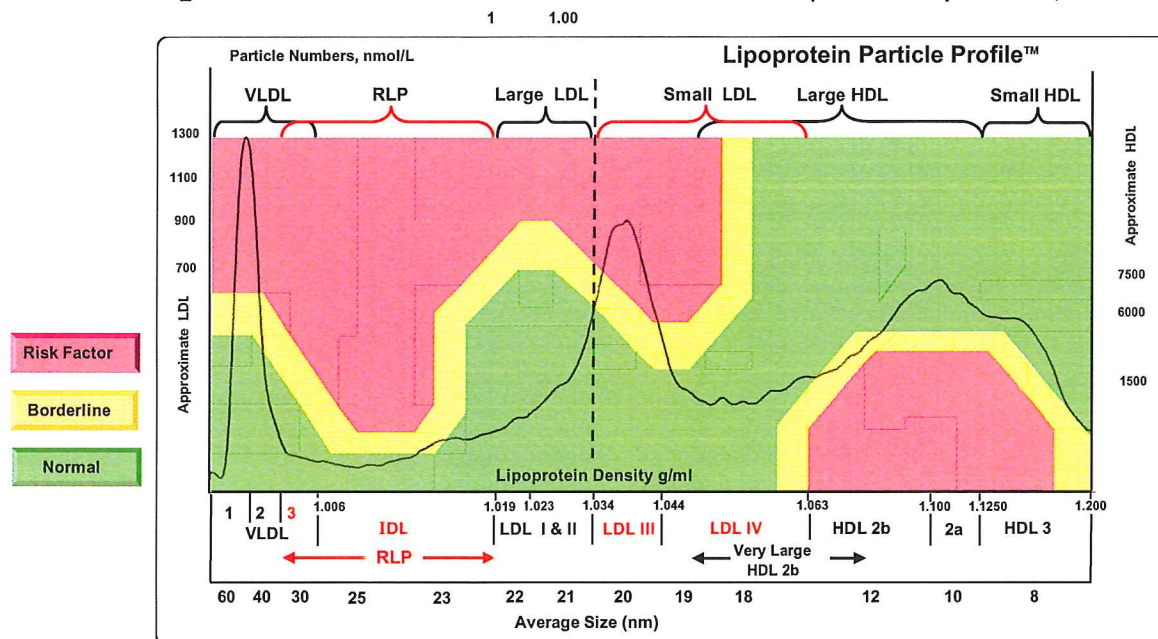
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Lipoprotein Particle Numbers (nmol/L)

	Value	Reference Value	Alert (Notes Page 3)
VLDL Particles	156	<85	High (12)
Total LDL Particles	1000	<900	High (13)
Non - HDL Particles	1156	<1000	High (19)
RLP (Remnant Lipoprotein)	180	<150	High (14)
Small - Dense LDL III	645	<300	High (15)
Small - Dense LDL IV & HDL 2b	59	<100	
Total HDL Particles	7238	>7000	Borderline-M, Low-F (17)
Large - Buoyant HDL 2b	1762	>1500	

Biomarkers and Risk Factors

	Value	Reference Value	Alert (Notes Page 3)
Lp(a) (mg/dL)	5.6	6.0 - 29.9 ¹	
Metabolic Syndrome Traits	2	Zero	Probable (8)

Lipid Panel (mg/dL)

	Value	Reference Value	Alert (Notes Page 3)
Total Cholesterol	211	<200	Borderline High (1)
LDL - Cholesterol	127	40 - 130	Borderline High (2)
HDL - Cholesterol	46	>40	Borderline (3)
Triglycerides	256	30 - 150	High (4)
Non - HDL- Chol (calc)	165	<160	High (5)

1. Reference Value for Blacks is 50.0 mg/dL
2. Reference Value for Insulin has changed on 2-20-14

SpectraCell Clinical Suggestions for Alert References

1	Elevated Total Cholesterol (TC): Borderline 200-240 mg/dL consider treatment when patient has 2 or more risk factors. >240 mg/dL consider treatment after assessing secondary dyslipidemias. >300 mg/dL suggest higher likelihood of genetic causation.			High
2	Elevated LDL-Cholesterol (LDL-C): Follow ATPIII Guidelines for treatment goals and strategy: online at http://www.nhlbi.nih.gov/guidelines/cholesterol/atglance.htm			See
	0-1 Risk factors: Goal <160 mg/dl	2 Risk factors: Goal <130 mg/dl	High Risk/ CHD or CHD equivalent Goal: <100 mg/dl (or 70 mg/dl)	
3	Low HDL-Cholesterol (HDL-C): Follow ATPIII Guidelines for treatment goals and strategy: See online at http://www.nhlbi.nih.gov/guidelines/cholesterol/atglance.htm			
	Males: <40 mg/dL (is 1 of 5 traits for Metabolic Syndrome)	Females: <50 mg/dL (is 1 of 5 traits for Metabolic Syndrome)		
4	Elevated Triglycerides (TG): TG >150 mg/dl is 1 of 5 traits for Metabolic Syndrome. (Triglyceride levels can be elevated if patient is non-fasting.) Follow ATPIII Guidelines for treatment goals and strategy: See online at http://www.nhlbi.nih.gov/guidelines/cholesterol/atglance.htm			
	Borderline: 150-199 mg/dL	High: 200-499 mg/dL	Very High: 500 mg/dL Consider Genetic disorders.	
5	Non-HDL-C: A cholesterol measurement that predicts risk better than LDL-C per the ACC & ADA consensus statement.			
	Optimal: <130 mg/dL	Borderline Risk : 130-160 mg/dL	High Risk: >160 mg/dL	
6	High Lp(a). (Lp(a) >30.0): Lp(a) is highly associated with cardiovascular disease. Lp(a) is an inherited trait and does not respond to diet, exercise, or statin drugs. Treatment for high Lp(a) is typically niacin and aggressive LDL treatment.			
8	Metabolic Syndrome Traits: This test reports only 2 of the 5 traits associated with the ATPIII Metabolic Syndrome Definition: Elevated TG (>150 mg/dl), Low HDL-C (<40 mg/dL in men; <50 mg/dL in women). Additionally, this number adds a third feature (elevated numbers of LDLIII and LDLIV particles) which corresponds highly to metabolic syndrome/insulin resistance. Clinicians must confirm metabolic syndrome by adding values for waist circumference, fasting blood glucose and blood pressure. See ATPIII guidelines.			
9	C-Reactive Protein (hs-CRP): Marker of Inflammation tied to increased cardiovascular risk			
	Low Risk: 0-1 mg/L	Borderline: 1-3 mg/L	High: >3 mg/L	
10	Elevated Insulin: (Insulin > 21.0 uU/mL): High fasting insulin is associated with increased cardiovascular risk and/or metabolic syndrome. Test units may not correlate to other labs using different methods. Insulin levels can be elevated if patient was non-fasting. Confirm that patient was properly fasted before setting goals.			
11	Elevated Homocysteine: Intermediate in methylation pathways- risk factor for CVD, stroke, Alzheimers and osteoporosis			
	Desirable: <11 mmol/L	Borderline: 11-15 mmol/L Consider dietary changes and/or multivitamins/ B-complex supplements.	Elevated: Above 15 mmol/L Consider dietary changes and/or multivitamins/ B-complex supplements.	
12	High VLDL Particle Number (VLDL > 85 nmol/L): No reported clinical guidance by NCEP, however this correlates to triglyceride values of over 200 mg/dL, high RLP and possible metabolic syndrome.			
13	Borderline, High to Very High LDL Particle Number (LDL > 700, 900, 1100 nmol/L): Patients with 2 or more risk factors are recommended to initiate therapeutic lifestyle changes and/or drug therapy to lower LDL < 900nmol/L. Patients with CHD or CHD equivalents are recommended to begin LDL-lowering drug therapy to LDL <700nmol/L. All patients with LDL particle numbers greater than 1100 nmol/l are recommended to be treated aggressively.			
14	Elevated Remnant Lipoprotein Particle Number (RLP >150 nmol/L): This new NCEP risk factor has been shown to be highly correlated with CHD and should be monitored along with other risk factors during lifestyle, supplement and/or drug treatment. Omega-3 fatty acids have been shown to reduce triglycerides and RLP.			
15	Borderline to High LDL III Particle Number (LDL III>300 nmol/L): Indicates an abundance of small-dense atherogenic LDL-particles. Management should be considered depending on LDL-C goals and risk factors. Reducing LDL-C and TG often will lower dense-LDL particles.			
16	Elevated LDL IV (LDL IV> 100 nmol/L): Indicated abundance of very small-dense atherogenic particles. Lp(a) is found typically between d=1.05 and d=1.08 and often is located near LDL IV. Treatment for high LDL IV and Lp(a) are very similar, typically niacin and aggressive LDL-C reduction. Elevated LDL IV may also be due to high buoyant (large) HDL 2b. Very high and buoyant HDL 2b, usually seen in females, can be the result of good physical fitness or possibly a pro-inflammatory HDL enriched in Apo C-1, Apo C-1 enriched HDL is usually also associated with low HDL 3 and low VLDL. JAMA (2005); 293: 1891-1899.			
17	Low HDL particle count <7000 nmol/L, 7000 - 8000 nmol/L is Borderline for Males and Low for Females: Indicates potential for atherogenic dyslipidemia. Beneficial therapies similar to those which raise HDL-C and reducing elevated TG (diet, exercise, niacin, omega-3's)			
18	Risk Factor for HDL2b between 1500 and 1750 nmol/L is borderline for males and risk factor for females. Values less than 1500 is a risk factor for males: Indicates that the HDL reverse transport system is not working well to remove excess cholesterol.			
19	Non-HDL Particle Numbers: Non-HDL particle numbers is the best overall indicator of CVD risk.			
	Optimal: <800 nmol/L	Borderline Risk : 800-1000 nmol/L	High Risk: >1000 nmol/L	
20	ApoB: A measure of all non-HDL particle numbers.			
	Optimal: <80 mg/dL (goal for very high risk patients)	Borderline Risk: 80-100 mg/dL	High Risk: >100 mg/dL	