Your Guide to Lowering Heart Disease and Stroke Risk

An Introduction to Berkeley HeartLab's Test Results

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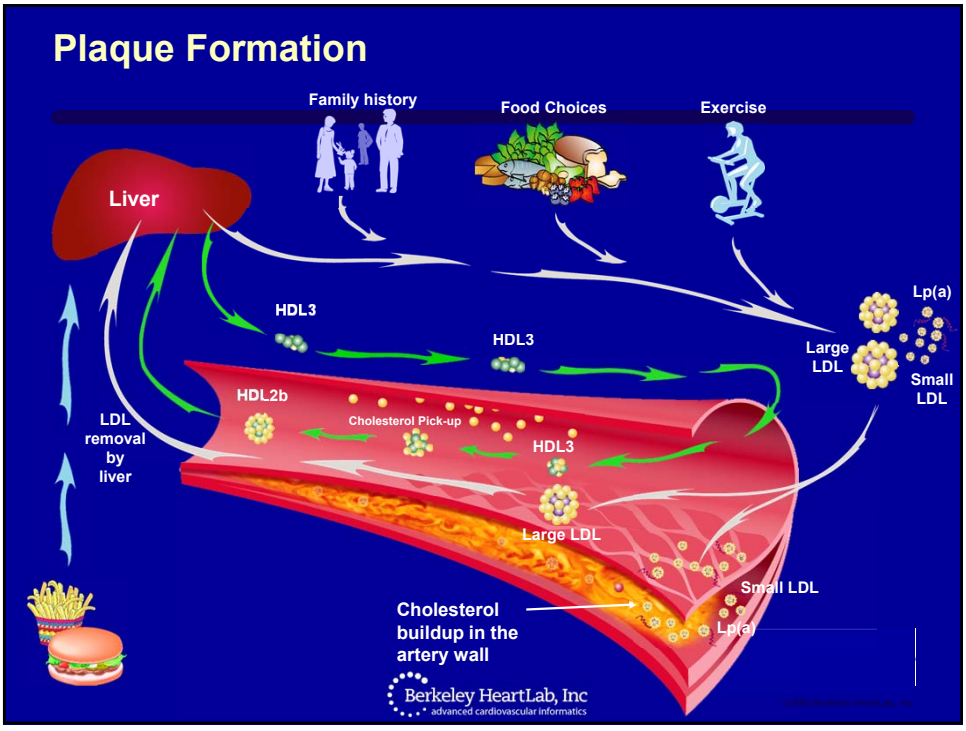
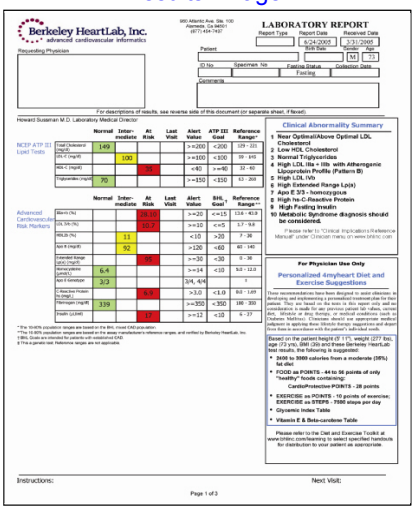
Plaque Formation



Understanding Your Berkeley Test Report

Results - Page 1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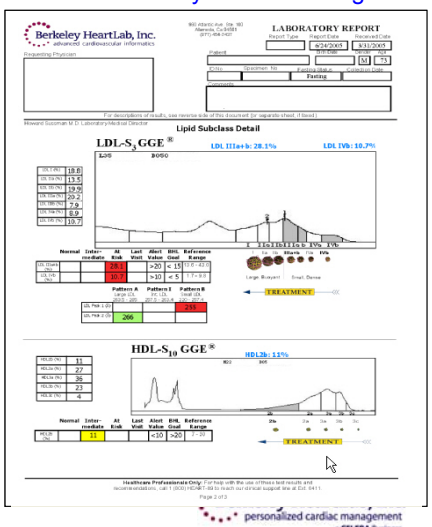
LABORATORY REPORT

Clinical Abnormality Summary

For Physician Use Only

Personalized 4myheart Diet and Exercise Suggestions

S-GGE Analysis Detail - Page 2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LABORATORY REPORT

Lipid Subclass Detail

LDL-S$_3$GGE ®

HDL-S$_{10}$ GGE ®

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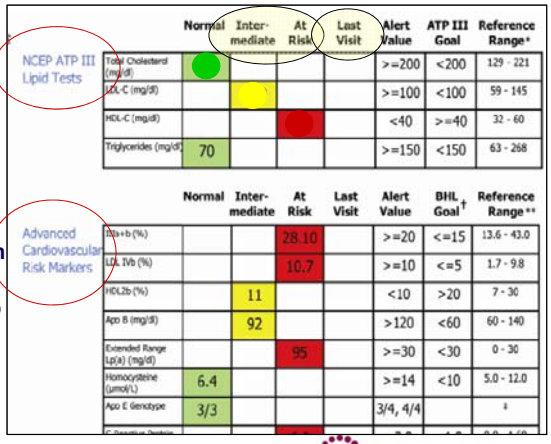
* A 3rd report page may occasionally be required

Test Results

Beyond the Normal Lipid Panel

- **Berkeley HeartLab goes beyond the normal lipid panel- (Total cholesterol, LDL (lousy), HDL (healthy) and Triglycerides)**
- **We provide "Advanced Cardiovascular Risk Markers" to determine areas that you can improve now to prevent future problems with your heart**
- **"Green" shows "normal" lab values**
- **"Yellow" shows "intermediate" lab values that need improvement**
- **"Red" shows lab values that are "at risk" and need to be addressed immediately**



NCEP ATP III Lipid Tests

	Normal	Inter-mediate	At Risk	Last Visit	Alert Value	ATP III Goal	Reference Range*
Total Cholesterol (mg/dl)					>=200	<200	129 - 221
LDL-C (mg/dl)					>=100	<100	59 - 145
HDL-C (mg/dl)					<40	>=40	32 - 60
Triglycerides (mg/dl)	70				>=150	<150	63 - 268

Advanced Cardiovascular Risk Markers

	Normal	Inter-mediate	At Risk	Last Visit	Alert Value	BHL Goal †	Reference Range**
IIa+b (%)			28.10		>=20	<=15	13.6 - 43.0
LDL IVb (%)			10.7		>=10	<=5	1.7 - 9.8
HDL2b (%)		11			<10	>20	7 - 30
Apo B (mg/dl)		92			>120	<60	60 - 140
Extended Range Lp(a) (mg/dl)			95		>=30	<30	0 - 30
Homocysteine (µmol/L)	6.4				>=14	<10	5.0 - 12.0
Apo E Genotype	3/3				3/4, 4/4		‡

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What Do Those Numbers Mean? — Small LDL

- LDL III a + b and LDL IVb
  - Berkeley does special tests to find the smaller more dangerous LDL cholesterol particles
  - Small LDL particles cause heart disease (plaque) to progress much more quickly because they enter the artery wall much faster than large particles
  - Often, the presence of small particles, signal the risk for diabetes
  - It is better to have large puffy particles that can't fit through the cracks in the artery

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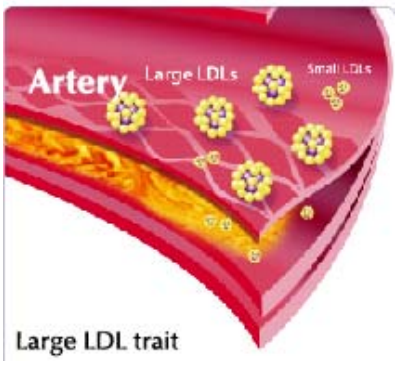
How to Change Small LDL to Large LDL

- Exercise – Get doctor's OK!
  - Regular exercise - 4-5 days per week for at least 30 minutes
  - 2 days per week, do strength training - Start slowly and build up!
  - Exercise 2 times per day for 10-15 minutes at a time if this works better for you
- Nutrition
  - Increase fish intake to 2-3 times per week
  - Plant Sterols (2,000 mg/day)
  - Depending on ApoE genotype, a low fat or moderate fat diet can help improve this lab value. Your clinical educator can help determine how much fat you need in your diet
- Take medications as prescribed



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What Do Those Numbers Mean? — HDL2b

- **HDL 2b – What is it?**
  - **HDL 2b is the best of the "good" cholesterol particles**
  - **Remember "Bigger is Better"…. HDL 2b is the biggest HDL particle; it does the best job removing cholesterol**

- **Treatment:**
  - **Body fat loss**
  - **Regular exercise - Get Doctor's approval!**
    - 4-5 days per week for at least 30 minutes
    - 2 days per week strength training
    - Start slowly and build up
  - **Improved nutrition**
    - Increase fish intake to 2-3 times per week
    - Fish Oils (2,000-4,000 mg/day)
    - Purple-skinned fruits and juices
  - **Take medication as prescribed – also Niacin, Fish oils**
  - **Quit smoking**

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What Do Those Numbers Mean? — Apo B

- **Apo B – What is it?**
  - **Apo B is a true measurement of the number of "bad cholesterol" (direct measurement of amount of LDL) particles**
  - **A high number of Apo Bs increase your risk of heart disease**
  - **Apo B is measured; LDL is a calculated number, so Apo B is a better marker for disease risk**

- **Treatment for Apo B:**
  - **Improve eating habits**
    - Increase foods with plant sterols- such as Smart Balance Heart Right Light, Benecol spread (see list of products)
    - Decrease foods high in saturated and eliminate trans fat
    - Soluble Fiber
  - **Exercise with Doctor's approval**
    - Strive for 4-5 days per week for at least 30 minutes
    - 2 days per week strength training. Start slowly and build up
    - Exercise 2 times per day for 10 - 15 minutes at a time if that works better for you
  - **Take medication as prescribed**

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Plant Sterols

- Occur naturally in parts of all plants
- Shown to lower cholesterol by up to 14%
- Block absorption of cholesterol in the intestine, leading to reduced levels in the blood
- Double the cholesterol-lowering power of statins – can take WITH statins
- Intake of 2 grams – 3 grams (or 2,000-3,000 mg) per day with meals
- Twin Labs Cholesterol Success
- ModuChol by Wakunaga
- Nature Made Cholest-off
- Can also be taken *with* statin drugs for a synergistic effect
- Smart Balance Heart Right Light
- Kroger Active Lifestyles FF Milk
- Yoplait Healthy Heart Yogurt
- Orowheat Whole Grain and Oat bread

- www.corowise.com/wheretobuy

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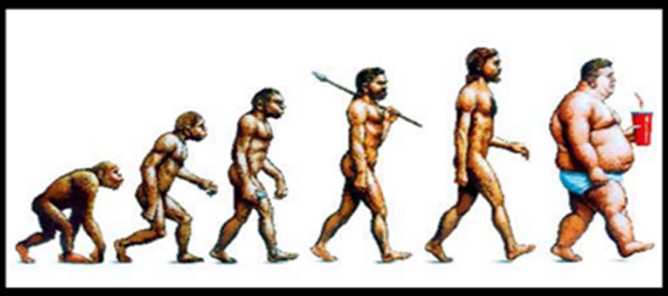
A Further View of Evolution…



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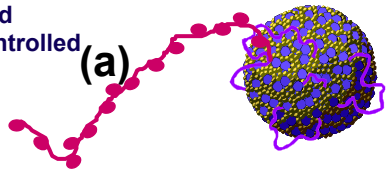
What Do Those Numbers Mean? — Lp(a)

- **Lp(a) Extended Range – What is it**
  - Lp(a) is an LDL particle with a "corkscrew" protein attached
  - High levels can increase your risk for heart attacks and strokes
  - Diet and exercise have no significant affect on lowering abnormal values
  - Specific medications can lower Lp(a) levels in some patients
  - A high level of Lp(a) can be genetic -- Family members may consider testing to see if they are at risk

- **Treatment:**
  - Take medication as prescribed
  - Keep other risks very well controlled



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What Do Those Numbers Mean? — Homocysteine

- **Homocysteine – What is it?**
  - Elevated levels of homocysteine can cause injury to the blood vessel walls, increasing risk for heart disease
  - High homocysteine levels can increase risk for high blood pressure
  - Foods high in folate (B Vitamins) can reduce high levels
  - Supplemental B vitamins

- **Treatment:**
  - Increase foods with folate- examples: beans, fortified whole grain cereals like Cheerios, Wheaties, asparagus, spinach, Brussels sprouts (see handout - Homocysteine and Folate)
  - Talk to your Clinical Educator about your protein foods

- **Medication – Follow your doctor's advice!**

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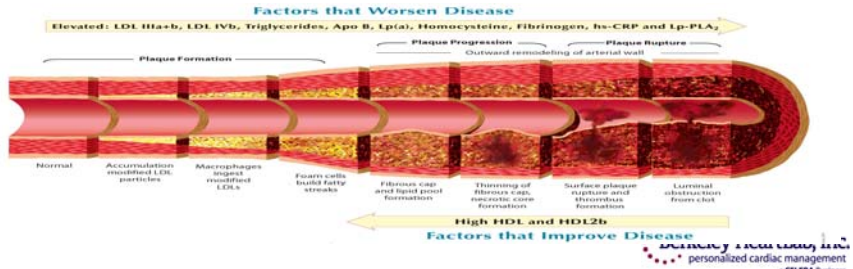
What Do Those Numbers Mean? — Lp-PLA2

- **Lp-PLA2 – What is it?**
  - Elevated levels of Lp-PLA2 are associated with inflammation in the artery wall
  - High levels (greater than 223 ng/ml) can be predictive of heart attack and stroke
  - More inflammation – narrowing of lumen
  - It can be lowered with proper medications
  - Anti-inflammatory diet: Lots of vegetables/fruits, omega-3 fatty fish, nuts, olive oil; reduce animal products, omega 6 fats



What Do Those Numbers Mean? — Fibrinogen

- **Fibrinogen – What is it?**
  - Fibrinogen is a type of protein involved in blood clotting
  - It is not good if blood clots too easily because blood clot formation in the artery can block blood flow
  - High levels (value greater than 350 mg/dl) are associated with inflammation and increased risk for heart disease
  - Persons with tendencies toward diabetes have increased levels
  - Tobacco use can increase level
  - Carrying too much body fat around the waist can increase fibrinogen

- **Treatment:**
  - Proper medications
  - Stop tobacco use
  - Lose body fat

What Do Those Numbers Mean? — CRP-hs

- **CRP (C-Reactive Protein) – What is it**
  - Elevated CRP is associated with inflammation any where in the body – a systemic inflammatory marker (heart disease, arthritis, sinus infection, etc.)
  - High levels can be predictive of heart disease, especially if it is elevated along with Lp-PLA2
  - If BOTH CRP-hs and Lp-PLA2 levels are elevated, your risk for heart disease and stroke can be 2-4 times higher
  - High levels of CRP and fibrinogen are predictive of heart disease risk
  - Stress can cause CRP to go up

- **Treatment:**
  - Take medications as prescribed
  - Anti-inflammatory diet: Lots of vegetables/fruits (salicylic acid found in berries, broccoli, spinach, peppers, legumes, walnuts, whole grains, spices, etc. have ability to act as COX inhibitors much like aspirin and ibuprofen. Lower saturated fat and sugar intake)
  - Spices like ginger, turmeric are anti-inflammatory
  - Omega 3 fatty acids in fish, fish oil are anti-inflammatory

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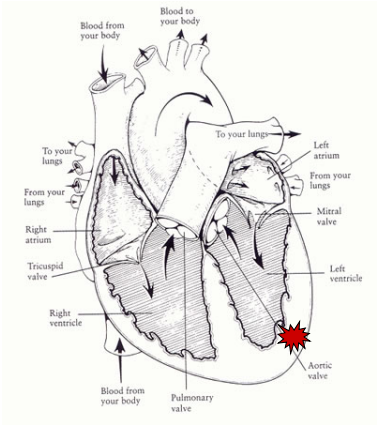
What Do Those Numbers Mean? — NT-proBNP

- A warning signal (or red light) that the heart muscle is undergoing duress or are being stressed
- Chemical created only by cardiac muscle
- Physician will determine what additional tests are needed to identify cause
- The <u>early</u> identification of abnormal values will help the physician with treatment considerations (possibly meds) to lower event risk <u>before</u> clinical symptoms develop



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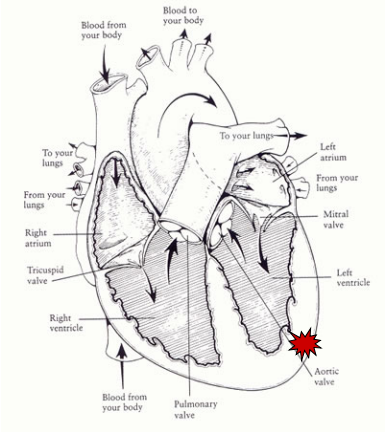
NT-proBNP Treatment

- **Treatment:**
  - Reduce stress in your life
  - Practice stress reduction techniques
  - Take medications as prescribed
  - Weight loss, if needed
  - Control blood pressure- follow a low sodium diet (see handout - Low Sodium 4myheart)
  - Exercise if doctor permits



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What Do Those Numbers Mean? — Insulin

- **Insulin – What is it?**
  - Insulin is a hormone that regulates blood sugar levels
  - High insulin levels increase your risk for diabetes and heart disease
  - When both insulin and TG are elevated – headed toward diabetes

- **Treatment:**
  - Improve eating habits
    - Eat small portions 5-6 times per day, every 3-4 hours
    - Control intake of carbohydrate, protein, and fat
    - Decrease sugary foods and "white" starchy carbohydrates such as rice, potato and pasta. (see handout - Getting Carb Conscious)
  - Lose body fat
    - Exercise with doctor's permission
    - Decrease calorie intake
  - Keep stress levels controlled – excess stress produces glucose which increases insulin levels
  - Can be lowered with proper medication

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What Do Those Numbers Mean? — Apo E

- **Apo E Genotype – What is it?**
- **Gene found on DNA**
  - Apo E is an inherited trait
    - Like blue eyes, it never changes
    - You inherit 1 Apo E protein from Mom and 1 from Dad
  - There are 3 types of Apo E genotypes
  - Apo E partially influences how you respond to dietary fat
  - Your Apo E type helps determine the right nutrition plan for you
- **Treatment - see next slide**

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Apo E Review of Literature†

It is necessary to monitor your patients' therapeutic responses and modify your treatments accordingly.

		Apo E2		Apo E3		Apo E4	
	Genotype	2/2	2/3	3/3	2/4	3/4	4/4
	Population Frequency	1%	10%	62%	2%	20%	5%
Dietary Contribution	Soluble Fiber[1]	↓↓LDL		↓LDL		↓LDL	
	Fish Oil[2]	↓↓TG ↓small dense LDL ↑HDL		↓TG ↓small dense LDL ↑HDL		↓TG ↓↓small dense LDL ↓HDL may ↑LDL	
	Plant Sterols[3]	↓LDL ↓Apo B		↓LDL ↓Apo B		↓LDL ↓Apo B	
	Soy Protein[4]	↓Apo B		↓Apo B		↓Apo B	
Dietary Fat and Alcohol Effects	Low Fat Diet[5,6]	↓ LDL ↑small dense LDL		↓↓ LDL ↔ small dense LDL		↓↓↓ LDL ↓small dense LDL	
	Moderate Fat Diet[6]	↔ LDL ↔ small dense LDL		↓ LDL ↓ small dense LDL		↓ LDL ↑↑small dense LDL	
	Moderate Alcohol[7]	↑HDL ↓LDL		↑HDL		↓HDL ↑LDL	

Legend: ↓ decreases ↑ increases ↔ no change ↓↓ significantly decreases ↑↑ significantly increases

References:

1. a) Am J Clin Nutr. 1997 Sep;66(3):584-90 b) Metabolism 1993(42):585-93
2. Arterioscler Thromb Vasc Biol. 2000 Aug;20(8):1990-7
3. Nutrition 2002 Jul-Aug;18(7-8): 561-5
4. Nutr Metab Cardiovasc Dis 2000 Dec;10(6):315-22
5. Am J Clin Nutr 2003;77:1098-111
6. J.Nutr. 2004 134:2517-2522
7. a) Am J Clin Nutr. 2001 Apr;73(4):736-45 b) Obes Res 2003 Oct;11(10)1200-6 c) Atherosclerosis 2004 Mar;173(1):79-87 d) J Neural Trans 2003 Apr;110(4):401-11 e) Proc Nutri Soc 2004(65)5-10 f) Arterioscler Thromb Vasc Biol. 2002 May 1;22(5):824-31

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What do those numbers mean?- KIF6 Genotype

- **KIF6 is a genetic test that provides information about a person's risk for cardiac events or other heart disease risks**
- **Patients who are KIF6 carriers are at a higher risk (up to 55% increased risk) for cardiac events and heart disease: Trp/Arg or Arg/Arg**
- **Knowing your KIF6 genotype may help your doctor decide which medications to use for you – carriers are associated with coronary heart disease risk reduction from atorvastatin and pravastatin**
- **Appropriate lifestyle is important in KIF6 carriers and noncarriers**

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What do those numbers mean?-
Risk Reduction Strategies in 9p21 Carriers

- • Knowing that 9p21 carriers are at increased risk of early MI or AAA events may allow health care providers to take steps to help you treat and prevent future heart disease.
- Further evaluation of 9p21 carriers may be necessary to assess appropriate lifestyle goals and treatment. This evaluation may include follow-up strategies such as blood work-up to understand which treatment may be best for you.
- Recent study published in PLoS Medicine discovered that the risk of MI and CVD associated with 9p21 variants appeared to be modified with a diet high in raw vegetables and fruits as well as fresh or frozen berries. Dropped disease risk down to same level as those without the gene!
- Non-carriers are not immune to early MI, AAA, or MI/CHD

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What do those numbers mean?- LPA

- People who have the **MET/ILE** or **MET/MET** genotype (highlighted in red on your BHL test) for LPA are at higher risk for heart disease and may benefit from Aspirin therapy to reduce this risk.
- Those who do not carry the MET genotype (are listed as **ILE/ILE** and are highlighted in green) will not have lowered heart disease risk from aspirin therapy. Also these folks may have increased risk of abdominal bleeds and aortic aneurism.
- Your MD may still have you on aspirin therapy for other health reasons, so be sure to discuss this with your provider before starting or stopping aspirin therapy!

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Vitamin D

- Current research has implicated vitamin D deficiency as a major factor in the pathology of at least 17 varieties of cancer as well as heart disease, stroke, hypertension, autoimmune diseases, diabetes, depression, obesity, chronic pain, osteoarthritis, osteoporosis, muscle weakness, muscle wasting, birth defects, periodontal disease, and more.
- Technically not a "vitamin," vitamin D is in a class by itself. Its metabolic product, calcitriol, is actually a hormone that targets over 2000 genes (about 10% of the human genome) in the human body.
- If levels are low – take supplements. 1,000 – 5,000 or more IU. Vitamin D is a fat-soluble vitamin. Be sure to take it with a meal containing fat.
- Food sources of Vitamin D: Very few foods in nature contain vitamin D. The flesh of fish (such as salmon, tuna, and mackerel) and fish liver oils are among the best sources. Small amounts of vitamin D are found in beef liver, cheese, and egg yolks. Milk is fortified.

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What do those numbers mean?-Vitamin D

Definition of vitamin D levels

Vitamin D (25-OH D)	
Serum level ng/ml	Vit D Classification
< 10	Severe Deficiency
10 – 20	Deficiency
21 – 29	Insufficiency
30 - 150	Sufficiency
> 150	Toxicity

Lee, J.H. et al. *J Am Coll Cardiol* Dec 2008

Vitamin D (25-OH D)	
Serum level ng/ml	Vit D Classification
< 40	Deficiency
> 40 – 70	Ideal
> 100	Excessive
> 150	Toxic

Cannell JJ & Hollis BW *Alt Med Rev* 2008

	Normal Risk	Intermediate Risk	At Risk	Reference Range
Vitamin D 25 OH ng/mL	30 – 100 ng/mL	10 - 29 ng/mL	<10 ng/mL > 100 ng/mL	30 – 100 ng/mL

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What do those numbers mean? CYP2C19 test

The Plavix test

- Plavix® May Help Reduce Heart Attack and Stroke Risk
- Your doctor may have prescribed, or is considering prescribing, Plavix (clopidogrel) for you. As your doctor may have explained or will explain, Plavix helps keep platelets in your blood from sticking together, making them less likely to form blood clots.
- The *CYP2C19* Genotype Test May Help Your Doctor Predict the Effectiveness of Plavix.

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Plavix test cont.

The Metabolism of Plavix:

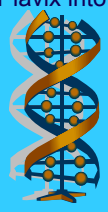
Poor Metabolizers may not be able to convert Plavix to its active form as well as Normal Metabolizers. Therefore, Plavix may have less of an effect on platelets and less ability to prevent heart attack and stroke.

An **Ultra-rapid Metabolizer's** ability to convert Plavix into its active form may be enhanced or exaggerated. However, this may also increase the risk of a bleeding problem.

Intermediate Metabolizer have moderate ability to convert Plavix into active form.

Normal Metabolizer's have good ability to convert Plavix into active form.

Doctor will decide upon dose of Plavix needed.



CYP2C19 Genotype and Plavix

- **Poor and Intermediate Metabolizers taking Plavix may have a higher risk of another cardiovascular event including stent thrombosis**
- **They may also benefit from alternative dosing strategies or an anti-platelet medication other than Plavix**
- **Ultra-rapid metabolizes have been shown to have enhanced metabolism of certain drugs and may have increased risk of bleeding associated with Plavix use**
- **Normal metabolizers may convert the normal or expected amount of Plavix to the active form. Plavix may be effective for the prevention of blood clotting**

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Omega 3 and 6 Fatty Acid test

Measures 21 individual fatty acids from a single sample and reports six (6) analyses including an Omega-3 index to assess CVD risk:

- **Characterize patients at increased risk due to Omega-3 fatty acid deficiency.**
- **Establish Omega-3 fatty acid baseline.**
- **Monitor effectiveness of Omega-3 fatty acid supplementation.**

This multi-analyte profile provides a diagnostic snapshot that can help paint a more complete picture of patient status and risk for cardiovascular disease.

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Omega Fatty Acids (cont.)

- Omega-3 Index (ratio):
  - The Omega-3 index measures the ratio of 'healthy' essential fatty acids EPA
  - (eicosapentaenoic acid) and DHA (docosahexaenoic acid) to total phospholipid fatty acids.
  - This ratio can help classify an individual's risk of cardiovascular disease as low, moderate or high.
- High risk <1.1%
- Moderate Risk 1.1 - 3.3%
- Low Risk >3.3%

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Potential Impact of Exercise and Weight Loss on BHL Test Report and Other Risk Factors

		Normal	Inter-mediate	At Risk	Last Visit	Alert Value	ATP III Goal	Reference Range*
NCEP ATP III Lipid Tests	Total Cholesterol (mg/dl)					>=200	<200	129 - 221
	LDL-C (mg/dl)					>=100	<100	59 - 145
	HDL-C (mg/dl)					<40	>=40	32 - 60
	Triglycerides (mg/dl)					>=150	<150	63 - 268

		Normal	Inter-mediate	At Risk	Last Visit	Alert Value	BHL Goal†	Reference Range**
Advanced Cardiovascular Risk Markers	IIIa+b (%)					>=20	<=15	13.6 - 43.0
	LDL IVb (%)					>=10	<=5	1.7 - 9.8
	HDL2b (%)					<10	>20	7 - 30
	Apo B (mg/dl)					>120	<60	60 - 140
	Extended Range Lp(a) (mg/dl)					>=30	<30	0 - 30
	Homocysteine (µmol/L)					>=14	<10	5.0 - 12.0
	Apo E Genotype					3/4, 4/4		‡
	C-Reactive Protein hs (mg/L)					>3.0	<1.0	0.0 - 1.69
	Fibrinogen (mg/dl)					>=350	<350	180 - 350
	Insulin (µU/ml)					>=12	<10	6 - 27
	Weight							

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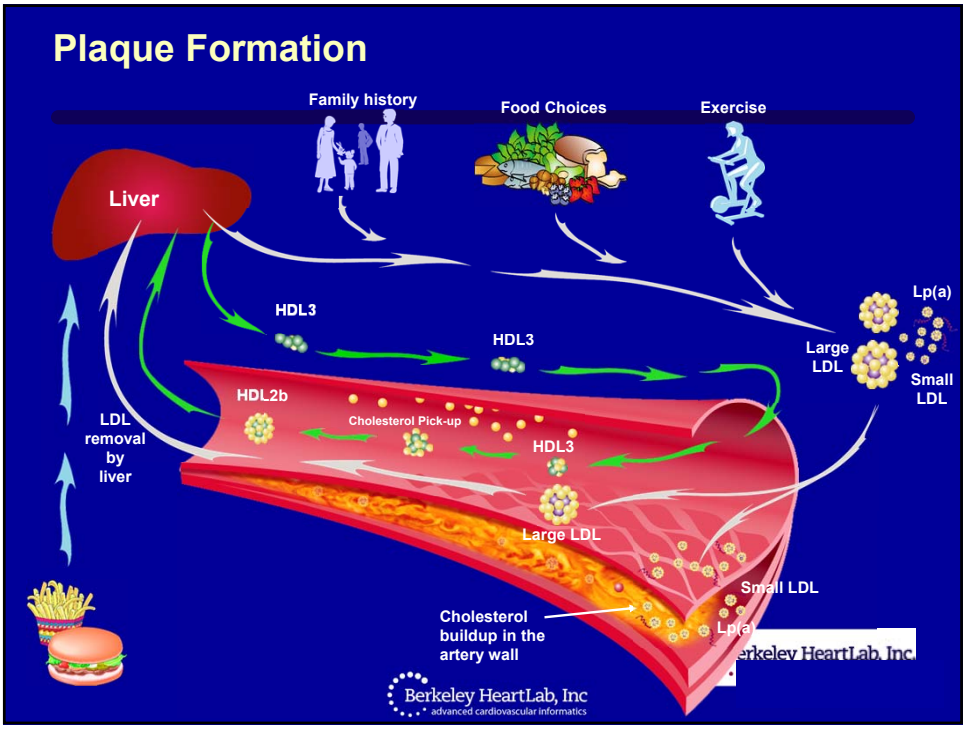
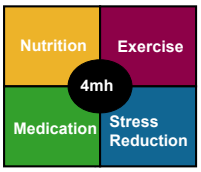
Plaque Formation



What Can You Do To Improve Your Lab Values?

- Schedule an individual follow up appointment with your Clinical Educator for personalized education
- Log on to our website www.4myheart.com to track your progress and see more education benefits
- Participate in group classes over the phone and in the office
- Continue to get re-tested to show your progress!
- Remember - the program is of no additional cost to you when you have had a Berkeley!



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Heart Health for Today's Generation

NMR LIPOPROFILE® test

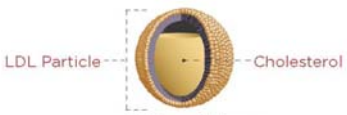
Because LDL Particles Cause Plaque

The *NMR LipoProfile*® test

- **The *NMR LipoProfile* test from LapCorp is more than a cholesterol test**
  - **Simple blood test**
  - **Gives you and your doctor your LDL particle number (LDL-P).**
  - **Allows you and your doctor to personalize management of your risk for heart disease.**

LDL Particles Cause Plaque

- Cholesterol cannot float freely in the body.
- Cholesterol is carried inside LDL particles through your blood.
- Until recently, doctors had to rely on LDL cholesterol (LDL-C) to estimate LDL-P.



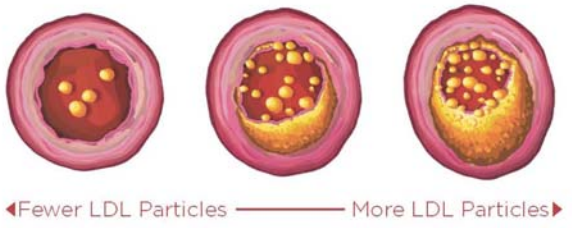
LDL particles are containers that carry cholesterol in the blood.

LDL-P	LDL-C
The number of LDL particles present in the blood.	The amount of cholesterol carried inside LDL particles

Until recently, doctors had to rely on LDL-C to estimate LDL-P.

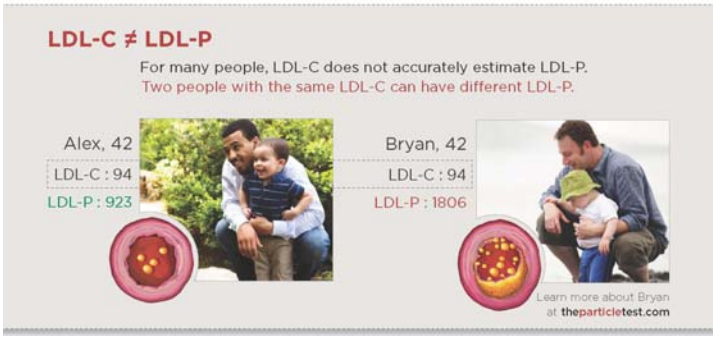
More LDL Particles = More Plaque

- **The higher the number of LDL particles, the greater the likelihood for them to enter the arterial wall and form atherosclerotic plaque.**



LDL-P ≠ LDL-C

- **For many people, LDL-P and LDL-C do not agree.**
- **Knowing your LDL-P can help you and your physician manage your risk for heart disease.**



LDL Particles

- 30% of those with cholesterol levels < 160 mg/dL died from cardiovascular disease according to a National Heart, Lung, and Blood Institute report on associations between mortality rates and total cholesterol levels
- Sudden death is the FIRST SIGN of coronary artery disease in as many as one-third of patients
- It's NOT just the cholesterol numbers that tell the story

Take Control of Your Heart Health

- If you have any of the following health concerns, the *NMR LipoProfile* test is right for you.
  - Family history of heart attack or stroke
  - Previous heart attack or stroke
  - High blood pressure
  - Diabetes or pre-diabetes
  - Overweight /obese
  - Smoking

Manage your Heart Health

- **LDL-P may aid in determining treatment strategies and clinical decision making for personalized management of your heart health.**
  - **Diet**
  - **Exercise**
  - **Medication (i.e. statins, etc.)**
- **If a treatment strategy is necessary to lower your LDL-P, you should have a follow up *NMR LipoProfile* test to track your progress toward your LDL-P goal.**

Lipid Cascade

- **It is estimated that 47 million adults in the US have cardiometabolic risk (CMR) and are at high risk for type 2 diabetes and cardiovascular disease**
- **CMR is associated with risk factors, including:**

- **Increased age (men over 35 and women over 45 years)**
- **Elevated blood pressure (>130 / ≥85 mm/Hg or on antihypertensive meds)**
- **Abdominal obesity (waist circumference in men >40 inches and women > 35 inches**
- **Elevated triglycerides (≥150 mg/dL), low HDL cholesterol (men <40 mg/dL, women <50 mg/dL) and increased numbers of small dense LDL particles**
- **Elevated fasting blood glucose (≥110 mg/dL) and insulin resistance (IR)**

Lipid Cascade

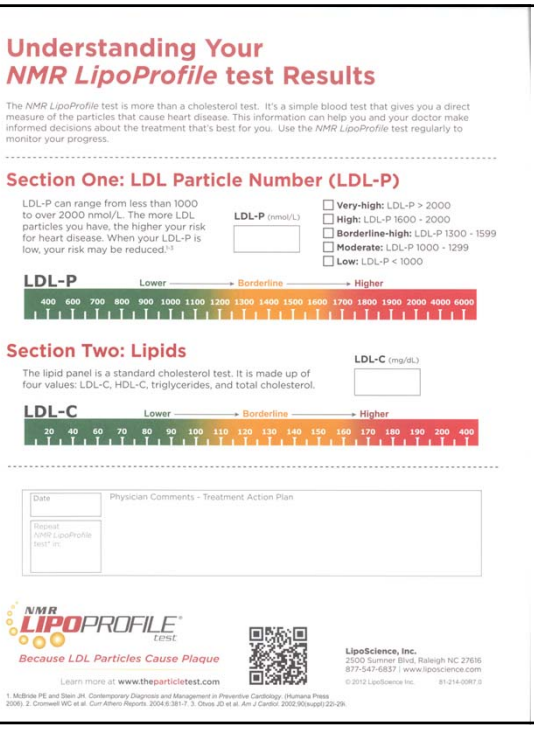
- Many people with CMR (cardiometabolic risk) have NORMAL levels of cholesterol but increased numbers of small dense LDL particles
- Also, the insulin resistance which can accompany CMR is also a precursor to type 2 diabetes
- Conventional lipid panels can miss these important factors and may delay intervention until risk factors and symptoms are markedly pronounced and significant cardiac events occur
- The Lipid Cascade test can catch "at-risk" patients with a "normal" LDL cholesterol result <130 mg/dL who have CMR risk factors
- The Lipid Cascade provides a lipoprotein IR (insulin resistance) score as a qualitative indicator of a person's insulin resistance and risk for diabetes

Lipid Cascade

- If a person has a triglyceride level >400 mg/dL, the Lipid Cascade automatically measures LDL-P the direct measurement of LDL particles
- If the direct LDL results are <130 mg/dL, the Lipid Cascade automatically measures LDL paticle concentration and size
- The Lipid Cascade provides a lipoprotein IR (insulin resistance) score as a qualitative indicator of the patient's insulin resistance and risk for diabetes
- LapCorp's Lipid Cascade can help provide improved patient care through amore complete picture of the lipid status of people who are at risk and have "normal" LDL-cholesterol levels

Lipid Cascade

- LP-IR Score
- Insulin Sensitive – Low Score
- Insulin Resistant - High Score



Understanding Your *NMR LipoProfile* test Results

The *NMR LipoProfile* test is more than a cholesterol test. It's a simple blood test that gives you a direct measure of the particles that cause heart disease. This information can help you and your doctor make informed decisions about the treatment that's best for you. Use the *NMR LipoProfile* test regularly to monitor your progress.

Section One: LDL Particle Number (LDL-P)

LDL-P can range from less than 1000 to over 2000 nmol/L. The more LDL particles you have, the higher your risk for heart disease. When your LDL-P is low, your risk may be reduced.[1-3]

LDL-P (nmol/L)

- ☐ **Very-high:** LDL-P > 2000
- ☐ **High:** LDL-P 1600 - 2000
- ☐ **Borderline-high:** LDL-P 1300 - 1599
- ☐ **Moderate:** LDL-P 1000 - 1299
- ☐ **Low:** LDL-P < 1000

LDL-P Lower → Borderline → Higher

400 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 4000 6000

Section Two: Lipids

The lipid panel is a standard cholesterol test. It is made up of four values: LDL-C, HDL-C, triglycerides, and total cholesterol.

LDL-C (mg/dL)

LDL-C Lower → Borderline → Higher

20 40 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 400

Date

Repeat *NMR LipoProfile* test? in:

Physician Comments - Treatment Action Plan

NMR LIPOPROFILE test

Because LDL Particles Cause Plaque

Learn more at www.theparticletest.com

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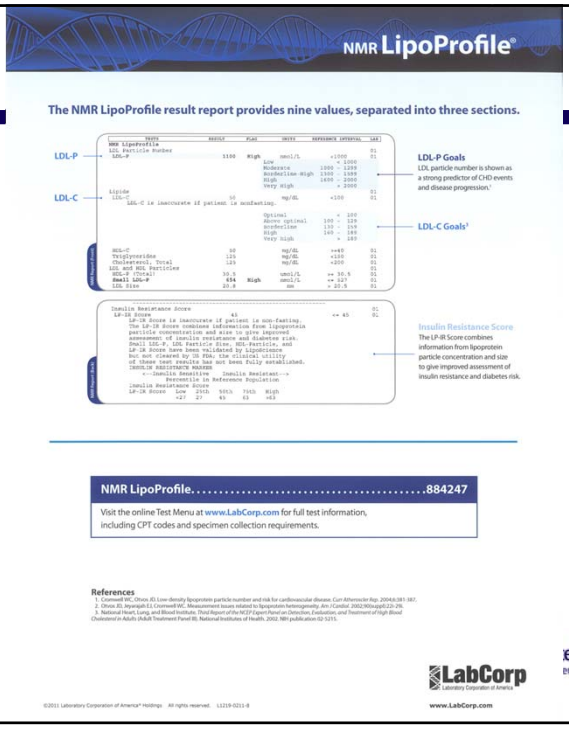
 81-214-00R7.0

1. McBride PE and Stein JH. *Contemporary Diagnosis and Management in Preventive Cardiology*. (Humana Press 2006). 2. Cromwell WC et al. *Curr Athero Reports*. 2004;6:381-7. 3. Otvos JD et al. *Am J Cardiol*. 2002;90(suppl):22i-29i.



✱Questions?

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