

Who should take the MI-HEART blood test?

INFORMATIVE CASES OF PLASMA CERAMIDES

SCENARIO 1



PATIENTS WITH INTERMEDIATE RISK

William and Charles both had intermediate risk factors and an ASCVD Pooled Cohort 10-year chance of events of 7.5%. **Both elected not to begin statin therapy.** Later that year, William went to the cath lab and had a stent placed, Charles has had no symptoms or issues.

	WILLIAM	CHARLES	NORMAL VALUES
Sex	Male	Male	_____
Age	61	58	_____
Height	170 cm (5'6")	172 cm (5'8")	_____
Weight	92 kg (203 lbs)	72 kg (159 lbs)	_____
BMI kg/m ²	32	24	18.5 to 24.9
BP	127/75	124/70	< 120 (systolic)
Hypertension Rx	No	No	_____
Smoker	No	No	_____
Diabetes	No	No	_____
Total Cholesterol mg/dL	199	198	< 200
HDL Cholesterol mg/dL	59	44	> 59
Trigs mg/dL	98	180	<150
10-y ASCVD	7.5%	7.5%	_____
LDL Cholesterol mg/dL	120	118	< 100
CERAMIDE RISK SCORE	12	2	0-2 Lower risk 3-6 Moderate risk 7-9 Increased risk 10-12 Higher risk
Ceramide (16:10) mcmol/L	0.45	0.24	0.19 – 0.36
Ceramide (18:10) mcmol/L	0.17	0.10	0.05 – 0.14
Ceramide (24:1) mcmol/L	1.57	0.97	0.65 – 1.65
Ceramide (16:10)/(24:0)	0.16	0.08	< 0.11
Ceramide (18:10)/(24:0)	0.06	0.03	< 0.05
Ceramide (24:1)/(24:0)	0.56	0.32	< 0.45
Outcomes	Stent later that year and CABG 3 years later	No subsequent events	

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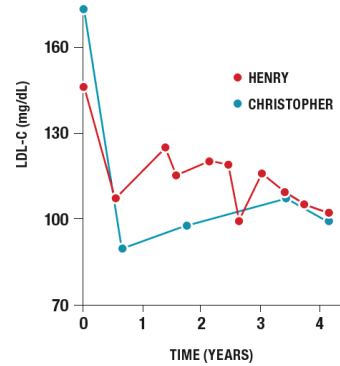
INFORMATIVE CASES OF PLASMA CERAMIDES

SCENARIO 2



PATIENTS WITH A STRONG SUSPICION FOR CORONARY HEART DISEASE

Henry and Christopher were both referred to their cardiologists for increased risk of ASCVD. **Both elected to begin a moderate dose of statin therapy.** Four years later, Henry had to visit the cath lab and required two stents and a bypass graft and had no complications.



	HENRY	CHRISTOPHER	NORMAL VALUES
Sex	Male	Male	_____
Age	64	62	_____
Height	168 cm (5'6")	178 cm (5'10")	_____
Weight	77 kg (170 lbs)	116 kg (255 lbs)	_____
BMI kg/m ²	27	37	18.5 to 24.9
BP	135/70	140/75	< 120 (systolic)
Hypertension Rx	No	Yes	_____
Smoker	No	No	_____
Diabetes	No	No	_____
Total Cholesterol mg/dL	212	250	< 200
HDL Cholesterol mg/dL	53	51	> 59
Trigs mg/dL	67	131	<150
10-y ASCVD	13%	18.4%	_____
LDL Cholesterol mg/dL	146	173	< 100
CERAMIDE RISK SCORE	12	0	0-2 Lower risk 3-6 Moderate risk 7-9 Increased risk 10-12 Higher risk
Ceramide (16:10) mcmol/L	0.37	0.23	0.19 – 0.36
Ceramide (18:10) mcmol/L	0.13	0.05	0.05 – 0.14
Ceramide (24:1) mcmol/L	1.52	0.88	0.65 – 1.65
Ceramide (16:10)/(24:0)	0.15	0.07	< 0.11
Ceramide (18:10)/(24:0)	0.05	0.02	< 0.05
Ceramide (24:1)/(24:0)	0.63	0.28	< 0.45
Outcomes	2 stents and 1 CABG 4 years later, despite LDL ~100	No subsequent events	

Modifying Treatment Plans following a **Plasma Ceramide** Result.

INFORMATIVE CASES OF PLASMA CERAMIDES

CASE 1



58-Year-Old Male

Patient presents for cardiovascular risk evaluation prompted by his older brother's recent heart attack. No known history of coronary disease. Patient reports sedentary lifestyle and poor diet. Waist circumference is 42" and hypertension is controlled with medication.

	TRADITIONAL RISK EVALUATION	MI-HEART CERAMIDES
Exam Blood Pressure	118/72	118/72
Labs (mg/dL) FBS	58	58
Total Cholesterol	181	181
Triglycerides	160	160
HDL Cholesterol	44	44
LDL Cholesterol	105	105
Ceramide Risk Score	—	10 High Risk (3.5x above baseline risk)
10-Year ASCVD Risk	7.4%	7.4%
Recommended Intervention	Standard therapeutic lifestyle change Recheck 1-2 yrs	Coached lifestyle change with near-term follow-up (3 months)
3-Month Follow-up Assessment		
Labs (mg/dL) FBS	—	99
Total Cholesterol	—	176
Triglycerides	—	140
HDL Cholesterol	—	48
LDL Cholesterol	—	100
Ceramide Risk Score	—	3
10-Year ASCVD Risk	7.4%	5.8%
Outcomes		<ul style="list-style-type: none"> • BP controlled, able to stop HCTZ • Ceramide risk score dropped 7 points • 10-year risk dropped 1.6%