

CMVitals

CARDIOMETABOLIC SOLUTIONS

PATIENT HANDBOOK



Introduction

The heart, blood vessels and blood make up one of the most amazing and unique organ systems in the human body: the cardiovascular system. Often referred to as the body's form of plumbing, the cardiovascular system is responsible for transporting nutrients and oxygen and removing gaseous waste. The cardiovascular system also provides immune protection and regulates body temperature, fluid pH, and water content of cells. ¹ These actions are completed with the help of the autonomic nervous system, which regulates the cardiovascular system by monitoring receptors throughout the body on a second-by-second basis. ² This process allows the heart to respond to stimuli instantaneously and beat over 100,000 times each day, without you having to do anything!

The overwhelming amount of work accomplished by the cardiovascular system each day places stress on both the heart and coronary arteries. Over time, this stress can lead to chronic inflammation, insulin resistance and ultimately cardiometabolic disease. ³ Cardiometabolic disease is comprised of three of the top six most commonly diagnosed chronic diseases among Americans: cardiovascular disease, type 2 diabetes, and stroke. ⁴ In fact, preventing and managing cardiometabolic risk is the most common conversation patients have with their clinicians.

Traditionally, treating and preventing cardiometabolic disease has focused on managing lab values such as blood glucose, blood pressure, HDL cholesterol, LDL cholesterol, and total cholesterol with the use of prescription drugs. Unfortunately, this strategy has not lowered the rate of cardiometabolic disease. In fact, more and more Americans are diagnosed each year and at increasingly younger ages.

However, we now know the cardiovascular system is highly influenced by lifestyle choices we make every day, such as diet, physical activity, stress response, and the environment. If health-focused choices are not practiced daily, chronic inflammation, insulin resistance and, over time, cardiometabolic disease can damage our overall health. ^{5,6}

The CM Vitals Patient Handbook provides a specialized lifestyle plan to help you begin the journey of taking control of your cardiometabolic risk.

Cardiometabolic disease refers to cardiovascular disease, type 2 diabetes and stroke.

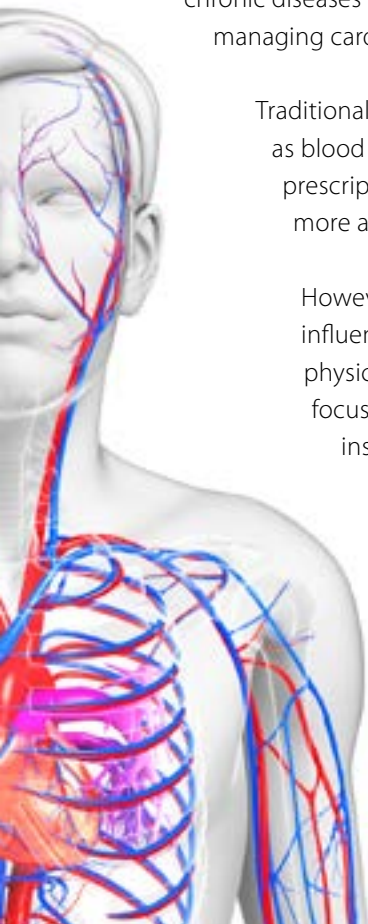


Table of Contents

Understanding Cardiometabolic Risk

Page 04



Stress and Cardiometabolic Disease

Page 14



Diet and Cardiometabolic Disease

Page 18



Environmental Factors and Cardiometabolic Disease

Page 27



Exercise and Cardiometabolic Disease

Page 29



Targeted Nutrients for Cardiometabolic Health

Page 32



Conclusion

Page 35



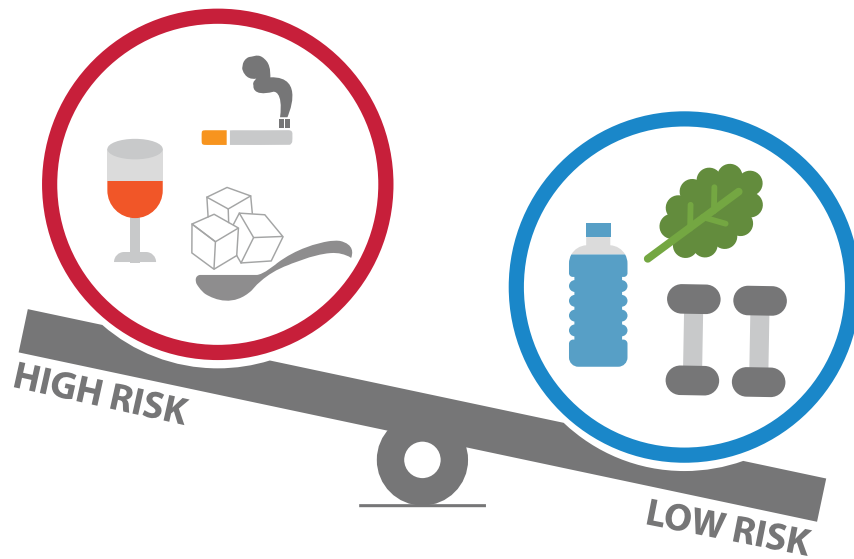
Understanding Cardiometabolic Risk

Cardiometabolic risk is a collection of factors that help determine a patient's overall risk for cardiometabolic disease. Based on population data, professional organizations such as the American Diabetics Association (ADA) and the American Heart Association (AHA) have established these guidelines for measuring cardiometabolic risk.^{7,8}

	Pre-Diabetes	Metabolic Syndrome	Type 2 Diabetes	Dyslipidemia
Organization	ADA	AHA	ADA	AHA
	Need 1 to be diagnosed	Need 3 of 5 to be diagnosed	Need 1 to be diagnosed	Need 1 to be diagnosed
FBG (mg/dl)	100-125	>100	>126	
HbA1c	5.7-6.5		>6.5	
TG (mg/dl)		>150		
Total Cholesterol (mg/dl)				>200
LDL (mg/dl)				>130
HDL (mg/dl)		<40 males, <50 females		<40 males, <50 females
BP (mm/Hg)		>130 or >85		
Waist (IN)		>40 males, >35 females		
OGTT (mg/dl)	140-200		>200	
Recommended Therapy	Lose 7% body weight, 150 min exercise/week, metformin	Drug therapy, 150 min exercise/week, lose weight	Drug therapy, 150 min exercise/week, lose 10% body weight	Drug therapy, lose weight, 150 min exercise/week

Inflammation is a necessary function of the body, so a certain level is considered protective. But diseases such as **cancer, cardiovascular disease, type 2 diabetes, Alzheimer's, and stroke** manifest at early ages when inflammation is chronic and uncontrolled.⁹⁻¹¹ Practicing proactive lifestyle medicine daily will help dampen and control chronic inflammation.¹²

Chronic Inflammation Risk



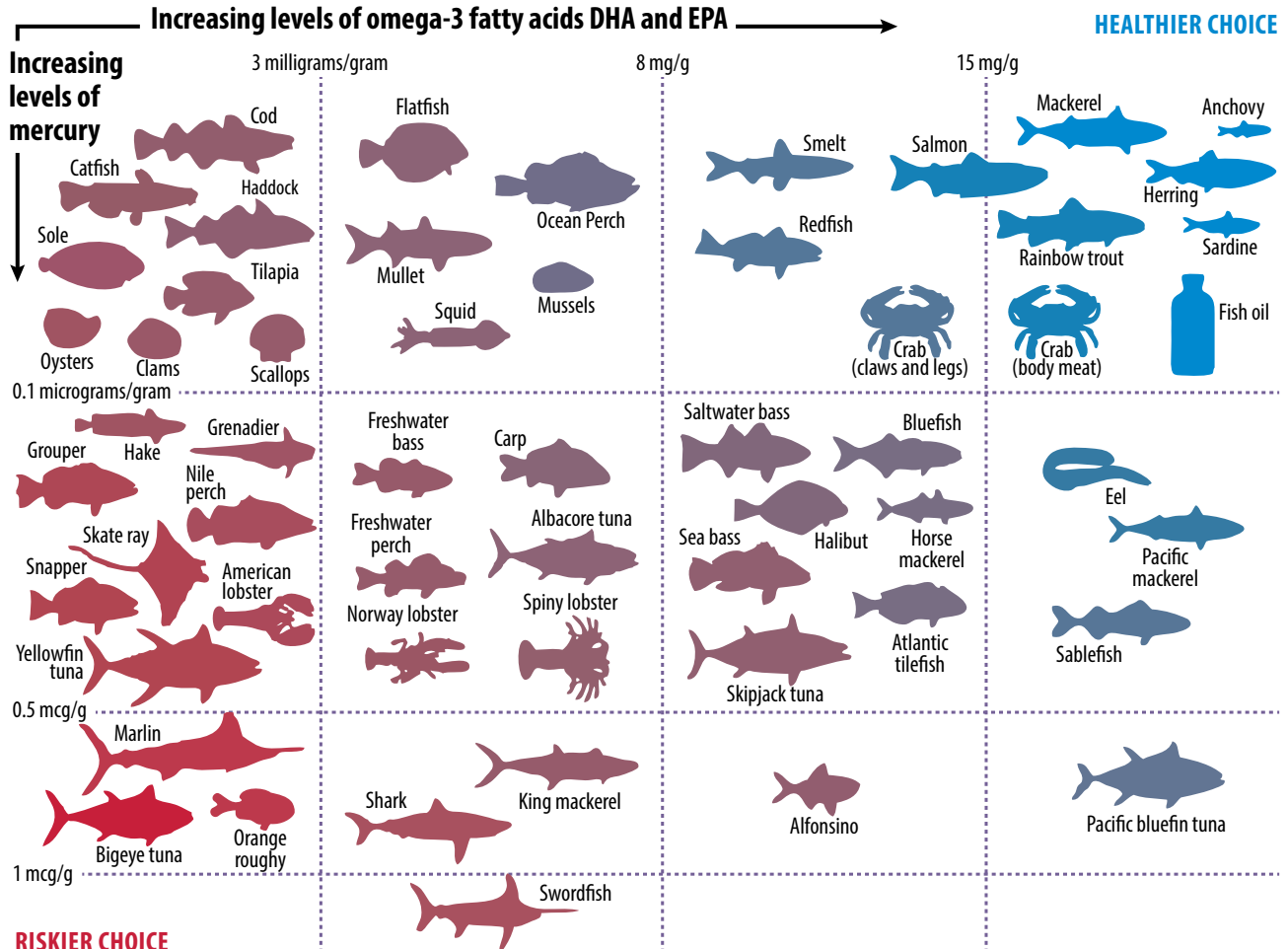
High Risk Factors

- Smoking
- Physical inactivity
- Excessive alcohol
- Added sugar
- Obesity
- Environmental toxins

Low Risk Factors

- Exercise
- No sugar
- No smoking
- Clean water
- Plant-based Mediterranean diet

Choosing Healthy Seafood










Exercise and Cardiometabolic Disease

Regular physical activity and daily exercise are one of the most important steps you can take to improve your risk for cardiometabolic disease. Studies indicate risk for cardiometabolic disease are up to **three times higher for inactive persons compared to active**.^{21,22} In fact, inactivity is as useful as high blood sugar, hypertension, and high cholesterol levels in predicting cardiometabolic disease²³

Research shows that both daily exercise and physical activity are essential for maximum health. For example, exercising one hour a day does not undo the negative effects of sitting for eight hours a day. Movement is a key way our bodies accomplish goals both visible and invisible.

Exercise: Structured movement, sustained for >20 minutes at a heart rate above resting levels and completed for the purpose of improving health or fitness

Physical Activity: Any movement that uses energy

	Benefits of Daily Exercise	Benefits of Physical Activity
 Anti-inflammatory	✓	
 Insulin sensitivity	✓	✓
 Control blood sugar levels	✓	✓
 Lower blood pressure	✓	
 Increase energy levels	✓	✓
 Control body weight	✓	✓
 Optimal health	= ✓	+ ✓

Examples of Exercise

- Brisk walking
- Jogging
- Biking
- Swimming
- Rowing
- Vigorous hiking
- Organized competitive sports (basketball, soccer, etc.)
- Circuit training

Examples of Physical Activity

- Casual walking
- Stretching
- Standing
- Golf
- Yard work
- Leisurly sports (table tennis, playing catch)

To prevent or reduce your cardiometabolic disease risks, make time for a 20-minute exercise session each day. Of course, if you are new to exercise, this can seem like a daunting and impossible task to accomplish. Follow this plan to help you incorporate daily exercise into your life!

	M	T	W	T	F
Week 1	20 minutes *Walk/Jog				
Week 2	20 minutes *Walk/Jog		20 minutes *Walk/Jog		
Week 3	20 minutes *Walk/Jog		20 minutes *Walk/Jog		20 minutes *Walk/Jog
Week 4	20 minutes *Walk/Jog	20 minutes *Walk/Jog	20 minutes *Walk/Jog		20 minutes *Walk/Jog
Week 5-6	20 minutes *Walk/Jog	20 minutes *Walk/Jog	20 minutes *Walk/Jog	20 minutes *Walk/Jog	20 minutes *Walk/Jog

Week 7-12	Increase the time to 30 minutes following the same 6-week pattern above (Add 10 minutes to one additional day each week).
Week 13-18	Increase the intensity to more jogging (4-6 RPE) than walking following the same 6-week pattern above (increasing the intensity on one additional day each week).
Week 19-24	Increase the intensity to jogging only (5-7 RPE), following the same 6-week pattern.
Week 25-30	Increase the intensity to running only (5-8 RPE), following the same 6-week pattern.
Week 31-36	Increase the time to 40 minutes, following the same 6-week pattern.
Week 37-42	Increase the time to 50 minutes, following the same 6-week pattern.
Week 43-48	Increase the time to 60 minutes, following the same 6-week pattern.

Conclusion

Cardiometabolic disease or cardiovascular disease, type 2 diabetes and stroke, make up three of the top six diagnosed diseases in the United States. Reducing risk at the root cause for these diseases involves more than just a prescription medication. Identifying and reversing the drivers of chronic inflammation and insulin resistance through lifestyle medicine plays an integral role in reducing overall risk for cardiometabolic disease. The goal is to not only live long, but to add more life to your years!

The human body is remarkably resilient and maintains a metabolic reserve to help protect against disease. Your daily lifestyle choices can greatly enhance or decrease your body's ability to protect you. Ultimately, you hold the keys to your wellness, longevity and vitality. Knowing this is the most powerful medicine you can use!

**“ THE GOAL IS TO
NOT ONLY LIVE LONG,
BUT TO ADD MORE LIFE
TO YOUR YEARS! ”**





† These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.