Chapter 2: It takes a body to beat a Heart

Heart Disease: It is made up of different issues that which work in isolation or together to damage your heart. It can include abnormal Blood cholesterol, High BP, Heart attack (happens when a blood clot blocks the flow of blood through one or more blood vessels that feed heart muscle), Stroke (inside the brain, arteries leading to the brain are narrowed or blocked, causing death of brain cells), and Heart Failure (pumping less blood to meet body needs, often happens after a heart attack).

Genes: Your life style can switch genes on or off. Do healthy things - exercise, eat right, meditate- and you switch on the genes that promote good health. DNA is a molecule that contains a set of instructions within the body to create chromosomes, and it exists in every cell. Genes must get switched on in order to function, an that is why a heart-healthy life style is so important.

The thyroid gland can have profound influence on cardiovascular health.

The stress hormone cortisol is made by the adrenal glands and it is only hormone which increases with age. Unfortunately, modern life is often characterized by chronic stress, poor sleep, changing work shifts, and poor nutrition, which can result in elevated cortisol levels throughout much of the day. Such elevated cortisol for a long period of time, the adrenal gland can actually wear out, called adrenal fatigue or burnout.

Sex organs to beat a Heart, Male/ Female menopause: Cardiovascular disease develops an average of 10 years earlier in men than in women. Hormone replacement therapy (HRT) helps to boost memory, strengthen bones, and prevent rise in heart disease, but here are risks also.

Gut: Our guts are lined up with trillions of bacteria that help us digest our food, make vitamins, build and maintain the intestinal wall and even program the immune system. If we have the right mix of bacteria, they can switch on the good
DNA and turn off the bad DNA. They also emit chemicals that promote good health and good mood, and crowd out the organisms that cause bad health. On the other hand, if our intestines are chock-full of the wrong type of bacteria, these tiny beings can break down and convert certain food nutrients into toxins that irritate the linings of the arteries and cause plaque to build up.

Overuse of antibiotics, serves as an atomic bomb for population of good bacteria. And certain animal fats and sugar-rich processed foods tend to nourish harmful bacteria and starve the good guys, setting the stage for heart disease, obesity, and diabetes.

Electricity beats a heart: The heart cannot beat without energy. Electrical currents cross every cell membrane and mitochondrial membrane, as sodium and potassium are shuttled back and forth. It is electrical surges (called action potentials) that cause every cell to contract and relax. When heart cells contract in unison, your heart pumps blood efficiently. If we interact with energy sources that differ greatly from the energy of our hearts- for instance with the energy emitted by cell phones and microwaves, it could disturb hearts rhythm. If we closely interact with positive energy sources, we can enhance our heart health.

Thyroid Gland to beat a heart: hormones like T3 and T4 increase the activity of Heart and may result in elevated heart rate, arrhythmias like atrial fibrillation, hypertension and even weakness of heart muscle called cardiomyopathy.

Chapter 4-Score your Heart

Recommended Diagnostic Checks

1. Coronary Artery Calcium Scoring: A CT Scan detects the calcium in your heart blood vessels, ideal score is zero, if you score between 11 to 100, get serious about learning more about heart disease. If score is between 100 to 400+, follow up with stress test, take a serious look at your habits and change many of them to prevent and reverse this coating of bone in your heart pipeline. CT scan delivers radiation

2. Carotid Intimal Medical Thickness (CIMT): Test uses an ultrasound machine, it shows the thickness of the two inner lining of the wall of artery. CIMT data is abnormal (0.8 mm and more)
3. EndoPAT: arteries are lined up with a single layer of super cells called endothelium. These cells keep the artery resistant to injury and clotting, and also allow the arteries to relax (or dilate) to provide more blood flow when needed. EndoPAT is a device made in Israel and is difficult test.

4. **Advanced Blood Tests:**

a) Advanced Cholesterol panel- Keep Total Cholesterol below 200 and your LDL below 130 mg/dL

b) High- Sensitivity C-reactive protein- is marker for inflammation, the fire that slowly erodes blood vessels and other organs. If your hs-CSP is elevated > 1.0mg/dl all the way to 20, something is wrong with your life style or health, have annual check up

c) Homocystein- increased levels have been associated with increase levels of vascular damage. Patients can be treated with B complex vitamins. A safe level is under 10 micromoles per liter

d) Lipprotein-a: is a inherited form of the LDL cholesterol bound to a special protein. Lpa under 30 mg/dl is normal, but it may be as high as 200 mg/dl. Lifestyle changes that lower LDL cholesterol particle number a bit more and lower Lpa level too

e) Fasting blood sugar, insulin, and A1C: Fasting blood sugar of less than 85 mg/dl is optimal. Each jump above 85 mg/dl increases the risk of blood vessel injury. If level of insulin is elevated, the pancreas is working “Overtime” to maintain blood sugar and the arteries are at risk. Test hemoglobin A1C at average blood sugar levels over a two to three months

e) Vitamin D: **A low vitamin D is associated with high blood pressure**, arterial damage, congestive heart failure, poor brain health, and other important problems. **Normally vitamin D is obtained from Sun light and foods such as mushrooms and Vitamin D- fortified foods.** Blood level of Vitamin D be over 30 ng/ml and optimally 50 to 80 nanogram/liter

f) Ferritin: is a protein in the blood that binds to iron. Iron overload can oxidize cells in the arteries, leading to heart disease, and more prone to clotting. Levels above 380 microgram/l indicate iron excess.
g) Uric Acid levels and GGT: Uric acid is produced from energy products like ATP (the energy used by cells), and an elevated level is linked to cardiovascular damage. GGT is a liver enzyme that may indicate overall poor functioning of cell membranes in the liver and provide an insight to overall health of your metabolism. Normal Uric acids are 4 to 8 mg/dl and levels above 10 are concerning. Normal levels of GGT will fall below 50 IU/l and levels above 100 are concerning for generalized cell membrane dysfunction.

h) Thyroid hormones: TSH, free T4, free T3 and TPO antibodies

i) Sex hormones: For men test free testosterone, DHEA, and estradiol level and for Women test progesterone

j) Micro-nutrient testing: new development to test 30 intracellular (inside of cells) vitamins, minerals, antioxidants and amino acids.