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# 30 DAY HEART TUNE UP

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## READER'S GUIDE

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### **Congratulations!!**

Buying Dr Steven Masley's book The 30 Day Heart Tune Up is one of the most important steps you can take to optimize your health. This is true whether you have heart disease, are at risk for heart disease, or are being pro-active about your health.

This information is cutting edge and absolutely life changing. We applaud you for taking this step.

In order for you to get the most from this very important resource we have prepared this Reader's Guide. While every page of The 30 Day Heart Tune Up is important, there is a lot of material. Read Dr Masley's book with this Reader's Guide and you will have automatic notes that you can refer to for a better understanding of this information and a summary you can refer to when you need it.

We have simply summarized the material. Please read the book carefully. While we tried to include most warnings for each section, pay close attention to all the warnings in each section and how they apply to you.

The summary in this Reader's Guide is not the opinion of the authors Dr Kim Millman and Dr Grace Suh. It is a "Cliff Notes Version" of The 30 Day Heart Tune Up written by Dr Steven Masley.

This Reader's Guide is not medical advise. It is meant to be educational only. This Reader's Guide does not attempt to diagnose, treat, cure, or prevent any disease.

**To a Stronger Younger You,**  
Dr Kim Millman MD PhD and Dr Grace Suh OMD LAc

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# 30 DAY HEART TUNE UP READER'S GUIDE

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## The Promise of The 30 Day Heart Tune Up

- 1) An easy way to assess the Real Age of your heart and blood vessels.
- 2) To finally understand your cholesterol numbers.
- 3) To reduce your cardiovascular risk without surgery, drugs, invasive tests or trips to your doctors.
- 4) To reduce plaque in your arteries - main culprit behind heart attacks and strokes.
- 5) An eating plan based on adding heart healthy foods.
- 6) 60 great recipes.
- 7) To make your heart younger and stronger, make you feel healthier, sexier, trimmer, mentally sharper, and better than you have in a decade.

## Chapter One: The 30 Day Heart Tune Up Revolution

### Cardiovascular Disease is the #1 Killer of Americans!!

- 1) Traditional approach of looking at cholesterol, blood pressure, and blood sugar is inadequate.
- 2) Most physicians treat high cholesterol and don't look a whole lot further to reverse cardiovascular disease.
- 3) Most are unaware of heart disease before it is too late and then are obligated to do last resort treatment(s).

### The Real Culprit

Arterial plaque - this is the reason why we have heart attack and strokes. A healthy cardiovascular system has less plaque. A sicker older system has more plaque.

### The 30 Day Heart Tune Up

- 1) Looks at how you prevent plaque from forming.
- 2) How to find out how much plaque you have.
- 3) How to reduce plaque.

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## Chapter Two: Truths and Myths about Cardiovascular Risk Factors

Risk factors accurately predict your chance of heart attack or stroke 80% of the time. 20% of people have heart attacks and strokes without warning signs. This is not good enough!!

### Traditional Risk Factors:

#### #1: High Cholesterol pg 27

We need cholesterol; makes cell walls flexible. Not all cholesterol created equal.

**LDL** - carries both good and bad fats: carries vitamin E and other good fats, also transports bad fats.

**Triglycerides** - dependent on how much sugar you eat. The higher your triglycerides, the higher risk for plaque buildup. Optimal less than 90 mg/dL.

**HDL**- the trash collector, collecting bad LDL and triglycerides, it is the healthy cholesterol. Optimal -- above 50 mg/dL (women) over 40 mg/dL (men).

You don't need meds forever, you can change your diet and lifestyle to improve your cholesterol!! Look further at page 30.

#### #2 Diabetes pg 31

Sugar coated proteins (sugar attacking your cells and proteins and when they attach they work badly) cause every organ to age more quickly, increase risk for heart attack and strokes but also for cancer, Alzheimer's, amputations, blindness, and kidney failure.

**Increased sugar makes your LDL smaller** which makes more plaque than bigger LDL. Best to test Hemoglobin A1C - less than 5.7% is optimal.

#### #3 High Blood Pressure pg 32

**First number is systolic blood pressure - high if your arteries are stiff, second number -- diastolic blood pressure - high if your heart is stiff!!**

Elevated blood pressure > 120/80 means your arteries are sick and you are probably growing arterial plaque. Poor diet and low fitness are common causes. Hypertension or high blood pressure > 140/90 with strong likelihood of advanced arterial thickening. Drugs help to reduce your blood pressure but does nothing for the plaque.

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## **#3 High Blood Pressure (contd) -**

Lifestyle problems lead to arterial stiffness: not enough exercise, vitamin K deficiency, potassium deficiency.

Salt - only about 1/3 of people have spike in blood pressure from salt.

Lifestyle can treat hypertension without meds that give you side effects like: fatigue, weight gain, depression, and drop in libido.

**Systolic blood pressure is the biggest predictor for arterial plaque production.**

## **#4 Tobacco pg 34**

300 toxins in tobacco cause arteries to constrict and grow plaque. Raises blood pressure and blood sugar. Passive exposure of just 30 minutes 2x/week can lead to increased risk of heart attack by 20% for 7 days!!

If you smoke, stop!!

## **#5 Family History pg 35**

Can't rely on family history to predict how you will fare - it is a wild card. Your risk is similar to your family's if you have the same lifestyle. For many of us, our lifestyles are worse than our family's were. Most genes are not fixed. Their expression depends on your lifestyle. So you can make the choice and have power over your destiny. Choose the 30 day heart tune-up lifestyle!!

## **New Risk Factors**

### **#1 Metabolic Syndrome pg 38**

"Diabesity" - greater risk than high cholesterol, >30% of Americans have it. It can kill you before you develop diabetes.

Do you have Metabolic X?

1. Waistline >40 inches men; >35 inches in women
2. Fasting blood sugar > 100 mg/dL
3. Triglycerides > 150 mg/dL
4. Blood Pressure > 130/85 mm Hg
5. HDL < 40 mg/dL in men; < 50 mg/dL in women

If you answered yes to 3 out of the 5 questions you have Metabolic X.

6. Inflammation - Measured with C-Reactive protein > 1.0 mg/L and especially over 3.0 means you have inflammation that could be damaging your blood vessels and heart.

**The 30 day heart tune up was designed to reverse metabolic syndrome!!**

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## #2 Abnormal Cholesterol - pg 40

Different types of cholesterol best shown on advanced lipid profiles.  
LDL - big and fluffy = good - Carries fat soluble vitamins and antioxidants.  
LDL - small and dense = bad - causes plaque to grow.  
HDL two sizes: HDL2 is big and hauls away the garbage = good, HDL3 is smaller and can't carry as much - not as good.  
Lp(a) very small and very abnormal - causes lots of plaque

### Optimal Advanced Lipid Profile:

LDL - Big fluffy, lots of HDL2, normal Lp(a).

## #3 Obesity and Excess Body Fat - pg 45

Defined as BMI > 30. Normal < 24.

Risk of health problems increases exponentially when overweight. Highly fit offsets some of the risk. BMI doesn't differentiate between muscle and fat. Go to Dr Masley's Body Fat percentage rates in Appendix II page 000 to find out what your body fat percentage goal is.

You can buy a bio-impedance machine from Tanita for about \$89 that will tell you your percentage of fat and muscle.

More important to worry about fitness than weight.

## #4 Inactivity pg 45.

< 30 min of moderately aerobic movements per day. Ideally vigorous exercise for 1 to 2 hours per day. Activity treats obesity, high blood pressure, high sugar levels better than anything else. Optimize your workout in chapter 5.

## #5 Inflammation pg 46.

Signs of inflammation: pain, heat, redness, swelling, loss of function. It is the way of the body to protect itself - if prolonged -- accelerates aging. C - Reactive protein goes up with inflammation and increases your risk for heart attack or stroke. May be more accurate than cholesterol of predicting risk in women. May not be accurate if you are ill.

**Guaging your risk:** Take the quiz on pg 48 to have a basic idea of your risk factors for cardiovascular disease.

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## Chapter 3: How Young Is Your Heart?

Determining the virtual age of your heart and blood vessels is better than risk factors. You may be in danger of having a heart attack or stroke without symptoms. Plaque is the reason we have heart attacks and strokes. Read about plaque formation pg 52-55.

**Measure plaque growth with an ultrasound measurement- called carotid intimal medial thickness testing (IMT) and estimate arterial age!! Studies show carotid IMT is a non-invasive way to predict risk for future heart attack and stroke.**

Knowing whether you have the plaque of a 50, 60, 70, or 80 year old man or woman helps you estimate the virtual age of your blood vessels. Monitor over time to see if it is staying same, reversing, or getting worse. This can help you decide whether what you are doing is increasing or decreasing your risk of an event. Carotid ultrasound is not the same as a carotid IMT test.

Dr Masley did a study of 400 people measuring carotid IMT over time. Many who followed the 30 day heart tune up recommendations had a significant decrease of plaque (decreased IMT score) over time. **Yay!! That's great news.**

Read page 60 to help determine if you need a CT scan of your heart. Not many doctors do a carotid IMT. But you may not need one. Dr Masley has determined factors that can predict what your carotid IMT score would be. Here are factors that Dr Masley determined predict your carotid IMT score.

- 1) aerobic fitness
- 2) fiber intake
- 3) how many times a week you eat fish
- 4) systolic blood pressure
- 5) total cholesterol/HDL ratio
- 6) body fat

### **Blood pressure - pg 62**

If you take meds, your plaque may still develop over time. Blood pressure can vary from day to day, moment to moment. It can be elevated with excitement, being scared, or being upset. Use the lowest reading from several measurements.

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## **Blood Pressure (cont)**

### **Young and fit heart and blood vessels: pg 63**

At rest: below 120/80 mm Hg.

During exercise: Top number climbs to 120 or 150 even as high as 170.

Bottom number decreases 10 to 40 points lower than at rest.

Could have a blood pressure of 170/40 and this is normal and quite good.

### **Aging heart and blood vessels: bottom pg 63**

At rest: between 120/80 and 140/90 = elevated pressure

During exercise: top number climbs to 180 or to 200

Bottom number may be same or even go up 5 to 9 points

Could have a blood pressure of 190/85 which is not normal and shows your heart and blood vessels are aging and you have more cardiovascular risk.

### **Elderly and/or sick heart and blood vessels: pg 64**

At rest: > 140/90

During exercise: top number climbs often 180 or over 200.

Bottom number will increase by at least 10 points which is abnormal

Could have blood pressure of 200/105 this is not good and indicates increased risk and an aged system.

Blood pressure during exercise can help you determine the virtual age of your heart and blood vessels. You need your doctor or an exercise physiologist to take these measurements especially if you have risk or symptoms. Knowledge is key.

### **Become a METS fan - pg 64**

MET is a METabolic equivalency, or the amount of energy you burn compared to resting. One MET of energy is how much energy you burn when lying still and flat. The more your physical exertion, the more METs. Refer to page 65 for the number of METs for different activities.

An exercise physiologist can determine how many METs you expend on a treadmill while the speed and incline are increased every 3 minutes.

Most healthy people should be able to achieve 10 to 12 METs on a treadmill fitness test lasting 12 to 18 minutes.

**For every single MET increase in fitness, your risk of heart attack and stroke decrease by 12.5%.**

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## **Heart Rate Recovery pg 66**

How quickly does your heart rate drop after one minute of peak exercise. The quicker the better. Heart rate recovery is the strongest predictor of heart attacks and sudden cardiac death in Mayo clinic studies.

**One minute after stopping peak exercise, your heart rate should drop by at least 25 beats per minute (bpm). Dropping by more than 30 bpm is very good. Dropping less than 20 is concerning, dropping less than 12 is alarming.**

Stop when you can no longer speak two short sentences!! Also see other precautions on pg 67 and 68.

## **3 Minute Step Test pg 68**

The step is a 16.25 inch box or step. You also need a stopwatch and a heart rate monitor. Instructions on how to do this is in chapter 5.

## **Preparing Yourself for a Heart Tune Up - pg 70-71**

- 1) Check with your doctor to see if you are safe to start an exercise program.
- 2) Tell your doctor you want to go on a program with regular exercise, healthy foods and decreased stress.
- 3) Make sure your doctor feels you are ready for exercise.
- 4) Get tested: fasting lipid or an advanced lipid profile, fasting blood sugar, hemoglobin A1C, fasting insulin, hsCRP, TSH with free T3, free T4, reverse T4 and thyroid antibodies if you have thyroid symptoms (see pg 71), and hemoglobin.
- 5) Ask for a carotid IMT

## **Chapter 4: Eat Right for Your Heart**

### **Five components of a Heart Healthy Diet: pg 83**

- 1) Adequate fiber
- 2) Healthy fats
- 3) Lean protein
- 4) Beneficial beverages
- 5) Fabulous flavors

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## **Sugar Conundrum pg 87**

Sugar and trans fats are the most common toxins to your heart and arteries. Get them out of your diet!!

Broaden your understanding of sugar: any harmful carbohydrate that causes a spike rather than gradual rise in your blood sugar level.

Found in: white bread, white rice, white flour tortillas, white flour pasta, sports drinks, processed fruit juices, and fruit drinks, table sugar, cookies, chips, and sodas.

Harmful carbs are everywhere, where you wouldn't expect. Whole grain flour and cereals cause nearly the same spike in blood sugar as white flour.

Read Hidden Toxic Sugar on pg 88

Eating sugar will make you feel exhausted, increase your chances for metabolic syndrome, increase blood sugar, inflammation, expand your waistline, and cause arterial plaque to grow.

## **Adequate Fiber pg 92**

Most critical. Soluble fiber: beans, nuts, oats, vegetables and fruits - will lower cholesterol, blood sugar, provide anti-aging nutrients, and prevent arteries from gaining plaque.

**Eat 30 to 50 gm fiber per day.** Increase slowly by 5 to 10 gms per day each week. If you increase too fast you can have bloating and cramping. Refer to table on pg 98 and 99 for ways to increase your fiber.

## **Vegetables and Fruits**

Whole non-processed fruits and vegetables contain anti-aging nutrients, lots of fiber even after cooking (green beans, cauliflower, artichokes, fennel, asparagus, red peppers, carrots, broccoli). 3 to 5 gm of fiber in a one-cup serving. 5 cups of vegetables and fruits provide 20 gm of fiber.

**Eating 4 to 5 cups of fruits and vegetables per day will decrease your risk of heart attacks and stroke by 35%.**

**Each cup of leafy greens per day cuts risk of a heart attack or stroke by 25%.  
A plate of salad a day cuts your risk of heart attack or stroke by half!!**

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## **Vegetables and Fruits (contd)**

Greens are also rich in calcium, fiber, vitamin K, magnesium, potassium, and folic acid. Salads should not be your main source of fiber. Best to rely on beans and other vegetables instead.

### **Crusade for Cruciferous Vegetables**

Fiber rich cruciferous vegetables include- cabbage, bok choy, broccoli, kale, cauliflower, and brussels sprouts that help detoxify your body. One cup per day will help decrease your blood pressure. Great source of vitamin C, magnesium, potassium, and calcium.

### **Berries are Beautiful**

Blueberries, blackberries, strawberries, cranberries, raspberries, bilberries and cherries are all high in antioxidants. Also a great source of fiber.

### **Beans are a Wonder Food**

Beans have more fiber than any other common food. 10 to 14 gm per cup. Add a half cup a day and you'll get 6 gm of fiber. Over 30 days, build up to 1 cup and get 12 gm per day. One half to one cup of beans per day will decrease your LDL by 5% and increase HDL by 2-3%. Feel full, control blood sugar. eat beans every day for a month and your gas production drops. Eat in small quantities.

### **Whole Grains Hold You**

Whole grains have 4 gm of fiber per cup. Add 2 cups of whole grains per day and you'll get 8 gm fiber. Avoid having these all in one setting because of blood sugar issues. Whole grains help your intestinal function. Steel cut oatmeal decreases cholesterol. Stick to brown rice, wild rice, quinoa, millet, and oats.

### **Nuts are Great for Fiber**

3 gm of fiber in 1 ounce (about a handful). Add a handful of nuts and you'll get 3 gm fiber.

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## Healthy Fats: Time for an Oil Change? pg 99

Excessive saturated fats speed formation of plaque, raises cholesterol, and stimulates your liver to make more cholesterol. Read about the saturated fat content of many foods on pg 101 and in the appendix.

It is controversial how bad saturated fat is for you. Saturated fats can improve your HDL. Those from meat and dairy are worse for you than coconut oil. Nonorganic meat and dairy have hormones. You can still have some saturated fat in moderation if you follow the program.

Recommendation: not more than 12 to 20 gm of saturated fats daily.

Trans fats -- are doubly dangerous than saturated fats. They raise LDL, drop HDL, and raise risk of heart attacks and diabetes. Refer to figure 4.2 on pg 104 for how bad trans fat are for your heart. **A 2% increase in trans fats will increase your risk for heart disease by 62%. Adding 5% from saturated fat had a smaller effect. Adding 5% of a healthy fat reduces the risk of a cardiovascular event by 35%.** Good fats include omega 3 fats and polyunsaturates from nuts.

## Fishing for Fish pg 104

Eating fish a few times a week can reduce irregular heart beat, blood stickiness, triglycerides, and lowers death rates. Omega 3s in fish decrease inflammation. Cold water shellfish 1 to 2 times per week is good. Taking 600 to 1200 mg of EPA and DHA lowers hsCRP by up to 40%. Refer to chapter 7 to see how you can add fish oil supplements.

## Go Nuts Over Nuts pg 105

Nuts decrease your risk of cardiovascular events. Packed with protein, anti-aging compounds, and fiber. Nuts make you feel full. They are mostly healthy fats. Adding oil and nuts to your diet has been shown to be better than the American Heart Association diet in reducing cardiovascular events.

## Enjoy Avocados pg 107

High in monounsaturated fats which decrease cholesterol. protect cholesterol from oxidation, and protects you from forming plaque.

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## **Right Kind of Cooking Oil pg 107**

Stick mostly with olive oil and nut oils (almond and walnut). Modest amounts of coconut oil or sesame oil for flavoring.

Eggs - refer to pg 108. Stick to organic free-range, omega-3 enriched.

## **Lean, Not Mean, Proteins. pg 108**

Seafood, chicken, turkey, free-range game meats, beans, soy, and nonfat dairy products are excellent protein sources. Feel fuller on fewer calories. 20 to 30% of your calories should be from protein. Good plan is to start and end day with protein shake.

Add protein by adding 1) free-range, grass-fed organic protein, 2) seafood, 3) seaweed every day. 1/2 cup of fresh seaweed salad or 2 sheets of nori. 4) protein powders 5) beans daily 6) organic soy, 7) plain non-fat yogurt  
If you eat fish more once a week, some fish are high in mercury. Big mouth fish especially.

## **Beneficial Beverages pg 113**

Bodies are 80% water. 6 to 8 cups of water per day. Drink the following:

- 1) Green tea 3- 4 cups per day is associated with decreased rate of heart attack and strokes.
- 2) Limit caffeine to no more than 2 to 4 servings daily: 2 cups of tea or 1 cup of coffee makes one serving.
- 3) Fiber and protein rich drinks
- 4) Red wine in moderation - one 5 oz glass per day keeps your heart young, reduces plaque and risk of clotting.
- 5) Dark chocolate - 1 cup of unsweetened cocoa decreases clotting and the oxidation of LDL that causes plaque.

## **Fabulous Flavors pg 115**

- 1) Garlic - one clove per day lowers total cholesterol by 7-9%, raises HDL, decreases clotting, blood pressure, and boosts immune function.
- 2) Herbs and spices: turmeric, rosemary, ginger, chili, cinnamon (also lowers blood sugar) - all are anti-inflammatory. Fresh is best.
- 3) Dark chocolate - decreases plaque, lowers blood pressure, and improves blood sugar control.

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## Chapter 5: Take Your Heart for A Spin

### Exercise Is King!! pg 121

Assess your capacity before you get started with aerobics. Know your maximum heart rate and aerobic work out zone. If you don't do the Bruce protocol, you can estimate it with the following formula:

Maximum heart rate = (220 minus your age) x 60-80%

Do this testing with your doctor or with a trained exercise physiologist at the gym - see pg 125.

### Bruce protocol - Measure Your Cardiovascular Function.

- 1) Increase speed and incline on a treadmill every 3 minutes.
- 2) Start treadmill at 1.7 miles per hour (mph) with 10% elevation
- 3) After 3 minutes, increase speed to 2.5 mph with 12% elevation
- 4) Continue increase speed and elevation as per pg 127.
- 5) Continue until you feel you are at maximum exertion (breathing hard - huffing and puffing, barely able to talk in short sentences, not able to sing).

When you reach your maximal comfortable exertion level --- the point where you are sweating, puffing, nearly spent, but still capable of running well without stumbling, and able to talk in short sentences -- take your heart rate using a heart rate monitor and stop.

Note how long you have been exercising and refer to the chart on pg 127 to determine the number of METs you've achieved. Then refer to the chart on pg 128 to determine for that MET level, how you are doing compared to other people of your age and gender.

15 minutes is the maximum length of time you should exercise if you have not already reached your maximum comfortable exertion level.

This program is designed to improve your score over time. However, it may take several months to a year to achieve.

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## Heart Rate Recovery Test pg 130

- 1) After you take your heart rate at maximal exertion (as described in the Bruce protocol), decrease the speed to 1 mph and 0% elevation for one minute.
- 2) Take your heart rate again.
- 3) A minimum 25 bpm drop is normal, better to have a 30 bpm drop.
- 4) If you have had heart surgery, or are taking meds that alter your heart rate, then your recovery will be more complicated to interpret. Clarify your goals with your doctor.
- 5) If your heart rate drops less than 20 bpm - it is concerning, heart rate drops less than 12 bpm -- is alarming.

## Step Test pg 131

You'll need 1) 16.25 inch step 2) heart rate monitor and 3) stopwatch  
Do this with a trainer - is best!!

- 1) Warm up for 10 minutes with mild to moderate activity.
- 2) Step up and down on the step at a rate of 22 steps per minute for women and 24 steps per minute for men.
- 3) Use a four step rhythm: up up down down for 3 minutes.
- 4) Stop after 3 minutes and measure heart rate.
- 5) Men: do the following calculation  $(111.33 \text{ minus } (\text{heart rate} \times 0.42))/3.5$
- 6) Women: do the following calculation  $(65.8 \text{ minus } (\text{heart rate} \times 0.185))/3.5$
- 7) This is your MET score.
- 8) Look up on pg 128 to see how you are doing for age and gender based on that MET score.

## Aerobic Exercise pg 132

Based on speeding your heart rate/maintaining it for 20- 40 min by walking briskly, jogging, cycling, swimming, or exercising on an elliptical machine.

- 1) You should start in Phase One: If you don't exercise at an aerobic level - or a heart rate recovery of less than 25 bpm.
- 2) Or start in Phase Two: 1) If you can only sustain heart rate in the low end of aerobic workout zone, 2) you can push it for 30 min to 80-90% of heart rate zone, only work out 20-30 min 2-3x per week 3) you have a heart rate recovery of at least 25 bpm after one minute.
- 3) Or start in Phase Three: If you can work out 30 min at a time at a top of aerobic zone (at least 80% of maximal), with heart rate recovery of more 30 bpm.

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## **In Phase One pg 134:**

Start exercising at 60-70% of your maximum heart rate.

Maximum heart rate = (220 minus your age) x 60-80% (if you don't know from the Bruce protocol, you can estimate it this way).

First week: 20 min 5 day a week, after first week: 30 min five days a week. Repeat your 1-minute heart rate recovery, if less than 25 bpm stay in phase one. Do this another 2 weeks and then check again, stay in phase one until your 1- minute heart rate recovery is at least 25 bpm.

## **In Phase Two pg pg 134:**

Work out 30 to 45 min at 70-85% of your maximum heart rate for 5 to 6 days a week. After two weeks you can move to phase three.

## **In Phase Three pg 135:**

Continue phase two and add interval training: burns calories and fat rapidly, and revs up your metabolism.

- 1) Short bursts of intense exercise, for 1 to 2 minutes, followed by easy zone for 1 to 2 minutes.
- 2) At middle of aerobic workout -- determine your heart rate. Push yourself to 85% to 90% of maximum rate. Keep that up for 1 minute. Slow back to normal aerobic zone.
- 3) Repeat burst five times = one interval workout session on page 135.

## **Power of Strength Training pg pg 137**

Stimulates muscle to build mass. Essential to prevent and reverse metabolic X. Decreases inflammation, lowers blood pressure, and helps control blood sugar. Add one pound of extra muscle and you'll burn 40 extra calories every day.

## **Your Strength Training Workout**

- 1) 5 to 10 min warm-up with aerobic. Get sweaty.
- 2) Exercise 8 to 12 body parts during each session with balance (pg 140).
- 3) Lift weight 10 to 15 times, if can't do 10 then it's too heavy, can do more than 15 is too light.
- 4) Lift weight slowly without jerking
- 5) With leg exercises, keep knees bent, exercise arms keep elbows bent

See pg 140 for how to avoid injuries, and pg 141 to 168 for specific exercises on the 30 day Heart Tune Up Program.

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## Chapter Six: De-Stress Your Heart

Unmanaged stress leads to: brain cell death, decreased memory and learning, bone density loss, muscle mass loss, reduced skin healing and growth, impaired immune function, elevated blood sugar, increased fat around the middle, a drop in DHEA (an important hormone) and shortened telomeres (which speeds the destruction of our DNA. accelerate aging by 10 years).

### **Stress is hormonal pg 170**

It increases cortisol and adrenaline, both can lead to heart attacks and strokes. Those who are stressed don't have optimal nutrition and exercise programs. The hormone that reduces stress is oxytocin. It is the cuddling hormone. The other hormone that reduces stress is endorphins that you produce when you exercise.

### **Six Steps to Optimal Stress Management pg 175**

- 1) Feeling loved and supported: increase loving relationships, barriers to these relationships include trauma in past.
- 2) Benefits of good quality sleep- need 7 to 8 hours of deep sleep - refer to pg 178 to 180 for sleep tips.
- 3) Get regular exercise - daily workout is essential for stress management.
- 4) Enjoy peace and calm - daily relaxation routine for 15 to 20 minutes by scheduling it, meditation (refer to pg 183 to 185), and vacation.
- 5) Don't overuse stimulants or alcohol - caffeine, and television.
- 6) Have fun and experience your day - sharing love and joy.

## Chapter Seven: Tune Up Your Heart with Revitalizing Foods and Supplements

**Multivitamins - pg 191-4** for recommendations for high quality multivitamin recommendations.

**Fiber: - pg 198.** Recommend 30 to 50 gm of fiber per day (with 15 gm from fruit and veggies and 10 to 15 gm from beans)

You need both soluble and insoluble fiber, recommend 60 -70% soluble fiber. Refer to pg 199 for how to help pick a good fiber supplement.

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## **Omega 3 Oils pg 199:**

Eat cold water seafood. Best sources: wild salmon, sardines, herring, sole, trout, mussels, and oysters. Refer to pg 200 for the best sources of omega 3 fatty acids from seafoods.

Be careful: big mouth fish are high in mercury: tuna, grouper, snapper, bass, swordfish and this is not good for your health!!

Refer to pg 202 for high mercury containing seafood. Do not rely on these high mercury fish for your omega 3s.

**General and heart health:** Need 1000-1200 mg per day of omega 3 fats from EPA/DHA.

**Lower triglycerides:** Need 2000 to 4000 mg per day of EPA/DHA.

EPA better DHA to decrease inflammation and triglycerides, DHA better for brain and eyes. General supplements: make sure not rancid.

## **Magnesium pg 307 :**

If deficient could have constipation, elevated blood pressure, elevated blood sugar levels, muscle cramps, wheezing, and heart arrhythmias (irregular heart beat). Adequate magnesium lowers risk for stroke. Best way to measure is a red blood cell magnesium level. Refer to pg 209 for best food sources of magnesium. Optimal level of magnesium supplements: 400 mg per day.

Best forms of supplements: albiion's magnesium chelates, magnesium malate, and magnesium glycinate. Avoid magnesium oxide, as it is an intestinal irritant. Caution: calcium blocks magnesium absorption - must use a calcium: magnesium ratio of 2:1 or 3:1 or lower. So if you need 800 mg of calcium you need optimally 400 mg of magnesium to go with it.

## **Vitamin D: pg 211**

Refer to pg 213 for food sources of vitamin D. Need at least 1500 to 2000 IUs of vitamin D per day. Check your levels: optimal is 40-70 ng/mL. Less than 32 is deficient. Level over 70 ng/mL not recommended.

Suggest 1500 to 3000 IU per day for three months. If very low, take 5000 IU per day for 2 to 3 months.

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## Vitamin K pg 215

Prevents calcium from going from your blood to your arteries. With Vitamin K deficiency: your artery walls calcify, blood pressure increases, and you build more plaque. Minimum for proper clotting is 100 mcg per day. Your bones and arteries function best with 1000 mcg per day. Make sure you are getting at least 1000 mcg per day of vitamin K from your food and supplements.

Two forms: K1 and K2. Refer to table on pg 216 for good food sources of Vitamin K. Refer to pg 217 if you are on warfarin or coumadin and **read the warnings in that section.**

## Potassium pg 218

Arteries need potassium to dilate and keep your blood pressure normal. Very low and very high potassium levels can cause death. Low potassium commonly occurs as a side effect of medications but can also be from low intake of potassium rich foods. High potassium levels are usually from kidney disease or from a variety of medications.

You optimally need 3500 to 4000 mg of potassium daily. Typically, Americans get half that much. Refer to food sources of potassium on pg 218. **Do not take potassium supplements on your own. Please see warnings on pg 219.**

## Vitamin E Question: pg 219

You need to have mixed tocopherols: alpha, beta, gamma, and delta. You need to have more delta and gamma tocopherols than alpha. Eating foods that contain vitamin E - almonds, avocado, extra virgin olive oil are your best way to get vitamin E.

## Statins pg 220

Statins decrease CoQ10, testosterone, and components that repair muscle. They reduce heart attacks and strokes among people with heart disease and who are at high risk.

Side effects-- reduction in CoQ10, rise in blood sugar, memory loss, muscle aches, decrease in testosterone.

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**If You Are on a Statin--** Take 50 to 100 mg of high quality CoQ10 with good absorption: Crystalline 1% absorption, in oil 4%, Nanolipid spheres 8% (Thorne's QBest and Designs for Health Q-Avail) is a good product.

For blood sugar elevation due to statin: Need to eat fewer carbs, less refined sugar, and exercise more to bring blood sugar down even more than you would normally since the statin makes blood sugar worse.

For increased memory loss, adding CoQ10 may help. Ask your doctor if you should stop statins because of this. Muscle aches - occur in 10% of people with statins - talk to your doctor about stopping if you have this side effect. Reduction in testosterone - could lead to erectile dysfunction, drop in energy, libido drop, and mental sharpness. If you have any of these side effects and are on a statin, talk to your doctor about stopping.

## **When Should You Consider Taking a Statin? pg 223**

- 1) Already had a heart attack and/or stroke
- 2) Elevated carotid IMT
- 3) Multiple abnormal risk factors
- 4) Less effective for women than men

## **Difference Between Statin and Red Yeast Rice? pg 224**

Red yeast rice decreases cholesterol production from the liver. May contain 10 different components that lower cholesterol. Small doses of many components (red yeast rice) are usually better tolerated than a large dose from one component (statin). Red yeast rice should be monitored similarly than statin (looking for same side effects and given with CoQ10). Should be top quality (Cholest 900 from Thorne).

## **Congestive heart failure and advanced heart disease - pg 225 to 229**

- 1) CoQ10 50 to 200 mg twice daily
- 2) Ribose: 5 gm twice daily
- 3) carnitine: 2-3 gm twice daily
- 4) curcumin
- 5) resveratrol
- 6) vitamin K
- 7) arginine
- 8) increased fish oil to 2 to 3 gm /day

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## Chapter Eight - Sexier You

Will revitalize your sex life. Heart is the seat of emotion.  
Heart is at the heart of sexual function and dysfunction.

### **Erectile Dysfunction (ED) pg 231**

Indicates poor cardiovascular function. Smaller arteries are blocked before larger ones. May occur before a man has angina (chest pain). Men with ED 80% more likely to develop heart disease compared to men without it. If you have ED - have a cardiovascular workup. Viagra, Cialis, or Levitra can be dangerous. Temporarily reverses symptoms causing arteries of penis and arms and legs to dilate. Blood shifts from brain and heart to extremities. Heed warnings that if you experience hearing or vision loss, stop taking the medication and talk to your doctor. Hearing or vision loss means less blood to your brain may indicate you are on the verge of a stroke. Imperative to do workup instead of these drugs.

### **Additional causes of ED pg 234**

Low testosterone and DHEA - low testosterone can cause low libido. 20% of men between 50 and 60 have low testosterone levels. Low testosterone causes: low energy, drive, sexual desire, interest in exercising, night sweats, poor sleep, difficulty controlling weight (loss in muscle and gain in fat), and drop in bone density. Low fitness: have to be in good shape to have a decent sex life. If below 40th percentile in MET fitness test can be difficult to perform. Medications: beta-blockers, SSRIs (anti-depressants). Tobacco: every time you smoke a cigarette, it constricts blood flow to penis for 6 to 8 hours. Excessive alcohol: most men over 35 will experience a drop in sexual function with a drink or two. High stress: can lead to insomnia, lower DHEA, and ED.

### **Female Sexual Dysfunction pg 237**

Women need to feel safe secure and intimate before having sex. stress can diminish sex drive and response.

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## **Reasons for women to have decreased libido pg 238**

- 1) Excess body fat
- 2) High stress
- 3) High levels of inflammation
- 4) Medications: SSRI and antihistamines. Maca (3 gm per day) can reverse some of the dysfunction.
- 5) Sleep deprivation
- 6) Low fitness

## **Sex and Romance are great for your heart!! pg 240**

Touch and cuddling release oxytocin which:

- 1) Lowers cortisol
- 2) Increases endorphins
- 3) Reduces blood pressure
- 4) Improves sleep quality
- 5) Improves intimate relationships

Sex from 2 to 4 times per week is good from a biological point of view. Refer to the table on pg 242 for what if i don't have a partner

## **Improve your sex life pg 242**

- 1) Fitness: fitter you are the better you perform and have better endurance. you will have better strength and flexibility so you can perform better. pelvic floor strengthening can be done with Kegel exercises see pg 244 for the details.
- 2) Nutrition that support sexuality:
  - a. arginine for better circulation - refer to pg 246 for foods high in arginine, aim for 3000 to 5000 mg of arginine from food per day. 2 to 5 gm of arginine in supplements improves ED (Perfusia from Thorne). Read caution if you have herpes on pg 246
  - b. Zinc for adrenal function - refer to table of foods that are rich in zinc on pg 248
  - c. Tyrosine - will help production of dopamine that enhances pleasure, see foods rich in tyrosine on pg 248

## **Medical Therapies to Enhance Sexual Health**

See pg 250 to page 255 for additional things to consider to improve sexual function.

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### **Chapter Nine: Getting Started with the 30-Day Heart Tune - Up pg 259**

#### **Ten Steps to Changing Your Eating Habits**

- 1) Follow sample eating plan
- 2) Shopping and meal planning
- 3) Storing food properly
- 4) Useful kitchen utensils
- 5) Use safe practice for preparing foods
- 6) Eating mindfully
- 7) How to order when dining out
- 8) Measure results
- 9) Having plan B
- 10) Sticking with it

Sample eating plan - refer to pg 262 to 266 for sample eating plan  
shopping refer to pg 267 to 270 for shopping tips

storing foods refer to pg 270

kitchen utensils refer to pg 271

food prep tips refer to pg 272 - 274

mindful eating refer to pg 274 - 276

eating out refer to pg 276 -278

measuring your results 279 - 280

plan B pg 280 - 283

sticking with it - refer to 283 -284

### **Chapter Ten: 60 Heart Healing Recipes pg 285**

Breakfasts: Refer to pg 285 - 289

Lunch: Refer to pg 290 - 295

Snacks: Refer to pg 296 - 298

Dinners: Refer to pg 299 - 328

Side Dishes: Refer to pg 329 - 342

Sauces and Condiments: Refer to pg 343- 346.

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