



## Get into betterHEALTH with Dr. Derek Lee!

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## July 2007: In this issue!



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### We've Moved to Unionville

We've completed our move to our new Unionville location in Markham.

We are doing our best to reduce the amount of inconvenience this may cause to our patients.

To try and minimize the transition, our clinic phone number will stay the same and all of our current staff members have also moved to the new clinic. So, you will definitely be seeing familiar faces

The new office is just a short 5 minute drive north to highway 7 and Kennedy road. There is a large amount of parking as the new "Vitality Clinic" has its own dedicated lot. The facility is quite beautiful with a great amount of care paid to details. I especially like the "2 story eco water fall" which is covered in tropical plants. If you have any questions, please don't hesitate to ask any staff member for details or contact Dr. Derek Lee directly at [drlee@betterhealthproviders.com](mailto:drlee@betterhealthproviders.com).



**betterHEALTH clinic**  
4792 Hwy 7 E  
Kennedy Rd & Highway 7 E  
Unionville, ON L3R 1M8  
Telephone: (416) 291-5120 or (905) 474-5120

### ● **Aerobic Capacity – Best Test for Future Health & Survival**

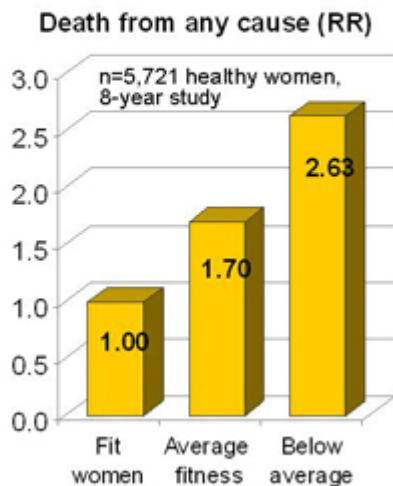
Doctors routinely check your blood pressure, cholesterol, and glucose values to make sure you have no problems that would increase your risk for early disease or mortality. An excellent prognostic indicator is your aerobic capacity level, but few people get tested for this or know their aerobic capacity. Aerobic capacity is a measure of peak cardiovascular fitness capacity, assessed in terms of maximal oxygen uptake – the ability of your lungs, heart, blood, and arteries to transport oxygen to all the muscle cells of your body for energy production. It can be determined by performing a symptom-limited treadmill test or by a variety of field tests such as a timed one-mile walk.

Aerobic capacity is measured in METs or multiples of your resting metabolism. At rest, your body utilizes about 3.5 ml of oxygen per kg of body weight per minute. Walking at a brisk pace is about a 4 MET activity, meaning it requires 4 times as much energy as when resting quietly.

The value of knowing your aerobic capacity is shown by a study of 5,721 healthy women, aged 35 and older, who took a treadmill test and then were followed up for 8 years to see the value of aerobic capacity as a predictor for survivability. Researchers determined average aerobic capacity based on test results for the group and adjusted for age. They found that women whose aerobic capacity was less than 85% of expected (i.e., the average for their age group) were twice as likely to die from any cause as women who were at least 85% of expected.

When they used fit women as the standard (women whose aerobic capacity levels were 3 METs above average), women with average aerobic capacity were 1.7 times more likely to die from any cause, and low fit women (those with an aerobic capacity less than 85% of the expected, or average, aerobic capacity level) were 2.6 times more likely to die from any cause and 4.3 times more likely to die from coronary heart disease. Other studies of 5,000 men show nearly identical results.

## Fitness Level and Mortality



- Fit women (aerobic capacity 3+ METs above expected) had lowest mortality rate.
- Women with an average fitness level had a 1.7 times higher mortality rate.
- Women with a below average fitness level had a 2.63 times higher mortality rate.

Source: *New England Journal of Medicine*. 2005;353:468-75. August 4, 2005.

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As you can see from these results, aerobic capacity is a strong predictor of your future health and survival. Other studies in both men and women have found aerobic capacity to be a stronger predictor of future survival than blood pressure, blood cholesterol levels, weight, and even smoking status. Yet it is seldom tested, although it is quite easy to do so.

Researchers produced a nomogram (a two-dimensional diagram designed to allow the approximate graphical computation of a function) to easily determine an average or expected aerobic capacity for age and gender and your percent of expected aerobic capacity. Once you know your aerobic capacity you can use their nomogram, published in the *New England Journal of Medicine* (see reference), to determine your percent of expected aerobic capacity or MET level. You can also use the following equation to calculate expected aerobic capacity for women: Expected METs =  $17.9 - (0.13 \times \text{age})$ .

Women with a MET level less than 85% of expected (the average) should be considered high risk. Women with an aerobic capacity 3 METs above the expected have only about half the risk of dying from any cause as women with average aerobic capacity.

Can you improve aerobic capacity? Yes, simply by engaging in regular exercise such as 30+ minutes of brisk walking or other moderate activity, 5 or more days per week. High fitness may require either higher intensity exercises such as walk-jogging for 30+ minutes, or a longer duration moderate activity such as 45-60 minutes of brisk walking most days. When first starting an exercise program, start at an easy level within your current capabilities and gradually increase your exercise time and intensity over weeks to reach your goals.

If you are very interested in preventing heart disease and improving your health you may want to ask your doctor or fitness trainer for an aerobic capacity fitness test. [It appears to be the best test available for future health and survival.](#)

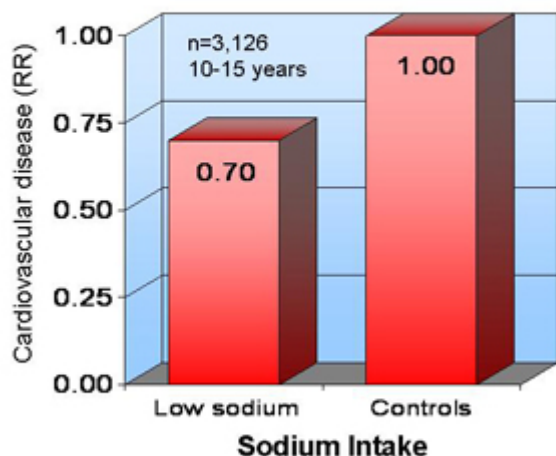
Reference: Gulati M, Black HR, et al. The Prognostic Value of a Nomogram for Exercise Capacity in Women. *New England Journal of Medicine*. 2005;353:468-75. August 4, 2005.

## **Dietary Sodium Intake and Cardiovascular Disease**

Does it make a difference how much sodium or salt you eat? New research from Harvard and other Universities shows that how much sodium you typically eat does make a big difference to your health. Several studies, including the DASH/Sodium randomized clinical trial (RCT), showed that limiting sodium was important for lowering blood pressure. Up until this current study, however, there was no direct evidence that it also lowered the rates of cardiovascular disease (heart attacks, by-pass surgeries, strokes, and sudden death).

This new study included 3,126 people, all with prehypertension. Half were randomly chosen to be controls (given instruction about healthy eating, but no attempt to change their diet was made) and the other half were instructed on lowering their sodium intake. Instruction included individual teaching and group classes with reinforcement for 1.5 to 3 years. Both groups were followed for the next 15 years to see who would develop cardiovascular disease.

### **Sodium Reduction and Cardiovascular Disease (heart attacks, strokes, death)**



Randomized clinical trial. People on a low-sodium diet (reduced intake by 25-35%) saw a 30% reduction in cardiovascular disease, and a 20% decrease in mortality compared to controls.

Source: *British Medical Journal*. 2007;334:885. April 20, 2007.

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Persons on the low sodium diet saw a 25% decrease in cardiovascular disease compared to the controls. When further adjustments for possible confounders were made (weight, etc.) the experimental group showed a 30% decreased risk. When just looking at deaths from cardiovascular disease, the low sodium group had 20% fewer deaths than controls.

It is recommended that people in the United States lower their sodium intake about 50%. The experimental group lowered their sodium intake about 25-35%. Even with this modest reduction in sodium, cardiovascular disease and mortality rates were significantly reduced.

This study provides strong evidence (large numbers, random clinical trial, 15 years of follow-up) that eating less sodium can have a significant impact on your survival. Whether you are prehypertensive (blood pressure of 120/80 to 139/89) or simply want to prevent high blood pressure, adopting a lower sodium intake can significantly improve your odds against our nation's leading cause of death, cardiovascular disease. The authors conclude their study with this recommendation: "The observed reduction in cardiovascular risk associated with this sodium decrease was substantial and provides strong support for population-wide reduction in dietary sodium intake to prevent cardiovascular disease."

Keep in mind that currently there are over 45 million people with prehypertension in the United States. All of these people could benefit by following a lower dietary intake of sodium. The U.S. Dietary Guidelines recommend an intake less than 2,300 mg/day for everyone. Persons over age 50 and those with elevated blood pressure will get even better results if they follow the Institute of Medicine's guidelines of less than 1,500 mg of sodium daily.

Reference: Cook NR, Cutler JA, et al. Long term effects of dietary sodium reduction on cardiovascular disease outcomes: observational follow-up of the trials of hypertension prevention. *British Medical Journal*. 2007;334:885. April 20, 2007.

## Office Hours.

### betterHEALTH Clinic

Monday 9:00 - 12:00/2:00 - 6:00

Wednesday 9:00 - 12:00/2:00 - 6:00

Friday 2:00 - 5:00

Saturday 9:00 - 12:00

### Corporate Clinics

Tuesday Transcontinental Media / Rogers Barrie

Thursday Rogers Cable York Mills

Friday Rogers Cable Richmond Hill

