

# ***Sudden Cardiac Death in Women***

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Sudden cardiac death (SCD) strikes over 400,000 people annually in the U.S. And, unfortunately, the recent and unexpected death of beloved NBC news commentator, Tim Russert, is now included in this frightening statistic. 120,000 of the total afflicted with SCD are women—and although *sudden cardiac death* affects both sexes, there may be some subtle and important gender differences.

## **What is Sudden Cardiac Death?**

The syndrome is defined as a sudden, unforeseen death due to complete loss of cardiac function. Typically, hearts with damaged muscle either from blocked arteries, chronic and uncontrolled high blood pressure, viruses, or excessive alcohol consumption can lead to fatal heart rhythms known as *arrhythmias*. The most fatal arrhythmia, *ventricular fibrillation*, compromises blood flow to the brain and vital organs leading to death within minutes if unrecognized and untreated.

## **Causes of Sudden Cardiac Death**

The most common cause of SCD for both men and women is coronary artery disease or atherosclerosis. Rare diseases such as inherited electrical cardiac disturbances, long QT syndrome and Brugada syndrome are also associated with SCD. These uncommon and potentially fatal cardiac conditions make the heart vulnerable to lethal arrhythmias—abnormal erratic heart rhythms. Krissy Taylor, for example, a famed runway model, succumbed to SCD in 1995. She was only 17 years old. *The long QT syndrome* is an inherited heart condition characterized by a typical pattern seen on a routine ECG—the electrical recording of the heart. Individuals with this rare condition are prone to life-threatening arrhythmias often brought on by exercise or excitement.

## **Women, Electrical Wiring & SCD**

In a study published in the *New England Journal of Medicine* in 2006 researchers showed that women are more likely than men to carry -- and to pass on -- mutant genes that cause long QT syndrome. The idea was spawned by the observation that women are more likely than men to be diagnosed with the problem. To test the hypothesis they studied families with the two most common forms of long QT syndrome, each one caused by a specific gene mutation.

Among children in the study who inherited the long QT gene, 55% were girls, 45% were boys.

Among children who inherited the gene, 62% got it from their mothers, 38% got it from their fathers.

## **Women—Scared to Death?**

In another study, investigators at Brigham and Women's Hospital in Boston showed that women with higher anxiety scores on an anxiety survey had a 59 percent increased risk of sudden cardiac death. Women with phobic anxieties, such as the fear of crowded places, heights or going outside are at higher risk for sudden cardiac death than women with fewer or no anxieties, according to a report in *Circulation: Journal of the American Heart Association*.

These risks were lower after controlling other cardiac risk factors linked to phobic anxiety such as high blood pressure, diabetes and high cholesterol—the same risk factors associated with coronary artery disease. However, even after controlling for these risk factors, a trend toward increased risk for sudden cardiac death persisted.

## **Women, Kidneys & SCD**

Another recent study from Johns Hopkins University published in *Hypertension* showed that women with kidney failure may be at increased risk for sudden cardiac death. Researchers showed that the rate of SCD was higher in those with lower kidney function—even after accounting for traditional cardiac risk factors.

## Symptoms of SCD

Symptoms are not always reliable, but remember that the most common cause of sudden cardiac death in men and women is atherosclerosis, so pay attention to symptoms such as chest discomfort, difficulty breathing, neck, jaw, arm or even mid-back discomfort.

Sometimes, but not always, symptoms of palpitations—fluttering in your chest—or light-headedness help to identify people at risk for fatal arrhythmias.

## Are You at Risk?

- Remember that Sudden Cardiac Death (SCD) is an uncommon heart condition which is most commonly associated with coronary artery disease. And typical risk factors for atherosclerosis, the main cause of coronary artery disease, include high cholesterol, hypertension, smoking, family history of premature heart disease, and diabetes.
  - A rare disorder, long QT syndrome, which is associated with SCD may be more common in women.
  - Additionally, studies suggest that women with phobic anxiety and low kidney function may be at higher risk for sudden cardiac death.

## How to Help Prevent Sudden Cardiac Death in Women

• Remember that the major risks for sudden cardiac death are the same as for coronary artery disease. The two most common risk factors—diabetes and high blood pressure—are also the most common causes of kidney failure, and impaired kidney function may increase the risk for sudden cardiac death for women. Talk with your doctor or health professional and find out whether you have any of these risk factors. • Consult a health professional if you have any of the phobic anxieties such as the ones mentioned — and rest assured that many effective therapies exist for decreasing this risk. Know your family history and in particular whether you have a family history of long QT syndrome. A simple test such as an ECG will help to make this diagnosis and potentially save your life.

- **STOP SMOKING**—Quit smoking because it increases blood pressure, increases the tendency for blood to clot and decreases HDL (good) cholesterol. It also is a major cause of atherosclerosis, a buildup of fatty substances in the arteries.
- **TREAT BLOOD PRESSURE**—High blood pressure is a major cardiac risk factor. A level of 120/80 or lower is normal. Lifestyle changes or medication adjustments may help you lower your risk.
- **TREAT CHOLESTEROL** —Less than a total of 200 milligrams per deciliter with an HDL (good) cholesterol of at least 40 mg/dL is desirable. You should work with your doctor to reach your cholesterol target and test it regularly.
- **TREAT DIABETES**— Exercise and weight control can help prevent adult-onset diabetes. Two out of three people with diabetes die from heart disease and stroke.
- **LOSE WEIGHT**—if you are overweight. An adult who has a body mass index of 30 or higher is considered obese. Overweight is a BMI between 25 and 29.9. Normal weight is a BMI of 18 to 24.9. (Go to [www.nhlbisupport.com/bmi/](http://www.nhlbisupport.com/bmi/) to calculate your BMI.) The CDC recommends at least 30 minutes of physical activity most days of the week to cut the risk of heart disease.
- **EAT RIGHT**—Eat a healthy diet low in sodium and saturated fat and high in fruits and vegetables.
- **ALCOHOL—TAKE THE MIDDLE ROAD.** Drink alcohol moderately, no more than two drinks per day on average for men and no more than one drink per day on average for women.
- **EXERCISE**—Exercise has been reported to precipitate Sudden Cardiac Death—although data from the Brigham and Women’s Hospital suggest this may not be the case for women. In fact, in the Nurses Health Study where women were followed for 24 years, it showed that women who reported exercising four or more hours a week had a 59 percent lower risk of sudden cardiac death over 18 years of follow-up compared to women who reported not exercising at all.
- **RELAX**—Down shift and cool your engine. Read a book, watch comedy, meditate, practice Yoga, Tai Chi or Qi Gong.

## Helpful Related Information—AEDs

Once the fatal arrhythmia *ventricular fibrillation* ensues, mortality rises rapidly. In fact, every minute the arrhythmia goes unrecognized, mortality doubles—and unless the heart is shocked quickly and a regular rhythm restored, death can occur in as little as 11 minutes. So learn CPR and read about AEDs—Automatic

External Defibrillators—they are simple to use and literally life-saving. If an AED was readily available for Tim Russert or Krissy Taylor they may both still be here today. Get involved in your community and ask at your local gym, supermarket, golf course or library whether they have AEDs on the premises. If not, be *heart-smart* and find a way to get one!

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