

## Lifestyle choices affect cardiac risks more than SCD

Although the sudden death of competitive athletes does occur, and almost certainly makes headlines, the number of deaths resulting from Sudden Cardiac Death (SCD) is still relatively low. "The vast majority of heart conditions however, continue to be caused by lifestyle choices," says Vash Mungal, CEO of the Heart and Stroke Foundation South Africa.

She was commenting after the recent tragic deaths of two young athletes, aged 29 and 37, from heart failure in the first leg of the Ironman triathlon in East London.

### SCD related to electrical short circuit

SCD is different from the more common heart attack, caused by blockage in a coronary artery that then reduces or cuts off blood flow, oxygen and nutrients to the heart and damages the heart muscle.

In contrast, SCD occurs when electrical signals that control the heart's pumping ability, short-circuit. Suddenly, the heart may beat dangerously fast, causing the heart's ventricles to quiver or flutter instead of pumping blood in the usual co-ordinated way. This is known as arrhythmia. When the heart's pumping activity is disrupted, blood flow to the body stops, resulting in sudden cardiac arrest.

A seemingly fit person collapses and loses consciousness with no pulse or breathing and without immediate CPR or a shock from an automated defibrillator, will die within minutes.

### Causes of SCD

In most cases, when a person is young, this lethal arrhythmia is caused by an underlying heart condition most commonly congenital or genetic, such as ion channelopathies, which cause irregularities in the heart's electrical impulses. This results in a heartbeat that is too rapid (tachycardia), chaotic (ventricular fibrillation) irregular rhythms (arrhythmia), or too slow a beat (bradycardia) all of which can cause cardiac arrest and sudden death.

Another cause is hypertrophic cardiomyopathy, a rare genetic condition that leads to an enlarged heart that does not fill with blood in the usual way.

Non-cardiac conditions that may cause SCD are pulmonary embolism, asthma, epilepsy, serious infection like meningitis and encephalitis, and intracranial haemorrhage. It is important to use heart medications correctly, since misuse of antiarrhythmics, antihypertensives, antihistamines, antidepressants and antibiotics can lead to SCD.

Prolonged drug abuse has also been found to cause abnormal heart rhythms and sudden death.

It is important to note that rather than activity being the cause of SCD, it is the presence of a heart abnormality, coupled with the added strain on the body during bursts of extreme exertion, intense training programmes, or exercise in extreme heat, humidity or altitude, that increases the risk of Sudden Cardiac Death in a seemingly healthy individual.

## Genetic testing

In many cases, there are no warning signs at all, while other affected children and young adults may suffer unexplained blackouts when they appear otherwise healthy, or experience muscle weakness and congenital deafness.

If there is a family history of SCD, relatives should undergo a scan or genetic test to detect an underlying treatable condition as early as possible. Usually children develop this condition after the age of 10, so they should be retested at a later stage even if they test negative before the age of 9 or 10.

Routine ECGs for athletic pre-participation does help to prevent death during training or competition. The detection of cardiac abnormalities, such as hypertrophic cardiomyopathy, dilated cardiomyopathy, or arrhythmogenic right ventricular dysplasia offers the prospect of treatment, such as an implantable cardioverter defibrillator (ICD) that will improve symptoms and greatly reduce the risk of sudden death. A patient diagnosed with a condition would also be informed of exactly which medications to avoid.

## Active is always healthier

The number of deaths resulting from SCD is still relatively low. Estimates range from one in 50,000 to one 300,000 over a 10-year period. Roughly, 2000 young South Africans, unaware of an existing heart condition die each year because of SCD.

"There is still no substitute for good lifestyle choices as a way to ward off heart conditions," says Mungal.

"Too many hours spent on the couch, munching on unhealthy snacks tend to lead to lifestyle diseases like heart disease, stroke, type 2 diabetes, hypertension, cancer and obesity," she cautions.

Heart and Stroke Foundation dietician, Erika Ketterer, adds, "Compared to those who exercise regularly, inactive people double their risk of suffering a heart attack and dying immediately after such an attack. A sedentary lifestyle is also linked to depression, anxiety, osteoporosis, stress and ageing less healthily. Following a healthy lifestyle and being physically active is crucial in the fight against cardiovascular diseases

The Heart and Stroke Foundation advocates that people engage in at least 30 minutes of moderate intensity exercise, such as brisk walking, jogging, cycling, swimming or dancing, most days to reap the many benefits of being a physically active individual.

"Most healthy people of any age, can safely engage in moderate levels of physical activity, such as moderate walking and gardening, without consulting a doctor. People who have been sedentary, are overweight, middle-aged or older, or have a medical condition, should consult their doctor if they have any concerns and should seek medical advice before they start or significantly increase their physical activity," concludes Ketterer.

For more information, go to [www.heartfoundation.co.za](http://www.heartfoundation.co.za).