

Getting to the heart of mistaken exclusion of black athletes from sports participation

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Screening guidelines used to detect possible heart conditions in athletes, which are based on data from white athletes, can lead to misdiagnosis and disqualification of healthy black athletes, finds new research.

St George's, University of London, clinical scientists have found that black athletes are ten times more likely to be erroneously diagnosed and subsequently inappropriately advised to abandon a sporting career than their white counterparts.

Every week, 12 seemingly fit and healthy young people under the age of 35 die suddenly from an unsuspected heart condition caused by inherited structural abnormalities—abnormal thickening of the [heart muscle](#), for example. Young athletes are particularly at risk of sudden death compared to those who simply spectate with the same [cardiac conditions](#) because of the arduous physical training.

To protect the health of young sports people, many sports bodies now recommend or insist that athletes are screened for a number of [heart disorders](#) that can lead to sudden death.

The researchers found that the current measurements of heart dimensions used to diagnose these conditions do not correctly reflect the structural differences found between black and white athletes. Investigations into the hearts of 675 high performing athletes, of whom 300 were black, showed that a particular abnormality associated with these [heart conditions](#) in white people—enlargement of the right

ventricular chamber—is, in fact, a normal healthy variant in black athletes.

"To avoid the unnecessary end to a potential successful career, it is crucial to know what the 'normal' size of an athlete's heart so as to ensure particular features are not erroneously attributed to a '[sudden death syndrome](#)' heart condition." says Professor Sanjay Sharma, a professor of inherited cardiovascular disease and sports cardiology at SGUL.

The findings are published [online](#).

Professor Sanjay Sharma said: "The response of the heart to exercise is influenced by several factors including the age, sex, ethnicity of the athlete and the sporting discipline. Black athletes can pose a challenge since some of the electrical and structural responses to physical training which are normally seen in black athletes may overlap with cardiac disease in other races.

"This research has highlighted that the current guidelines about normal and abnormal heart size do not reflect the contrasting structural differences seen in the right heart chamber between black and white athletes. This must be recognised in order to avoid wrongly cutting short the careers and livelihoods of black athletes who comprise a growing proportion of elite sports participants around the world."

The research highlights that while changes in the dimensions of the left side of the heart with exercise have previously been studied, this study is the first study to characterise the differences in right ventricle changes found between white and black athletes.

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