

## **Incidence of sudden cardiac death during exercise**

Regular physical activity is key to reduce the risk of cardiovascular diseases, in which physically active individuals have a higher life expectancy compared to inactive individuals. However acute exercise could increase the risk for sudden cardiac death. Even though this phenomenon is rare, these events get a lot of media attention. Evidence of the number of cardiac problems and sudden cardiac death is limited and inconsistent. American research of the eighties suggest 1 fatal event per 15 000 runners annually. More recent studies describe 1 to 3 fatal events per 200 000 runners of the (half) marathon. An important limitation of these studies is that the results are based on medical posts at the sport events. However, it is possible that runners stop during the race and become unwell or die outside the race-course. In addition, it is unknown if the mortality rate is higher on the days of the race compared to the weeks before and after the race. Therefore, the primary aim of this internship is to determine the mortality rate at the race day and to compare this with the mortality rate in the weeks before and after the race. The secondary aim is to examine if individual characteristics (e.g. gender, age, running speed, running experience and running distance) are associated with sudden cardiac death.

For this study you will use data of runners who participated into running races from 1993 to now of Seven hills foundation (e.g. Seven hills run, Marikenloop and Stevensloop) and Le Champignon (e.g. Dam-to-Damloop, City-pier-city, Marathon of Amsterdam, etc). You will work at the department of Physiology of the Radboudumc and will be supervised by Drs Esmee Bakker and Dr Eijsvogels.

Duration: 5-8 months

Period: Starting in Spring of 2019

For the complete internship description or any questions, please contact:

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