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# Sudden Cardiac Death

- SCD – natural death from cardiac causes heralded by abrupt loss of consciousness within one hour of the onset of acute symptoms
- Rare and tragic event in young athletes
- 0.5-2 deaths/100,000 athletes/year – U.S data
- Primary cause in US – Hypertrophic Cardiomyopathy (HCM)
- Primary cause in Italy – Arrhythmogenic Right Ventricular Dysplasia (ARVD)



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## Case for Screening

- First symptom exhibited by 60% of SCD in young athlete victims in the US is cardiac arrest
- Widespread belief that screening of young should exist - American Heart Association, International Olympic Committee, European Society of Cardiology
- Only Japan, Israel and Italy mandate screening



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# The Italian Experience

- 25 year longitudinal study in Veneto region  
1979-2004 – Corrado et. Al
- Athletes aged 12-35
- Screened using the recommendations of the ESC  
– Questionnaire, Physical Exam and **resting 12-lead ECG**
- 89% decrease in incidence of SCD



# The American Perspective SPORTSCARDIOLOGYBC

- Recent paper recommending screening without use of resting 12-lead ECG by Maron et. al in Circulation magazine - American Heart Association Journal
- AHA recommends physical exam and questionnaire only
- Cites cost-efficiency and problems with sensitivity and specificity as reasons for omitting resting 12-lead ECG



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## Canada.....

- Fundamental lack of data in this area
- Screening isn't mandated
- No official recommendation exists
- British Columbia has a very unique and ethnically diverse population
- Must develop a data set before any screening recommendations can be made



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# Our Study

- “Prevalence of Cardiac Disease in British Columbia for Young Competitive Athletes - Screening Using ECG and Personal and Family History Questionnaire”
- Will determine prevalence in a subset of our population
- Will use recommendations of AHA and ESC and compare and contrast efficiencies of screening methods



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**Thank You**

