

# Reducing the number of heart attack deaths at major sporting venues

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The number of heart attack deaths at Europe's sporting venues is set to significantly reduce if recommendations published today are widely adopted. In a special article published online today by the *European Heart Journal* (EHJ), minimum standards of cardiovascular medical expertise, available equipment, and emergency planning are defined for stadiums and mass participation events, including marathons and cycle sportives. The recommendations have been developed in response to a 2010 review of cardiovascular safety at 190 major soccer arenas. This review determined that, without appropriate measures, there could be one death every five to ten matches at a typical 50,000-seater arena.

"I am confident that implementing the recommendations will prevent many unnecessary deaths", said European Society of Cardiology (ESC) spokesperson, Professor Mats Borjesson of Sahlgrenska University in Gothenburg. "It is well known that rapid access to the right treatment facilities can improve Sudden Cardiac Arrest (SCA) [survival rates](#) from 5% to well over 60%. We hope to see real progress in this area and take the debate to national and regional governments as well as stadium and event managers."

SCA is a condition in which normal blood circulation abruptly stops and usually leads to death in 95% of cases unless the patient is treated within five minutes or so by trained medical staff using a defibrillator. One study found that the risk of SCA at a major stadium could be as high as 1 in 260,000, while another puts the figure closer to 1 in 600,000. The 2010 review highlighted that major soccer stadiums were poorly

prepared to deal with incidents of SCA – despite the risk factors being higher than normal due to the effects of physical exertion amongst the players, and a mix of high emotional stress, alcohol consumption and poor general fitness in spectators, particularly those that are middle-aged and older.

The EHJ article summarises work undertaken by the Sports Cardiology Section of the European Association of Cardiovascular Prevention and Rehabilitation (EACPR), a branch of the ESC. The key conclusion in the article 'Consensus document regarding cardiovascular safety at sports arenas' is that every stadium with a 1,000+ capacity and every mass participation event with more than 1,000 competitors should have a detailed Medical Action Plan (MAP). The plan must address such aspects as:

- Appointment of a qualified, experienced Medical Director
- Transportation plan to nearest hospital, local maps and evacuation routes
- Specialist equipment available and its location
- Communications and collaboration with emergency care systems
- Treatment facilities available and level of care provided
- Training and quality improvement

"It is important that the MAP is not just prepared and then filed away", says Professor Borjesson. "It needs to be maintained, accessible to all stadium or event [medical staff](#), and then reviewed and updated as appropriate every year. This is why the Medical Director has such a vital role and, ideally, will be a locally licensed physician familiar with the area and its specific requirements."

Doctor Pantaleo Giannuzzi is the EACPR President, and strongly welcomes the recommendations. "For the first time, we have the possibility of minimum standards of cardiovascular safety at major sporting events", he notes. "Both competitors and spectators are exposed to greater risk than the general population although for different reasons. Spectators especially face a potent cocktail of dangerous factors, and I believe that the recommendations of the EACPR's Sports Cardiology section will make a positive contribution to saving many lives."

**More information:** *European Heart Journal*,  
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