

JOINT EVENT ON

2<sup>nd</sup> International Conference on **Hypertension & Healthcare**

and

2<sup>nd</sup> International Conference on**Non-invasive Cardiac Imaging, Nuclear Cardiology & Echocardiography**

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**Echocardiography and advanced imaging techniques for cardiovascular screening in athletes – state of the art****Rober Skalik**

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Professional and amateur athletic training can cause tremendous overload of the cardiovascular system and thus become a trigger for fatal cardiac events in athletes with previously undetected underlying heart diseases. In recent years there are more and more press reports on cases of sudden cardiac death in young athletes during sport events. Very intensive athletic training may induce adaptative changes in the structure and function of heart as observed on echocardiography and electrocardiography (ECG). However, these physiologic changes referred to as the “athlete’s heart” may coincide with structural cardiac disease and also be a cofactor for dramatic deterioration of clinical status in a certain group of athletes. Subsequently, every athlete should undergo a sophisticated diagnostic and qualification screening process before a training program is prescribed or continued. However, it is still unresolved issue which of the diagnostic tools should be routinely applied to increase the safety of extreme physical training and reduce the risk of sudden cardiac death. Pre-participation athlete evaluation including resting electrocardiography (ECG), physical examination and familial history of cardiovascular diseases is important, but does not always guarantee high diagnostic accuracy. Hence, the complex and reliable evaluation of cardiovascular health status in athletes or athlete candidates should include not only ECG and exercise testing, but also echocardiography and in some cases more advanced imaging techniques such as cardiac magnetic resonance or cardiac computed tomography.

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