

Early Detection Of Heart Rhythm Abnormalities Helps Preventing Serious Cardiac Failures Of Top Athletes

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Well organized ECG recordings of young athletes are considered to be key important, easy and cost effective screening method to detect heart failures and prevent tragic sudden deaths to those whose are starting heavy training programs in team or endurance sports. One of the major reason for sudden deaths of young well trained athletes is prolonged QT-syndrome. Traditional cutoff values are according to American Heart Association (AHA) recommendations are 440 ms for men and 460 ms for women. It is recommended by AHA that athletes with a QTc > 470 ms in men and 480 ms in women should go through further evaluation for long QT syndrome. Several reasons can be behind prolonged QT-segment. Doctors have found several gene mutations associated with prolonged QT-segment. In addition many medications can lengthen QT interval such as, certain antibiotics, antihistamines, diabetes medication, diuretics, heart medication, antidepressants, cholesterol lowering medication and antipsychotic drugs.

In addition to ECG recording Heart Rate Variability (HRV) monitoring is easy tool to indicate autonomic nervous stress such as overtraining situation. Over training is seen typically high sympathetic activity (low variability and high pulse rate) during night and relaxation periods and no recovery process can be indicated. With simple one minute deep breathing test it is easy to indicate current body control status of sports people. Online visual monitoring tool help sportsmen to learn controlling better their sympathetic and parasympathetic function, so called vagal tone.

Mega Electronics Ltd has developed eMotion Faros ECG a small and reliable ECG holter and mobile online monitor for early detection of heart rhythm abnormalities. The tiny size and low weight (13 g) of eMotion Faros allows athletes to wear the device anywhere and anytime for longer periods of time (3 -5 days). The device has 24 bit resolution, 3 independent ECG channels and large memory capacity. Usability and modern features of Faros ECG technology increase the probability of detecting cardiac abnormalities, even those that occur very rarely. Very accurate P-wave registration helps detection of atrial fibrillation (AF) sessions. Long-term cardiac monitoring also provides important information about the reasons behind the changes in the health of the athletes.

eMotion Faros ECG can be attached different ways by using disposable electrodes or disposable patches or even heart rate chest band. When attached to the sternum with Fast-Fix electrode Faros begins recording immediately and automatically shuts off upon removal. The Faros cardiac sensor improves patient compliance to its ultimate ease to use and miniature size. Due to waterproof design Faros allows patient having showers during measurement period.

Faros is FDA and CE approved medical device confirming maximum safety and performance in clinical use.

Early detection of hidden cardiac abnormalities gives best possibilities for preventing cardiac failures such as heart attacks, stroke and in the worst case sudden death