

The pre-participation physical evaluation: fact or fiction?

El reconocimiento médico de aptitud deportiva, ¿realidad o ficción?

Gonzalo Correa González

Especialista en medicina de la educación física y el deporte. Vicepresidente sociedad española medicina deporte. Médico asistencial Fremap. Médico asistencial mutualidad futbolistas españoles. Experto en ecografía musculoesquelética. Máster traumatología deporte UCAM.

doi: 10.18176/archmeddeporte.00134

A pre-participation physical evaluation can be defined as an evaluation or examination carried out by a doctor on an athlete in order to determine if the latter is eligible for sports activity or if it is contraindicated for them.

It seems obvious that medical examination of the state of health of an athlete should be performed prior to carrying out any regular physical activity to detect conditions that may cause injury or damage, and especially to prevent sudden death, the personal, social and media impact of which is irreparable.

Sudden death in sports is largely due to cardiovascular diseases and anomalies, and a lot of scientific literature has been published to explore the various aspects that characterise such deaths and the measures which should be taken to avoid or reduce their incidence.

There can be little doubt that the most important and effective strategy in the prevention of sudden death in sports consists of specific medical examinations to check the suitability of the subject for sporting activity. Thanks to such examinations, we can learn about the athlete and screen for cardiovascular diseases which could lead to undesirable consequences.

The European and American criteria for such evaluations differ quite considerably, the most notable differences focussing on their cost, the need to apply them to all athletes and, most controversially, the inclusion of a resting electrocardiogram in the process.

Taking into consideration the main European reference document, which embodies the consensus reached by different branches of the European Society of Cardiology, the implementation is encouraged of a common European screening protocol which would include a 12-lead ECG for all individuals who perform intense exercise on a regular basis, after providing them with adequate information regarding its benefits and limitations, and an exercise ECG for those who present moderate, high or very high cardiovascular risk (atheromatous disease), or a biological age of over 35.

In Spain, the Act on the Protection of the Health of Athletes and the Fight against Doping in Sports, amended by Royal Decree-Law 3/2017 of 17 February, states that an effective policy for the protection of the health of athletes and people who perform sports must be established. The specific minimum measures provided for include the obligation to carry out medical examinations prior to the issuance of official federation licenses in those sports where they are considered necessary in order to better prevent risks to the health of the athletes involved. Certain aspects must be taken into account depending on the characteristics of the sport, the exertion and other physical conditions needed to do it, the environmental conditions in which it is carried out and the specific needs of women and men, minors and people with disabilities; all to protect the health of the athlete.

At present, the pre-participation physical evaluation seems to float between reality and fiction...

On the one hand, from a medical-legal point of view, we know what we should do (minimum content of the examination), who should do it (a specifically trained medical professional), when (regularly, periodicity) and to whom (licenced and non-licenced athletes with moderate weekly activity). Such is the reality.

Meanwhile, from a practical point of view, what happens enters the realms of fiction...

In the pre-season and prior to issuing federation licences, medical examinations are needed in many sports disciplines. The bodies/clubs/associations/federations normally need these to be completed quite urgently, but there is almost always one common denominator: to do them at the lowest possible cost.

For many sports federations, passing a pre-participation physical evaluation is not a requirement for a license, and those federations that do require one -and the cost of such evaluations depends on them- do juggling acts to save on money; so much so that they propose a pre-

Correspondence: Gonzalo Correa González
E-mail: gonzalocorreagonzalez@gmail.com

participation physical evaluation performed over several appointments, with the consequent impoverishment of the quality and integration of clinical information, the negative repercussions of which, as I see it, ultimately affect the athlete.

First, a medical examiner, usually not a specialist in sports medicine or with specific training in conducting medical evaluations, performs a clinical examination and compiles the subject's case history.

Then a resting 12-lead ECG is recorded by nursing staff.

Thirdly and lastly, a remote interpretation of the results of the ECG is provided by a specialist doctor who does not see the patient/athlete at any time; all to save money.

Such procedures are not recommended by scientific societies in their consensus documents and although they may be legal, they should never be more than fiction.

I invite bodies/clubs/associations/federations to reflect deeply on the importance of the pre-participation physical evaluation and to comply with the recommendations of the consensus documents available for the purpose.

Our primary interest must always be to care for the health of our patients/athletes.

Recommended bibliography

- Manonelles P. *et al.* Reconocimientos médicos para la aptitud deportiva. Documento de consenso de la Sociedad Española de Medicina del Deporte (SEMED-FEMEDE). *Arch Med Deporte.* 2017;34(Supl. 1):9-30.
- Mont L, Pelliccia A, Sharma S, Bi A, Borjesson M, Brugada Terradellas J, *et al.* Preparticipation cardiovascular evaluation for athletic participants to prevent sudden death: position paper from the EHRA and the EACPR, branches of the ESC. Endorsed by APHRS, HRS, and SOLAECE. *Eur J Prev Cardiol.* 2017;24:41-69.
- Cardiovascular preparticipation screening of competitive athletes. Scientific statement. American Heart Association. *Med Sci Sports Exercise.* 1996;28:1445-52.
- Pons C. Actividad deportiva en sujetos mayores de 35 años. Mínima valoración cardiológica recomendada. (Declaración de la Fédération Internationale de Médecine du Sport (F.I.M.S.)). En: FEMEDE editor. Declaraciones de consenso FEMEDE. Pamplona; 1997.
- Ley Orgánica 3/2013, de 20 de junio, de protección de la salud del deportista y lucha contra el dopaje en la actividad deportiva. *BOE* n.º 148, de 21 de junio de 2013. p. 46652-99.
- Real Decreto-Ley 3/2017, de 17 de febrero, por el que se modifica la Ley Orgánica 3/2013, de 20 de junio, de protección de la salud del deportista y lucha contra el dopaje en la actividad deportiva, y se adapta a las modificaciones introducidas por el Código Mundial Antidopaje de 2015. *BOE* n.º 42, de 18 de febrero de 2017. p. 11038-69.
- Manonelles P, Aguilera B, Boraita A, Luengo E, Pons C, Suárez MP. Utilidad del electrocardiograma de reposo en la prevención de la muerte súbita del deportista. Documento de consenso de la Federación Española de Medicina del Deporte. *Arch Med Deporte.* 2007;24:159-68.
- Manonelles Marqueta P, Alacid Cárceles F, Álvarez Medina J, De Teresa Galván C, Del Valle Soto M, Gaztañaga Aurrekoetxea T, *et al.* Recomendaciones para un deporte recreacional saludable. Guía para práctica deportiva recreacional de la Sociedad Española de Medicina del Deporte (SEMED-FEMEDE). *Arch Med Deporte.* 2015;32:275-80.
- Manonelles Marqueta P, De Teresa Galván C, coordinadores. Deporte recreacional saludable. Documento de consenso de la Sociedad Española de Medicina del Deporte (SEMED-FEMEDE). *Arch Med Deporte.* 2016;33(Supl 2):8-40.
- Manonelles P. Reconocimientos médicos para la aptitud deportiva: ¿qué es lo que tiene que decir el especialista en medicina de la educación física y el deporte? *Arch Med Deporte.* 2009;26:331-3.