

**UPDATE**

Ethical issues in the practice of sports medicine in the contemporary world

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Abstract

Sports medicine has evolved considerably in the last decades because it is inserted in a globalized world context and due to a high degree of technological development. It is worth remembering that major sporting events, such as the last Olympics in 2016, involve large investments and that, consequently, this financial impact, together with the evolution of technologies, might put sport physicians in situations that demand consideration regarding ethical conflicts. These matters can encompass the use of new technologies in modifying athletes' bodies, doping and the development of super athletes, and how to deal with vulnerable people, such as children and teenagers who are candidate future athletes. Based on a review of the literature, this essay had as objective to consider these conflicts, based on the ethical arguments and principles present in official documents that deal with the topic.

Keywords: Ethics, professional. Ethics. Vulnerability in health.

Resumo**Questões éticas na prática da medicina do esporte na contemporaneidade**

A medicina do esporte tem evoluído muito nas últimas décadas por estar inserida em contexto mundial globalizado e em razão do alto grau de desenvolvimento tecnológico. Vale lembrar que grandes eventos esportivos, como a mais recente Olimpíada de 2016, envolvem grandes investimentos, e esse impacto financeiro, aliado à evolução de tecnologias, pode colocar o médico do esporte em situações que exigem reflexão sobre conflitos éticos. Essas questões podem abranger desde a utilização de novas tecnologias na modificação de corpos, passando pelo *doping* e desenvolvimento de superatletas, até em como lidar com pessoas vulneráveis, como crianças e adolescentes aspirantes ao atletismo. A partir de revisão da literatura, este ensaio tem como objetivo refletir sobre esses conflitos, tendo por base os argumentos e princípios éticos presentes em documentos oficiais que abordam o tema.

Palavras-chave: Ética profissional. Ética. Vulnerabilidade em saúde.

Resumen**Cuestiones éticas en la práctica de la medicina del deporte en la actualidad**

La medicina deportiva ha evolucionado mucho en las últimas décadas por estar inserta en un contexto mundial globalizado y por el alto grado de desarrollo tecnológico. Cabe recordar que los grandes eventos deportivos, como los más recientes Juegos Olímpicos de 2016, implican grandes inversiones y, por lo tanto, este impacto financiero, de la mano de la evolución de las tecnologías, pueden situar al médico del deporte en situaciones que exigen reflexionar sobre los conflictos éticos. Estas cuestiones pueden abarcar desde la utilización de nuevas tecnologías en la modificación de los cuerpos de los atletas, pasando por el *doping* y el desarrollo de superatletas, hasta cómo lidiar con personas vulnerables, como niños y adolescentes candidatos a ser futuros atletas. A partir de una revisión de la literatura, este ensayo tiene como objetivo reflexionar sobre estos conflictos, teniendo como base los argumentos y principios éticos presentes en los documentos oficiales que abordan el tema.

Palabras clave: Ética profesional. Ética. Vulnerabilidad en la salud.

Declara não haver conflito de interesse.

In 2016 another Olympics attracted the attention of millions of spectators. In an era where much of the world is connected, given the increasing technological development, these sporting events have great visibility and financial returns. However, the financial return does not always reach the athlete, who exposes the body to greater wear than it could withstand under normal physiological conditions.

In the globalised world, which overvalues body and capital, abuses occur in the quest for power and profitability. Thus, as joining sports occurs at a young age, during the school phase, athletes constitute a vulnerable population, exposed early to impositions of a third party. In addition, they have short professional lives due to early body wear and, therefore, when they reach professional maturity, still young, make the most of their potentiality and possible results.

With the technological advances in sports medicine and the creation of new invasive and non-invasive techniques to improve the athlete's performance, there are debates and ethical conflicts about these limits and the implications for the athlete's health. In this context, the sports physicians become responsible for following and defining limits in the relationship with athletes, who are their patients, and the sports institutions that hired them to maintain a high level of productivity.

Thus, the objective of this work is to reflect on the ethical conflicts that permeate sports medicine both in relation to the athlete's performance and to the doctor-patient relationship in this specific area.

Pharmacological and interventional doping

Athletes are constantly submitted to tests to detect illegal substances that improve performance in competitions. The best known name for the use of illegal substances is doping¹, mainly because it is the most used by the media. The World Anti-Doping Agency (WADA) lists prohibited substances to athletes, as well as appropriate interventions^{2,3}, in regularly updated listings, the most recent of which is 2017^{2,3}.

As the athlete works with the body to the point of exhaustion, crossing limits is a constant and objective reality not only for an individual, but for the whole team. This philosophy favours the culture of the athlete's body, but often neglects the limits that defined it. To what extent is it possible to work and modify the body?

Among the various modalities, elite sports are the most subject to interventions, seeing

the high costs for individual participation and/or involving large financial investments at participating institutions level¹. These interventions frequently end up objectifying the athlete's body, leaving behind the athlete's interests and health. Thus the athlete becomes, even without being aware of it, a field of physiological experiments, mainly biomedical research and testing of consumer products such as clothing and accessories, which will be commercialised, generating profits for third parties.

Faced with this reality, it is necessary to expose the athlete's participation in these procedures, obtaining acceptance in a free and conscious way^{1,4}. Even so, as there are personal interests of the athlete and pressure to keep up in competitions, one may question how much such consent is actually free.

Power relationships involving professional athletes are very complex and directly affect their career. The young person who initiates training while still in infancy is subjugated to the structure of which he or she is not fully aware, and does not have full autonomy and capacity to make decisions, since the choices are usually made by coaches and parents, and their motivations may be other than the athlete's motivations. In this context of such delicate relationships, there is the sports doctor, present in clubs and associations, whose work ranges from the child, who starts in the sport and aims to become a professional, to the adult who already depends on this structure.

The political impact of the athlete

In Greco-Roman civilisation athletes were deified and the beauty of their bodies was exalted and reproduced in sculptures and images. Associated with victory and beauty, the athlete was a demigod. Little has changed since and despite not becoming marble sculptures, some athletes are exposed by propaganda worldwide and win millionaire contracts, especially those involved with major international sports.

During World War II, the victories of a black American athlete named Jesse Owens at the 1936 Olympics in Berlin under the totalitarian policy of Nazism, which preached Aryan racial superiority, became historic. During the Cold War, the advantage of athletes from one nation over another was also politically connotative, and athletes acted as a sort of ambassador in competitions, which reveals how sports can be multipurpose and take on a variety of meanings. Today, in the same way, the victory of the

athlete, the favorite club or the national team of a country symbolises for the citizen conquest on the adversities of daily life, and the athlete's defeat can cause personal stress.

According to Foucault's conception of biopolitics⁵, athletes are examples of manipulation of bodies for the interests of the state. The non-curtailment or even the stimulation of doping for political purposes is part of the current context of discussion, and was a recent media theme at the 2016 Olympics. In September of the year in question, during the Rio 2016 events, Wada confirmed an attack to their database by Russian hackers, who gained access to confidential medical data of athletes and made them public. This information came from the International Sports Federations (IFs) and National Anti-Doping Organisations (NADOs) related to the games in Rio de Janeiro⁶.

The political impact of the Paralympic athlete

In the Paralympic Games, an event that takes place shortly after the Olympics, Paralympic athletes, who are examples of strength and determination, play an important social role as they motivate the inclusion of people with disabilities, changing society's view on differences. In addition, they are capable of creating new meanings for the "beautiful" and exerting political influence, helping to change the countries' policies that, in many situations, ignore people with special needs, excluding them from everyday life and their rights.

It is important to remember that the Paralympic athlete is also inserted in the context of sponsorships and investments as well as doping in competitions. It is also important to remember that overcoming themselves and their physical limits is sometimes a great incentive to practice for this type of athlete, in addition to economic and political interests.

Sports Medicine

Sports medicine has evolved with the goal of offering specialised treatment to professional athletes, seeking to improve their performance through three areas of study: sports science, genetic technologies⁷ and chemical substances^{1-3,7}. But sports medicine focuses not only on these athletes, extending their focus to schools and clubs, from children and young beginners in sports to amateurs

seeking specialised medical advice to improve their performance.

Sports science has developed noninvasive interventions to improve performance, nutrition and training methods, with the aim of detecting and developing athletes potentialities¹. These procedures are easy to apply and can reach a wider range of sportsmen regardless of socioeconomic condition or country of origin.

When using resources such as special clothing for swimmers, for example, it is necessary to ensure that everyone has access to them without economic discrimination, which would create disparities between competitors, especially those from less developed countries, what would be incompatible with the sports spirit¹. This applies especially to the Paralympic Games, in which it is necessary to analyse whether the resource is necessary for the game, or whether it comes from technology different from that available to other athletes, such as lightweight prostheses for athletics made with more expensive material¹.

There are medical interventions which are accepted by Wada, such as ophthalmic laser surgery for shooting athletes¹⁻³. However, genetic technologies are divided into two types: genetic manipulation, which interferes directly with the body in order to improve performance, and those which through genetic analysis seek to better plan the athlete's training in order to further develop their potentialities^{1,7}. The first would be considered genetic doping; the second is permitted by the World Anti-Doping Agency¹.

Possible genetic doping techniques are the transfer of DNA from genetically modified cells to athlete's cells or the use of viruses to cause genetic alteration^{1,2}. Thus, there may be genetic manipulation for the production of erythropoietin (EPO), for example, rather than the exogenous use of this substance, which is considered to be drug doping^{1,7}, in the same way as the vascular endothelial growth factor gene can be stimulated⁷.

This form of genetic doping leads to another ethical matter: eugenics, the creation of super-athletes through manipulation of genes. The genetic study with the intention of guiding the training to detect the potential of the athlete is ethically acceptable by the Nuffield Council on Bioethics¹. However, this technique encourages discussion about the growth of biotechnology in competitive sports and on accessibility issues and fairness, since athletes from developed countries are more likely to succeed when it comes to more expensive technologies.

The Sports Doctor

There are several risks to the athlete when using different techniques to improve performance or even when training excessively. In addition, the athlete can suffer penalties due to doping and even end his or her career.

How can sports doctors handle this situation? What are the ethical conflicts related to their professional practice? How should they deal with these issues? Sports doctors aim to develop the athlete and, at the same time, they know that they have a duty to watch over the athlete's integrity as well as the athlete's physical and mental health. Being employed by the contractors of the athletes themselves, how can the sports doctor exercise his or her activity independently?

Medical practice is based on moral values such as confidentiality, trust and care, and principles such as respect for autonomy, non-maleficence and beneficence in caregiving⁸ and it is also based on transparency. Therefore, respect for the independence of this professional must be a priority^{8,9}. In the case of sports doctors working with children and adolescents, an age group considered to be vulnerable and with limited autonomy^{8,10,11}, there are even more particularities: there will be changes in the body of the child and adolescent^{12,13}, and protection and care of this group would also be in the perspective of medical care.

The Code of Medical Ethics of the International Federation of Sports Medicine (FIMS) emphasises that "The same ethical principles that apply to the practice of medicine shall apply to sports medicine"¹⁴. Among the main duties of the sports doctor listed in the document are: "Always make the health of the athlete a priority" and "Never impose your authority in a way that impinges on the individual right of the athlete to make his/her own decisions"¹⁴. According to this document, medical records⁴ are under the responsibility of the sports doctor.

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Thus, it is up to this expert to decide, along with the athlete, if information about the health of this athlete can be disclosed to the public, often eager for this type of information, especially during championships^{4,14}. Furthermore, when it is necessary to share confidential medical information with team administrators or coaches, the athlete must be informed in advance by the sports doctor, who must be aware that disclosure of the athlete's physical condition should be restricted to "specific responsible persons and for the expressed purpose of determining the fitness of the athlete for participation", according to the International Federation of Sports Medicine code of ethics and it is also up to this professional to determine the continuation of the training or the participation of injured athletes in competitions, thinking primarily about their health and safety^{4,17}. If the training involves children and adolescents, it must have attention redoubled in order to avoid damages and it must keep families informed^{4,13}.

Final considerations

The practice of sports medicine presents peculiarities that differ from other specialties, with relevant ethical conflicts that deserve more attention and discussion. Although sports doctors work in a different context from the hospital, the responsibility for the patient is similar to that of the others, since the sportsman is also a patient, inserted in an economic structure with great potential for development.


The principlism theory is present in most of the official documents and sports medicine codes aimed at the physician-patient professional relationship, privacy, care, and data protection. Nonetheless, the concepts of equity and justice also permeate the most recent discussions, within the broader view of intervention bioethics, in documents that focus on the accessibility of technologies to competitors from developed countries relative to those from developing countries that remain at constant technical disadvantage.

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