Medical protection guide against doping

Guía de protección del médico del deporte ante el dopaje

Pedro Manonelles, José Luis Terreros Blanco (Coordinadores), Fernando Ávila España, Juan José Castro García, Jorge De las Heras Romero, Miguel Del Valle Soto, Luis Franco Bonafonte, Teresa Gaztañaga Aurrecoetxea, Juan Garcia-Nieto Portabella, Agustín González González, Manuela González Santander, Fernando Jiménez Díaz, Cesáreo López Rodríguez, Zigor Montalvo Zenarruzabeitia, Juan José Muñoz Benito, Isabel Ornaque Lazaro, Javier Pérez Ansón, Santiago Rivera Jofré, Juan José Rodríguez Sendín, Serafín Romero Agüit, Agustín Ruiz Caballero, Mª Carmen Vaz Pardal, Jose A. Veloso Fernández

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Preventing doping is one of the most important and unwaiverable professional responsibilities taken on by any doctor working with athletes. To do this job properly, the doctor must have in-depth knowledge of doping, its rules, its medical and legal consequences, and how to stop it happening. This knowledge will help doctors avoid consequences that might be damaging for both athlete and doctor.

It is undeniable that, like other physicians, by working with athletes, they run the risk of intentionally or inadvertently being in contact with athletes or other individuals who are doping or that undertake actions defined as doping rule violations. In this respect, there is a chance that, due to diverse circumstances, a doctor can find him or herself included in a doping investigation.

This guide aims to inform doctors working with athletes on matters that can help them find out about the most important aspects of the fight against doping, whilst providing recommendations on how to not get involved in procedures or situations related to doping that occasionally bear criminal liability and how to act preventively if this does happen.

This document aims to set measures to avoid doping for physicians working with athletes, reminding them that they should always report doping practices, even involving doctors, in the terms set in the legislation in force.

This document demonstrates to everyone (society in general and the world of sport in particular) the active, decisive stance of the collective against this type of practices that are not only illegal but clash directly with the essential principles of the medical profession and, as has been unfortunately witnessed on more than one occasion, are manifestly damaging for the athlete's health. There are innumerable examples of devastating and persistent outcomes, not only organic damage but also psychological.

The sad images we have all seen of a person taking the stand to declare, as a doctor, on the use of procedures or substances (often illegal medicines in the broadest sense, unauthorised, in experimentation, veterinary, obtained via smuggling or theft, or occasionally, direct copies from a suspicious origin), with the simple aim of improving an athlete's competitive professional performance that could happen again given the current panorama, have to be unequivocally and specifically detached from the sports medicine collective with a specific, active and decisive commitment from doctors in the field. This personal commitment exponentially encourages working with other collectives or agencies (sports federations, technical staff, trainers, sports directors, organisers of professional sporting events, State Security Forces and Bodies).

This "inter-agency" collaboration is fundamental to fight doping because, on their own, doctors are not capable of fighting this issue definitively and securely given this activity involves professionals from other specialist fields, not just medicine, seen when breaking up some surprisingly widespread crime rings behind athlete doping.

Furthermore, the guide will provide tools that allow doctors that do not take part in doping practices to address the risks of some aspects of their professional practice.

Correspondence: Pedro Manonelles
E-mail: pmanonelles@femede.es

Doping. What it means from a medical perspective

The dictionary definition of doping indicates that it is the action to dope, namely to "administer stimulating pharmaceuticals or substances to artificially improve the body's performance, sometimes endangering health"[1]. This is the essential concept of doping: use of substances or methods that are on the prohibited list to improve performance. However, doping, which must be considered from a legal point of view due to its consequences, is defined by the World Anti-Doping Code as "committing one or several anti-doping rule violations according to sections 1 to 11 of article 2 and 10.14.1 that is described in Table 1[2].

In the context of their career, doctors could commit the following violations (in principle, article 25 of the new Bill that sets sanctions for support personnel does not exclude any of the violations mentioned in article 20, so it might be understood that the doctor can commit any of them and in such case, in addition to the sanctions envisaged for violators, they would also be given any envisaged in said article 25, even if the sporting result in competition were unfavourable):

- Tampering or attempted tampering.
- Possession.
- Trafficking or attempted trafficking.
- Administration or attempted administration.
- Complicity or attempted complicity.
- Prohibited association (Table 2).
- Retaliation, threats or intimidation.
- Violation.

Regarding the more specific aspect of practising their profession, which involves prescription, doctors can commit the following types of violations[3]:

Table 1. Violations of the doping rules. World Anti-Doping Code 2021[2].

1. Test result	Presence of a prohibited substance or its metabolites or markers in an athlete's sample.
2. Use or attempted use	Use or attempted use by an athlete of a prohibited substance or a prohibited method.
3. Control avoidance	Evading, refusing or failing to submit to sample collection.
4. Whereabouts failures	Any combination of three missed tests and/or filing failures within a 12-month period by an athlete.
5. Tampering or attempted tampering	Tampering or attempted tampering with any part of doping control.
6. Possession	Possession of a prohibited substance or prohibited method by the athlete or person supporting athletes.
7. Trafficking or attempted trafficking	Trafficking or attempted trafficking in any prohibited substance or prohibited method.
8. Administration or attempted administration	Administration or attempted administration of a prohibited substance or method.
9. Complicity or attempted complicity	Complicity or attempt to be complicit by an athlete or other person.
10. Prohibited association	Sporting or professional relationship with persons who are in the situation described in table 2.
11. Retaliation, threats or intimidation	Actions to dissuade someone from informing authorities about a possible case of doping or taking retaliation against a possible informant.
12. Breach	This is behaviour that, although the Code does not state it as such, falls into a similar category to the rest and can also be sanctioned. It implies noncompliance or violation of a sanction for doping.

Table 2. Situations considered in prohibited association.

- Person supporting the athlete subject to the authority of an anti-doping organisation who is currently suspended for a period.
- If they are not subject to the authority of an anti-doping organisation, and when suspension has not been addressed in a process considered in the World Anti-Doping Code, when they have been sentenced or found guilty in a legal court, disciplinary or professional case for behaviour that constitutes a violation of the anti-doping rules if the rules applied to this person had been adjusted to the World Anti-Doping Code. The disqualification of this person will be maintained for a period of six years from when the criminal, professional or disciplinary decision is taken or while the criminal, disciplinary or professional sanction is in force.
- When they are acting to cover or as an intermediary for a person subject to the authority of an anti-doping organisation, they are suspended for a period, or if they are not subject to the authority of an anti-doping organisation, and when suspension has not been addressed in a process considered in the World Anti-Doping Code, when they have been sentenced or found guilty in a legal court, disciplinary or professional case for having undertaken behaviour that constitutes a violation of the anti-doping rules if the rules applied to this person had been adjusted to the World Anti-Doping Code. The disqualification of this person will be maintained for a period of six years from when the criminal, professional or disciplinary decision is taken or while the criminal, disciplinary or professional sanction is in force.

- Prescription of medication or nutritional supplements included on the prohibited list, by a doctor who does not normally work with athletes.
- Prescription of medication or nutritional supplements included on the prohibited list, by a doctor who does usually work with athletes in the context of a lawful treatment not for the purposes of doping, without requesting the relevant therapeutic use exemption.
- Prescription of a doping procedure.
- Use of a prohibited method (such as intravenous therapies > 100 ml/12 hours).
- Noncompliance with the administrative rules against doping.

Sanctions for doping

Doping rule violations are paired with sanctions which can be applied when each violation is made.

According to the World Anti-Doping Code[2], violation of an anti-doping rule (Table 1) by an athlete or other person can lead to one or more consequences as mentioned in Table 3.

In addition to the specific sanctions from the anti-doping authorities, doctors in Spain can also be given the following sanctions:

Criminal Code. Although it is true that article 362 on minor crimes4 specifically refers to sports doping and envisages sentences of up to two years in prison and special disqualification from public employment or positions, profession or trade, from two to five years, this type of crime can be related to others regarding the supply of medicines regardless of the purpose, which envisages jail sentences of up to four years and disqualification for the profession for up to three years. Given that the articles envisaged in the Spanish Criminal Code clearly need to be updated, it seems that the legislator initially tried to "defend" himself by also giving importance to the origin of the medicines or medical devices used or administered for the purposes of doping. In our case, and precisely the technical characteristics and, for example, the origin or conservation of the medicines, might stretch out the sentences as mentioned above. The fact that these practices had been committed by a doctor would mean lead to imposing the maximum sentence. In this chapter of crimes against public health, the legislator also focuses on several individuals coming together to commit a crime, surprisingly considering the need for people from several worlds to come together for these criminal purposes, which might fit the figure of "belonging to a criminal group" depending on the circumstances, "union of more than two persons", as aggravating circumstances in these cases. Finally, the profit obtained from these practices against public health must also be followed up by the justice system, which might lead to other criminal liabilities due to money laundering, crimes against the Inland Revenue Office and forging public documents referring to the use of prescriptions.

It seems reasonable to think, and in fact many people follow this line of thought, that Spain does not crack down "hard" criminally on sport doping because our Criminal Code objectively only provides one specific mention of sport doping among its articles. However, in practice, these activities necessarily require other complementary actions that are also considered as criminally punishable, producing a list of crimes that worsen the sentence that was initially envisaged. It is debateable whether healthcare workers, in this case doctors, are more greatly punished as such, not so much in criminal laws but in administrative rules, given that this figure is completely trusted as an "ally" in the fight against these practices and this is exactly why it is so dangerous for this figure to take an active part in the fraudulent activity as it removes important control tools such as diagnosis, treatment, prescription or management of Therapeutic Use Exemptions.

- *Protection of Athlete's Health Law.* Disqualification from pursuing healthcare or professional roles involved with athletes, entities,

Table 3. Consequences of violations of the anti-doping rules. World Anti-Doping Code 2021[2].

- **Disqualification**. Invalidation of the athlete's results in a competition or event, with all the resulting consequences, such as losing any medal, point or prize. In Spain, disqualification or to be more precise, cancellation of the results is not actually a sanction, but it is known as a measure to re-establish the legality, it is not considered a sanction and it is not governed by the rules of the sanctioning administrative law.
- **Ban.** Exclusion of the athlete or other person for violating the anti-doping rules for a specific period of time due to participating in any composition or other activity or financing (article 10 of the 2021 Code). This leads to the loss of the sporting licence, and it will be impossible to obtain another licence for a determined time.
- **Provisional suspension.** Temporary prohibition for the athlete or other person in any competition or activity before the court's final decision.
- **Economic consequences.** Economic sanction imposed for a violation of the anti-doping rules or to recover the costs associated with a violation of the anti-doping rules. Unlike national legislation, the World Anti-Doping Code does not determine a catalogue of pecuniary sanctions associated with the violation. The World Anti-Doping Code considers paying the economic quantities more from a compensatory point of view rather than an actual sanction.
- **Public dissemination.** Broadcasting or distribution of information to the general public or persons beyond those who had the right to prior notification.

clubs, teams, federations or sporting institutions for a period of four years[5].

- *College of Physicians*. Committing a violation of the doping rules can lead to the anti-doping authorities contacting the College of Physicians about the acts performed by the personnel who carry out healthcare functions for the relevant disciplinary purposes.
- *Spanish Federation of Sports Medicine*. Violating the doping rules can leads to the sanction derived from applying the Code of Ethics in Sports Medicine of the Spanish Federation of Sports Medicine[6].

The prescription

The greatest risk for doctors regarding doping is prescribing medicines, nutritional supplements or other substances.

This section does not consider prescriptions made out for doping purposes and that implies that the prescriber is consciously aware of committing the violation.

Doctors who do not usually work with athletes should be aware of the prescription rules relating to doping, not only because this can lead to a sanction for them but also because it can affect the athlete who receives the prescription.

Basically, the following types of prescription exist:

- Drugs included in the Spanish Agency of Medicines and Medical Devices - AEMPS (https://www.aemps.gob.es/home.htm) compiled in its section on "Medicines for human use" (https://www.aemps.gob.es/medicamentosUsoHumano/portada/home.htm)
- Drugs and products for hospital use.
- Drugs from other sources.
  - Purchased on the Internet
  - Foreign drugs
- Nutritional supplements.

Physicians in Spain can prescribe medicines for human use that are listed by the Spanish Agency of Medicines and Medical Devices – AEMPS. They can also prescribe nutritional supplements of legal origin that have been listed and managed by the Spanish Agency for Food Safety and Nutrition (foods for specific groups, food complements and natural mineral waters communicated in Spain, https://rgsa-web-aesan.mscbs.es/rgsa/formulario_producto_js.jsp), they can purchase products on the Internet and abroad and they can use hospital drugs following the set rules.

The really important issue is that the prescribing doctor must make sure that the product to be prescribed is not included on the list of substances and methods that are prohibited due to doping[7].

Unintentional doping

The best-known form of doping takes place when the athlete makes the conscious and agreed decision to use a prohibited substance or a method for doping purposes.

On the contrary, there is a form of unconscious doping called unintentional doping. This doping has two methods: inadvertent doping and accidental doping.

Inadvertent doping is a form of unintentional doping where the athlete takes a medicine without being aware that its composition contains prohibited substances. Inadvertent doping also refers to when the necessary paperwork has not been completed to grant a *Therapeutic Use Exemption* (TUE).

Accidental doping is a form of unintentional doping where the athlete takes a prohibited substance or uses a prohibited method by chance. For example, there are the cases of doping by consuming adulterated or contaminated nutritional supplements that contain prohibited substances in sport without declaring this in its composition. In these cases, the athlete must demonstrate this contamination and also that there has not been gross negligence and even then, they might be sanctioned with a warning or even have their licence withdrawn for 2 years, depending on the severity of their guilt or negligence.

Police authorities from several countries, including Spain, have already carried out operations against adulteration of food supplements in the world of sport. Generally, this refers to imported products that sometimes arrive adulterated or are sometimes made in the destination country, not to mention cases of falsifications that, temporarily and occasionally, might become available on the market.

It is important to mention that the athlete's intention is not to commit a violation but simply to consume a substance or use a method. In other words, an intentionally consumed substance or method used: INTENTIONAL, even when the intention is not to dope. Consumed substance or method used unintentionally: UNINTENTIONAL. In other words, a consumed substance or method used consciously will be considered INTENTIONAL, even when doping was not the purpose. On the other hand, a consumed substance or method used unconsciously will be considered UNINTENTIONAL.

In the case of specific substances or methods, the sanctioning body must demonstrate the intention to use it. In the case of non-specific substances or methods, the athlete must demonstrate their lack of intention. In both cases, if this intention does not exist, the severity of the negligence will be assessed in taking it, using it and possessing it and the sanction will thereby be evaluated (ranging from a warning to 2 years for a specific substance or method and 1 or 2 years for non-specific).

When an adverse laboratory result comes back in a competition control and the substance is only prohibited in competition, the athlete can demonstrate that consumption took place outside competition (prior to 11.59 of the day before the competition) and can demonstrate that their intention was not to improve their sporting performance: lack of intention will be reported.

Therapeutic Use Exemption

Therapeutic Use Exemption (TUE) is the procedure determined by the World Anti-Doping Agency so that athletes who require it can use prohibited substances when necessary to treat diseases.

Granting a TUE is subject to the athlete being able to demonstrate that all the following conditions have been met:

- That the prohibited substance or method in question is necessary to treat an acute or chronic pathology to the extent that not administering this prohibited substance or method to the athlete would seriously affect their health.
- That it is highly improbable that therapeutic use of the prohibited substance or method would improve performance, beyond what can be attributed to the athlete recovering their health after treatment for the acute or chronic pathology.
- That there is no authorised alternative therapy to replace the prohibited substance or method.
- That the need to use the prohibited substance or method is not the partial or total consequence of having used a substance or method before (without a TUE) that would have been prohibited at the time of use.

An athlete must have a TUE before using or possessing said prohibited substance or method unless one of the following exceptions exists, in which case the athlete must obtain a backdated authorisation:

- In the case of a medical emergency and treatment of an acute pathology.
- When, due to other exceptional circumstances, there has not been enough time or the chance to present the application.

The athlete must present the TUE application to the corresponding anti-doping organisation using the ADAMS system or as specified by the anti-doping organisation. This form should be accompanied by these two pieces of information:

- A certificate from a qualified doctor confirming the need for the athlete to use the prohibited substance or method in question for therapeutic reasons.
- A complete clinical history that will include the documentation issued by the doctor who made the initial diagnosis (if possible) and the results from all tests, laboratory analysis and imagery studies inherent to the application.
- When a TUE is granted, these two points are stated:
- The approved substance or method, and its permitted dosage, frequency and means of administration, duration of the TUE and any other conditions imposed regarding the TUE.
- TUE application form, and the relevant clinical information.

The physician must be aware of the rules for granting a TUE to be able to prescribe prohibited medication safely[8].

Checking prohibited substances or methods

Before writing a prescription, it is necessary to check that the substances in it are not on the list of prohibited substances and methods in force.

The list of prohibited substances and methods can be found on most sporting federation websites, but it is best to consult official sources:

- World Anti-Doping Agency website: https://www.wada-ama.org/en/what-we-do/the-prohibited-list.
- Spanish Agency of Health Protection in Sport website - AEPSAD: https://aepsad.culturaydeporte.gob.es/normativa/normativa-internacional.html
- Consult the WEBSITE or MOBILE apps. NØDoPApp or NØDopWeb https://aepsad.culturaydeporte.gob.es/inicio/nodopapp-nodopweb.html
- A similar app can be consulted in several countries (United States, United Kingdom, Canada, Switzerland, Japan, Australia, New Zealand): GLOBAL DRO. https://www.globaldro.com/Home
- GLOBAL DRO contains similar links for many other countries. https://www.globaldro.com/home/other-countries
- Boletín Oficial del Estado (Official State Gazette), which is where it is officially published each year: boe.es

Medicines for human in use in Spain can be consulted on the Spanish Agency of Medicines and Medical Devices - AEMPS (CIMA: AEMPS Medicines Online Information Centre): https://cima.aemps.es/cima/publico/home.html

Nutritional supplements in Spain can be consulted on the Spanish Agency for Food Safety and Nutrition (foods for specific groups, food complements and natural mineral waters reported in Spain, https://rgsa-web-aesan.mscbs.es/rgsa/formulario_producto_js.jsp)

Prescription algorithm

The following algorithm (Figure 1) simply indicates the prescription procedure for a substance or method to treat an athlete who is likely to have to pass a doping control at any time[3].

Before using the substance or method, the first thing to do is check whether it is included on the prohibited list.

If it is not on the prohibited list, the prescription can be written.

If it is on the prohibited list, a therapeutic alternative must be found. If there is an acceptable alternative for the treatment, then the alternative is prescribed.

If the need for treatment is a medical emergency or treatment of an acute pathology, it can be prescribed, and a backdated TUE is requested.

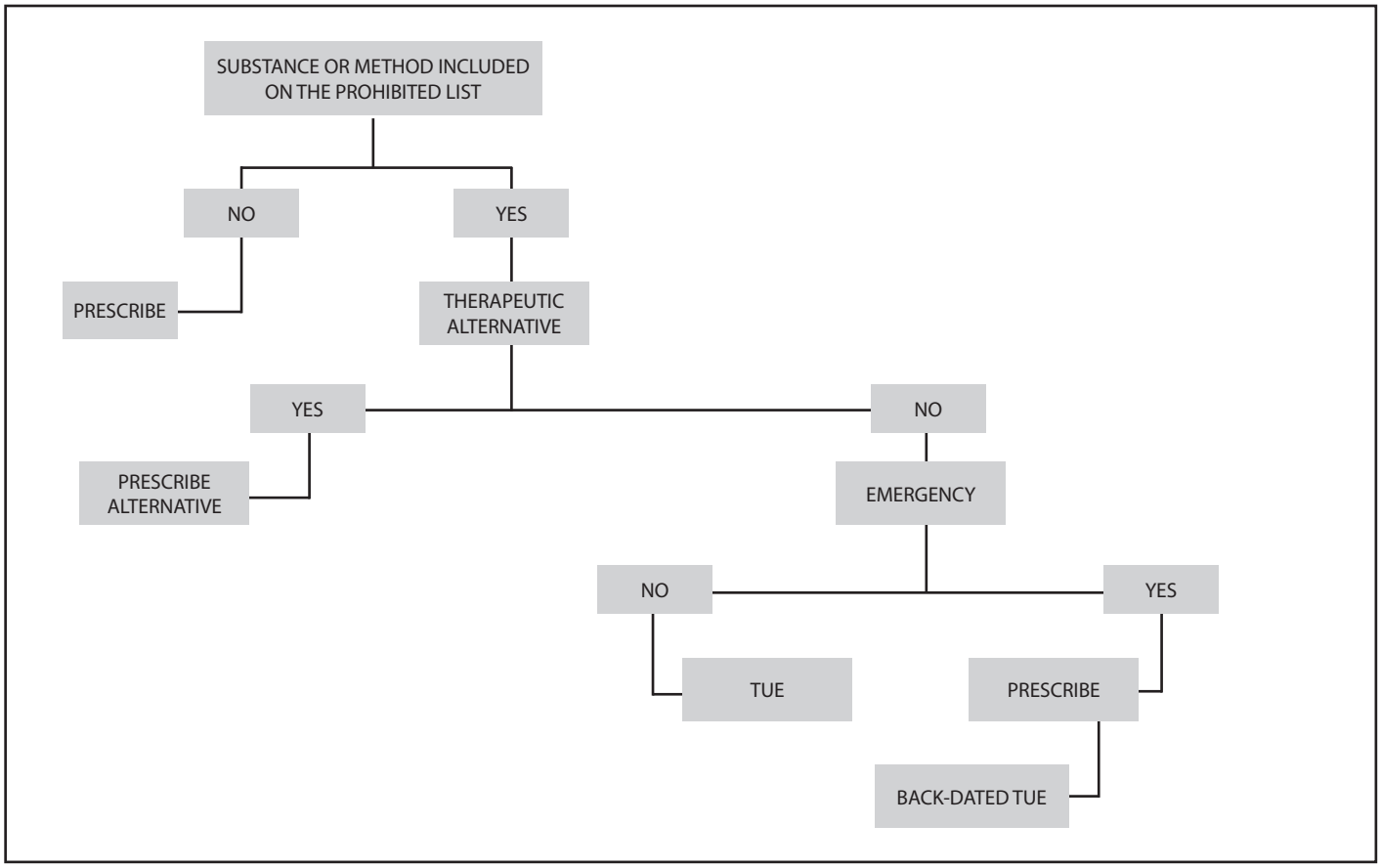
If the need to prescribe does not involve a medical emergency or treatment of an acute pathology, a Therapeutic Use Exemption (TUE) must be requested.

First-aid kit

The doctor can keep substances and methods in their workplace first-aid kit that are included on the prohibited list when they are necessary to be used in legitimate clinical situations, such as treating urgent cases, but in appropriate quantities for this purpose and, in any case, substances and methods that are for a known clinical use.

The doctor's travelling first-aid kit should be governed by the same principle, although the quantities it contains are in proportion to the

Figure 1. Prescription algorithm.



number of people that it might be necessary to help, including technical personnel in the team and other types of companions.

In some competitions, such as the Olympic Games and the Paralympics, there is a specific set of rules to prepare the contents of the first aid kit and how to transport it.

Behaviour in the consulting room. Doctor-athlete/patient relationship

A doctor who works with athletes must scrupulously follow the principles of the doctor-patient relationship, in this case the athlete.

In normal situations, the doctor, whose relationship with the patient involves providing help, expects the patient to be honest and honourable, although circumstances might arise that the athlete, in this case, wishes to obtain information on doping or, much more dangerously, aims to involve the physician consciously or unconsciously, so the doctor must consider that their relationship with athletes, particularly in competition and high performance, is high-risk.

Please refer to article 27 of the Code of Medical Ethics, to which doctors must comply[9]:

- Medical secrecy is one of the pillars founding the doctor-patient relationship, based on mutual trust, regardless of how the profession is practised.
- For the doctor, secrecy comprises the obligation to remain discrete and respect the confidentiality of anything that the patient has revealed and entrusted to them, what they have seen and deduced as a consequence of their work and that is related to the patient's health and intimacy, including the content of their clinical records.

To reduce the risk of implicating the physician in a doping case, the following recommendations are made:

- Be aware of the doping prevention rules.
- Check the list of prohibited substances and methods for doping in force.
- Be aware that relationships with athletes likely to be involved in doping cases must be considered as high-risk, particularly referring to prescription of medicines or nutritional supplements, treatments and consultations on improving performance.

- Note down in detail everything discussed with the athlete in their clinical records, particularly any prescriptions for medicines and food supplements and recommendations on improving performance. The prescriptions must be made with a copy and a receipt signed by the athlete, and the doctor keeps this signed copy, in case there is any falsification.
- If the athlete raises topics related to doping, note this in their clinical record:
  - Demonstrate that the doctor is opposed to any procedure or action related to doping.
  - Ask the athlete to give up any plans for doping, explaining the risks to their health and the legal consequences.
  - Do not give information on doping substances, such as:
  - Effects that improve performance.
  - Average life of the product.
  - Advice on hiding, masking or "cleaning" the substance.
  - How to purchase doping products.
- If you suspect that the athlete is considering doping, record the conversation, inform the athlete of this and get their consent.
- If you are going to administer any medication, particularly intravenously, show the athlete the packaging or the blisters, check that they have read the name and create a section in the records with the prescription and the athlete's signature accepting that they have been shown the product identification. When it is administered by IV and more than 100 ml / 12 hours, a TUE must be requested.
- Phone calls can be taken out of context. It is recommended to use means of communication that leave a record of what was said. They can be recorded by mutual agreement in the event of covering topics related to any aspect of doping.
- Be very careful with what you say in relation to doping or substances and avoid any type of collusion or agreement, total or partial, with topics related to doping.
- It is possible to have substances in the consulting room that are included on the doping list, but only substances that are really useful in usual clinical practice and in the quantities required for clinical practice.
- Be aware that internet searches on doping can be considered proof of various doping offences. Consequently, the reason for the consultation must be made very clear.
- In the case of carrying out clinical studies or research with individuals likely to carry out doping practices or on the use of substances or methods related to doping, it is recommended to contact the Spanish Agency of Health Protection in Sport and/or the Civil Guard and National Police anti-doping units.

Some circumstances indicate a higher probability that there is doping in reference to sport and athletes. The doctor must recognise the characteristics that might suppose a greater risk of doping and that are described below.

Risk of doping depending on the sport. The following sports have a greater risk of doping, in accordance with the data provided by the *Anti-Doping Rule Violations* (ADRVs) *Reports*[10] and the *Anti-Doping Testing Figures Reports*[11]:

- Sports/specialisations involving strength, power and speed: weightlifting and other similar disciplines (including body-building), athletics (throwing, jumping and speed), American football.
- Fighting and combat sports: wrestling, boxing, taekwondo.
- Sports/specialisations involving stamina: cycling.
- Other sports: motor racing, snooker, motorcycling.

Risk of doping depending on the athlete[12]. The characteristics of the athlete, given below, must be seriously considered by any doctor caring for athletes, because there is a clear risk that the subject in question might be implicated in a doping procedure:

- *Athlete's level of competition*. The higher the level and dedication, the greater the doping risk. Although there is still truth in this statement, it has wavered in the light of some doping systems and substances that, in principle might not require a doctor to take part but on many occasions end up requiring medical care, to counter possible side effects from self-medication for doping purposes at any level. As the system is quick to respond, an early warning could be raised on the presence of "medicines" (always bought on the black market) that might be contaminated and/or cause a public health issue.
- *Athlete's results*. It is logical to consider that athletes with the best sporting results might be doping, but it is particularly high risk when these results are achieved at a later age, unexpectedly compared to previous results, if the athlete has never achieved such results before, or if they are achieved after a period of inactivity or nonappearance at competition.
- *Age*. Older athletes should be considered a doping risk although this should not be taken as a general rule because young people who enter professional or semi-professional sport are also a risk collective. Not so much the age but the circumstances that surround the sporting practice in each specific case, along with what they ask from the doctor, are going to give a generally reliable indication of the real purpose of the consultation.
- *Economic support*. If the athlete receives public economic support, grants, aid from the State, region or town.
- *Negative information*. If the doctor has information on the risk of doping from the sports technicians or professionals from reliable environments. Much more if it is known that the athlete is the subject of any type of investigation by the anti-doping or judicial authorities or the State Security Bodies and Forces.
- *Whereabouts compliance*. If it is known that the athlete has previous history of failing to provide their whereabouts for anti-doping tests outside of competition.
- *Intelligence data*. If there is data from different sources, such as from the State Security Bodies and Forces, that suggests doping procedures.
- *Support staff*. That the athlete is trained, treated, collaborates with or is close to support staff (trainers, technicians, nurses, physiotherapists, masseuses, representatives, managers, teammates or other doctors) who are suspected of encouraging doping.

Never forget that there is a risk of doping *dependent on the doctor,* already sadly demonstrated in several police operations against doping rings. We should not reject news of participation or even induction into doping from a doctor, particularly if it is persistent. This news can be checked by means of the tools legally provided for this (medical and pharmaceutical inspections, criminal investigation if necessary). These legal tools are designed to cause as little damage as possible, and their use reflects directly on the good health of the collective.

Finally, article 38 of the Code of Medical Ethics says that "it is not lack of fellowship for a doctor to notify their College of Physicians discretely of their colleagues' violations of the rules of medical ethics or professional practice[9]." Not reporting them to the Anti-Doping Organisation with powers in this matter could be considered a Complicity violation, mentioned in Table 1.

Authors

Ávila España, Fernando. Member of the TUE Committee for the International Volleyball Federation. Member of the Medical Commission for the European Volleyball Federation. Specialist in Orthopaedic Surgery. (Hospital Quirón Salud. Seville). Senator for the Spanish Society of Sports Traumatology. Seville.

Castro García. Juan José. Chief Inspector for the National Police, Head of the Consumption, Environment and Sports Doping Section of the National Police. Madrid.

De las Heras Romero, Jorge. Orthopaedic and Traumatology Surgeon at the HLA la Vega Hospital in Murcia. President of the National Medical Committee for the Spanish Boxing Federation. Murcia.

Del Valle Soto, Miguel. Lecturer at the School of Medicine. School of Sports Medicine. Oviedo University. Spanish Federation of Sports Medicine Governing Body. Oviedo.

Franco Bonafonte, Luis. Sports Medicine Unit Manager. Hospital Universitario Sant Joan. Reus. Associated Professor. School of Medicine. URV. Secretary General of the Spanish Federation of Sports Medicine. Reus.

Garcia-Nieto Portabella, Juan N. Doctor specialising in Physical Education and Sports Medicine. Authorised doping control doctor (UEFA DCO, FIFA DCO). Imesport – C.M. Teknon. Barcelona.

Jiménez Díaz, Fernando. Doctor specialising in Physical Education and Sports Medicine. Professor at the University of Castilla-La Mancha (Toledo). Director of the International Chair in Musculoskeletal Imaging, UCAM (Murcia). Toledo.

Gaztañaga Aurrecoetxea, Teresa. Doctor specialising in Physical Education and Sports Medicine. KIROLBIDEA Sports Medicine Unit - Hospital Quirón Donostia. President of the Basque Federation of Sports Medicine (EKIME) - Member of the Spanish Federation of Sports Medicine Governing Body. San Sebastián.

González González, Agustín. Secretary General of the Spanish Agency of Health Protection in Sport. Madrid.

González Santander, Manuela. Doctor specialising in Physical Education and Sports Medicine. Member of the Scientific and Medical Commission for the Spanish Olympic Committee. Madrid.

López Rodríguez. Cesáreo. Spanish Cycling Federation. León.

Manonelles, Pedro. International Sports Medicine Lecturer. Universidad Católica San Antonio (UCAM). President of the Spanish Federation of Sports Medicine. Zaragoza.

Montalvo Zenarruzabeitia, Zigor. Spanish Triathlon Federation Doctor. Madrid.

Muñoz Benito, Juan José. AEPSAD Therapeutic Use Exemption Committee (TUEC) Madrid.

Ornaque Lazaro, Isabel. Doctor specialising in Anaesthesiology, Resuscitation and Pain Clinic. FIA and FIM Doctor. Head Doctor at the Barcelona-Catalunya Circuit. President of the Medical Commission of the Royal Spanish Motor-Racing Federation. Barcelona.

Pérez Ansón, Javier. Spanish Federation of Sports Medicine Governing Body. On-call Doctor for the Fire Brigade and Civil Protection at Zaragoza City Council. Zaragoza.

Rivera Jofré, Santiago. Lieutenant is the Civil Guard. Public Health and Sports Doping Section. Central Operative Unit. Judicial Police Headquarters. Madrid.

Rodríguez Sendín, Juan José. President of the Central Ethics Commission for the Collegial Medical Organisation. Madrid.

Romero Agüit, Serafín. President of the General Board of the Official Colleges of Physicians in Spain. Madrid.

Ruiz Caballero, Agustín. Spanish Underwater Sports Federation Doctor. Barcelona.

Terreros Blanco, José Luis. Director of the Spanish Agency of Health Protection in Sport. Madrid.

Vaz Pardal, Mª Carmen. Spanish Sailing Federation Doctor. Cádiz.
Veloso, José A. National Sports Secretary. Medical Director of the ONAU Doping Control. Uruguay.

Bibliography

1. Real Academia Española. *Diccionario de la lengua española.* 23 Ed. Madrid. 2014.
2. Agencia Mundial Antidopaje. Código Mundial de Dopaje. Montreal, Quebec. 2021.
3. Manonelles P, Terreros JL. Guía verdaderamente concreta sobre prescripción y dispensación de medicamentos y de suplementos nutricionales en deportistas. Universidad Católica San Antonio (UCAM). Murcia. 2020.
4. Ley Orgánica 1/2015, de 30 de marzo, por la que se modifica la Ley Orgánica 10/1995, de 23 de noviembre, del Código Penal. *BOE* núm. 77, de 31 de marzo de 2015.
5. 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* núm. 42. 18 de febrero de 2017.

6. Código Ético en Medicina del Deporte de la Federación Española de Medicina del Deporte. *Arch Med Deporte.* 2010;139:347-8.
7. WADA-AMA. What is prohibited. Consultado el 15/1/2021. Disponible en: https://www.wada-ama.org/en/content/what-is-prohibited.
8. AEPSAD. Autorizaciones de uso terapéutico. Consultado el 18-1-2021. Disponible en: https://aepsad.culturaydeporte.gob.es/control-dopaje/autorizaciones-de-uso-terapeutico.html.
9. Consejo General de Colegios Oficiales de Médicos. Código de deontología médica. Guía de ética médica. 2011.
10. WADA-AMA. Anti-Doping Rule Violations (ADRVs) Report. Consultado el 30-1-2021. Disponible en: https://www.wada-ama.org/en/resources/general-anti-doping-information/anti-doping-rule-violations-adrvs-report.
11. WADA-AMA. Anti-Doping Testing Figures Report. Consultado el 30-1-2021. Disponible en: https://www.wada-ama.org/en/resources/laboratories/anti-doping-testing-figures-report.
12. WADA-AMA. International Standard for Testing and Investigations.2021. Consultado el 30-1-2021. Disponible en: https://www.wada-ama.org/sites/default/files/resources/files/international_standard_isti_-_2020.pdf.