Expert Consensus

Editorial Note: In recent years, an increasing number of international major sporting events have been held in China with its improved overall national strength. In 2019, FIBA Basketball World Cup and the 7th CISM Military World Games were held successively in China. During major events, the medical support in the host city plays an important role in facilitating the events and maintaining the physical and mental health of athletes. As an important part of the medical support system, pharmaceutical services follow the World Anti-Doping Code (WADC) to ensure the health of athletes and maintain fair competition. It is particularly important for medical institutions to implement standardized management of drugs containing stimulants to prevent medication risks for athletes.

In May 2019, the Wuhan Municipal Health Commission and the Wuhan Pharmaceutical Association took the lead in organizing nearly 50 large medical institutions in Wuhan jointly with the Pharmaceutical Department of Tongji Hospital affiliated to Tongji Medical College of HUST for the drafting of *Expert Consensus on Standard Management for Doping-Containing Medicines in Medical Institutions*. The joint efforts of the members of the expert group gave birth to the draft for discussion on September 18, 2019, and seminars on expert consensus were held at the same time. Members of the editorial committee and experts put forth over 40 suggestions for revision, and had heated discussions and strict reviews on the accuracy and enforceability of the content. On September 30, 2019, the consensus was unanimously recognized and finalized by the expert group of the editorial committee after several revisions.

The purpose of this consensus is to ensure athletes' medication safety, prevent iatrogenic misuse of stimulants, and change the current status that there is no management standard for doping drugs in medical institutions.

Expert Consensus on Standard Management for Doping-Containing Medicines in Medical Institutions

Editorial Committee of Wuhan Pharmaceutical Association's *Expert Consensus on Standard Management for Doping-Containing Medicines in Medical Institutions*

Keywords: Doping; Standard Management; Medical Institutions; Expert Consensus

China strictly follows WADC to ensure athletes' physical and mental health and maintain fair competition. Medical misuse of stimulants may cause athletes' performance to be affected or reputation to be damaged from time to time. Medical staff or athletes' insufficient understanding of doping-containing medicines may cause misuse of doping drugs. Therefore, medical institutions, especially during major events, should strengthen the standardized management of drugs containing stimulants, so as to prevent medication risks for athletes[1].

The use of doping-containing medicines is mostly related to clinical medicine. Currently, the doping management is mainly in accordance with the regulations drafted and issued by the State Council or the General Administration of Sport in China. There are no systematic regulations or norms for the standardized management of doping-containing medicines in medical institutions. Medical institutions at home and abroad summarized their experience in pharmaceutical services during major international sporting events held in their cities. For example, medical institutions in host cities of the 2008 Beijing Olympics[2], the 2010 Guangzhou Asian Games[3], the 2012 London Olympics[4] and the 2018 Pingchang Winter Olympics[5] published relevant academic papers. This consensus absorbed the experience of management and pharmaceutical services of drugs, especially doping-containing medicines, in medical institutions at home and abroad. According to the actual conditions in China, the regulations on the administration of doping-containing medicines in medical institutions have been rolled out, aiming at offering safe and high-quality pharmaceutical services during sporting events, preventing athletes from misusing doping-containing medicines, and providing guidelines for the standardized administration of doping-containing medicines in medical institutions.

1. The Concept of Doping

Differing from "doping" in the medical category, doping in sports refers to all substances and methods included in the list of substances and methods prohibited in sports published by the World Anti-Doping Agency (WADA) each year, which is known as the International Standards of Prohibited List, abbreviated as Prohibited List. According to the regulations of the International Olympic Committee (IOC), competitive athletes who use any form of drugs or take in physiological substances in abnormal amount and way in an attempt to improve their competitive capacity deliberately are considered doping use.[2]

WADA has been committed to anti-doping since its establishment. *The World Anti-Doping Code* (WADC) was first adopted in 2003 and came into force in 2004. The agency revised WADC in Johannesburg, South Africa on November 15, 2013, and the current version of WADC is effective on January 1, 2015 (6).

2. Management Standards of Doping-containing Medicines in Hospitals

The medical institutions in China should formulate their *Drug Administration System of Doping-containing Medicines* in line with the actual conditions in combination with WADC issued by WADA and the *Anti-Doping Management Measures* issued by the General Administration of Sport of China.

2.1 Standardized Medical Visits for Athletes

2.1.1 The Athletes Only Access for Medical Visits

According to the practice at home and abroad, during major sporting events, the medical institutions in the host city should set up independent medical treatment areas for athletes in outpatient and emergency departments and inpatient departments to provide diagnosis and treatment services for athletes and relevant personnel, including coaches, athletes' family members and escorts. Special facilities and nursing staff should be arranged for athletes, including consulting rooms, observation rooms, emergency rooms, dispensary counters, and doctors[3] with "Athletes Only" signs posted in the corresponding areas.

Hospitals should open special consulting rooms with doctors on assignment for athletes. Special dispensary counters should be staffed with trained personnel to review and dispense prescriptions for athletes, and to inform them of medication instructions. All those involved with outstanding professional service ability should receive special training on athletes' drugs and doping-containing medicines, and be required to be proficient in foreign languages[4].

2.1.2 Athletes' Identity Verification and Warning of Doping-containing Medicines

Most hospitals in China are yet unable to identify the professional identity of patients in the Hospital Information System (HIS), which makes it impossible for medical staff to identify athletes. Therefore, it is particularly important to integrate the functional module of professional identification in HIS, establish a real-name health database for athletes to help medical staff accurately identify their identity. For medical institutions with such incomplete functions in HIS, medical staff should review the patient's medical records, verify the athlete's identity, identify the patient's identity in HIS and affix a specified seal on the registration receipts.

Doctors can stamp an "Athlete Only" seal on the upper right corner of the prescription when prescribing for athletes. The HIS system should mark doping-containing medicines in the stations of doctors, pharmacists and nurses as 'Use with Caution for Athletes'. When there are doping-containing medicines in the prescriptions, the system should pop up a warning in time for doctors. When pharmacists review the prescription of such medicines, the system should prompt them to confirm the controlled state of the drugs, and nurses should also be warned when executing medical orders. Hospital prescription pre-audit system should establish the information association between the identity of the athletes and the category of drugs containing stimulants, and pop up a warning in real-time.

Doctors who prescribe doping-containing medicines for athletes should confirm that the drug information corresponds to the approval letter of Therapeutic Use Exemption (TUE) by athletes. Doctors should inform athletes and their team doctors of the types of drugs prescribed and emphasize the possible consequences of using such drugs, and ensure that athletes and their team doctors are fully informed of the controlled state of the drugs[3]. Doctors, athletes, and team doctors should sign the prescription and the

Chinese/English version of the informed consent form if the patient's physical condition permits. In case of emergency, when athletes must use drugs containing stimulants, first aid can be performed before the athletes and their teams apply for TUE. If athletes need to keep medical information, doctors or pharmacists can provide copies of relevant information and affix the official seal of the medical institutions.

2.1.3 Special Dispensary Counters for Athletes

During major national or international sporting events, the medical institutions in the host city should open special dispensary counters for athletes, and provide medication precautions in both Chinese and English. The designated pharmacist should provide professional pharmaceutical services and be proficient in English.

The pharmacist should also acquire the expertise and management standards related to stimulants, the dispensing process of doping-containing medicines, and the TUE system, and be familiar with the cultural etiquette of various countries, so as to improve the quality of pharmaceutical services in medical institutions.

2.1.4 Strict Prescription Review and Dispensing

The pharmacist at special dispensary counters should strictly examine the prescriptions for athletes to identify any presence of prohibited substances listed in the management catalog of doping-containing medicines. If there are doping-containing medicines in the prescription, the pharmacist should check whether such medicines prescribed by doctors are irreplaceable, and whether the drug information in the prescription is consistent with the TUE approval letter, and verify that doctors, athletes and their team doctors have signed the informed consent form. If the patient does not apply for TUE, the pharmacist should communicate with the doctor and make sure that the doctor, the athlete, and his/her team doctor have signed the informed consent form before dispensing the prescription (see Figure 1 for details).

Pharmacy should dispense the athlete’s prescriptions using the medicine box labeled "Athletes Only" to alert pharmacists responsible for dispensing and checking medicines to pay attention to the controlled status of the drugs to be dispensed[3]. Doping-containing medicines should be identified on the medication instructions (the marking information should indicate the prohibited range of drugs), so that the athletes' team can decide whether the drugs can be used or not. For prescriptions containing doping drugs, the pharmacist should proactively explain to the athletes that the doctor has prescribed doping-containing medicines, and describe the potential impact of using such drugs on drug tests and athletes’ health. The pharmacist should provide athletes with detailed medication instructions, examine and distribute drugs in strict accordance with the methods of administration and dose of drugs approved in TUE, and instruct athletes to use them within the prescribed time and sports to prevent the misuse of doping-containing medicines.

The athletes' prescription is required to be signed by two pharmacists after strict verification. If there is a prescription of doping-containing medicines, it should be registered and kept in the registration form doping drugs[7].

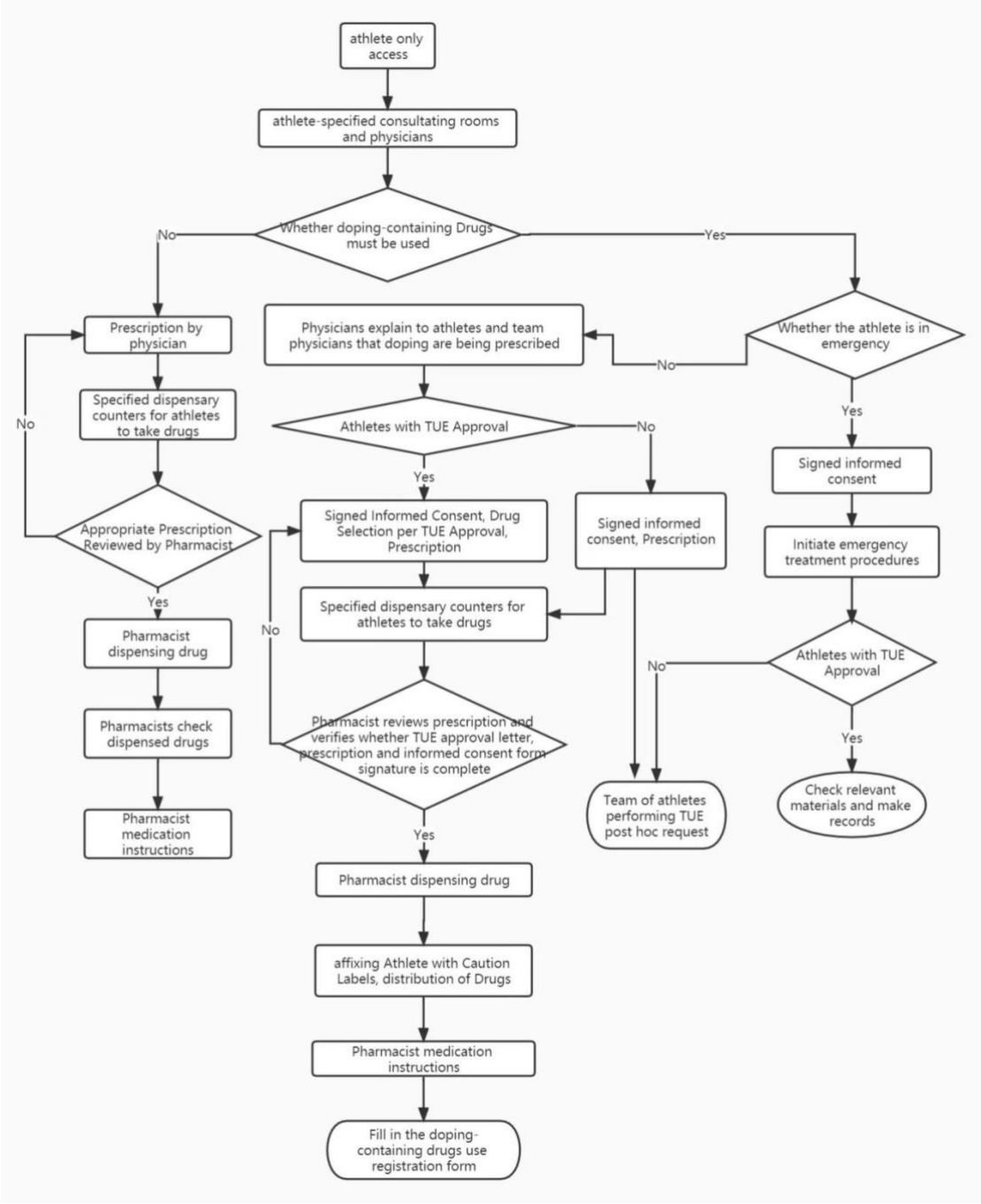

Figure 1. Flow Chart for Access to Doping-Containing Medicines in Medical Institutions

2.1.5 Consulting Services for Doping-containing Medicines

During major sporting events, the medical institutions in the host city can offer consulting services for drugs containing stimulants according to the scale of the events and the actual conditions of the institutions. Pharmacists who provide professional drug consulting services should receive special training on athletes' drugs and doping-containing medicines, and be proficient in foreign languages. Pharmacists should fill in and keep the *Athletes' Drug Consultating Record* (see Figure 2) when providing consulting services[8].

Athletes' Drug Consulting Record

Consulted Pharmacist: Date: MM/ DD/ YY

Name:	Age:	Nationality:	Body Mass:	Contacts:
ID:	Sport program:	Diagnosis:		Allergy history:
Medication used				

Drug name	Strength	Usage&Dosage	Reason for Use	Whether it is Doping-containing Drugs

Consultation Categoy:	Administration method Drug interaction Drug and food interaction Special problems:	Administration time Precautions Storage conditions	Missed dose treatment Expiration date Adverse reactions
Response Summary:			
Athlete signature:		Team physician signature:	

Figure 2. Athletes' Drug Consulting Record

2.2 Professional Training on Doping-containing Medicines for Medical Staff

Medical institutions can enhance the risk education on the prescription of doping-containing medicines to medical staff, and conduct theoretical training on the indications, usage, and dosage, mechanism of action, possible impact on athletes and other expertise of drugs in the catalogue according to the *Drug Administration System of Doping-containing Medicines* and the *Catalogue of Doping-Containing Medicines* by the institution.

Pharmacists should receive training in pharmaceutical services, special training in the administration of drugs containing stimulants and English proficiency training in stages and levels[9], which includes (a)pharmaceutical expertise: training on the pharmacological impact, usage, dosage, indications, adverse reactions, storage conditions and precautions of commonly used drugs and doping-containing medicines for athletes; (b) laws and regulations on doping control: training on the *World Anti-doping Code*, the *Anti-Doping Management Measures*, and the TUE system; (c) athletes' medical visits: training on the "athlete only" access, prescription review and dispensing process of doping-containing medicines; (d) English proficiency: training on hospital spoken English, pharmaceutical English and international etiquette .

2.3 Administration on Athletes' Medication Outside Hospitals

Medical institutions should focus on providing drug consulting and education for athletes. For special therapeutic drugs that can cause adverse reaction such as dizziness, hypotension, fatigue, photosensitivity, athletes should be told to strictly follow the doctor's advice, as well as the risk of adverse reactions, corresponding symptoms with treatment suggestions, so as to impose a positive impact on the administration of out-of-hospital drugs for athletes.

During the events, local medical institutions can set up hotlines or a WeChat official

accounts for athletes to facilitate communication with doctors and pharmacists and get timely feedback.

A team composed of doctors, pharmacists, and nurses can be organized to produce popular science contents of athletes' diet, injury treatment and care, warning of prohibited drugs in daily medication, knowledge of commonly used drugs, self-medication, and sports injury rehabilitation in the form of articles, comics or videos. Medical institutions can make full use of the internet and modern means of communication, such as mobile application, WeChat official account and social media platforms, to release professional and popular contents or activities for athletes, so as to strengthen their understanding of relevant medical expertise.

2.4 Catalogue Administration of Doping-containing Medicines

Medical institutions should formulate their *Catalogue of Doping-containing Medicines* based on their actual drug supply in accordance with the *Prohibited List* issued by WADA and the annual *Announcement of Doping List* issued by the General Administration of Sport.

2.4.1 Medicine Selection

When selecting the drugs purchased for the first time, it is necessary to check whether there is the word "Use with Caution for Athletes" on the packaging label or the drug instructions of doping-containing medicines. Those that fail to meet the requirements of the state should not be purchased. The varieties of drugs for athletes should be considered when selecting medicines, and it is also necessary to ensure the allocation of medicines, so that athletes have medicines available and safe. All drugs containing stimulants used in hospitals should be marked with "Use with Caution for Athletes" on their package labels or drug instructions. Otherwise they should not be used[10].

2.4.2 Medicine Purchase and Supply

For the purchase of imported anabolic agents and peptide hormones, hospitals should request the *Imported Drug Registration Certificate* (or a copy of the *Pharmaceutical Product Registration Certificate*), a copy of the *Import License*, and a copy of the *Imported Drug Inspection Report* from the suppliers, and the official seal of the suppliers should be affixed to the aforesaid copies[11].

During the events, medical institutions should ensure an adequate supply of drugs commonly used by athletes and alternative varieties of drugs containing stimulants.

2.4.3 Medicine Administration

During the events, medical institutions should affix signs of "Use with Caution for Athletes" on the packaging boxes of doping-containing medicines, and special signs on the medicine box of the sepcial dispensary counters for athletes. For the oral dosage forms of doping-containing medicines that need to be packaged in separate bags, the label "Use with Caution for Athletes" should be printed on the bags.

The HIS system should mark doping-containing medicines in the stations of doctors, pharmacists and nurses as 'Use with Caution for Athletes'. When there are doping-containing medicines in the prescriptions, the system should pop up a warning in time for doctors. When pharmacists review the prescription of such medicines, the system should prompt them to confirm the controlled state of the drugs, and nurses should also

be warned when executing medical orders.

2.4.4 Prescription Administration of Doping-containing Medicines According to Law

Only doctors who have received special training in the administration of doping drugs can prescribe doping-containing medicines to athletes[10]. The prescription and the registration form should both be kept for at least 2 years[7].

For substances listed in the catalogue of stimulants, which belong to narcotic drugs, psychotropic drugs, toxic drugs for medical use and precursor chemicals, special management should be carried out on their prescriptions in accordance with the Drug Administration Law and relevant administrative regulations.

3 Use of Doping-containing Medicines

3.1 Impact of Common Doping-containing Medicines on Athletes

There are many kinds of stimulants, and different ones can impose different pharmacological impact on athletes' performance. Therefore, the listed types and time of prohibition for different sports are different. The table below presents the pharmacological effects and representative drugs of some stimulants (Table 1). Many doping-containing medicines are widely used in clinical practice, but they can hinder the fairness of sports competition, and may damage the physical and mental health of athletes[12]. For example, long-term use of hormones can cause cardiovascular diseases, long-term use of stimulants may cause respiratory paralysis and heart failure, and diuretics can cause excessive dehydration and renal failure.

Table 1. Common Doping-containing Medicines and Their Impact on Health

Stimulant action on the body	Common drugs
Increasing tissue oxygen supply	Erythropoietin
Stimulation of body	Cocaine, nikethamide
Enhancing muscle strength	Exogenous protein assimilation of male steroids, insulin
Weight loss	Diuretics
Masking other drugs	Diuretics, masking agents
Slowing heart rate	β-blockers

3.2 Category of Common Doping-containing Medicines

The *2019 Prohibited List* issued by WADA came into force on January 1, 2019. The prohibited substances and methods listed include over 300 drugs in 10 categories and 3 methods. According to the time of prohibition, they can be divided into three categories: prohibited substances and methods at all times (in- and out-of-competition), prohibited substances and methods in competitions, and prohibited substances in special events. The names of “substances and methods” used below are quoted from the Chinese version of the *International Standards of Prohibited List* of WADW issued by the General Administration of Sport of China.

3.2.1 Prohibited Substances and Methods at All Times (In- and out-of-competition)

Substances and methods prohibited at all times should not be used in- or out-of-the

competition, which include six substances and three methods according to the *2019 Prohibited List*, and are introduced as below. Unauthorized substances: drugs in preclinical or ongoing clinical trials or terminated clinical trials, planning drugs, and substances only approved as veterinary drugs; anabolic agents: exogenous anabolic androgenic steroids, exogenous intake of endogenous anabolic androgenic steroids and their metabolites and isomers; peptide hormones, growth factors, related substances and mimics: erythropoietin and agents affecting erythropoiesis, peptide hormones and their releasing factors, growth factors and growth factor modulators, of which chorionic gonadotropin, luteinizing hormone and their releasing factors are prohibited in males, such as gonadorelin; beta-2 agonists: all selective and non-selective beta-2 agonists, including all their corresponding optical isomers, such as salbutamol, formoterol, and terbutaline, of which salbutamol, formoterol, salmeterol not to exceed the quantitative detection threshold can be used; hormones and metabolic modulators: aromatase inhibitors such as exemestane, selective estrogen receptor modulators such as tamoxifen, metabolic modulators such as insulin and insulin mimetics; diuretics and masking agents: such substances and other substances with similar chemical structure and similar biological effects, such as furosemide, spironolactone, and plasma expanders. The detection in an athlete's sample at all times or in-competition of any quantity of the following substances subject to threshold limits: salbutamol, formoterol, ephedrine, cathine, methylephedrine, and pseudoephedrine, in conjunction with a diuretic or masking agent, will be considered as an adverse analytical finding (AAF) unless the athlete has an approved TUE for that substance in addition to the diuretic or masking agent. Prohibited methods are shown as the following three classes: manipulation of blood and blood components, such as the administration or reintroduction of any resources or any quantity of autologous, allogenic (homologous) or heterologous blood, or red blood cell products into the circulatory system; Chemical and physical manipulation, such as intravenous infusions and/or injections of more than a total of 100 mL per 12-hour period except for those legitimately received in the course of hospital treatments, surgical procedures, or clinical diagnostic investigations at a medical facility; Gene and cell doping, such as the use of nucleic acid polymer and its analogues.

3.2.2 Substances and Methods Prohibited in Competitions

Substances prohibited in competitions include stimulants: cocaine, cathine, nikethamide, etc., including all related optical isomers (such as *d*-type and *l*-type). Among them, caffeine, nicotine, phenylpropanolamine in the 2019 monitoring program are not considered as prohibited substances, and pseudoephedrine, ephedrine, or methylephedrine can be used in competitions if they are lower than the quantitative detection threshold; Narcotics: buprenorphine, fentanyl, morphine, pentazocine, pethidine, etc.; Cannabinoids (phenols): including natural and synthetic cannabinoids (phenols); Glucocorticoids: prednisone, methylprednisolone, etc., all glucocorticoids are prohibited when administered by oral, intravenous, intramuscular or rectal routes.

3.2.3 Substances Prohibited in Specific Sports

These substances, mainly β-blockers (bisoprolol, esmolol, labetalol, metoprolol, etc.), are prohibited only in competitions of specific sports, such as automobile, billiards, darts and golf, and are also banned outside the competition of some sports, such as archery and shooting.

3.3 Safe and Rational Use of Therapeutic Medicines

Doctors and pharmacists should give priority to the use of drugs without stimulants when athletes have common injuries. For example, when athletes catch a cold, drugs without stimulants such as compound aminophen and acetaminophen can be used instead of compound cold medicines containing ephedrine; Ambroxol hydrochloride can be used for for relieving cough and phlegm instead of drugs containing or producing morphine and ephedrine, such as Compound Bulbus Fritillariae Cough Syrup.

It is difficult to accurately determine whether traditional Chinese medicine (TCM) contains stimulant ingredients, because its ingredients are complex, the growth of medicinal materials is affected by many factors, and some TCM preparations are state secret formulas. Therefore, it is not recommended to prescribe TCM for athletes during the events to avoid misuse of doping-containing medicines and adversely affect the doping testing results of athletes.

4. Applications for TUE

Therapeutic Use Exemption (TUE) means that when athletes need to use prohibited substances or methods specified in the *Prohibited List* for treatment purposes, they should apply according to relevant regulations and use them after being approved[13]. TUE principle is one of five international standards under the world anti-doping mechanism, and protects athletes from being punished when they use prohibited drugs for therapeutic purposes resulting in positive doping test results[14]. Therefore, TUE principle is a reasonable way for athletes and their teams to protect their rights and interests on the basis of ensuring their health and not violating anti-doping regulations[15].

Historically, TUE applications have not always been successful. For example, Robert Berger, a disabled athlete from New Zealand, was rejected by the TUE Committee of the International Paralympic Committee in September 2009[16].

With reference to the *World Anti-Doping Regulations*. the *International Standard for TUE* and the *Administrative Measures for TUE for Athletes*, the specific content of TUE application and the working rules of medical institutions related toTUE will be introduced as follows, so as help athletes to apply for TUE in a timely and effectively manner, and prevent medical institutions from giving athletes inappropriate drugs or medical treatment, resulting in invalid TUE application for athletes.

4.1 Scope of Application

If there are no exceptional rules for the International Federation to which the athlete belongs, the following conditions must be met before applying for TUE:

(1) Athletes who belong to the registered testing database in the International Federation;
(2) For athletes participating in international events, their applying for TUE should meet the rules and requirements of the International Federation of the event.

In addition, TUE applied by Chinese athletes at home is only applicable to domestic events; When participating in international events, a new application must be submitted to the TUE Committee of the Organizing Committee of the corresponding event or the International Federation, and the submission must be completed at least 30 days before the date of use[17].

4.2 The Content of the Application

Athletes applying for TUE of prohibited substances or methods outside the competition should submit an application to the TUE Committee in time; If they apply for in-competition use, an application should be submitted at least 30 days before the start date of the event. Athletes who apply for TUE can only use or hold the banned substances or methods and use them for therapeutic purposes after being approved. Applicants are required to fill in the TUE application form in the international standard appendix, and list in detail the previous TUE application records, clear diagnostic basis, clinical basis of the applied drugs, medication regimen and the results of all examinations, laboratory tests and imaging analysis related to the application.

4.3 Standards for Application Review[16]

(1) The treatment plan adopted by the athletes who initiated the TUE application must be for the purpose of treatment.
(2) The drugs or treatment methods used in the treatment must be irreplaceable, that is, if not used, the athlete's body will be obviously damaged;
(3) The selected drugs and treatment methods should ensure that there is little possibility of additional improvement of athletes' performance on the basis of their return to normal state;
(4) Doctors must choose therapeutic drugs according to the diagnosis of athletes;
(5) Drug treatment must be performed under certain conditions by qualified professionals and supported by certain equipment, among which "qualified professionals" must be doctors whose qualifications are confirmed by the medical committee of the corresponding event;
(6) Treatment records should be complete and retained.

4.4 TUE's Retroactive Application after the Event

Athletes are allowed to submit TUE applications after the event if they meet one of the following conditions:

(1) Must be used for first aid or acute disease treatment;
(2) Due to other special conditions, athletes do not have enough time or opportunity to submit TUE application before sample collection, or the TUE Committee does not have time to accept the TUE application;
(3) Non-international and non-national athletes who are using banned substances or methods for therapeutic purposes when undergoing doping test are allowed to apply for TUE after receiving the test;
(4) Both the WADA and the National Anti-Doping Center allow the TUE application to be approved for the sake of fairness.

Athletes who meet the above conditions should apply for TUE retroactively to the corresponding TUE Committee as soon as possible after using the prohibited substances or methods.

4.5 Hospital’s TUE Administration Rules

Medical institutions should follow the following rules to avoid the adverse consequences of therapeutic drugs or methods on athletes’ TUE applications when admitting athletes and prescribing doping-containing medicines for athletes:

(1) Reception must be performed by doctors with qualification confirmed by the medical committee of corresponding events, and athletes and their teams are required to present the TUE approval letter[9] and sign the informed consent form. Athletes who have not obtained TUE approval letter must sign the informed consent form (if their physical conditions permit);
(2) Doctors must prescribe drugs or treat athletes in strict accordance with the scope specified in the TUE approval letter under the premise of definite diagnosis, and write qualified medical records;
(3) Doctors must understand the standards for TUE review and be familiar with the list of doping-containing medicines provided by the pharmaceutical department of the hospital. Only when the required therapeutic drugs are irreplaceable can they use the drugs in this list to avoid unnecessary use;
(4) Medical institutions should provide athletes with a written explanation certificate of the necessity of using the prohibited substances or methods and the impact of using other non-prohibited substances on the treatment, which should be signed by doctors for confirmation;
(5) Provide necessary help to assist athletes and their teams to apply for TUE in a timely and effective manner.

Medical institutions, athletes and their sports teams should understand that even if the above premises are guaranteed, the TUE applications initiated may still be rejected by International Federations when the therapeutic drugs are considered to improve athletes' performance.

5. Conclusions

The use of doping-containing medicines is an unavoidable problem in athletes' diagnosis and treatment. According to the standard procedures, medical institutions can reasonably use the corresponding drugs when necessary, which can provide timely and effective diagnosis and treatment for athletes on the premise of not affecting their performance or avoiding doping violations, so as to meet athletes' reasonable demands and rights for their own health.

This consensus was reached by over 50 pharmaceutical and clinical experts in medical institutions, who studied and discussed athletes' medical visits and their use of doping-containing medicines in medical institutions, and finally reached a consensus on standardized management. This consensus will provide reference standards for medical institutions in doping-containing medicines management, and a useful reference for ensuring athletes' drug safety and preventing iatrogenic misuse of stimulants.

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