

Drugs in sport

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What do you need to
consider when prescribing
medications to athletes?

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PHOTOLIBRARY

The use of drugs to enhance performance has been happening since sport began. The Ancient Greeks used substances to enhance performance and by the 19th century cyclists were known to be using a combination of strychnine and caffeine with fatal consequences. In the 1970s, the use of substances to gain an unfair advantage was taken to a new level with the systemic doping seen in the Eastern Bloc countries.

The International Olympic Committee established its first 'prohibited list' of substances in 1967 and drug testing began at the 1968 Summer Olympics in Mexico City. The International Olympic Committee remained the antidoping authority for world sport until 2000 when the World Anti-Doping Agency

(WADA) was established in an attempt to harmonise banned lists, testing procedures and sanctioning of positive cases for all Olympic and non-Olympic sports across the world.

HOW DO WADA DECIDE WHICH DRUGS ARE BANNED?

For a substance or method to be prohibited, it must meet two of the following three conditions:

- the substance or method has the potential to enhance, or does enhance, performance in sport
- the substance or method has the potential to risk the athlete's health
- the substance or method is deemed to violate the spirit of sport.

A drug therefore does not actually have to enhance performance to be on the banned list. The WADA prohibited list is updated annually, with changes announced in the October before becoming valid on 1 January of each year. This list can be

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viewed at www.wada-ama.org and can also be accessed by links from the Australian drug agency's website.

WHAT ARE THE RULES IN AUSTRALIA AND WHO DO THEY APPLY TO?

The antidoping organisation in Australia is the Australian Sports Anti-Doping Agency (ASADA; www.asada.gov.au). This body administers and upholds the WADA list and code (rules) in Australia for Australian athletes.

ASADA's primary functions are to educate, test and investigate Australian athletes in relation to drugs in sport. ASADA's resources usually focus on the elite and subelite group of athletes (Olympic, international and national level competitors); however, any athlete competing at any level of sport who has registered with a national sporting body is theoretically covered by the WADA rules. This includes Masters athletes. This means that when medications are prescribed for patients who participate in organised sport, it is important to check with them whether they are covered by their sport (and WADA's) antidoping code. This becomes particularly relevant if the person is attending a national event. These rules cover almost every sport, including motor sport, archery and lawn bowls. Drugs that are banned in sports are included in the box on this page.

WHAT DO YOU NEED TO CONSIDER WHEN PRESCRIBING MEDICATIONS TO ATHLETES?

Information on the status of prescribed drugs can be obtained from a number of sources including a current MIMS (must be that year's edition to be accurate). An athlete symbol beside the drug name indicates that it is permitted.

The ASADA website has a 'check your substance' link, in which the name of the substance can be entered and advice on its status on the WADA list is given. If the medication you wish to prescribe is prohibited on the WADA list, then you must apply for a therapeutic use exemption (TUE). This exemption can be requested from the Australian Sports Drug Medical Advisory Committee (ASDMAC). This is an independent panel of medical practitioners (appointed by the Federal Minister for Sport) with expertise in drugs in sport. This panel can grant exemptions but must apply strict criteria from the WADA code to determine if the athlete can be given an exemption to compete while taking the prohibited medication.

WHAT ARE THE WADA CRITERIA FOR GRANTING A THERAPEUTIC USE EXEMPTION?

The WADA criteria for granting a TUE are:

- the athlete would experience a significant impairment to health if the prohibited substance was withheld
- the therapeutic use of the prohibited substance would

DRUGS BANNED IN SPORT

Drugs banned at all times

Drugs that are banned at all times and require a therapeutic use exemption (TUE) if the athlete is covered by the World Anti-Doping Agency (WADA) code are:

- anabolic agents (e.g. testosterone, tibolone)
- peptide hormones (e.g. insulin, erythropoietin, growth hormone)
- beta-2 agonists (e.g. terbutaline and eformoterol, except salbutamol and salmeterol)
- hormone antagonists (e.g. tamoxifen, clomiphene, letrozol)
- diuretics
- prohibited methods (e.g. intravenous infusions).

Drugs banned in competition only

Drugs in which the athlete would need a TUE if they were used during competition or if used prior and would still be in the athlete's system and therefore detectable are:

- stimulants (e.g. pseudoephedrine, methylphenidate, modafinil, sibutramine)
- narcotics (e.g. oxycodone, pethidine)
- cannabinoids
- systemic glucocorticosteroids (i.e. oral, intravenous or intramuscular). However, when administered by intra-articular, periarticular, epidural, intradermal or inhalation routes they are permitted.

Drugs prohibited in certain sports only

Drugs that are prohibited in certain sports only are:

- alcohol (banned in certain sports including archery, karate, automobile, motorcycling, ninepin bowling)
- beta blockers (these are banned in any sports that require a 'steady hand' – for example, archery, billiards, bridge, golf, gymnastics, bowling, shooting, ski jumping. In all but archery and shooting they are only banned during competition but in these two sports they are banned at all times).

produce no additional enhancement of performance other than that which might be anticipated by a return to a state of normal health (the use of a prohibited substance to increase 'low normal' levels of an endogenous hormone is not considered an acceptable therapeutic intervention in the setting of a TUE request)

- there is no reasonable therapeutic alternative to the use of the prohibited substance
- the necessity for use of the prohibited substance cannot be a consequence of prior use (without a TUE) of a prohibited substance.

The process, TUE application form and further information are all on the ASDMAC website (see www.asdmac.gov.au). In particularly difficult or urgent situations, an athlete's medical practitioner can speak directly with a member of ASDMAC if they contact the ASDMAC secretariat.

FURTHER DETAILS

Asthma drugs

There have been many changes to the rules on the use of asthma drugs over the years, particularly in the past few years. The current rules do not make particular sense to practitioners but unfortunately they must be abided by.

Currently there are two different rules for beta-2 agonists with no reason given for this by the WADA list committee. Inhaled salbutamol and salmeterol do not require a TUE; however, formoterol and terbutaline require a full TUE. This means that the athlete must submit a TUE request to the ASDMAC and the application must document reversible airway obstruction with pulmonary function tests.

Pseudoephedrine

Pseudoephedrine was only put back on the list in 2009. It is the only over-the-counter medication that is prohibited and athletes need to be warned not to use preparations containing pseudoephedrine within 72 hours of competition. A safe alternative is oxymetazoline-containing decongestant nasal sprays.

Intravenous infusions

Use of intravenous infusions is banned in athletes except when used during hospital admissions or clinical investigations. The main aim of this ban appears to be to prevent plasma dilution of an athlete's blood around the time of a drug test or rapid rehydration after dehydration to make weight for weight category sport.

It is recommended that athletes covered by an antidoping policy request a TUE for intravenous infusions around the time of competition. The usual clinical indication is rehydration following a severe bout of gastroenteritis.

SUMMARY

The area of drugs in sport can seem difficult to understand and even more difficult to keep up to date with. There are resources available to provide information, primarily the ASADA and ASDMAC websites. The ASDMAC website provides information and updates aimed mainly at medical practitioners and ASDMAC members can provide advice over the phone. **MT**

COMPETING INTERESTS: None.