DRUG TESTING

Presentation by: CSAC Executive Officer Andy Foster

What should Commissions test for?

- Testosterone
- Anabolic Steroids (Full WADA menu)
- Drug of Abuse

Why should Commissions drug/steroid test?

The Law

Protection of the Athletes

Helps maintain the integrity of the sports

What is Testosterone?

- Testosterone is a steroid hormone from the androgen group and is found in humans and other vertebrates. In humans and other mammals, testosterone is secreted primarily by the testicles of males and, to a lesser extent, the ovaries of females.

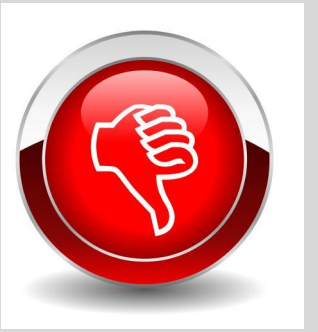
Exogenous vs. Endogenous Testosterone

Endogenous

Although normally thought of as a male hormone, it is naturally produced in both men and women.

Exogenous

Originating from outside; derived externally



What is T/E Ratio?

- **"Testosterone (T)** is the naturally occurring male hormone produced primarily in the testes. **Epitestosterone (E)** is an inactive form of testosterone that may serve as a storage substance or precursor that gets converted to active T."

- Dr. Johnny Benjamin, MMAjunkie.com's medical columnist

What is T/E Ratio?

- **"Most men have a ratio of T to E of 1:1, which means normal men have equal amounts of T and E in their blood. There is some normal ethnic and time of day variation in the normal T/E ratio (as low as 0.7:1 and as high as 1.3:1)."**

- Dr. Johnny Benjamin, MMAjunkie.com's medical columnist

What is T/E Ratio?

- **"The half-life of injectable T is only eight days. So every eight days, half of the T you took is washed out of your blood…Twenty-four days is three half-lives, and virtually none of the extra T is left in your system to get you busted."**

- Dr. Johnny Benjamin, MMAjunkie.com's medical columnist

What can we do?

OUT-OF-COMPETITION TESTING

&

ISOTOPE-RATIO MASS SPECTROMETER TESTING

(AKA Carbon Isotope Test)

OUT-OF-COMPETITION TESTING

- ALL licensed athletes are subject to Out-of-Competition testing at ANY time.

- It is a good idea for Commissions to test the athletes within 30 days of their fight.

CARBON ISOTYPE TESTING

- STEP 1: ISOLATING THE TESTOSTERONE
- STEP 2: DETERMINING MAKE-UP OF THE CARBON ATOMS
- STEP 3: DETERMINING DRUG USE

CARBON ISOTYPE TESTING

- STEP 1: ISOLATING THE TESTOSTERONE

- First the Testosterone and its metabolites are isolated from the athlete's urine.

Source(s): Dr. Donald H. Catlin, director (former) of the UCLA Olympic Drug-testing Lab.

CARBON ISOTYPE TESTING

- STEP 2: DETERMINING MAKE-UP OF THE CARBON ATOMS

- Ordinarily, carbon atoms, which form the backbone of hormones, are made up of 6 protons and 6 neutrons, giving them an atomic weight of 12. But, occasionally, they have an extra neutron, giving them an atomic weight of 13.

Source(s): Dr. Donald H. Catlin, director (former) of the UCLA Olympic Drug-testing Lab.

CARBON ISOTYPE TESTING

- STEP 3: DETERMINING DRUG USE

- Drug use is determined by using an endogenous reference compound (ERC) such as cholesterol (which is naturally made by the body and reflects the body's natural carbon make-up) as a basis for comparison. When the carbon isotope ratio (CIR) value of the ERC is compared to the CIR value of the testosterone, if the difference is three units or more, then WADA's requirement for reporting an adverse finding has been met.

Source(s): Dr. Donald H. Catlin, director (former) of the UCLA Olympic Drug-testing Lab.

Francisco Vargas tests positive for Clenbuterol

- https://www.espn.com/boxing/story/_/id/15423034/francisco-vargas-tests-positive-steriod-clenbuterol

CSAC issues Vargas a temporary license

- https://www.ringtv.com/420539-francisco-vargas-issued-a-temporary-license-after-failed-drug-test/

CSAC talks with HBO about issuing Vargas a temporary license

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Use common sense…Thresholds are changing

Stakeholder Notice regarding meat contamination

On 16 May 2019, the World Anti-Doping Agency's (WADA's) Foundation Board decided to amend Article 7.4 of the World Anti-Doping Code (Code) to allow WADA-accredited Laboratories (Laboratories) to report Atypical Findings (ATFs) for the Prohibited Substance clenbuterol.

Under the current version of Article 7.4 of the Code, Laboratories may only report analytical testing results for exogenous Prohibited Substances as Adverse Analytical Findings (AAFs) but not as ATFs, which does not allow for investigations to take place when potential meat contamination scenarios arise – as has been the case with clenbuterol. As such, if the current Code is strictly followed, Anti-Doping Organizations (ADOs) are required to assert an Anti-Doping Rule Violation (ADRV) against the athlete if the B sample results confirm the A sample findings (or the athlete waives the analysis of their B sample).

The purpose of this amendment – which will come into force on 1 June 2019 and is an interim solution until the 2021 Code and the forthcoming International Standard for Results Management (ISRM) come into effect – is to provide ADOs with the possibility of conducting an investigation when low concentrations of identified Prohibited Substances that are known meat contaminants are detected by Laboratories and reported as ATFs. This will ensure that valid meat contamination cases are dealt with fairly and, notably, may prevent athletes from having their competition results disqualified as a result of eating contaminated meat.

Use common sense…Thresholds are changing

Instructions to Laboratories and Investigative Steps for ADOs

a. Application

Laboratories shall report ATFs for concentrations of clenbuterol below 5ng/mL and AAFs for concentrations of clenbuterol equal to or above 5ng/mL.

b. Investigative Steps

When an ADO with results management authority receives a report for an ATF from a Laboratory for clenbuterol, it shall follow the investigative steps indicated below:

1. Ask the athlete whether they were recently in Mexico, China or Guatemala and if so, whether they ate meat (including the type of meat, when and where it was eaten, and the quantity consumed). Although it is not expected that all athletes will recollect all of these facts perfectly, the ADO will evaluate the athlete's explanation and any evidence tendered to corroborate this explanation;

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Use common sense…Thresholds are changing

3. If, following the steps described above, the ADO is satisfied that the athlete's ATF resulted from meat contamination, it shall not assert an ADRV and no consequences shall be imposed. However, this decision remains subject to appeal by any party with a right to appeal pursuant to Article 13 of the Code; and

4. If, following the investigation as described above, the ADO concludes that the ATF was not consistent with meat contamination, an ADRV will be asserted and the usual results management process will proceed.

In the event that WADA identifies in the future other exogenous Prohibited Substances that are known meat contaminants, it may update this Notice accordingly.

We trust that the instructions found in this Notice and the amendment to Article 7.4 of the Code will assist ADOs faced with potential clenbuterol meat contamination cases and will ensure that cases are managed fairly for all athletes.

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How can the ABC help with drug testing?

- Train Commissions on how to administer drug tests
- Help Commissions establish drug testing protocols
- Help Commissions with the cost of drug testing