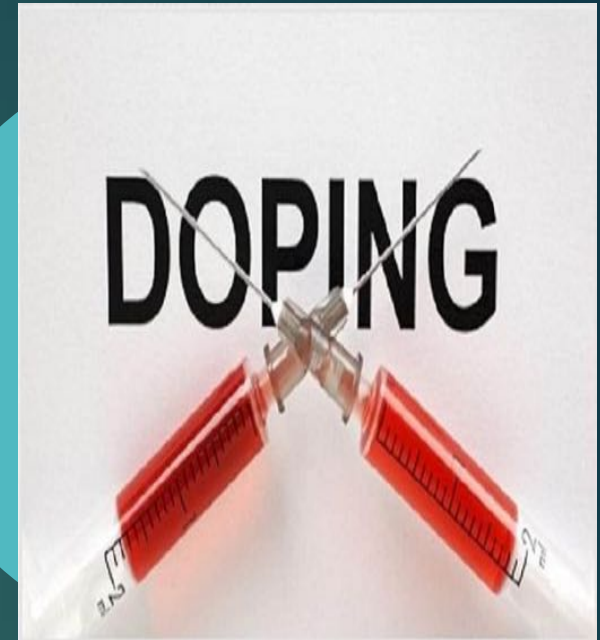


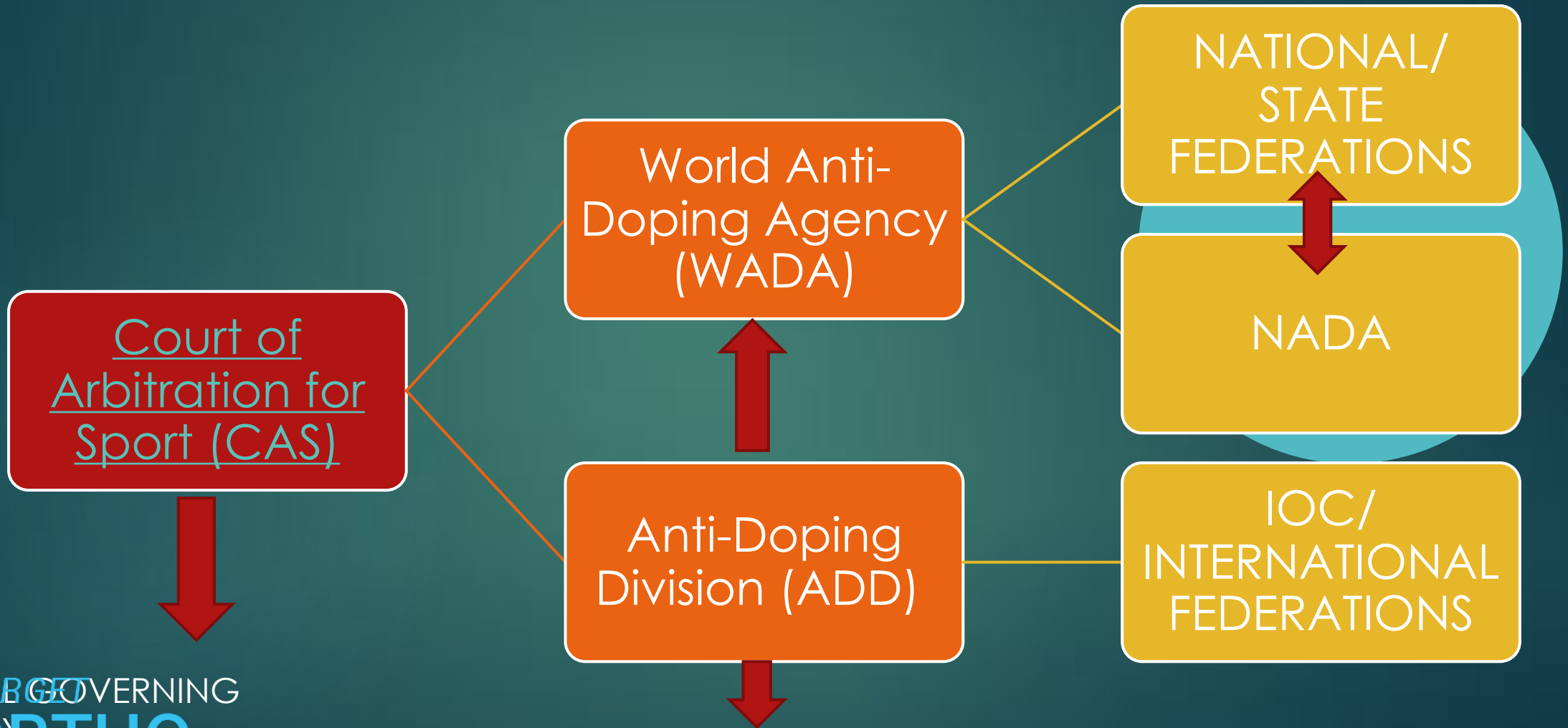
DOPING- PART 3

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FOP/MO (KHELO INDIA SCHOOL GAMES 2017)
TOURNAMNET I/C 5TH ELITE WOMEN BOXING CHAMPIONSHIP
SCIENTIFIC COMMITTEE AT ISSEM

SENIOR RESIDENT DOCOTR AT SPORTS INJURY CENTRE, VMMC & SJH , DELHI



WADA SANCTIONS



- 1ST SANCTION : 4 YEARS BAN
- 2ND SANCTION: LIFETIME BAN
- MAY BE TERMINATION OF MEDICAL LICENSE



CAN AN ATHLETE HAS THE OPPORTUNITY
TO ELIMINATE OR REDUCE THE PERIOD
OF SANCTIONS IN CERTAIN
CIRCUMSTANCES



- ▶ For ADRVs involving the Presence of **a Prohibited Substance** in an Athlete's sample, if the Athlete can establish that he or she did not act intentionally and that he or she was not significantly at fault or negligent in committing the ADRV, the period of Ineligibility may be **reduced to anything between 0 and 4 years**, depending on whether the Prohibited Substance is a Specified or non-Specified Substance.
- ▶ For other ADRVs, including the presence of a **Non-specified substance** in an athlete's sample, the period of ineligibility may be **reduced** by up to half, if the athlete can demonstrate that they were not significantly at fault or negligent in committing the ADRV.

CAN WADA COMPLETELY REMOVE A SUSPENSION BAN ON AN ATHLETE





If the athlete provides information or assistance,
which results in discovering or establishing an ADRV
by another or more people [CO-ATHLETE,
DOCTOR, COACH or ASP] WADA has the power to
agree a complete suspension of ban.



SPORTS MEDICINE DOCTOR

1. Knowledge of drug i.e has been banned [TUE].
2. If Doctor has prescribed any drug i.e was banned ATHLETE will be guilty of taking it
- 3 Places where doctor involve
 - a) Treating patient as a physician
 - b) As a Psychiatrist- if patient becomes addicted for a drug.
 - c) Toxicologist

d) Forensic Pathologist to tell exact cause of death

IF ATHLETE GAVE CONSENT



1. TREATING AS A PHYSICIAN---- TEAM
PHYSICIAN

LIABLE Under

- NADA/ WADA



- MEDICAL COUNCIL





- ▶ **1ST OFFENCE**

NADA/WADA

- ▶ 4 YEARS BANNED + 50,000 RS FINE



- ▶ BOTH DOCTOR & ATHLETE

- ▶ LAW is different from Ethics [given by Medical Council]

- ▶ Court of Law doesn't punish a doctor if athlete gave consent.

PRIVATE PRACTITIONER



- GAVE A PROHIBITED SUBSTANCE/ METHOD
- PUNISHABLE UNDER MEDICAL COUNCIL
- NOT BY WADA /NADA ✕
- COURT OF LAW ⚖️

SCENARIO

YOU ARE WORKING AS A TEAM DOCTOR FOR BOXING IF COACH COMES TO YOU AND TELL YOU TO GIVE STEROIDS TO HIS/ HER ATHLETE HAVING COMPETITION IN 3 DAYS SUFFERING FROM ROTATOR CUFF TENDINITIS WITH SIGNS OF IMPINGEMENT WITHOUT KNOWLEDGE OF AN ATHLETE. YOU SHOULD GIVT IT TO ATHLETE OR NOT??

YES


NO



CAN ATHLETE SUE A DOCTOR??



- YES
- IF ATHLETE DON,T GIVE CONSENT CAN SUE DOCTOR UNDER COURT OF LAW UNDER
- IPC SEC 351 i.e ASSAULT
- IPC SEC 284 i.e NEGLIGENCE CONDUCT with regard to poisonous substance
- IPS SEC 276 ADULTERATION OF DRUG

- 
- ▶ IPC 304 A DEATH CAUSED BY NEGLIGENCE
 - ▶ IPC SEC 338 GRIEVOUS HURT CAUSED BY NEGLIGENCE.
 - ▶ IPC SEC 337 NEGLIGENCE CAUSING HURT
 - ▶ IPC SEC 336 NEGLIGENCE WHICH MAY CAUSE HARM
-
- ▶ 338,337,336- ALONG WITH ATHLETE WHOLE TEAM CAN FILE CASE AGAINST DOCTOR

MEDICAL ASPECTS OF DOPING

▶ EFFECT OF DOPING ON ATHLETE

1. DRUG ADDICTION/ DEPENDENCY

CERTAIN DRUGS i.e has to be given only if prescribed medicinally
Otherwise can cause addiction.

COMES UNDER ANY ACT???


NDPS ACT 1985

MOCAMBOO.COM

What is the Narcotic Drugs and Psychotropic Substances (NDPS) Act of 1985?

“

The NDPS Act of 1985 prohibits a person from the production/manufacturing/cultivation, possession, sale, purchasing, transport, storage, and/or consumption of any narcotic drug or psychotropic substance.



- ▶ NARCOTIC DRUG PSYCHOTROPIC SUBSTANCE ACT
- ▶ Act of the Parliament of India that prohibits a person the production/manufacturing/cultivation, possession, sale, purchasing, transport, storage, and/or consumption of any narcotic drug or psychotropic substance.
- ▶ The bill was introduced in the Lok Sabha on **23 August 1985.**
- ▶ There are 6 Chapters and 83 Sections in NDPS act 1985.

Punishment

1. Where the contravention involves a **small quantity**, with rigorous imprisonment for a term which may extend to **1 year**, or with a fine which may extend to **₹10,000 (US\$130)** or both.
2. Where the contravention involves a quantity **lesser than commercial quantity but greater than a small quantity**, with rigorous imprisonment for a term which may extend to **10 years** and with fine which may extend to **₹1 lakh** (US\$1,300)
3. Where the contravention involves a **commercial quantity**, with rigorous imprisonment for a term which **10-20 YEARS with FINE 1-2 LAKH**.

NEGLIGENCE

INJECTABLES causing IATROGENIC Reaction

SECTION 304A Causing Death By Negligence

- ▶ Whoever causes the death of any person by doing any rash or negligent act not amounting to culpable homicide.
- ▶ Shall be punished with imprisonment of either description for a term which may extend to two years, or with fine, or with both.
- ▶ IPC 304 is a **Non-Bailable offence**.

336 Act Endangering Life Or Personal Safety Of Others.

- ▶ Whoever does any act so rashly or negligently as to endanger human life or the personal safety of others.
- ▶ Shall be punished with imprisonment of either description for a term which may extend to **three months**, or with fine which may extend to **two hundred and fifty rupees**, or with both.

Section 337 NEGLIGENCE

- ▶ Causing hurt by act endangering life or personal safety of others.—Whoever causes hurt to any person by doing any act so rashly or negligently as to endanger human life, or the personal safety of others
- ▶ Shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to five hundred rupees, or with both.

DISCRETIONARY FUNCTIONAL IMMUNITY

- ▶ The legal basis for accountability in medical practice is rooted in negligence law.
- ▶ Negligence law is comprised of four elements: duty, breach, causation, and harm.
- ▶ As a doctor we have discretion while treating patient[if anything happened to patient while following standard care of treatment].

Medical Malpractice Immunity Act

- ▶ To protect federal medical personnel “from any personal liability arising out of the performance of their official medical duties” by substituting the federal government as **DEFENDANT.**
- ▶ Provide a substantial incentive for physicians to serve overseas in areas of the greatest military need, providing care with the understanding that, in the case of medical negligence, **THE FEDERAL GOVERNMENT WOULD ALLOW ITSELF TO BE SUED IN LIEU OF THE INDIVIDUAL.**

GENERAL ETHICAL ASPECTS OF DOPING

In 1994, Italian physician Dr. Michele Ferrari was quoted “EPO is not dangerous, it is the abuse that is. It is as dangerous to drink ten litres of orange juice”


Erythropoietin (EPO) has been prohibited by the International Olympic Committee (IOC) since 1990.

MEDICAL DOCTOR RESPONSIBILITY

Conventional Medical Ethics Principles Require Physicians To Refuse To Prescribe Drugs To Enhance Their Performances, Inform Their Athlete-patients About The Possible Toxic Effects Of These Drugs, And Encourage Them Adhere To Safe Training Programs Instead Of Looking For Harmful Shortcuts With The “Thrill Of Victory”



❑ Validates the appropriateness of the role casted to physicians by WAMA Code:

- 
- I. to refuse to administer any performance enhancing drug or methodology even it is requested by the athlete-patients,
 - II. to educate them regarding the harmful effects of these drugs
 - III. to administer doping test depending on the compulsory consent of the athlete due to WAMA Code


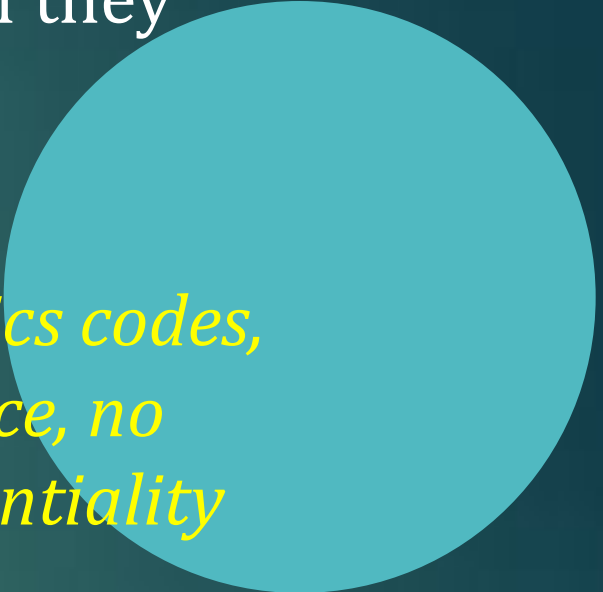
Physician-patient relationship

- “Whatever I see or hear, professionally, which ought not to be divulged, I will keep it secret and tell no one” is one of the pledges in Hippocratic Oath.
- The pledge to secrecy is a fundamental feature of physician-patient relationship.
- Patients let their physicians to have access to their intimate and highly personal information with the presupposition that all information will be kept confidential and not revealed to third parties.

- Getting informed consent prior to any medical intervention either with purposes of diagnosis or treatment is the way physicians show their respect to their patients' autonomy.
- No medical intervention is considered ethical or legal without having informed consent of the patient.

ANTI-DOPING

- Infringing respect for **AUTONOMY AND PRIVACY** of patients and breaching the confidentiality of sensitive information are among the most problematic issues of medical ethics during anti-doping practices.
- Athlete-patients are obliged by law to give urine or blood samples whenever required.
- **NO ADDITIONAL INFORMED CONSENT** is required.
- They have to urinate in front of a witness chaperone and they have to pull their shirt up to mid torso and pants down to mid-thigh to make sure that chaperone has a **CLEAR VIEW OF THE SAMPLE BEING PROVIDED**

- 
- 
- **TEST RESULTS ARE ANNOUNCED TO PUBLIC** if they show signs of doping.
 - ❖ *This whole process seems to violate medical ethics codes, since there is no informed consent, no prior notice, no privacy during sample collection and no confidentiality of private information.*

Abortion Doping in Athletes: Is it a Truth or a Myth?


“PREGNANCY DOPES YOUR BLOOD”

- ▶ Female athletes have become pregnant for 2-3 months, in order to improve their performance just following an abortion.
- ▶ In the first three months of pregnancy a woman's body produces a natural surplus of red blood cells, which are well supplied with oxygen-carrying hemoglobin, in order to support the growing fetus.
- ▶ MC METHOD - ARTIFICIAL INSEMINATION
- ▶ To have a pregnancy of 2-3 months before an event and having an abortion days prior [gives] as much as 10% enhancement”.

PHYSIOLOGICAL CHANGES IN PREGNANCY

The amount of blood in a pregnant woman's circulation increases as pregnancy advances, with peak **VOLUME** occurring at 28 to 30 weeks [of a 40 week term pregnancy]

Blood volume expansion is primarily **PLASMA**, which begins to increase at about 8 weeks of pregnancy at plateaus at 28-30 weeks of pregnancy.



RED BLOOD CELL VOLUME begins to rise at 18 weeks of pregnancy and continues to rise until term [38-40 weeks].

PLASMA VOLUME expands 50-60% and the red blood cells, which increase by only 30%, are correspondingly diluted.

This is the mechanism of the physiologic “anemia” of pregnancy. It is therefore normal for hemoglobin [concentration] to drop about **TWO GRAMS [PER DECILITER] BY 28 WEEKS.**

PERFORMANCE BENEFIT FROM PREGNANCY CAN OCCUR

- a) Before 18 weeks
- b) After 18 weeks
- c) Before 10 weeks
- d) After 10 weeks

Ans : B

“early pregnancy” as before 18 weeks of pregnancy, the increase in total blood volume during this time is related to plasma expansion. Plasma does not improve oxygenation. When the oxygen-carrying red cell volume begins to rise (about 18 weeks), its total increase is outpaced by total plasma volume increase.



HOW MUCH IS OPTIMAL EXPANSION OF RBC VOLUME BY END OF 28 WEEKS OF PREGNancy?

- a) 10%
- b) 20%
- c) 30%
- d) 40%

Ans: C

▶ HOW MUCH IS INCREASE IN RBC VOLUME IN ABSENCE OF IRON SUPPLEMENTATION?

- a) 10%
- b) 15%
- c) 18%
- d) 20%

Ans: c

WHO WILL BE SUED



- Who Assists
- Encourages
- Aids
- Abets
- Covers Up Pregnancy And/Or Abortion.

Hormonal Advantage

HCG PRODUCES A CLEAR DOSE-DEPENDENT RISE IN TESTOSTERONE WHICH ENHANCES PERFORMANCE IN MEN, BUT DOES A SIMILAR RELATIONSHIP OCCUR IN WOMEN?

- In nonpregnant normal adult women, total blood testosterone levels ranges from 0.52 to 2.43 nmol/l.
- In **NONPREGNANT** women, hCG stimulates the ovary to produce progesterone and estradiol, not testosterone.
- Administration of 10,000 IU of hCG to a group of women with normal ovarian function, the elevation in participants' blood testosterone level averaged 1.1 nanograms per milliliter i.e., "about half of the daily normal diurnal rhythm in blood testosterone concentration" in women, which is "unlikely to have any measurable effect on muscle mass or strength"

- In PREGNANT normal adult women, the fertilized, implanted ovum and then the placenta produce increasingly elevated levels of hCG, which peaks at 7–10 weeks of pregnancy between 25,700–288,000 mIU/ml then gradually declines
- In pregnant women hCG stimulates the production of estrogens and progesterone which DO NOT HAVE ERGOGENIC EFFECTS.
- In pregnancy, estrogens cause enlargement of the uterus and breasts, and increase uterine & fallopian contractility; progesterone decreases uterine contractility and sustains the pregnancy

- The gender-specific scientific evidence on the ergogenic effects of hCG, i.e., performance enhancement has been demonstrated in **men and not in women**, may be the reason that the World Anti-Doping Agency currently bans the presence of hCG for male athletes only and not for female athletes.
- The WADA may also **decline to ban hCG testing for women** for ethical reasons.
- Routine urine testing for hCG in female athletes is “considered an invasion of female athlete privacy
- 1.) a lack of scientific evidence for hCG-related performance enhancement,
- 2.) high levels of hCG are experienced by normal pregnant women without negative health outcomes, and
- 3.) routine testing for hCG can reveal the presence of unexpected pregnancy or miscarriage with devastating psychological consequences to the athlete

Blood Doping

- ▶ Blood doping is defined as methods or procedures which physiologically **enhance the delivery of oxygen** to an athlete's muscles, artificially increasing stamina and performance, including increasing red cell mass to improve performance.
- ▶ Administration of blood, red blood cells and/or related products to an athlete.
- ▶ Blood doping may be accomplished by **WITHDRAWING** blood from an athlete at some time before competition, continued athletic training in a depleted [anemic] state, then **RE-ADMINISTRATION** of the athlete's blood before competition to enhance red cell mass and thus oxygen-carrying capacity.

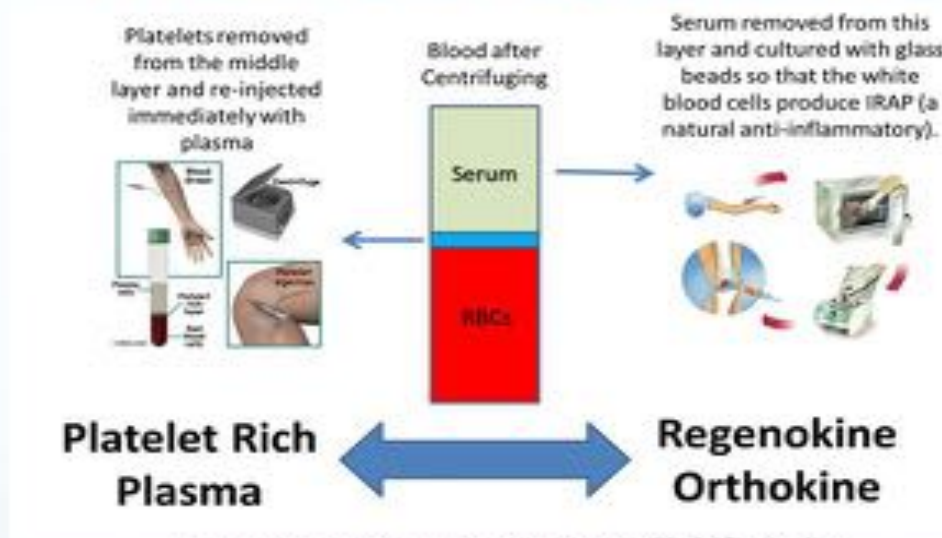
Orthokine therapy



Fig. 5. Flowchart showing the processing of patient venous blood. Orthokine® Biolab (in humans) or interleukin-1 receptor antagonist protein (IFAP) Vellab (in horses) (courtesy Orthogen AG, Düsseldorf, Germany). Cell-free autologous conditioned serum (ACS) is generated by incubation of aseptically aspirated venous blood in a syringe in the presence of medical-grade glass spheres. Peripheral blood leukocytes produce elevated amounts of different endogenous anti-inflammatory cytokines, such as interleukin-1 receptor antagonist, that are recovered with the serum. Following centrifugation and filtering, ACS is stored or aseptically injected into the affected region of the human or animal subject. In randomized controlled human clinical trials, injections were given in a series of 3 injections once weekly for spinal applications, or 6 injections twice weekly for the treatment of osteoarthritis.

- ❑ A variation of blood spinning, are also prohibited by WADA. The Orthokine procedure involves taking 20 cc of the patient's blood and putting it in a tube with 'factors,' it includes **HEATING THE CELLS** and **CULTURING** THEM with glass beads.
- ❑ Next, the blood is spun down and injected into the patient where the platelets and lymphocytes help the body heal itself quickly.
- Per FDA regulations, this manipulates the blood sample too much, and would now be considered a drug **has not been approved by the U.S. Food and Drug Administration (FDA).**

PRP vs. Orthokine



<http://www.regenexx.com/wp-content/uploads/2012/07/orthokine-regenokine.jpg>

Main difference is the heating of the blood to illicit a "fever-like" response that increases the concentration of anti-inflammatory proteins instead of just platelets

- Orthokine is similar to PRP in that it is preparation of your own blood.
- DIFFERENCE IS IN PREPARATION
- Orthokine has the ability to increase the number of growth factors per procedure compared with PRP, and also has the advantage of blocking IL-1 and therefore blocking the inflammatory response.

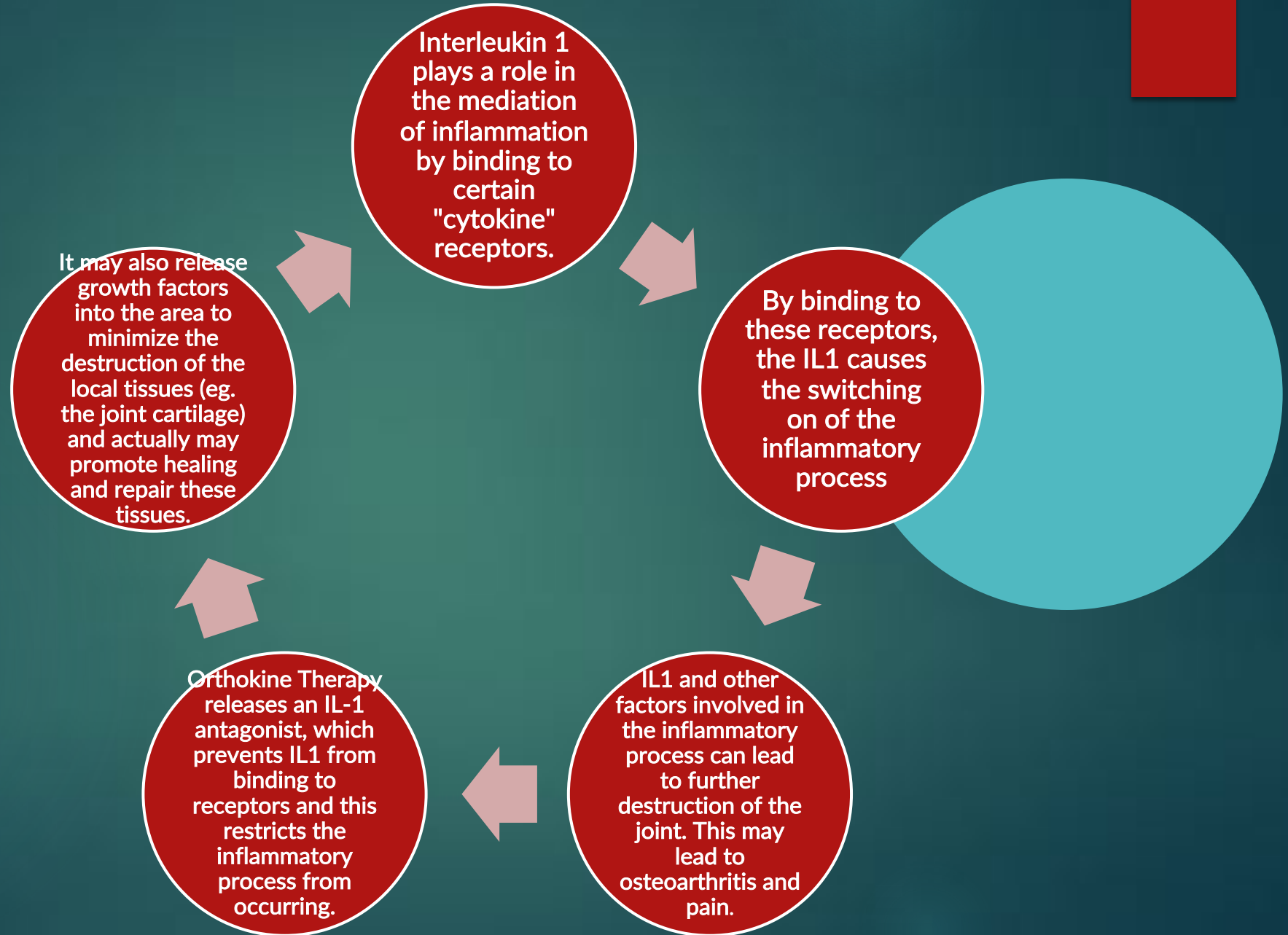


► QUESTION: ALL ARE TRUE WITH RESPECT TO ORTHOKINE EXCEPT

- a) Contain IL-1 ANATAGONIST
- b) Contain excessive amount of GROWTH FACTORS
- c) CONTAIN ANTI-INFLAMMATORY PROPERTIES
- d) TO BE STORED IN 5 DEGREE TEMPERATURE

Ans: d

Orthokine is different from platelet rich plasma that its being cultured at higher temperature.



Is this blood doping?

- ▶ This technique attempts to recreate the effects of **HIGH-ALTITUDE TRAINING** artificially, and was therefore banned in many sports.
- ▶ Drugs such as EPO(Erythropoetin) and CERA(Continuous Erythropoetin Receptor Activator) that cause the same effect without the removal of blood, but these are still banned in cycling in other endurance sports.

Is it banned?

While blood spinning therapies do often add substances such as human growth hormone before re-injection, players in known drug-testing situations must have this left out.

No athlete has ever tested positive for any substance after ORTHOKINE or any blood spinning therapy.

Cheating on Doping Tests

- (a) Avoiding tests by missing events where it is known or expected that doping control officers will be present;
- (b) Taking advantage of the three strikes rules on whereabouts for out of competition to give a time lag for drugs to leave the athlete's body before a test;
- (c) Substituting or watering down urine;
- (d) Using masking agents, typically diuretics, to reduce the chance of an adverse test result at competitions;
- (e) Micro-dosing, i.e. taking small frequent doses so that the blood volume of the performance enhancing drug is kept low enough to be missed by a test;

Misuse of Drugs Act

- ▶ **Class A** includes cocaine, heroin, ecstasy, lysergic acid diethylamide (LSD), and methamphetamine (crystal meth).
- ▶ **Class B** includes amphetamine, barbiturates, cannabis, codeine and methylphenidate.
- ▶ **Class C** includes benzodiazepines, buprenorphine, anabolic steroids, ketamine and gamma-hydroxybutyrate (GHB).

Penalties for Possession and Supply

Class A drugs

FOR POSSESSION – up to 7 years' imprisonment and/or an unlimited fine;

FOR SUPPLY – up to life imprisonment and/or fine.

Class B Drugs

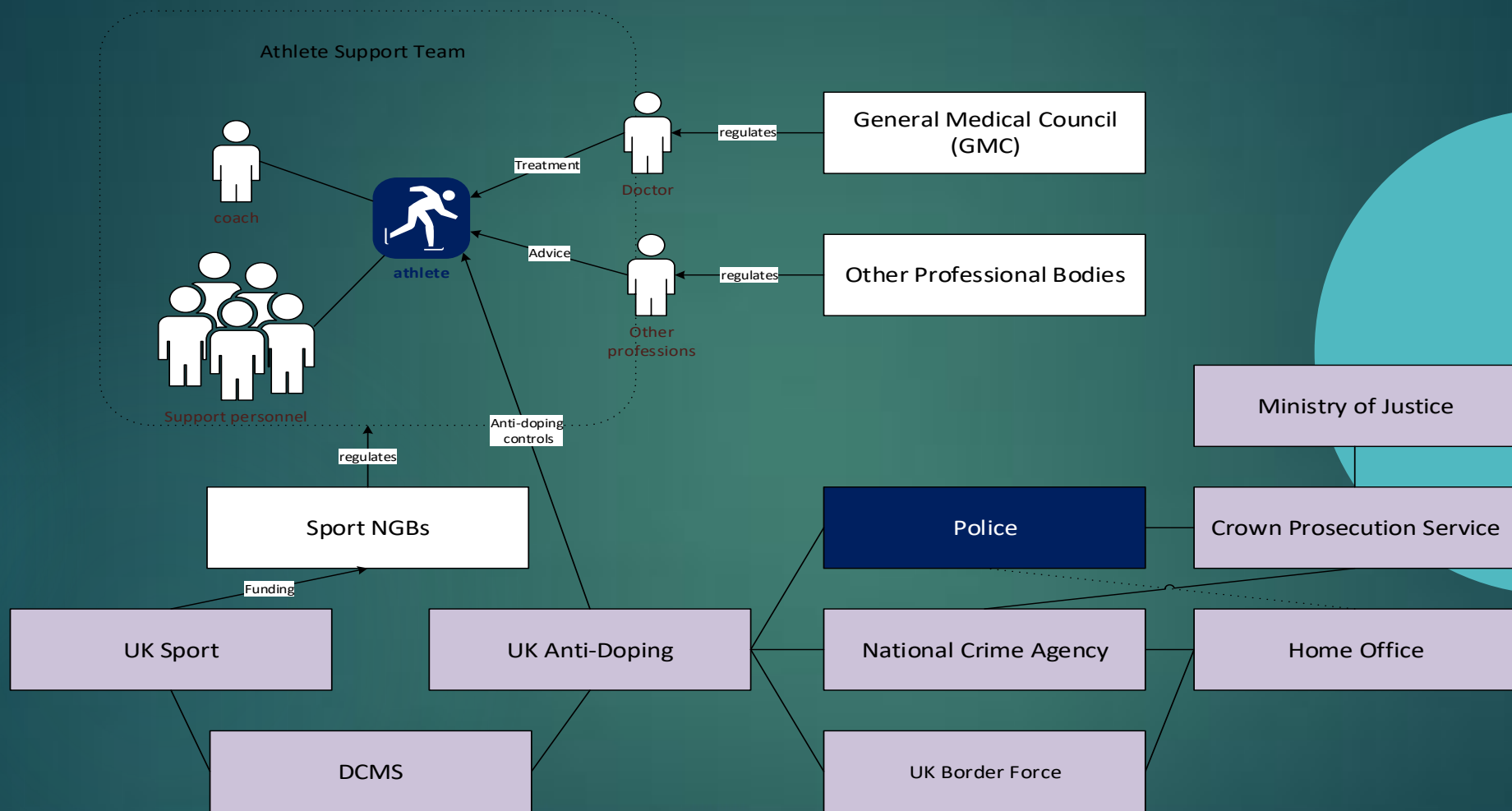
FOR POSSESSION – up to 5 years' imprisonment and/or an unlimited fine;

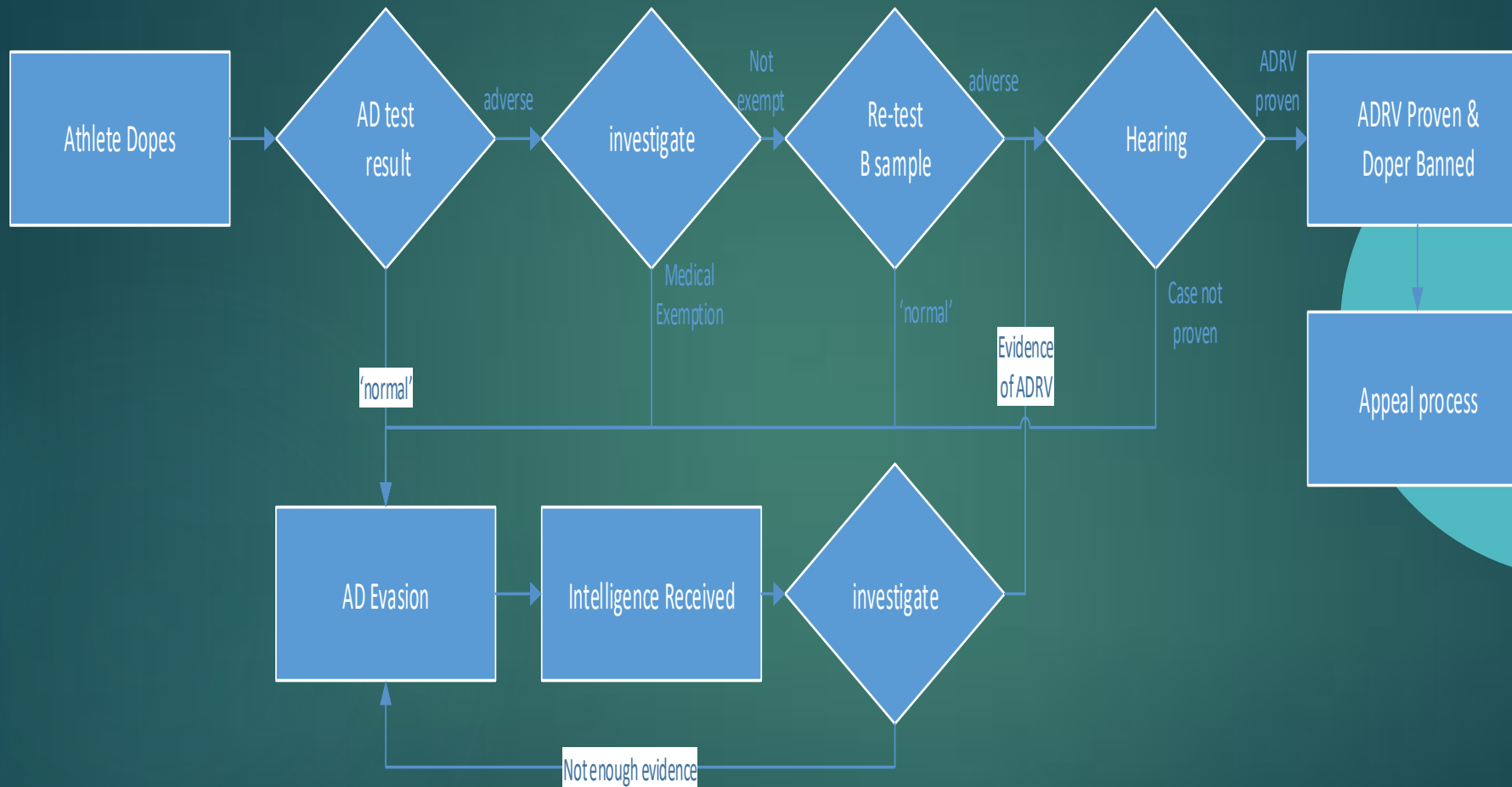
FOR SUPPLY – up to 14 years' imprisonment and/or fine.

Class C Drugs

FOR POSSESSION – up to 2 years' imprisonment and/or an unlimited fine;

FOR SUPPLY – up to 14 years' imprisonment and/or fine. (The possession offence does not apply to IPEDs).


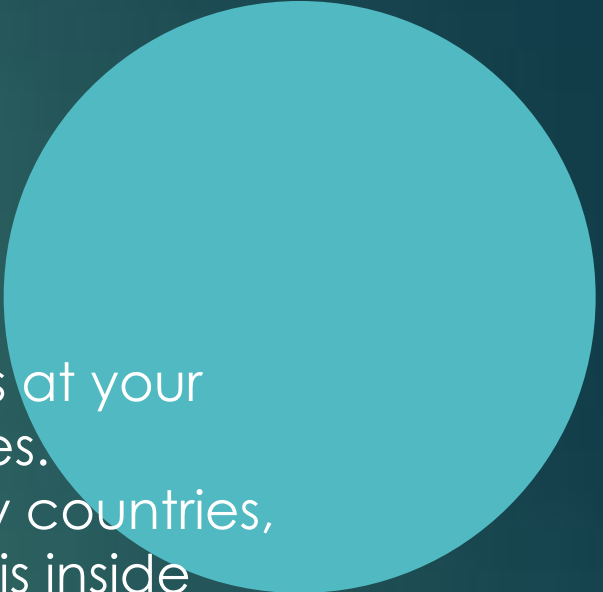





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- ▶ Analysis of urine for detection of prohibited substances or methods in sport can be performed by ANY laboratory with the necessary equipment?

Answer: False

Explanation: Analysis of urine for detection of prohibited substances or methods in sport is only performed at those laboratories which have met the high standards of WADA and have been granted accredited status.

- 
- 
- ▶ Question: If a nutritional supplement is bought from a pharmacy (over-the-counter), it is definitely permitted in sport.
 - ▶ Answer: False
 - ▶ Explanation: Taking supplements and/or any substance is at your own risk. Many supplements contain prohibited substances. Because the supplement industry is not regulated in many countries, it is important to be completely confident you know what is inside the product. WORDS OF WISDOM: if it sounds too good to be True – it is probably prohibited! An alternative to using supplements is to adapt your nutritional program.


- ▶ Question: When an athlete is sick, he/she can be excused for taking ANY medicine to help him/her get well?
- ▶ Answer: False
- ▶ Explanation: If you have a cold, flu or hay fever DO NOT take any medication or substance without first being sure it doesn't contain a prohibited substance. This includes both over-the-counter substances and medication from your doctor. Remember a positive test is a positive test






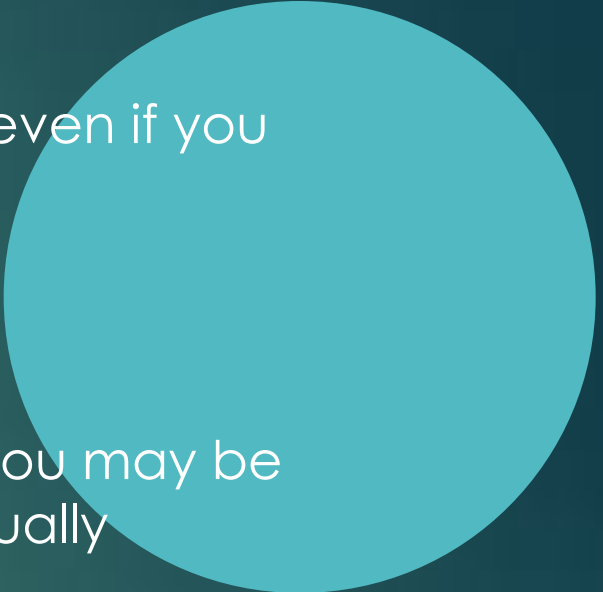
▶ Question: A coach or doctor assisting or encouraging an athlete to take prohibited substances can be sanctioned if that athlete tests positive?

▶ Answer: True



▶ Explanation: Encouraging or assisting athletes to use prohibited substances or methods is considered a serious doping violation and a sanction will be imposed under the World Anti-Doping Code.


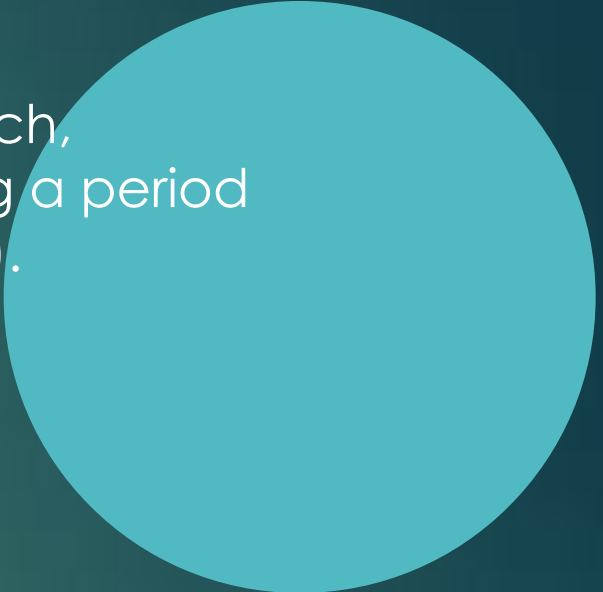




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- ▶ Question: Even if athlete is injured and not competing, he still need to submit my whereabouts information to the relevant sporting bodies in case they need to locate me for a drug test.
 - ▶ Answer: True
 - ▶ Explanation: As an athlete, you must submit your whereabouts information even if you are not competing due to an injury or illness so the anti-doping organization can locate you at anytime and at any place.

- 
- 
- ▶ Question: You can be drug tested during a competition, even if you didn't compete.
 - ▶ Answer: True
 - ▶ Explanation: If you are named as a member of a team, you may be included in selection for doping control, whether you actually competed or not.

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- 
- ▶ Question: If an Athlete banned in boxing sport, can he compete in another i.e wrestlings sport.
 - ▶ Answer: False
 - ▶ Explanation: If you are sanctioned as a result of committing an Anti-Doping Rule Violation (ADRV), you cannot participate in competitions or activities in any level of sport during your period of ineligibility.

- 
- 
- ▶ Question: If an athlete test positive in his country, can he compete for another country.
 - ▶ Answer: False
 - ▶ Explanation: If you have committed an Anti-Doping Rule Violation (ADRV) in your country, your ADRV record will be recognized by all other Signatories of the World Anti-Doping Code. Therefore, during your period of ineligibility, you will not be able to compete for another country.

- 
- 
- ▶ Question: Can I be sanctioned for associating with a coach, physician or other such support personnel who are serving a period of ineligibility due to an Anti-Doping Rule Violation (ADRV).
 - ▶ Answer: True
 - ▶ Explanation: Prohibited Association is an Anti-Doping Rule Violation (ADRV) that athletes can be sanctioned for.

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- 
- ▶ Question: If I know a supplement has been through a quality control process, I can be guaranteed that it does not contain any substances on the prohibited list.
 - ▶ Answer: False
 - ▶ Explanation: There is no way to guarantee that supplements are free of prohibited substances as this industry is not regulated. No organisation can guarantee the safety of any dietary supplement or its content.
 - ▶ Eating a balanced diet of natural, whole foods is the best way to improve athletic performance.



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