



# ABP in the Courtroom



## When Science meets the Law

*“Every social group has its own linguistic bonding mechanism...if there’s a group of lawyers, they have their own slang. If there’s a group of doctors, they have their own slang, and so on”*

David Crystal  
(*British linguist*)

# Why are ABP cases unique?



Cases are won or lost on the capability to make the Panel able to get (comfortable) satisfaction on a “doping scenario” without specific details



Such evidence has a firm basis in science

# In ABP cases:



Scientific issues permeate the law.



The decision in a court of law typically (though not always) focuses on a particular event and specific individualized evidence. In ABP cases the focus is on an abnormal passport of the Athlete. But what can be scientifically considered as “abnormal”?



Science itself may be highly uncertain and controversial with respect to many of the matters that come before the panels. The Scientists/Experts’ views may differ about many related questions that courts may have to answer.



The importance of scientific accuracy in the decision of ABP cases reaches well beyond the case itself. Indeed, a decision wrongly assessing a ABP case, for example, can encourage the continued use of a dangerous substance/method that was not detected/sanctioned.



In courts the search is not aimed at investigating all the subtleties that characterize good scientific work. For instance, a CAS Panel is made of arbitrators, who are not scientists, and a courtroom is not a scientific laboratory. But the law must seek decisions that fall within the boundaries of “**scientifically sound knowledge**”.



Therefore, collecting and assessing evidence in ABP cases is often a “gap bridging exercise” between law and science

# Interaction of Law and Science

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WORLD  
ANTI-DOPING  
**CODE**  
2015  
with 2018 amendments



ISTI, ISL  
***Athlete Biological  
Passport Operating  
Guidelines***

**Version 6.1**  
July 2018



# Rules: Interaction of Law with Science

*“S1. Anabolic Agents”*

*“Erythropoietins (EPO) and agents affecting erythropoiesis”*

*“M1. Manipulation of blood and blood components”*

- **WADA Guidelines on ABP** (Ver. 6.1, July 2018) include some protocols of the **WADA Technical Documents and Annex to “International Standard for Testing and Investigations” (ISTI)**:

A. ISTI – Annex K: *“Collection, Storage and Transport of Blood ABP Samples “*

B. TD2018BAR: *“Blood Analytical Requirement for the Athlete Biological Passport”*

C. TD 2018 EAAS: *“Endogenous Anabolic Androgenic Steroids Measurement and Reporting”*

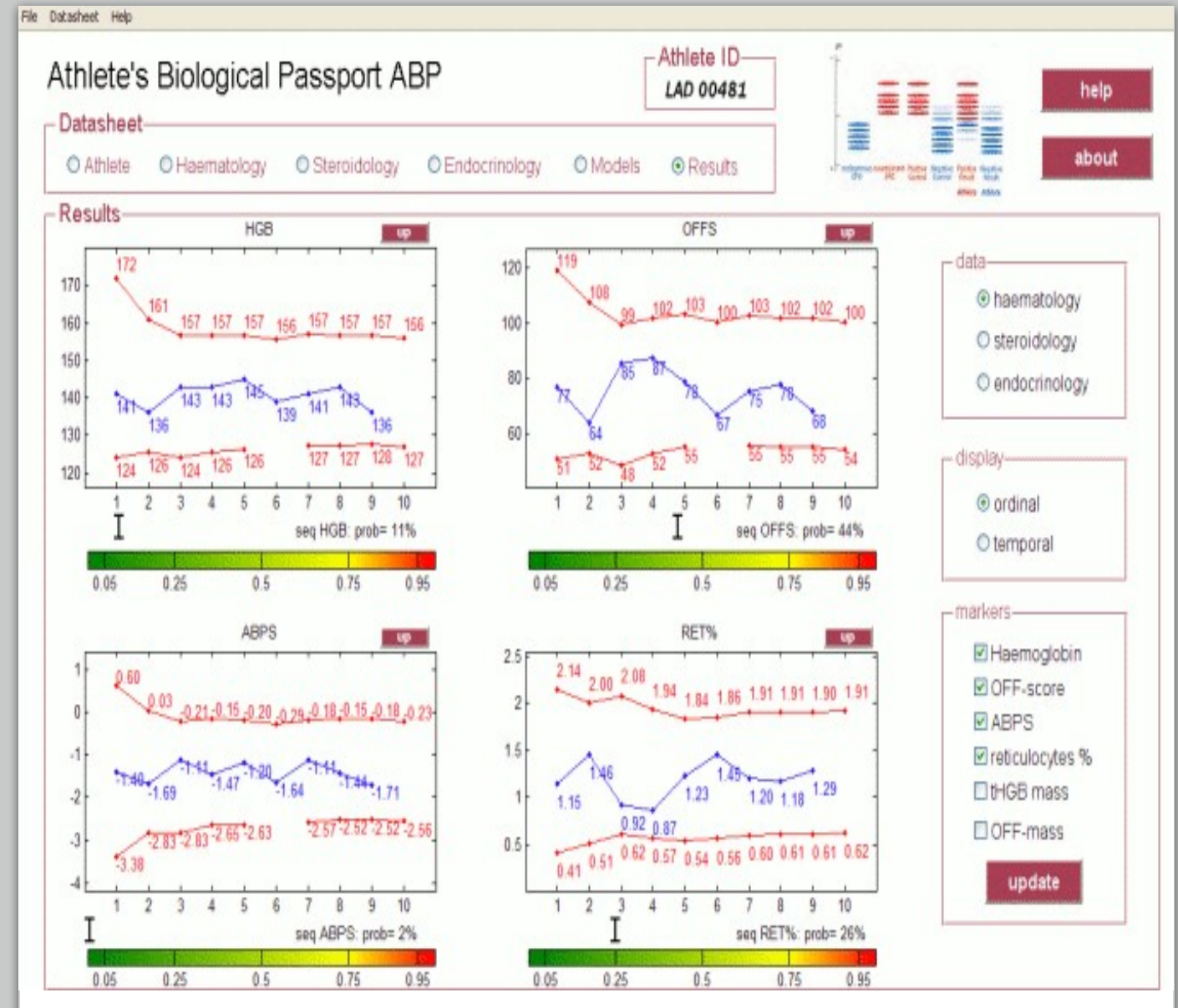
D. ISTI – Annex L: *“Results Management Requirements and Procedures for the Athlete Biological Passport”*

# Scientific terms – “Hematological Module”

## Contains the following data:

- **HCT:** Hematocrit
- **HGB:** Hemoglobin
- **RBC:** Red blood cell count
- **RET#:** Reticulocytes count
- **RET%:** Reticulocytes%
- **MCV:** Mean corpuscular volume
- **MCH:** Mean corpuscular hemoglobin
- **MCHC:** Mean corpuscular hemoglobin concentration
- **RDW-SD:** Red blood cell distribution width
- **IRF:** Immature reticulocyte fraction
- **OFF-Score:** Stimulation Index ( $HGB/RET\%$ )\*
- **ABPS:** Abnormal Blood Profile Score\*

\*Multiparametric markers calculated from the above hematological data.



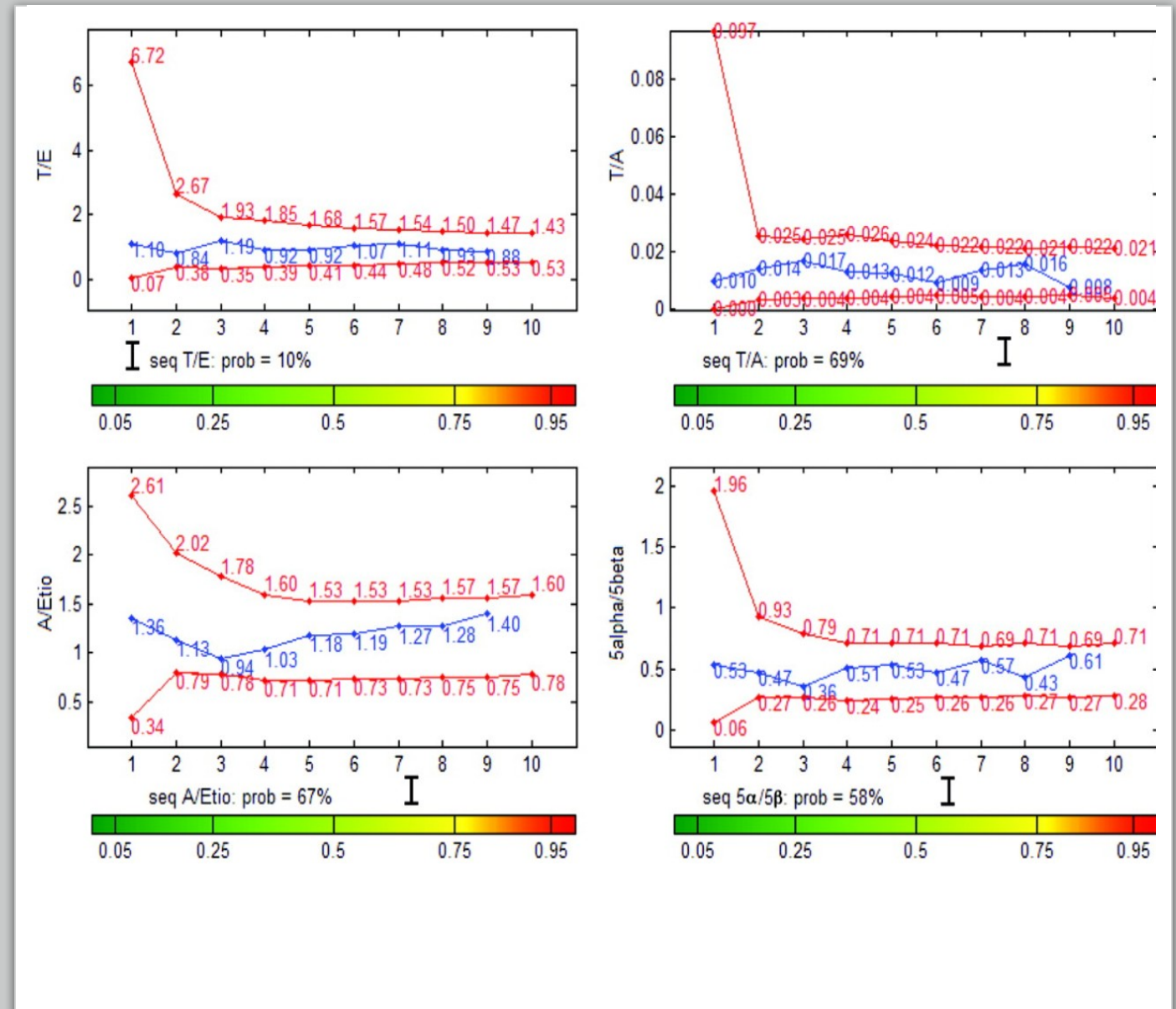
# Scientific terms – “Steroidal Modules”

## Gathers markers relating to:

- Testosterone (T)
- Epitestosterone (E)
- Androsterone (A)
- Etiocholanolone (Etio)
- 5 $\alpha$ -androstane-3 $\alpha$ ,17 $\beta$ -diol (5 $\alpha$ Adiol)
- 5 $\beta$ -androstane-3 $\alpha$ ,17 $\beta$ -diol (5 $\beta$ Adiol).

## Other factors to be taken into account:

- urine samples specific gravity
- some ratios between steroidal metabolites, e.g.: A/T, 5 $\alpha$ Adiol/5 $\beta$ Adiol, T/E A/Etio, 5 $\alpha$ Adiol/E
- Isotope Ratio Mass Spectrometry (IRMS) is very useful since it is capable of revealing the synthetic origin of urinary steroids.





# Case Law

- TAS 2009/A/1912-1913 **Pechstein** & DESG c. ISU, 25 November 2009 (*not a case of ABP, but a decision based on longitudinal blood profile of the Athlete.*)
- TAS 2010/A/2178 **Caucchioli** c. CONI & UCI, 8 March 2011
- CAS 2010/A/2174 **De Bonis** v. CONI & UCI, 15 April 2011
- CAS 2010/A/2235 UCI v. **Valjavec** & OCS, 21 April 2011
- TAS 2010/A/2308 & 2335 **Pellizotti** c. CONI & UCI, 14 June 2011
- CAS 2012/A/2773 IAAF v. **Kokkinariou** & SEGAS, 30 November 2012
- CAS 2013/A/3080 **Degfa** v. TAF & IAAF, 14 March 2013
- CAS 2014/A/3561 & 3614 IAAF & WADA v. **Azpeleta** & RFEA, 19 November 2015
- CAS 2015/A/4006 IAAF v. ARAF, **Zaripova** & RUSADA, 25 April 2016
- CAS 2015/A/4007 IAAF v. ARAF, **Bakulin** & RUSADA, 25 April 2016
- CAS 2016/O/4469 IAAF v. ARAF & **Chernova**, 29 November 2016
- CAS 2016/O/4481 IAAF v. ARAF & **Savinova**, 10 February 2017
- CAS 2016/A/4655 IAAF v. ARAF & **Emelyanov**, 7 April 2017
- CAS 2016/O/4883 IAAF v. ARAF & **Trofimov**, 17 May 2017
- CAS 2016/A/4828 **Guiñez** v. UCI, UCI-ADT, PASO & CNOC, 31 May 2017
- CAS 2016/O/4682 IAAF v. ARAF & **Evdokimova**, 22 June 2017
- CAS 2016/O/4683 IAAF v. ARAF & **Krivov**, 22 June 2017
- CAS 2017/O/4980 IAAF v. RUSAF & **Vasilyeva**, 4 August 2017



# Results Management

**Atypical profiles may (allegedly) have a number of explanations:**

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Pure chance (statistically possible if many tests have been performed)

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Malfunctioning of a measurement tool/instrument

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Inadequate storage or transport of blood and urine samples

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Healthcare condition that caused the abnormal change in the hematic and steroidal parameters (e.g. blood: internal haemorrhage caused by accident; e.g. steroid: pregnancy)

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**Doping (e.g. blood manipulation).**

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Results Management – an example:

*CAS 2016/O/4682 IAAF v. ARAF & Natalya Evdokimova, 22 June 2017*

- **Quantitative Analysis of HGB, RET% and OFF-Score of the Athlete**

No.	Date of Sample	HGB (g/dL)	RET%	OFF-score
1.	17 August 2009	17.00	0.15	146.80
2.	27 August 2009	16.00	1.23	123.50
3.	29 July 2010	15.60	0.18	130.54
4.	26 August 2011	17.50	0.22	146.90
5.	26 January 2012	15.90	0.23	130.20
6.	29 May 2012	14.40	0.57	98.70
7.	26 November 2014	14.40	1.36	74.00

The *Adaptive Model* showed the atypical of the profile with specific reference to samples from 1 to 5 and significant deviations in samples 1 and 4:

- n. 1 (high level of HGB, low RET%, high OFF-Score)
- n. 4 (high level of HGB and high OFF-Score)
- n. 5 (low level of HGB, low OFF-Score)
- n. 6 (low level of HGB, high RET%, low OFF-Score)

- **Qualitative Analysis of Experts**

Sample no. 1 was taken before the IAAF World Championships in Berlin 2009. High level of haemoglobin, low reticulocyte percentage and an high OFF-Score. This could be the result of a recent use of agents that stimulate erythropoiesis (ESAs), then interrupted in view of the forthcoming competitions and the increased risk of being tested;

The sample no. 3, which has characteristics very similar to no. 1, was taken just before the start of the 2010 European Athletics Championships in Barcelona; as in the previous case, it can derive from a treatment with ESA suspended just before an important competition in view of the risk of a doping control;

The sample n. 4 is the most clear example of the hypotheses formulated for the previous samples: the draw took place just before the 2011 World Championships in Toegu; it has the highest hemoglobin value, a low reticulocyte percentage, as well as the highest OFF-score;

**There was a probability of 1:10000 that these values could be found in an athlete not doped**



# Individual Case Management

*It is important to verify on a case-by-case basis whether there is a temporal coincidence between the anomalous profile peaks and the schedule of competitions and training, as well as medical events (e.g. bleeding) and places frequented by the athlete (e.g.: a training period in high altitude)*

## CAS 2010/A/2235 UCI c. Valjavec & OCS

*“the CAS Panel does note the coincidence of the levels with the Athlete’s racing programme. [...] in the same way as the weight of DNA evidence said to inculcate a criminal is enhanced if the person whose sample is matched was in the vicinity of the crime, so the inference to be drawn from abnormal blood values is enhanced where the ascertainment of such values occurs at a time when the Athlete in question could benefit from blood manipulation.”*

## CAS 2016/O/4682 IAAF c. ARAF & Evdokimova

*“the Athlete generally had high levels of HGB on the eve of competitions, whereas her base level of HGB appeared to be much lower as shown by the samples taken, when the Athlete was not competing [...] the Sole Arbitrator finds that the Athlete over a five-year period has been involved in both multiple doping offences as well as a doping scheme or plan, since the findings in her ABP profile clearly indicates that the blood doping had been orchestrated to avoid detection around major championships and competitions.”*



# Burden of Proof

- Question: doubts may arise with reference to the **explanations required from the athlete** when the NADO/ADO notifies the opinion of the experts about the high probability of the violation:
- **Is the request for “explanations” a reversal of the burden of proof?**
- **The answer seems NO**: the burden of proof still lies with the NADO/ADO and the athlete's explanations have instead the defensive purpose of refuting what was claimed by the accusing anti-doping organization on the basis of the values of the biological passport.
- In other words, the **explanations provided by the athlete** (e.g. “I trained at high altitude for two months ...”, “I had a hemorrhage due to surgery ...”, etc.) **can be compared to an ALIBI** (“I was somewhere else...”) **or a justification** (“I acted in self-defense ...”) provided by an accused in a criminal proceeding; although the burden of proof does not formally shift, it is in the interest of the accused person to disprove the arguments and evidence of the prosecutor with his/her own evidence in order to convince the hearing body of his/her innocence

# Evidentiary Issues: the “specific” doping scenario (what substance/method did the athlete use?)

- To establish a violation of 2.2 WADC (e.g. Section M1 of the List “Manipulation of blood and blood components”), a NADO/ADO does not need to identify and show specifically what hematic doping was put into place by the Athlete (e.g. use of rhEPO, blood transfusion or combination of the two)
- The uncertainty on what exactly the Athlete did in order to enhance his/her performances is subject to criticism but does not seem to violate any fundamental right of the Athlete.
- It is comparable to an hypothetical case of murder in which the assassin has hit the victim on the head and there is sufficient evidence to convict him, even if the murder weapon has not been found and it is unclear what it was; in that case, it is not strictly fundamental to know if the killer hit the victim with a baseball bat, a golf club or a hammer.





# Expert Evidence

- In ABP cases, **expert/technical testimony** is crucial, given the hearing body's inherent lack of scientific knowledge (in the medical, hematological fields, etc.). It must be explained very clearly that ABP is a two-stage process (first stage: quantitative and statistical; second stage: qualitative, i.e. unanimous opinion of expert panel).
- Experts' independence à duty of disclosure (similar to arbitrators)
- In the *Valjavec* case, the UCI argued that a CAS Panel should simply make sure that the experts who assessed the hematological profile did not express an arbitrary or illogical opinion.
- The arbitration panel, while recognizing its lack of scientific preparation, rejected this approach and stated that a CAS Panel "*cannot abdicate its adjudicative role*", citing the well-known brocardo *iudex peritus peritorum* under which the judge is the expert on the experts (e.g. CAS 2010/A/2235).
- Therefore, according to the CAS jurisprudence (e.g. *Valjavec* and *De Bonis*), when assessing the various opinions of the party-appointed experts, the CAS Panel should consider:
  - a) the prestige, experience and publications of experts
  - b) if the opinion of each expert is based on proven facts
  - c) if the conclusions drawn from the facts appear to be rigorous, coherent and logical
  - d) if the opinion of each expert is consistent with the prevailing scientific literature on the subject



# Expert Evidence

- Hearing bodies options on APB cases:
  - a) **Only party-appointed experts:** the Panel relies only on the adversarial experts, who are examined and cross-examined at the hearing
  - b) **Court-appointed expert** (N.b. if the Athlete challenges the scientific reliability of some ABP aspects and WADA requires to do so, the CAS Panel has to appoint an expert to evaluate the groundness of the challenge) à Question: is it easy to find a “NEUTRAL” expert?
- **Option a)** is more *common law-friendly* where judges prefer to decide technical issues on the basis of what emerges from the contrast between the opinions of the party-appointed experts; **potential issue:** the hearing body must fully understand the scientific issues in order to properly assess the different positions (in 1901 Judge Learned Hand wrote: "*The trouble with all this is setting the jury to decide, where doctors disagree*").
- **Option b)** is generally preferred in *civil law* countries where they tend to rely on a court-appointed experts; **potential issues:** (i) it is difficult to find a highly qualified expert who can be truly neutral and who does not have any kind of connection with interested third parties; (ii) the hearing body risks abdicating its decision-making role, being in fact bound to accept the opinion of the expert as conclusive and (iii) new experts may create procedural delays or significant increase of costs for the parties.



# Expert Evidence

- **How to hear the experts? Options:**
  - a) **Experts heard separately:** each expert is questioned and cross-examined (just like a witness)
  - b) **Expert Conference format:** all experts on a certain issue are summoned together in the hearing room and, in addition to being questioned and cross-examined and answering questions from the Panel, can discuss and ask each other questions on different scientific issues
  - c) **Pre-hearing conference of experts:** all experts meet together before being heard by the Panel (for instance, while the parties make their opening statements); in this preliminary conference the experts identify the issues on which they agree and those that remain controversial
  - d) **A combination of a), b) and c).**
- The advantage of the options b) and c) is that the experts, in front of their colleagues/peers, tend not to (i) overstate their position/maintain extreme theories, (ii) support theses not corroborated by the scientific literature, and (iii) venture out of their own spheres of expertise



# Expert Evidence - Jurisprudence

CAS 2010/A/2235 UCI c. Valjavec & OCS

*“the CAS Panel [must] determine whether the Expert Panel’s evaluation [...] is **soundly based in primary facts**, and whether the Expert Panel’s consequent appreciation of the conclusion to be derived from those facts is equally sound. It will necessarily take into account, inter alia, the impression made on it by the expert witnesses in **terms of their standing, experience, and cogency of their evidence together with that evidence’s consistency with any published research**”*

CAS 2009/A/2174 De Bonis c. CONI & UCI

*“This Panel [must] evaluate and assess the weight of [the expert evidence] by evaluating the facts on which the expert opinion is based and by assessing the **correctness and logic of the conclusions drawn by the experts** [...]. It is on the basis of this evaluation and balancing of the various submissions that the Panel will form its own opinion”*

CAS 2014/A/3488 WADA c. Lallukka

*“The Panel in the present case recognises that it is not its function to step into the shoes of scientific experts, or to seek to repeat the exercises carried out by those experts. It also recognises that any Tribunal faced with a conflict of expert evidence must approach the evidence with care and with an awareness as to its lack of scientific expertise in the area under examination. Bearing in mind the prescribed provisions as to burden and standard of proof, the Panel considers that its role in applying the applicable standards as an appellate body is to determine whether the experts’ evaluations (upon which WADA’s case rests) are soundly based on the facts, and whether the experts’ consequent appreciation of the conclusion to be derived from those facts is equally sound (see also CAS 2010/A/2235, para. 79). **In carrying out this task the Panel is bound to form a view as to which of possibly competing expert views it considers to be more persuasive.**”*

# Key principles



**Clarity** – despite its technical nature, evidence expert evidence should be made as clear as possible so that the panel can understand it.



**Impartiality and objectivity** – important that the evidence is not clouded by bias – this makes it more credible and easier for the panel to assess.



**Robustness** – testimonies should be based on scientific grounds and findings to withstand scrutiny by other experts or in cross-examination.



**Transparency** – expert should be able to demonstrate how certain conclusions were reached.

# GOLDEN RULES FOR APB EXPERTS IN COURT

- Defensive counsels need to know how best to prepare an expert for the occasionally hostile legal environment that arises during depositions and (especially) cross-examination.
- **Golden rules are:**
  - Speaking up and speaking out. Remember “*I say what I mean is the same as I mean what I say*” (Alice in Wonderland- A Mad Tea-party). Make sure that is what you do.
  - Short answers by addressing the Panel/Tribunal – Do not be over-enthusiastic and do not exaggerate as these can lead to suggestions of bias.
  - Use of the documents (if needed) to support your reasoning.
  - Answering the question of the Panel in a clear manner by also making examples/similitudes or use emotive language.
- **Tips on dealing with cross-examination:**
  - Be vigilant for ambiguous questions that might have a double meaning or assume an answer to an earlier question that you have not given.
  - If you do not understand the question, or if it seems ambiguous, ask the advocate to repeat it or clarify it.
  - Remember who makes the decision...do not usurp the function of the Panel/Tribunal.
  - Acknowledge the existence of alternatives when it is reasonable to do so.
  - Maintain a measured and calm approach. Be courteous, no matter how irritated you might become and remember...*it's not personal!*
  - KEEP CALM AND (POSSIBLY) NEVER FANCE OR ARGUE WITH THE ADVOCATES.



# Grazie mille! Thank you!

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*“Doctors are the same as lawyers;  
the only difference is that lawyers merely rob you,  
whereas doctors rob you and kill you too”*

**- Anton Chekhov**