

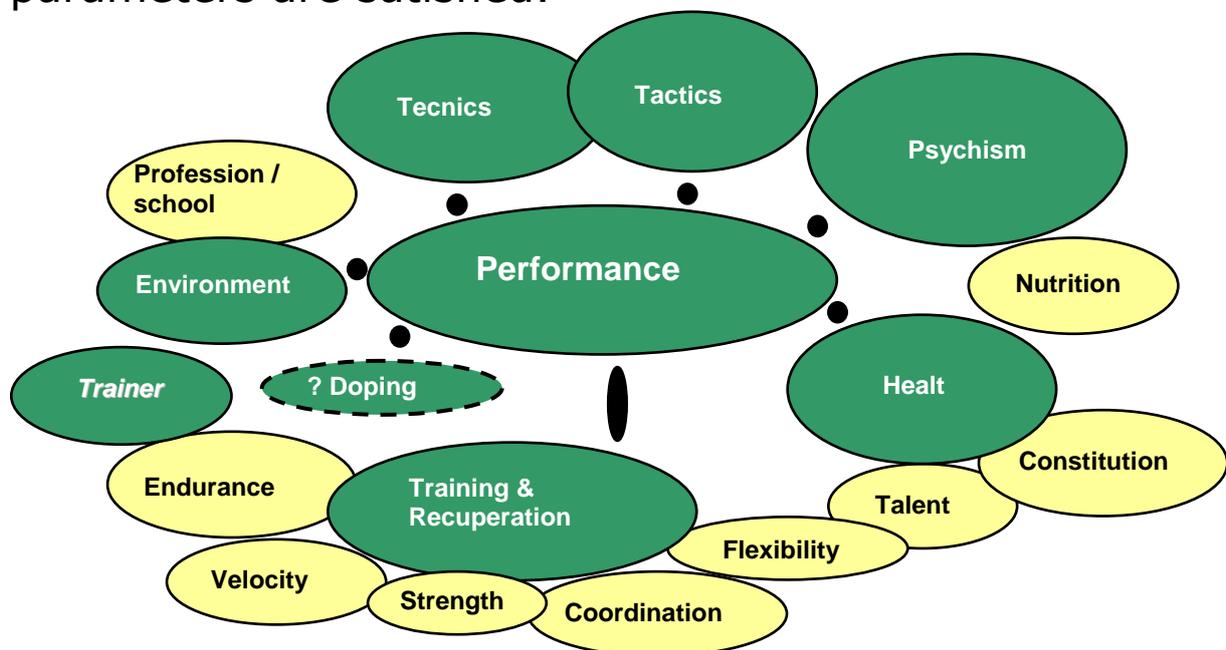
Can Pharmacology replace training ?

This tricky question could be replaced by a more direct one: does doping work? And the answer is not much easier to give!

So let's try to go step by step through this complex matter.

First point, let's remember that in this precise topic, we are probably mostly talking about high level sport, or competitive sport, where performance takes a predominant place. In more basic physical activities, the problem probably exists also, but to a different extent and with different consequences.

Having said this, it would seem useful to summarise what performance is, in particular how complex it is. Looking at the following picture, it appears clearly that an optimal performance can only be obtained if many parameters are satisfied.



The next question is on what parameter one can expect benefits from pharmacological manipulation.

Pharmacological (and physico-chemical) manipulations are in our sport world called doping, a very well defined and widely accepted concept since the WADA "umbrella" exists.

To have everybody informed at the same level, let's recapitulate what doping is and what the prohibited list 2006 includes.. By the same occasion, let's have a look at the products "caught in positive cases, what give's us a realistic picture of the situation on the field.

Before reviewing each of the most used products, or at least the main ones, it is important to realise that in this strange world of doping, we absolutely have to distinguish between theoretical knowledge's and practical aspects. And be aware that there is quite a big difference between both situations!

Scientifically, the studies about the effects of forbidden substances are rare for ethical reasons above all, but also for practical one: it only would make sense of testing the effects of potentially ergogenic substance on well trained athletes, and doing this, you would endanger them of becoming positive if tested! And as it is very hazardous to extrapolate from untrained people to high level, one recognises the problem.

Nevertheless, a few well conducted studies exist, that show undoubtful positive effects on performance. We will present them.

Practically, the observation of the sport world gives a lot of information that would tend to make one believe that some substances, used as they are used in sport are without many doubts very effective!

Aerobic endurance and strength are probably the most influencable skills by pharmacological manipulation.

These are basic skills. Coordination, an important issue, is more difficult to influence. The same is to be said for the important psychological aspects.

Unfortunately, doping is a phenomenon in constant evolution, and we are confronted with a big problem, genetic doping, with consequences that we don't completely realise at time.

In conclusion, pharmacology is a serious reality in sport. It will never totally replace training in its various forms, but undoubtedly could represent an important even if only partly alternative. At time, the official world of sport, CISM included, in its majority doesn't want to accept this alternative. We strongly believe that this is a correct attitude, for what ever reasons one uses.