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Store doping samples for 10 years to stop sports cheats, say anti-doping bodies

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Blood and urine samples taken from athletes to spot signs of doping should be stored for 10 years, to enable technology to catch up with substances that currently evade detection, says a consensus statement of international anti-doping bodies, published in a special issue of the *British Journal of Sports Medicine*.

And much wider use should be made of biological profiling—the athlete's "biological passport"—which will show up tiny changes made to the individual's unique genetic blueprint by doping substances and methods, without the need to identify the presence of the substance itself, when regularly monitored.

Players competing in the FIFA World Cup in Brazil this June will be among the first athletes to be subject to the 'freeze and store' initiative, which will offer the opportunities to retrospectively analyse samples over the course of a sporting career and carry out regular biological profiling.

These form part of a comprehensive set of recommendations agreed by 24 international bodies to implement the World Anti-Doping Code 2015, published this week.

They represent a sea-change in thinking about how to crack down on the increasingly sophisticated techniques used by some athletes to attempt to cheat their way to victory.

The consensus signatories,1 who include representatives from FIFA, the International Olympic Committee, the World Anti-Doping Agency (WADA), and accredited anti-doping laboratories, met in late November last year at FIFA's headquarters in Switzerland to hear the latest2 scientific and medical evidence on doping and agree priorities for action.

In an accompanying podcast, Professor Jiri Dvorak, FIFA Chief Medical Officer, explains that the meeting was prompted by the realisation that scientific advances in performance enhancing substances and the ingenuity of sports cheats were outpacing current anti-doping strategies.

"The fight against doping has intensified over the past 10 to 15 years, but the increase in simple sampling procedures has not stopped some athletes from continuing [to cheat]," he says.

Greater emphasis needs to be given to deterrents and prevention; the regular gathering of forensic intelligence; and collaboration between all the interested parties in sport, medicine, and science, he says.

"The deterrent effect of delayed testing with newly devised analytical methods is substantial," says the Consensus Statement, which suggests that in future it should be possible to detect the way in which doping can leave a "molecular signature" on individual cells.

FIFA started the biological passport initiative, explains Professor Dvorak in the accompanying podcast, but it needs to be more widely applied. It won't be cheap to begin with, he admits, but it will be much more effective over the long term.

Other approaches agreed include tailoring the assessment of doping risk to the demands of the individual sport. For example, cyclists or cross country skiers are likely to choose different substances and methods to illicitly boost their performance than those preferred by weight-lifters or

wrestlers, says the Statement.

Testing programmes also need to take account of the training periods of individual sports, and the degree to which doping has become a normal part of the culture. This type of "intelligent testing" will yield more results than quantity, says the Statement.

And all sports organisations ought to take the lead on making it clear that doping is not acceptable. They should "consistently emphasise that drug-taking behaviour is fundamentally contrary to the principles and precepts of sport—that is, against the spirit of the sport," it says.

More information: Time for change: a roadmap to guide the implementation of the World Anti-Doping Code 2015, *British Journal of Sports Medicine*, DOI: 10.1136/bjsports-2014-093561

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