

DRIED BLOOD SPOT (DBS) TESTING: THE BASICS

The collection of athletes' urine and blood samples is an important component of the doping control process that takes place to help protect clean sport.

To date, the collection of blood for doping purposes has been done using venipuncture, that is, taking blood samples from a vein in the arm.

WADA and other anti-doping organizations have conducted research to support the use of new testing methods that are easier, cheaper, and help to reduce the discomfort for athletes in the blood collection process.

It is important that Athletes and Athlete Support Personnel (ASP) **understand the basics of this method**: what is it and what is the sample collection process.

Dried Blood Spot (DBS), an innovative testing method, will continue to be implemented in the coming months and years to help in the detection of banned substances and methods in sport.

What is it?

DBS is a testing method that collects a few drops of blood from an athlete's fingertip or upper arm (instead of taking blood from a vein).

What is the DBS sample collection process?

1. Athlete will select a sealed sample collection/security kit.

There are 2 main categories of sample collections kits:

Cellulose based cards (special filter paper cards) **used to collect the blood from the fingertips**, in conjunction with a lancet/small blade.

Devices with microneedles (tiny needles) or microlancets **used to collect blood from the upper arm**.

2. Athletes will warm the sample collection site (the fingertip or the upper arm).

For example, by washing the hands in warm water, shaking the hand/arm, massaging the puncture site, or placing the hand/arm in a warm blanket or equivalent.

3. The Doping Control Officer (DCO) and/or the Blood Control Officer (BCO) will clean athlete's skin with a sterile disinfectant pad or swab.



4. If...

Collection of blood from the fingertips (with cellulose based cards)

Collection of blood from the upper arm (with microneedles devices)

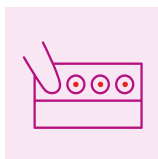
The puncture should be done with a lancet/small blade (the ring finger or middle are usually selected)



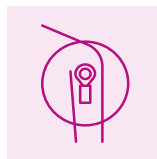
The first drop of blood will be cleaned with a dry sterile gauze pad



The paper cards have different spots. One drop of blood will be applied per spot. Only the drop of blood will enter into contact with the paper card and the finger shall not touch it



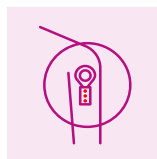
The DCO/BCO will apply device on the Athlete's arm



The DCO/BCO should press the button. In some cases, after receiving the necessary instructions from the DCO/BCO, athletes are permitted to press the button to engage the microneedle(s)/microlancet(s)



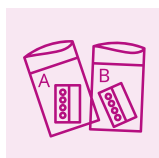
Athlete and DCO/BCO will wait until the collection of the blood is completed, once all the spots in the device are red



The DCO/BCO will remove the device from the Athlete's arm



5. The DCO and/or BCO will transfer the DBS samples into a secure kit that will be labeled as A&B



Athlete is responsible for sealing the kit with the A&B sample in the presence of the DCO/BCO.



All images shown are for illustration purpose only. Actual sample collection/security kit look may vary.

Finally...

- The requirement for the Athlete to remain seated for at least 10 minutes prior to providing a sample does not apply before a DBS Sample.
- As with urine and blood collection, after providing a sample, athletes need to complete and sign the Doping Control Form (DCF).
- If athletes have concerns to share about the sample collection process, it is important to write them down on the DCF.
- Learn more about the doping control process, including how an athlete is selected for testing, what happens when an athlete has to provide a sample, and athlete's rights and responsibilities in [ADEL](#) for International-Level Athletes.