ISTI

Blood Sample Collection Guidelines

Version 5.0
September 2016
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1.0 Introduction


The processes outlined in this document promote good practice moving forward, assisting Anti-Doping Organizations (ADOs) in the development of systems and protocols to support intelligent, effective Testing programs.

Withstanding exceptional and justifiable circumstances, No Advance Notice Testing shall be the method for Blood Sample collection. While the Sample collection process may vary slightly from the recommendations provided, mandatory ISTI provisions apply to maintain the integrity of the Sample and to ensure that the health and safety of the Athlete and Sample Collection Personnel are not compromised.

Blood Sample collection shall be consistent with the local standards and regulatory requirements regarding precautions in healthcare settings where those standards and requirements exceed the requirements set out in ISTI Annex E - Collection of Blood Samples. The procedure should be carried out by experienced professionals who 1) possess qualifications in phlebotomy recognized by the relevant public authorities, and 2) maintain the highest standards of hygiene and safety at all times.

1.1 Scope

The Guidelines cover the Blood Sample collection process, from roles and responsibilities; planning and preparation; Athlete selection, notification and chaperoning; venipuncture, Sample provision and after-care; post-Sample collection processing, sealing and storage; to transport of the Sample(s) to the Laboratory for analysis.

ADOs get practical advice on integrating Athlete Biological Passport (ABP) Testing into ‘traditional’ Testing activities. For detailed guidance on the implementation of an ABP Program, refer to WADA’s ABP Operating Guidelines, the ISTI Annex K and L and the International Standard for Laboratories (ISL).

Tips on how to use WADA’s Anti-Doping Administration and Management System (ADAMS) are also included.

For requirements specific to urine Sample collection, refer to the Urine Sample Collection Guidelines.
1.2 References

1.2.1 Defined Terms

The Guidelines include defined terms from the Code and these International Standards (IS): ISTI, ISL, and International Standard on Personal Privacy and Personal Information (ISPPPI). Code terms are written in italics. Terms from the IS are underlined.

Definitions are provided in Guidelines Section 11.0.

1.2.2 Documentation

The following are considered main references for the Blood Sample Collection Guidelines, all of which are available on WADA’s Web site:

- 2015 World Anti-Doping Code
- International Standard for Testing and Investigations
- ABP Operating Guidelines
- WADA’s Guidelines for Implementing an Effective Testing Program

Related support documentation is provided in Appendix 1:

- Integration of Multiple Blood Testing Types
2.0 Roles and Responsibilities

2.1 Testing Authority / Sample Collection Authority

ADOs contracting other ADOs or third parties to act as Sample Collection Authorities are considered Testing Authorities.

The Sample Collection Authority is responsible for the overall conduct of the Sample Collection Session. Main activities are listed below, some of which may be performed by the Testing Authority or delegated to the Doping Control Officer (DCO).

Unique to the Testing Authority role is instituting ISTI Annex A – Investigating a Possible Failure to Comply.

Preparation:

- Determine the necessary competence and qualification requirements of Sample Collection Personnel, establish an accreditation / re-accreditation system, and develop duty statements that outline their respective responsibilities.

- Appoint and authorize Sample Collection Personnel, ensuring personnel have been trained for their assigned responsibilities, have no conflict of interest in the outcome of the Sample collection and are not Minors.

- Maintain records of education, training, skills, and experience of all Sample Collection Personnel.

- Delegate specific responsibilities to the Doping Control Officer (DCO).

- Provide official documentation to Sample Collection Personnel validating their authority to collect a Sample from the Athlete, e.g. an authorization letter from the Testing Authority.

- Obtain the necessary information to ensure the effective conduct of the Sample Collection Session, including identifying if the Athlete has special requirements (ISTI Annex B - Modifications for Athletes with Impairments and Annex C - Modifications for Athletes who are Minors).

Athlete notification:

- Establish a system for locating the selected Athlete, planning the approach and timing of notification, and recording in detail Athlete notification attempt(s) and outcome(s).

- Establish criteria to validate the notified Athlete’s identity.
• Determine if a third party is required for notification prior to notification of the Athlete when the Athlete is a Minor or where required by an Athlete’s impairment (ISTI Annex B and C), or in situations where an interpreter is required.

**Sample collection:**

• Establish criteria for the authorization of who may be present during the Sample Collection Session in addition to Sample Collection Personnel.

• Develop a system to ensure that documentation is completed for each Sample and is securely handled.

**Post-test administration:**

• Define criteria ensuring that each Sample collected is stored in a manner that protects its integrity, identity and security prior to transport from the Doping Control Station. Minimum criteria include detailing and documenting the location where Samples are stored and who has custody of the Samples and/or is permitted access to the Samples.

• Authorize a transport system that ensures Samples and documentation are transported in a manner that protects their integrity, identity and security.

• Develop a system for recording Chain of Custody of the Samples and Sample collection documentation, including confirmation that both the Samples and collection documentation have arrived at their intended destinations.

• Develop a system to ensure that, where required, instructions for the type of analysis to be conducted are provided to the Laboratory conducting the analysis.

• Store documentation related to a Sample Collection Session and or an anti-doping rule violation in accordance with the International Standard for the Protection of Privacy and Personal Information (ISPPPI).
2.2 **Doping Control Officer**

One lead/senior DCO oversees the *Sample* Collection Session, ensuring that each *Sample* is properly collected, identified and sealed, and that all *Samples* have been properly stored and dispatched in accordance to the relevant analytical guidelines.

If professionally qualified, a DCO may also perform the duties of a Blood Collection Officer. This Guidelines document allows for both scenarios.

**On-site preparation:**

- Organize equipment, including all relevant documentation.
- Organize and brief *Sample* Collection Personnel on their roles and responsibilities prior to or upon arrival at the Blood Collection Facility, including *Athlete* notification, chaperoning and *Sample* collection (also urine collection, if applicable).
- Ensure that Chaperones are trained in carrying out relevant activities.
- Assess and organize the Testing facilities.

**Athlete notification:**

- Arrange or perform notification and escorting of *Athletes*.
- Liaise with sport representatives, if relevant.
- Ensure that the *Athlete’s* rights and responsibilities are explained.
- Explain, or arrange explanation of, the process for Blood *Sample* collection to *Athletes* and *Athlete Representatives*, as necessary.

**Sample collection:**

- Collect and/or oversee the *Sample* collection.
- Coordinate collection of accompanying urine *Sample*, if necessary.
- Witness, or arrange the witnessing of, *Sample* provision [for urine *Sample*].
- Ensure that each *Sample* is properly collected, identified and sealed.

**Post-test administration:**

- Oversee the post-collection process.
- Ensure all *Samples* have been properly stored and dispatched (accompanied by a temperature data logger) in accordance with the relevant analytical guidelines.
• Complete, or arrange completion of, and verify, the relevant documentation.
• Verify the Chain of Custody.
• Organize courier services, if necessary, and transport the Sample/s. Or organize on-site screening of Sample.

2.3 **Blood Collection Officer**

As mentioned, a qualified DCO may perform the duties assigned to the BCO.

**Qualifications:**

• Possesses qualifications in phlebotomy recognized by the relevant public authorities, with experience in Sample collection.
• Approved by the authorized collection agency to conduct the Blood Collection Procedure.

**Sample collection:**

• Answer relevant questions from Athletes about the procedure.
• Prepare the Athlete, collect a Blood Sample and advise the Athlete on aftercare procedures.
• Perform first aid on the Athlete if required.

**Post-test administration:**

• Dispose of the Sample Collection Equipment used in Sample collection as per the required local standards for handling blood.
• Verify the collection procedure and sign the relevant documentation.

2.4 **Chaperone**

A Chaperone may be assigned additional duties for urine Sample collection. The duties listed below relate to Blood Sample collection only.

**On-site preparation:**

• Receive training from the DCO. Chaperones with no experience are to be trained by the DCO on site.
• Training will include the requirements for notification, chaperoning and witnessing Sample provision (if applicable), and confidentiality obligations.
**Athlete notification:**

- Notify the *Athlete* in person as instructed by the *DCO*.
- Escort the *Athlete* from notification until arrival at the *Blood Collection Facility*.

### 2.5 Sample Collection Personnel

**Sample collection:**

- Conduct or assist with the *Sample Collection Session*.
- These individuals must:
  - Be trained and authorized for their assigned responsibilities;
  - Not have any conflict of interest in the outcome of the *Sample collection*; and
  - Not be a *Minor*.

### 2.6 Athlete

**Athlete notification:**

- Request the presence of an *Athlete Representative*, if desired.
- Be escorted from notification to *Sample provision*.

**Sample collection:**

- Report for *Doping Control* as soon as possible, and within the specified time frame, unless there are valid reasons for a delay (ISTI Article 5.4.4 (a), (b) and Guidelines Section 5.1.3).
- Provide valid ID.
- Remain within direct observation of the *DCO/Chaperone* at all times from the point of initial contact with the *DCO/Chaperone* to completion of the *Blood Collection Procedure*.
- Be accountable for any food or beverage consumed prior to *Sample provision*.
- Be familiar and comply with the *Sample collection process*.
- Be responsible at all times for his/her *Sample(s) from provision to sealing*. 
• Observe the procedure and ensure there are no irregularities (e.g. insufficient choice or inadequate equipment).
• Declare if remained in a normal seated position with feet on the floor for at least 10 minutes prior to providing a Sample.

[Important: Blood Samples should not be collected within 2 hours of training or Competition where ABP Testing is to be conducted or within 30 min of training or Competition where the analysis for Growth Hormone (GH) is to be conducted.]

• Declare any medication and/or supplements used in the past 7 days.
• Declare any blood transfusion(s) received, and/or blood lost due to accident, pathology or donation during the previous 3 months.
• Respond to questions related to the ABP such as use of hypoxic devices and training at an altitude greater than 1,500 meters in the previous 2 weeks, if applicable, or whether the Sample was collected immediately following at least three consecutive days of an intensive endurance Competition, such as a stage race in cycling.
• Declare any extreme environmental conditions the Athlete was exposed to during the last two hours prior to blood collection, including any sessions in any artificial heat environment, such as a sauna.
• Comment on the Sample collection process in the area(s) provided on the Doping Control documentation, if applicable; ask questions as needed.
• Sign documentation as requested by the DCO.

2.7 Athlete Representative
The presence of an Athlete Representative is optional, but strongly recommended for Athletes who are Minors or where required by an Athlete’s impairment (ISTI Annex B - Modifications for Athletes with Impairments and Annex C - Modifications for Athletes who are Minors).

Athlete notification:
• Accompany the Athlete during notification.
• Accompany the Athlete to the Blood Collection Facility.

Sample collection:
• Assist in the selection of equipment and the sealing process, if requested by the Athlete.
• Assist the Athlete in the completion of documentation, if requested by the Athlete.
• Be familiar and comply with the Sample collection process.
• Observe the Sample collection process and ensure there are no irregularities (e.g. insufficient choice or inadequate equipment).
• Sign documentation as requested by the DCO.
3.0 Preparation for the *Sample* Collection Session

The protocol for the *Sample* Collection Session is divided into the following areas.

3.1 Required Equipment and Supplies

The DCO ensures that required equipment and supplies are in place for the *Sample* Collection Session.

There may be slight variations in equipment. As a general rule, the following are to be available:

- a. Sterile needles.
- c. Disposable plastic syringes.
- d. Appropriate Vacutainer® collection tubes to draw a predetermined volume of blood. These may include serum separator tubes or and/or EDTA (anti-coagulant) tubes, as required.
- e. Sterile disinfectant pads.
- f. Disposable gloves providing barrier protection.
- g. Tourniquets.
- h. A disposal container for bio-hazardous waste.
- i. A bio-hazard spill kit.
- j. Adhesive bandage and gauze.
- k. A refrigerator, insulated cool box or isotherm bag.*
- l. Secure courier transport bags and seals.
- m. Transport temperature data logger.
- n. Soap, hand wash or anti-bacterial gel/liquid.
- o. Paper towels or other absorbent material.
- p. Garbage bin/ bags.
- q. Individually sealed non-alcoholic beverages.
- r. Scissors, pens and other applicable stationary.
- s. All *Doping Control* documentation.**
- t. Other equipment specified by the relevant Laboratory.
* Or any other storage and transport device capable of maintaining Blood Samples at a cool temperature during storage. Whole blood Samples shall not be allowed to freeze.

** Includes Doping Control forms, Athlete notification forms (if not part of the Doping Control form), supplementary report forms, Chain of Custody forms, DCO report forms, etc.

### 3.2 Sufficient Quantities

Sufficient quantities of *Sample Collection Equipment* should be made available to ensure:

- An *Athlete* selected for *Testing* has a choice of at least 3 Blood Sample collection kits at all times.

- The amount of Doping Control documentation supplied is based upon the number of tests being conducted.

Insufficient choice will not invalidate the legitimacy of the collection process, however it is recommended that both the *Athlete* and DCO or Athlete Representative (as assigned by the DCO) attest in writing to the adequacy of the equipment used.

### 3.3 System Criteria

*Sample Collection Equipment* systems are to:

1. Incorporate unique numbering systems into all bottles, containers or other items used to identify the Sample.

2. Provide a tamper-evident sealing system.

3. Ensure the identity of the *Athlete* is not evident from the equipment itself.

4. Ensure that all equipment is clean and intact prior to use by the *Athlete*.

### 3.4 Sample Collection Personnel Briefing

The DCO briefs the *Sample Collection Personnel* on their roles and responsibilities prior to or upon arrival at the Blood Collection Facility.

This includes Athlete notification, chaperoning, Blood Sample collection, and urine Sample collection, if applicable. (See ISTI Article 7 and WADA’s *Sample Collection Personnel: Recruitment, Training, Accreditation, and Re-Accreditation Guidelines*.)

*Sample Collection Personnel* appointed to conduct or assist with the *Sample Collection Session* must meet the qualifications listed in Guidelines Section 2.5.
Chaperones with no experience are trained by the DCO on site. Training requirements are listed in Guidelines Section 2.4.

During the briefing, the DCO presents official documentation (e.g. an authorization letter from the Testing Authority) to Sample Collection Personnel that details the DCO’s authority to collect a Sample from the Athlete.

ADOs provide and control the official authorization documentation used. Doping Control authorization letters can be automatically generated from ADAMS.

### 3.5 Facilities

Privacy, sole use and a high standard of cleanliness are required for a facility to be used as a Blood Collection Facility. The requirements are necessarily more stringent than for a Doping Control Station used for urine Sample collection.

If the facility does not meet these minimum requirements, the DCO may decide not to proceed with Testing.

The DCO documents the reasons for such a decision. ADOs can request that a sketch of the Blood Collection Facility be included in the DCO’s report.

#### 3.5.1 In-Competition Testing Criteria

In addition to meeting privacy, sole use and cleanliness requirements, Blood Collection Facilities are to:

- a. Maintain Athlete confidentiality.
- b. Be well lit and well ventilated.
- c. Provide managed entry with access restricted to authorized personnel.
- d. Be lockable and provide secure storage for Samples and Sample Collection Equipment.
- e. Contain a comfortable chair or bed for Sample provision and any aftercare that may be required.
- f. Contain a refrigerator, insulated cool box or isotherm bag.*
- g. Include a waiting area with chairs; a separate administration work area with a table and chairs for completion of paperwork; and adjacent toilet facilities for Sample provision that allow the Athlete to wash his/her hands, with cubicles large enough to accommodate the Witness (if applicable) and the Athlete.
- h. Be sized according to the number of Athletes, Athlete Representatives and Sample Collection Personnel who will occupy the area.
i. Be suitably located in relation to the field of play or other location where Athletes will be notified.

j. Contain a selection of sealed, non-alcoholic drinks for Athletes, if possible.

* Or any other storage and transport device capable of maintaining Blood Samples at a cool temperature during storage. Whole blood Samples shall not be allowed to freeze.

** Athlete Transportation **

Should the Blood Collection Facility be some distance from the sporting venue where the Athletes compete/finish, the DCO is to arrange with the Event organizer appropriate transportation for Athletes, Athlete Representatives and Sample Collection Personnel – both to the Blood Collection Facility and either back to the venue or other agreed location/s upon completion of the Sample collection process.

3.5.2 Out-of-Competition Testing Criteria

Blood Collection Facilities used are to:

a. Meet the privacy, cleanliness and sole use requirements; and

b. Provide a suitable waiting area and work station, where possible.

For Out-of-Competition Testing, the facility serving as the ‘Blood Collection Facility’ might be an Athlete’s home or a hotel room vs. an officially designated Blood Collection Facility.

3.5.3 Access Restrictions

The DCO can assign Sample Collection Personnel to monitor access to the Blood Collection Facility to ensure admission of authorized persons only, or request the Event organizer to assign personnel.

Doping Control Station access is restricted to the Athlete, the Athlete Representative, an interpreter (if required), and Sample Collection Personnel, unless otherwise approved by the DCO.

Additional personnel requesting access may include an International Federation (IF) representative, an ADO observer, a Testing Authority or Sample Collection Authority observer, an auditor, or a WADA observer, where applicable under the Agency’s Independent Observer Program (ISTI 6.3.3 (d)).

These personnel are required to present the DCO with adequate identification and accreditation upon arrival at the Blood Collection Facility.

** Members of the media are not allowed entry ** to the Blood Collection Facility at any time.
4.0 Athlete Selection

The DCO follows the Athlete selection policy of the Testing Authority or Sample Collection Authority. This may include one or all of the following:

- Target Testing (named Athletes or categories)
- Random Selection.

Following Athlete selection, the DCO ensures that selection decisions are disclosed on a need-to-know basis only to ensure No Advance Notice Testing.

4.1.1 Target Testing

For Target Testing, the Testing Authority or Sample Collection Authority specifies to the DCO which Athletes they require for Testing. Selections and/or selection methods are to be clearly communicated to the DCO (e.g. detailing selections in an ADAMS mission order).

In some instances, the Testing Authority or Sample Collection Authority may choose to give the DCO discretion to select additional Athletes for Target Testing.

Such an arrangement is to be agreed upon prior to the Sample Collection Session, and comprehensive guidance provided to the DCO in writing by the Testing Authority or Sample Collection Authority. The DCO does not discuss Target Testing or the selection criteria with an Athlete or Athlete Representative.

See ISTI Article 4.5.2 for factors a Testing Authority or Sample Collection Authority are to consider when selecting Athletes for Target Testing.

4.1.2 Random Selection

The Testing Authority or Sample Collection Authority may use one of the following selection criteria for Random Selection.

The selection criteria chosen should be fair, transparent and appropriate for the sport, e.g.:

- Finishing position.
- Vest/jersey number.
- Entry number.
- Lane number.

Once the criteria have been determined, the actual selection method may be one of the following, or any other fair and transparent method of selection:

- Numbered cards placed face-down on a table.
• Random draw of numbers (or names) from a closed container such as a cloth bag.
• Use of an electronic random number generator.

To provide transparency and accountability, Random Selection made in the field may be witnessed by a coach or sporting official, or may be shown to the selected Athlete or coach or sporting official if requested, after the Athlete’s notification.

In addition to determining the selection criteria, the Testing Authority or Sample Collection Authority may wish to put in place certain contingencies for specific scenarios, e.g.:

• A signature on the back of numbered cards;
• Randomly drawing of an additional ‘reserve’ Athlete to be tested in the event that a serious injury inhibits an Athlete from conducting Doping Control; or
• Putting a contingency in place for ‘dead-heats’ or disqualifications. All contingencies put in place are to be fully communicated and provided in writing to all relevant Sample Collection Personnel.

4.2 Sample Collection Timing

4.2.1 ABP Testing

If collection occurs after training or Competition, test planning shall consider the Athlete’s whereabouts information to ensure Testing does not occur within two hours of such activity.

If the Athlete has trained or competed less than two hours before the time the Athlete has been notified of his/her selection, the DCO or other designated Sample Collection Personnel shall chaperone the Athlete until this two-hour period has elapsed.

If the Sample was collected within two hours of training or Competition, the nature, duration and intensity of the exertion shall be recorded by the DCO/BCO to make this information available to the APMU and subsequently to the Experts.

4.2.2 GH testing

Tests to analyze for the presence of exogenous Growth Hormone (GH or its Markers) are not to be scheduled within 30 minutes of physical exertion (training or Competition). the Athlete’s whereabouts information shall be consulted to ensure that Testing does not occur within 30 minutes of such activity.
If the **Athlete** has trained or competed less than 30 minutes prior to his/her selection notification, the DCO, BCO or other **Sample Collection Personnel** are to chaperone the **Athlete** until this 30 minute period has elapsed.

If a **Sample** is taken within 30 minutes of training or **Competition**, the DCO/BCO records the nature, duration and intensity of the exertion in the mission documentation, then provides this information to the **Testing Authority**.

### 5.0 **Athlete Notification**

The **Sample Collection Authority**, DCO or Chaperone, as applicable, performs the following sequence of actions:

1. Establish the location of the selected **Athlete**, and plan the approach and timing of notification, taking into account the specific circumstances of the sport/Competition/training session/etc., and the situation, as per **No Advance Notice Testing**.

   The DCO takes into consideration all logistical factors, (e.g. venue-specific, sport-specific, etc.) when planning the appropriate timing and approach for **Athlete** notification. Among the factors to consider:
   - Challenges faced in sports with mass finishes.
   - The presence of a mixed zone at the venue.
   - Using Technical Delegates of the **Competition** to assist in identifying/confirming final positions.
   - Sports where it’s common that **Athletes** are **Minors** and/or have an impairment that may require a third party present during notification.

2. The DCO communicates relevant factors to all **Sample Collection Personnel** in advance.

3. The DCO identifies himself/herself and shows the **Athlete** the official authorization documentation provided by the **Testing Authority** or **Sample Collection Authority** that has granted the authority to test.

   Additional photo ID is carried by the DCO that includes name, photograph, and the documents’ expiry date, i.e. ID card from the **Sample Collection Authority**, driver’s license, passport, or similar valid ID.
Chaperones are not required to provide name or photo ID, but are to produce official authorization documentation that is provided by the Testing Authority or Sample Collection Authority (e.g. authorization letter).

4. The DCO/Chaperone ensures that the Athlete is the first person notified that he/she has been selected for Sample collection.

Exceptions:

- The Athlete is a Minor, has a impairment and/or an interpreter is needed, and the Testing Authority or Sample Collection Authority/DCO/Chaperone considers it a requirement to notify a third party prior to the notification of the Athlete. Any third party notification must be conducted in a secure and confidential manner so that there is no risk that the Athlete will receive any advance notice of his/her selection for Sample collection. Generally, notification should occur at the end of the Competition in which the Athlete is competing.

- The DCO/Chaperone requires assistance from a third party (e.g. sport representative) in locating, identifying and/or notifying the Athlete(s) selected for Testing, due to the DCO/Chaperone being unfamiliar with the Athlete or the venue at which the Sample Collection Session is taking place (e.g. In-Competition Testing or Training at training camps). In either scenario, the DCO/Chaperone provides the initial notification directly to the Athlete and, where applicable, through an interpreter.

5. The DCO/Chaperone verbally confirms the Athlete’s identity as per the criteria set by the Testing Authority or Sample Collection Authority and records the form of ID in the Doping Control documentation (ISTI Article 5.3.4).

Formal identification:

Formal identification can be established by photo ID, starting number, accreditation, third party Witness, or other viable method as established by the Testing Authority and Sample Collection Authority.

If the Athlete’s identity is unknown and cannot be confirmed, the DCO decides if it is appropriate to follow up in accordance with ISTI Annex A – Investigating a Possible Failure to Comply. The DCO documents this and contacts the Testing Authority or Sample Collection Authority for instructions.
DCOs with a cell phone can take a photograph of the Athlete and forward the photo with their report.

An Athlete’s inability to provide photo ID shall not invalidate a test.

6. The DCO/Chaperone shows the Athlete the notification form (which may be part of the Doping Control form), and then notifies the Athlete of the following:

   a. The Athlete has been selected for Testing and is required to undergo Sample collection.

   b. The authority conducting the Sample collection. (The Testing Authority is the ADO that initiated and authorized the Sample Collection Session.)

   c. The type of Sample collection (i.e. blood, urine or both) and any mandatory conditions prior to Sample collection, including the requirement for the Athlete to provide their Sample in direct observation of a DCO/Chaperone.

   d. The requirement to undergo Testing without delay.

   e. The DCO shall use their discretion if an Athlete cannot undergo a test without delay. The DCO/Chaperone shall inform the Athlete of the possible Consequences of Anti-Doping Rule Violations (Consequences) for failing to submit to Blood Sample Testing.

   f. The Athlete’s rights, including the right to:

      - Have an Athlete Representative present throughout the course of the entire Sample collection process (other than Sample provision) and, if available, an interpreter.

      - Ask questions and request additional information about the Sample collection process.

      - Request a delay in reporting to the Blood Collection Facility for valid reasons (ISTI Article 5.4.4 (a), (b) and Guidelines Section 5.1.3).

      - Request modifications to the Sample collection procedure if the Athlete is a Minor and/or has an impairment (ISTI Annex B - Modifications for Athletes with Impairments and Annex C - Modifications for Athletes who are Minors).

   g. The Athlete’s responsibilities (Guidelines Section 2.6), including the requirement to:
- Remain within direct observation of the DCO/Chaperone at all times from the point of notification by the DCO/Chaperone until the completion of the Sample collection process.
- Produce appropriate and valid ID.
- Be familiar and comply with the Sample collection procedures. (The Athlete should be advised of the possible Consequences of Failure to Comply.)
- Report for Doping Control immediately, unless there are valid reasons for a delay (ISTI Article 5.4.4 (a), (b) and Guidelines Section 5.1.3).

h. The location of the Blood Collection Facility.

i. The Athlete consumes food or fluids prior to providing a Sample at his/her own risk.

7. The DCO/Chaperone provides the Athlete notification form to the Athlete to read and sign.

8. If an Athlete copy of the official notification record exists, the DCO/Chaperone provides it to the Athlete.

The DCO/Chaperone is to encourage the presence of a third party during the notification process if an Athlete is a Minor and/or has an impairment, and requests an interpreter and/or Athlete Representative.

5.1 Reporting Delays

The DCO or other authorized Sample Collection Personnel documents any reasons for the Athlete’s delay in reporting to the Blood Collection Facility and/or reasons for leaving the Blood Collection Facility that may require further investigation by the Testing Authority and/or Sample Collection Authority. Failure of the Athlete to remain under constant observation is also recorded in the DCO report.

5.1.1 Inability to Locate the Athlete

If a selected Athlete is not located based on available Whereabouts Filing, the DCO attempts to locate the Athlete by other means, based on the circumstances (i.e. the nature of the specified location), with No Advance Notice Testing the method of
notification. The DCO contacts the Testing Authority or the Sample Collection Authority for further instructions if he/she is unable to locate the Athlete.

If the DCO attempts to locate the Athlete for Out-of-Competition Testing during a specific 60-minute timeslot designated in the Athlete’s Whereabouts Filing, the DCO follows the procedures in the ISTI I.4.3 (b) and (c)

To determine what is reasonable in such circumstances, see WADA’s Guidelines for Implementing an Effective Testing Program.

5.1.2 Athlete Failure to Comply

If the Athlete refuses to sign that he/she has been notified, or evades notification, the DCO/Chaperone shall make all reasonable attempts to persuade the Athlete to comply, including re-informing the Athlete of the Consequences of refusing or Failure to Comply.

If the Athlete continues to refuse, the DCO/Chaperone report all relevant facts to the DCO immediately, and the DCO attempts to notify the Athlete.

The DCO shall endeavor to obtain Witness signatures to confirm the Athlete’s refusal, and shall contact the Testing Authority and/or Sample Collection Authority for further instructions as soon as possible.

5.1.3 Requests for Delay or Departure

The DCO may at his/her discretion consider any reasonable third party requirement or Athlete request for permission to:

a. Delay reporting to the Blood Collection Facility following acknowledgment and acceptance of notification; and/or

b. Leave the Blood Collection Facility temporarily after arrival.

Such permission shall only be granted if the Athlete can be continuously chaperoned and kept under direct observation during the delay.

Delayed reporting to and/or temporary departure from the Blood Collection Facility may be permitted for? the following activities:

In-Competition Testing:

1. Participating in a presentation ceremony.
2. Fulfilling media commitments.
3. Competing in further Competitions.
4. Performing a warm down.
6. Locating a representative and/or interpreter.
7. Obtaining photo ID.
8. Any other reasonable circumstances, as determined by the DCO, taking into account any instructions of the Testing Authority.

**Out-of-Competition Testing:**

1. Locating an Athlete Representative.
2. Completing a training session.
4. Obtaining photo ID.

Any other reasonable circumstances, as determined by the DCO, taking into account any instructions of the Testing Authority.

### 6.0 Athlete Chaperoning

#### 6.1 Prior to Arrival at the Blood Collection Facility

The DCO/Chaperone ensures that the Athlete remains under continuous observation from notification to completion of the Blood Collection Session. A DCO/Chaperone may swap with another DCO/Chaperone to maintain continuous observation of the Athlete.

#### 6.1.1 Timing of Notification Considerations

It is recommended that the DCO consider in advance relevant sport-specific and venue-specific factors that could affect the timing of notification and the chaperoning process, e.g.:

- Sports in which Athletes frequently compete in more than one Event, potentially prolonging the chaperoning process; or
- Post-Event activities required to be performed by the Athlete, and their timing (i.e. a presentation ceremony or press conference).
6.1.2 Food and Drink Precautions

The DCO/Chaperone cannot prevent the Athlete from eating or drinking products of his/her choice, but is to recommend that the Athlete choose from a selection of individually sealed, non-alcoholic beverages to hydrate.

The DCO/Chaperone should not handle food or drink items for the Athlete.

6.1.3 Irregularities in Notification and/or Suspicious Behavior

With discretion and without leaving the Athlete unattended, the Chaperone is to inform the DCO as soon as possible of any irregularities in notification and/or suspicious Athlete behavior during the observation period.

If relevant, the DCO documents the irregularities and determines if Investigating a Possible Failure to Comply (ISTI Annex A) is appropriate, if he/she believes the irregularities and/or suspicious behavior may have compromised the Sample Collection Session.

The Testing Authority is responsible for establishing guidelines for what constitutes suspicious Athlete behavior (e.g. by evading observation, ingesting an unidentified substance, making a distressed call to a coach, or other unusual behavior).

The DCO is to attempt to complete the Sample Collection Session.

6.2 Arrival at the Blood Collection Facility

Upon the Athlete’s arrival at the Blood Collection Facility with a DCO/Chaperone and, if applicable, an Athlete Representative and/or interpreter, the Athlete’s photo ID or other means of identification shall be provided to the DCO.

Inability to provide photo ID does not invalidate a test. Alternative methods of Athlete identification are outlined in Guidelines Section 4.0, bullet 5.

If the Athlete is also providing a urine Sample at the same session, the DCO may request that the Athlete provide the Blood Sample first if the Athlete is not ready to provide a urine Sample.

Irrespective of the Testing type, once the Athlete has arrived at the Blood Collection Facility/Doping Control Station he/she must be under observation at all times until Sample collection is completed.

The DCO/BCO ensures the Athlete is offered comfortable conditions and instructs the Athlete to remain in a normal seated position with feet on the floor for at least 10 minutes prior to providing a Blood Sample. Where possible, the DCO assigns the role of monitoring each Athlete’s 10-minute seated rest period to a member of the
Sample Collection Personnel. This duty may be conducted in conjunction with maintaining an entry and exit log.

A Blood Sample shall be collected from one Athlete at a time, and each Athlete’s privacy ensured.

[Comment: the Athlete shall not stand up at any time during the 10 minutes prior to ABP Sample collection. To have the Athlete seated during 10 minutes in a waiting room and then to call the Athlete out in a blood test room is not acceptable.]

6.2.1 Entry and Exit

An entry and exit log is maintained to record the names of the persons entering the Blood Collection Facility, their role in the Sample Collection Session, and the arrival and departure times, in instances where multiple Athletes will be tested in a short period of time.

The Athlete may request to temporarily leave the Blood Collection Facility for a period of time, for reasons defined in Guidelines Section 5.1.3.

If the DCO approves the Athlete’s request, the DCO shall agree with the Athlete on the following conditions of leave:

   a. The purpose of the Athlete leaving the Blood Collection Facility;
   b. The time of return upon completion of an agreed activity;
   c. The Athlete must remain under continuous observation throughout.

The DCO shall document the time of the Athlete’s departure and return.

If a Chaperone is not available to escort the Athlete, the DCO asks the Athlete to remain in the Doping Control Station until one is.

If an Athlete insists on leaving the Blood Collection Facility without a Chaperone, the DCO is to advise the Athlete of the possible Consequences of Failure to Comply and document the circumstances.

6.2.2 Other Considerations

The Athlete shall be provided with the opportunity to hydrate. If the Athlete is also providing a urine Sample at the same session, he/she is to be advised not to hydrate excessively, due to the requirement to provide a Sample with a Suitable Specific Gravity for Analysis. Sample Collection Personnel shall advise the Athlete and Athlete Support Personnel as appropriate of this requirement at the time of Notification in order to discourage excessive hydration prior to the provision of the Athlete’s first sample. If his/her first Sample is too dilute, he/she shall be advised
to not hydrate any further until a Sample with a Suitable Specific Gravity for Analysis is provided.

Before Sample collection, the DCO asks the Athlete whether he/she has been tested before, and whether he/she requires an explanation of the Blood Collection Procedure. If the Athlete has not been tested before, or requests an explanation of the procedure, the DCO should explain the Blood Collection Procedure.

At a minimum, the DCO ensures the Athlete is informed of the Sample Collection Session requirements and his/her rights and responsibilities.
7.0 Conducting the **Sample** Collection Session

7.1 Venipuncture

The type of equipment used for blood collection and the post-collection process differs depending on the type of analysis required.

The *Blood Sample* collection kit typically includes a sterile needle, syringe and the relevant Vacutainer® tube(s) packaged together in a sealed bag. If kits contain only one Vacutainer®, and an A and B *Sample* are required, the *Athlete* chooses 2 *Blood Sample* collection kits.

The recommended Vacutainers® identified below have been fully validated by WADA and/or WADA-accredited Laboratories. Alternate equipment that meets the same criteria identified is to be validated by WADA and/or the relevant Laboratory prior to use, and *Blood Sample* collection is to be consistent with the methodology presented here.

7.1.1 Whole Blood or Plasma

Collection of blood for analysis of *Prohibited Substances* and *Methods* in whole blood (e.g. detection of blood transfusion) or in plasma (e.g. HBOCs and ESAs):

- Number of *Samples*: 2 (*A Sample* and *B Sample*).
- Volume required: 2 x 3mL (or as specified by relevant Laboratory).
- BD Vacutainer®: K2EDTA (K2) CE cat no 368856/ref US 367856.
- The tube used contains EDTA as anti-coagulant. The contents must be homogenized as soon as possible after collection (e.g. tubes should be gently inverted at least three times). The contents shall then be sent to Laboratory with no further action.

7.1.2 Serum

Collection of blood for analysis of *Prohibited Substances* and *Methods* in serum (e.g. detection of GH, HBOCs and ESAs):

- Number of *Samples*: 2 (*A Sample* and *B Sample*).
- Volume required: 2 x 5mL (or as specified by relevant Laboratory).
- BD Vacutainer® SST™-II, EU ref 367955 or BD Vacutainer® SST™-II Plus Advance tubes, EU ref 367954.
- Blood is drawn into a tube that has an inert polymeric serum separator gel and a clotting activation factor.
The contents must be homogenized as soon as possible after collection. The contents shall then be sent to Laboratory with no further action.

7.1.3 Athlete Biological Passport

Collection of blood for analysis of the variables of the ABP:

- **Number of Samples**: 1 (no B Sample required).
- **Volume required**: 1 x 3mL (or as specified by relevant Laboratory).
- **The tube used contains solid EDTA as anti-coagulant.**

The contents must be homogenized as soon as possible after collection (e.g. tubes should be gently inverted at least three times). The contents shall then be sent to Laboratory or WADA-Approved Laboratory for the ABP with no further action.

Although a single blood Sample is sufficient within the framework of the ABP, it is recommended to collect an additional “B” Sample for a possible subsequent analysis of Prohibited Substances and Methods in whole blood (e.g. detection of Homologous Blood Transfusion (HBT), and/or Erythropoiesis Stimulating Agents (ESAs).

7.2 Selection of Sample Collection Equipment

Selection of Sample Collection Equipment follows this sequence of actions:

1. After the required rest period, and the DCO/BCO explanation of the Blood Collection Procedure, the DCO directs the Athlete to choose the appropriate number of Blood Sample collection kits, as required by the Sample Collection Authority.

2. The Athlete and DCO check that the selected equipment is clean and all seals are intact and have not been tampered with.

3. If either the Athlete or DCO is not satisfied with a selected kit, the Athlete may select another. If the Athlete is not satisfied with any kits and no others are available, the DCO records this.

   **Recommended**: Provide the Athlete with at least 3 Blood Sample collection kits from which to select.

4. If the DCO does not agree with the Athlete’s opinion that all of the available kits are unsatisfactory, the DCO instructs the Athlete to proceed with the Sample Collection Session.

5. Should the Athlete not wish to proceed with the Sample Collection Session, the DCO advises the Athlete of the possible Consequences of Failure to Comply.
6. If the DCO agrees that none of the equipment is satisfactory, he/she ends the Sample Collection Session, and records the reasons for termination.

7. Once the Sample collection kit has been selected, the DCO/ BCO labels the collection tubes with a unique Sample code number if not pre-labelled.

8. If the kit includes pre-printed bar code labels, the Athlete removes these labels and verifies with the DCO that the code numbers match.

9. If the Athlete or DCO finds that the numbers do not match, the DCO instructs the Athlete to choose another kit, and documents the occurrence.

10. The Athlete places one label longitudinally on each of the Vacutainer® tubes. The label is to be placed towards the top of the tube(s), near the cap. The Athlete may authorize the DCO, or the Athlete Representative to place the labels on the tubes.

11. The DCO records the numbers, and the Athlete and the DCO check the documentation to ensure that the DCO accurately recorded the information.

12. The Athlete gives the BCO the Blood Sample Collection Equipment, including the Vacutainer(s)®. The BCO assembles the equipment in sight of the Athlete.

### 7.3 Sample Provision

Sample provision follows this sequence of actions:

1. The BCO assesses the most suitable arm for Venipuncture. This will always be the non-dominant arm, unless the BCO assesses the other arm to be more suitable or the Athlete requests a specific arm.

2. If the BCO believes that a Butterfly Needle is required for Venipuncture, the Athlete will be asked to select a Butterfly Needle from a selection of sealed needles. The Blood Collection Procedure then continues.

3. The BCO cleans the skin with a sterile disinfectant wipe or swab in a location unlikely to adversely affect the Athlete or his/her performance and, if required, applies a tourniquet. The BCO takes the Blood Sample from a superficial vein. The tourniquet, if applied, shall be immediately removed following the Venipuncture. It is recommended that the tourniquet, if applied, should be released when the blood starts to flow and no more than 1 min after application.

4. The BCO collects the amount of blood adequate to satisfy the relevant analytical requirements for the type of Sample analysis to be conducted. The collection vessel (s) are always to be kept in full view of the Athlete.
5. If the BCO is unable to draw sufficient blood from the first attempt, the procedure is repeated up to a maximum of 3 attempts in total. Should all 3 attempts fail to produce a sufficient amount of blood, the BCO informs the DCO, who terminates collection and records the reasons for terminating the collection.

6. The BCO applies a dressing to the puncture site(s).

7. The BCO disposes of used Blood Sample Collection Equipment in accordance with the required standards for handling blood.

8. The recommended temperature data logger used to monitor storage and transport conditions should be turned on to ensure cool conditions before Samples are placed inside the cool box.

9. If the Sample requires further on-site processing, such as centrifugation or separation of serum (e.g., in the case of a Sample intended for use in connection with the ABP Program, after the blood flow into the tube ceases, the BCO shall remove the tube from the holder and homogenize the blood in the tube manually by inverting the tube gently at least 3 times), the Athlete shall remain to observe the Sample until final sealing in secure, tamper-evident kit.

7.4 Aftercare Procedure

After withdrawing the needle from the Athlete’s arm, the BCO places a pad over the puncture site and instructs the Athlete to press firmly on the pad. The BCO may also choose to apply pressure to the wound.

If necessary, pressure shall be applied for 2 to 3 minutes prior to the Sample sealing procedure. The BCO assesses the wound and indicates to the Athlete and the DCO when the Athlete is ready to proceed.

The BCO/DCO advises the Athlete not to undertake any strenuous exercise using the arm for at least 30 minutes to minimize potential bruising.

The BCO is to be prepared to conduct first aid if necessary.

7.5 Post-Collection Processing

7.5.1 Analysis of Whole Blood or Plasma

For the analysis of whole blood or plasma, the 2 x 3mL Blood Samples, comprising of an A and B Sample (or the Sample collected for the purposes of the ABP) invert gently at least three times to mix the blood with the anti-coagulant contained in the tube in order to avoid clot formation. This step shall be taken as soon as possible.
The Blood Samples are then be sealed and prepared for transportation as per Guidelines Section 7.6.

### 7.5.2 Analysis of Serum

For the analysis of serum, the 2 x 5mL Blood Samples, comprising of an A and B Sample should be inverted gently to initiate clotting and remain at room temperature for the time recommended by the tube manufacturer (15 minutes for BD Vacutainer® SST II advance tubes) before being sealed and made ready for transportation in accordance with Guidelines Section 7.6.

Samples collected that require being left at room temperature for a pre-determined length of time (as specified by the tube manufacturer) are monitored by the DCO. The Athlete is asked and encouraged to remain and observe his/her Samples during this time. If the Athlete declines to do so, this in no way invalidates the test. The Sample Collection Authority may ask the DCO to record details of any Athlete who does not remain to observe their Samples during this period.

### 7.6 Sealing of the Blood Samples

The Athlete seals his/her Sample into the Sample collection kit as directed by the DCO. The Athlete may request the DCO or the Athlete Representative to complete this process on his/her behalf.

In full view of the Athlete, the DCO checks that the sealing is satisfactory. The DCO ensures the Blood Samples are stored upright in a secure, preferably cool, location (i.e. transport bag) until ready to proceed to transport of Samples (Guidelines Section 9.0).

### 7.7 Completing the Doping Control Form

The DCO instructs the BCO to sign the Doping Control form to confirm that he/she collected a Blood Sample from the Athlete in accordance with ISTI mandatory procedures.

The DCO requests the Athlete to document any blood transfusions over the last three months and to provide information on all medications and/or supplements taken within the time period specified on the Doping Control form, including those which may affect the blood’s ability to clot. The recommended period for medication information is 7 days.
The DCO checks all information on the form with the Athlete and the Athlete’s Representative (if applicable) to confirm that it accurately reflects the details of the Sample Collection Session, and fills in any incomplete areas in view of the Athlete.

The Athlete is given the opportunity to complete the comments section of the form if he/she has any concerns or comments regarding how the Sample Collection Session was conducted. If there is insufficient space on the form, the Athlete is provided a supplementary report form.

The Athlete and the Athlete Representative (if present) are invited to check that all information on the form accurately reflects the details of the Sample Collection Session. The Athlete is invited to complete the comments section of the form if he/she has any concerns or comments regarding the procedure. If there is insufficient space on the form, the Athlete is provided a supplementary report form.

If present, the Athlete’s Representative signs the Doping Control form.

The Athlete and DCO then sign the Doping Control form.

The DCO provides the Athlete with a full copy of the Doping Control form, the supplementary report form (if used) and any other documentation signed by the Athlete.

Unless also required to provide a urine Sample, the Athlete can leave the Doping Control Station.

If an Athlete is also required to provide a urine Sample, and the Doping Control form records both blood and urine collection, the paperwork will not be fully completed until after collection of both urine and blood Samples.

A comprehensive list of the information to be recorded on the form at a minimum is provided in ISTI Article 7.4.5.

### 7.7.1 Blood-only Doping Control Form

The DCO, the Athlete Representative (if present) and the Athlete then sign the Doping Control form.

### 7.7.2 ABP Doping Control Form

If the Sample is to be used in connection with the ABP Program, the DCO/BCO uses the Doping Control form specific to the ABP. If unavailable, the DCO/BCO uses a regular Doping Control form, but he/she shall collect and record the following additional information on a supplementary report form to be signed by the Athlete and the DCO/BCO:
a. Confirmation that the Athlete did not participate in training or Competition in the last 2 hours before the Sample was collected (see ISTI Annex E Article E.4.5);

b. If the Athlete trained, competed or resided at an altitude greater than 1,500 meters in the previous 2 weeks. If so, or if in doubt, the name and location of the place(s) where the Athlete has been, the duration of his/her stay and the estimated altitude (if known).

c. If the Athlete used any form of altitude simulation (such as a hypoxy tent, mask, etc.) in the previous 2 weeks. If so, as much information as possible on the type of device and the manner in which it was used (frequency, duration, intensity, etc.);

d. If the Athlete received any blood transfusion(s) during the previous 3 months. If there was any blood loss due to accident, pathology or donation in the previous 3 months. In either case, if so, the estimated volume.

e. If the Sample was collected immediately following at least three consecutive days of an intensive endurance Competition, such as a stage race in cycling; and

f. Record any extreme environmental conditions the Athlete was exposed to during the last two hours prior to blood collection, including any sessions in any artificial heat environment, such as a sauna.

7.7.3 Urine/Blood Doping Control Form

If the urine Sample has already been collected, the DCO, the Athlete Representative (if present) and the Athlete sign the Doping Control form.

If the urine Sample has not yet been collected, the Athlete provides a urine Sample. The DCO, the Athlete Representative (if present) and the Athlete then sign the Doping Control form.

The DCO gives the Athlete a full copy of the form.

The Athlete can now leave the Blood Collection Facility.
8.0 Sample Storage and Laboratory Documentation

The Sample Collection Authority defines criteria ensuring that each Sample collected is stored in a manner that protects its identity, integrity and security prior to transport from the Blood Collection Facility.

At a minimum, these criteria should include detailing and documenting up until the Sample arrives at its intended destination, the location where Samples are stored; how the Samples are stored; who has custody of the Samples; and/or who is permitted access to the Samples. The DCO ensures that any Sample stored complies with these criteria.

The DCO shall keep the Samples secure and under his/her control until they are passed to the courier.

The Blood Samples must be stored in a cooled state, preferably in a refrigerator or cool box.

If storage conditions did not meet the guidelines for temperature, the DCO shall document this, and shall also contact the Sample Collection Authority immediately to inform them of the variation in temperature, and the length of time the Samples were affected.

If the temperature deviates from a cool and consistent temperature as identified by the data logger, for a period of time likely to affect the composition of a Blood Sample as determined by the recipient Laboratory, the Testing Authority and Laboratory determine if Sample analysis should proceed.

If the Sample is intended for use in connection with an ABP Program, the DCO/BCO shall place it in a storage device that is capable of maintaining Blood Samples at a cool temperature for the duration of the period of storage and transport but without allowing whole Blood Samples to freeze (such as a refrigerator, an insulated cool box, an isotherm bag, or any other device with such capability).

A temperature data logger shall be used to record the temperature of the Sample during storage and transport. In choosing the storage device, the Sample Collection Authority shall take into account the duration of the period of storage and transport, the number of Samples to be stored together, and the prevailing environmental conditions (hot or cold temperatures). See ISTI – Annex K.4 for the detailed protocol on the storage and transport of Blood Samples for the Athlete Biological Passport.

The DCO completes the appropriate documentation for each transport bag/container to ensure that the Laboratory can verify the contents, and follows the Sample Collection Authority’s system to ensure that analysis instructions (e.g. type of analysis required) are provided.
The DCO completes the Laboratory advice form/Chain of Custody form, and if relevant, records the time(s) the transport bag is opened and resealed.

The Laboratory copies of this form and the Doping Control form are placed in the transport bag with the Samples. The transport bag is then sealed, preferably in the presence of a Witness. The minimum level of documentation the Sample Collection Authority provides to the Laboratory is outlined in ISTI Articles 7.4.5 c), f), h), j), k), l), , p), q), y), z), and aa) for result reporting and statistical purposes.

For Blood Samples collected for the analysis of GH in serum using the Biomarkers method, the age of the athlete (rounded down to the nearest year) needs to be included in the documentation that will accompany the Samples to the Laboratory.

Documentation identifying the Athlete is not included with the Samples or documentation sent to the Laboratory analyzing the Samples.

All documentation relevant to the Sample Collection Session should be forwarded to the Sample Collection Authority by the approved method as soon as practicable upon completion of the Sample Collection Session.

Documentation related to a Sample Collection Session and/or an ADRV shall be stored by the Testing Authority and/or the Sample Collection Authority for the period specified in the ISPPPI.

Due to the more stringent temperature and analysis requirements for blood, Blood Samples and urine Samples may be transported separately. However, the relevant paperwork linking the two Samples shall be included with each shipment.

## 9.0 Transport of Samples

The DCO is responsible for Sample transport and ensures the transport procedure follows ISTI Article 9.0 criteria.

Anti-Doping Organizations should discuss transportation requirements for particular missions (e.g., where the Sample has been collected in less than hygienic conditions, or where delays may occur in transporting the Samples to the laboratory) with the laboratory that will be analyzing the Samples, to establish what is necessary in the particular circumstances of such mission (e.g., refrigeration or freezing of the Samples).

Samples shall be transported in a device that maintains the integrity of Samples and minimizes the potential for Sample degradation due to factors such as time delays and extreme temperature variations.
Blood **Samples** are to be dispatched as soon as possible after collection, ideally arriving at the **Laboratory** on the same day.

If the **Sample** is intended for GH analysis with the Differential Immunoassays (Isoforms) method, the **Sample** shall be analyzed within 96 hours from collection (for more details, please refer to the TD GH in effect).

If the **Sample** is intended for GH analysis with the Biomarkers method, the **Sample** shall be analyzed within 120 hours from collection (for more details, please refer to the Guidelines on hGH Biomarkers Test in effect).

If the **Sample** is intended for ESAs, HBOCs or Blood transfusions analysis, the **Sample** shall be analyzed within 72 hours from collection.

If the **Sample** is intended for use in connection with an **ABP** Program, see the ISTI – Annex K.4 for the specific transportation requirements.

The Blood **Samples** shall be transported to the **Laboratory** in a refrigerated state. No sample should be allowed to freeze.

It is advisable to include a temperature data logger with the transported **Samples** to ensure the appropriate temperature range has been maintained during transport. In addition to capturing the temperature during transport, the temperature data logger should be used to assess the time from **Sample** collection to the time received by the **Laboratory** (‘turnaround time’). Record all time in GMT to address any potential time zone conflicts.

**Samples** should remain in an upright position during transport, whenever possible.

**Samples** may be taken directly to the **Laboratory** by the **DCO**, or handed over to a third party for transportation. This third party must document the Chain of Custody of the **Samples**. If an approved courier company is used to transport the **Samples**, the **DCO** should record the waybill number of the shipment.

### 9.1 **Receipt of Samples by the Laboratory**

Laboratories are required to document receipt and the subsequent **Chain of Custody of Samples**.

**Samples** are reviewed for evidence of **Tampering** or damage, and stored in appropriate conditions until analysis, in accordance with the ISL.

If the **Samples** with accompanying documentation or the **Sample Collection Session** documentation are not received at their respective intended destinations, or if a **Sample**’s integrity or identity may have been compromised during transport, the **Sample Collection Authority** and **Testing Authority** shall check the **Chain of Custody**, and the **Testing Authority** shall consider whether the **Samples** should be voided.
10.0 Ownership of Samples

*Samples* collected from an *Athlete* are owned by the *Testing Authority* for the *Sample Collection Session* in question.

The *Testing Authority* may transfer ownership of the *Samples* to the *Results Management Authority* (RMA) or to another *ADO* upon request.
11.0 Definitions

11.1 2015 Code Defined Terms

**ADAMS:** The Anti-Doping Administration and Management System is a Web-based database management tool for data entry, storage, sharing, and reporting designed to assist stakeholders and WADA in their anti-doping operations in conjunction with data protection legislation.

**Anti-Doping Organization (ADO):** A Signatory that is responsible for adopting rules for initiating, implementing or enforcing any part of the Doping Control process. This includes, for example, the International Olympic Committee, the International Paralympic Committee, other Major Event Organizations that conduct Testing at their Events, WADA, International Federations, and National Anti-Doping Organizations.

**Athlete:** Any Person who competes in sport at the international level (as defined by each International Federation) or the national level (as defined by each National Anti-Doping Organization). An Anti-Doping Organization has discretion to apply anti-doping rules to an Athlete who is neither an International-Level Athlete nor a National-Level Athlete, and thus to bring them within the definition of “Athlete.” In relation to Athletes who are neither International-Level nor National-Level Athletes, an Anti-Doping Organization may elect to: conduct limited Testing or no Testing at all; analyze Samples for less than the full menu of Prohibited Substances; require limited or no whereabouts information; or not require advance TUEs. However, if an Article 2.1, 2.3 or 2.5 anti-doping rule violation is committed by any Athlete over whom an Anti-Doping Organization has authority who competes below the international or national level, then the Consequences set forth in the Code (except Article 14.3.2) must be applied. For purposes of Article 2.8 and Article 2.9 and for purposes of anti-doping information and education, any Person who participates in sport under the authority of any Signatory, government, or other sports organization accepting the Code is an Athlete.

*Comment to Athlete: This definition makes it clear that all International- and National-Level Athletes are subject to the anti-doping rules of the Code, with the precise definitions of international- and national-level sport to be set forth in the anti-doping rules of the International Federations and National Anti-Doping Organizations, respectively. The definition also allows each National Anti-Doping Organization, if it chooses to do so, to expand its anti-doping program beyond International- or National-Level Athletes to competitors at lower levels of Competition or to individuals who engage in fitness activities but do not compete at all. Thus, a National Anti-Doping Organization could, for example, elect to test*
recreational-level competitors but not require advance TUEs. But an anti-doping rule violation involving an Adverse Analytical Finding or Tampering, results in all of the Consequences provided for in the Code (with the exception of Article 14.3.2). The decision on whether Consequences apply to recreational-level Athletes who engage in fitness activities but never compete is left to the National Anti-Doping Organization. In the same manner, a Major Event Organization holding an Event only for masters-level competitors could elect to test the competitors but not analyze Samples for the full menu of Prohibited Substances. Competitors at all levels of Competition should receive the benefit of anti-doping information and education.]

**Athlete Biological Passport (ABP):** The program and methods of gathering and collating data as described in the International Standard for Testing and Investigations and International Standard for Laboratories.

**Code:** The World Anti-Doping Code.

**Competition:** A single race, match, game or singular sport contest. For example, a basketball game or the finals of the Olympic 100-meter race in athletics. For stage races and other sport contests where prizes are awarded on a daily or other interim basis the distinction between a Competition and an Event will be as provided in the rules of the applicable International Federation.

**Consequences of Anti-Doping Rule Violations (Consequences, Consequences of ADVRs):** An Athlete’s or other Person’s violation of an anti-doping rule may result in one or more of the following: (a) Disqualification means the Athlete’s results in a particular Competition or Event are invalidated, with all resulting Consequences including forfeiture of any medals, points and prizes; (b) Ineligibility means the Athlete or other Person is barred on account of an anti-doping rule violation for a specified period of time from participating in any Competition or other activity or funding as provided in Article 10.12.1; (c) Provisional Suspension means the Athlete or other Person is barred temporarily from participating in any Competition or activity prior to the final decision at a hearing conducted under Article 8; (d) Financial Consequences means a financial sanction imposed for an anti-doping rule violation or to recover costs associated with an anti-doping rule violation; and (e) Public Disclosure or Public Reporting means the dissemination or distribution of information to the general public or Persons beyond those Persons entitled to earlier notification in accordance with Article 14. Teams in Team Sports may also be subject to Consequences as provided in Article 11.

**Doping Control:** All steps and processes from test distribution planning through to ultimate disposition of any appeal including all steps and processes in between such
as provision of whereabouts information, Sample collection and handling, laboratory analysis, TUEs, results management and hearings.

**Event:** A series of individual Competitions conducted together under one ruling body (e.g., the Olympic Games, FINA World Championships, or Pan American Games).

**In-Competition:** Unless provided otherwise in the rules of an International Federation or the ruling body of the Event in question, “In-Competition” means the period commencing twelve hours before a Competition in which the Athlete is scheduled to participate through the end of such Competition and the Sample collection process related to such Competition.

[Comment: An International Federation or ruling body for an Event may establish an "In-Competition" period that is different than the Event Period.]

**Independent Observer Program (IO):** A team of observers, under the supervision of WADA, who observe and provide guidance on the Doping Control process at certain Events and report on their observations.

**International Standard:** A standard adopted by WADA in support of the Code. Compliance with an International Standard (as opposed to another alternative standard, practice or procedure) shall be sufficient to conclude that the procedures addressed by the International Standard were performed properly. International Standards shall include any Technical Documents issued pursuant to the International Standard.

**Marker:** A compound, group of compounds or biological variable(s) that indicates the Use of a Prohibited Substance or Prohibited Method.

**Minor:** A natural Person who has not reached the age of eighteen years.

**Out-of-Competition:** Any period which is not In-Competition.

**Sample or Specimen:** Any biological material collected for the purposes of Doping Control.

[Comment: It has sometimes been claimed that the collection of blood Samples violates the tenets of certain religious or cultural groups. It has been determined that there is no basis for any such claim.]

**Tampering:** Altering for an improper purpose or in an improper way; bringing improper influence to bear; interfering improperly; obstructing, misleading or engaging in any fraudulent conduct to alter results or prevent normal procedures from occurring.

**Target Testing:** Selection of specific Athletes for Testing based on criteria set forth in the International Standard for Testing and Investigations.
**Testing**: The parts of the *Doping Control* process involving test distribution planning, *Sample* collection, *Sample* handling, and *Sample* transport to the Laboratory.

**Use**: The utilization, application, ingestion, injection or consumption by any means whatsoever of any *Prohibited Substance* or *Prohibited Method*.

**WADA**: The World Anti-Doping Agency.

### 11.2 ISTI Defined Terms

**Blood Collection Officer (BCO)**: An official who is qualified to and has been authorized by the *Sample Collection Authority* to collect a *Blood Sample* from an *Athlete*.

**Chain of Custody**: The sequence of individuals or organizations who have responsibility for the custody of a *Sample* from the provision of the *Sample* until the *Sample* has been delivered to the laboratory for analysis.

**Chaperone**: An official who is trained and authorized by the *Sample Collection Authority* to carry out specific duties including one or more of the following (at the election of the *Sample Collection Authority*): notification of the *Athlete* selected for *Sample* collection; accompanying and observing the *Athlete* until arrival at the *Doping Control Station*; accompanying and/or observing *Athletes* who are present in the *Doping Control Station*; and/or witnessing and verifying the provision of the *Sample* where the training qualifies him/her to do so.

**Doping Control Officer (DCO)**: An official who has been trained and authorized by the *Sample Collection Authority* to carry out the responsibilities given to DCOs in the International Standard for Testing and Investigations.

**Doping Control Station**: The location where the *Sample Collection Session* will be conducted.

**Failure to Comply**: A term used to describe anti-doping rule violations under *Code* Articles 2.3 and/or 2.5.

**No Advance Notice Testing**: *Sample* collection that takes place with no advance warning to the *Athlete* and where the *Athlete* is continuously chaperoned from the moment of notification through *Sample* provision.

**Random Selection**: Selection of *Athletes* for *Testing* which is not *Target Testing*.

**Results Management Authority (RMA)**: The organization that is responsible, in accordance with *Code* Article 7.1, for the management of the results of *Testing* (or other evidence of a potential anti-doping rule violation) and hearings, whether (1) an *Anti-Doping Organization* (for example, the International Olympic Committee or
other Major Event Organization, WADA, an International Federation, or a National Anti-Doping Organization); or (2) another organization acting pursuant to the authority of and in accordance with the rules of the Anti-Doping Organization (for example, a National Federation that is a member of an International Federation). In respect of Whereabouts Failures, the Results Management Authority shall be as set out in Article I.5.1.

**Sample Collection Authority:** The organization that is responsible for the collection of Samples in compliance with the requirements of the International Standard for Testing and Investigations, whether (1) the Testing Authority itself; or (2) another organization (for example, a Third Party contractor) to whom the Testing Authority has delegated or sub-contracted such responsibility (provided that the Testing Authority always remains ultimately responsible under the Code for compliance with the requirements of the International Standard for Testing and Investigations relating to collection of Samples).

**Sample Collection Equipment:** Containers or apparatus used to collect or hold the Sample at any time during the Sample Collection Session. Sample Collection Equipment shall, as a minimum, consist of:

- For urine Sample collection:
  - Collection vessels for collecting the Sample as it leaves the Athlete’s body;
  - Suitable kit for storing partial Samples securely until the Athlete is able to provide more urine; and
  - Sealable and tamper-evident bottles and lids for storing and transporting the complete Sample securely.

- For blood Sample collection:
  - Needles for collecting the Sample;
  - Blood tubes with sealable and tamper-evident devices for storing and transporting the Sample securely.

**Sample Collection Personnel:** A collective term for qualified officials authorized by the Sample Collection Authority to carry out or assist with duties during the Sample Collection Session.

**Sample Collection Session:** All of the sequential activities that directly involve the Athlete from the point that initial contact is made until the Athlete leaves the Doping Control Station after having provided his/her Sample(s).

**Testing Authority:** The organization that has authorized a particular Sample collection, whether (1) an Anti-Doping Organization (for example, the International
Olympic Committee or other Major Event Organization, WADA, an International Federation, or a National Anti-Doping Organization; or (2) another organization conducting Testing pursuant to the authority of and in accordance with the rules of the Anti-Doping Organization (for example, a National Federation that is a member of an International Federation).

**Whereabouts Filing:** Information provided by or on behalf of an Athlete in a Registered Testing Pool that sets out the Athlete’s whereabouts during the following quarter, in accordance with Article I.3 of the International Standard for Testing and Investigations.

### 11.3 Guidelines Defined Terms

**Athlete Representative:** A person designated by the Athlete to assist with the verification of the Sample collection procedure, (not including the passing of the Sample). This person may be a member of the Athlete’s Support Personnel, such as a coach or team doctor, a family member, or other. For In-Competition Testing the Athlete Representative must have the appropriate accreditation to access the Doping Control Station.

**Blood Collection Facility:** The place where the Blood Sample is collected. This may differ from the Doping Control Station where urine samples are collected, or may be a separate, dedicated area of the Doping Control Station.

**Blood Collection Procedure:** The procedure for taking a Blood Sample from an Athlete, from the Athlete’s arrival at the Blood Collection Facility to the Athlete’s departure from the Blood Collection Facility.

**Blood Sample:** An aliquot of whole blood, plasma or serum appropriately collected to perform one or more Laboratory tests.

**Butterfly Needle:** A small needle with two plastic wings attached which are squeezed together to form a tab used to manipulate the needle. A long 6-12" plastic tubing is attached to offer better manipulation.

**Venipuncture:** The process of collecting a sample of blood from an Athlete’s vein.

**Witness:** The member of Sample Collection Personnel who observes the passing of the Sample by the Athlete in accordance with the procedures for observation.

### 11.4 ISL Defined Terms

**Laboratory(ies):** (A) WADA-accredited laboratory(ies) applying test methods and processes to provide evidentiary data for the detection of Prohibited Substances,
Methods or Markers on the Prohibited List and, if applicable, quantification of a Threshold Substance in Samples of urine and other biological matrices in the context of anti-doping activities.

**WADA-Approved Laboratory for the ABP:** Laboratory(ies) not otherwise accredited by WADA; applying test methods and processes in support of an Athlete Biological Passport program and in accordance with the criteria for approval of non-accredited laboratories for the Athlete Biological Passport.
Appendix 1: Integration of Multiple Blood Testing Types

When planning and conducting a Sample Collection Session, the Testing Authority may want to collect a sufficient volume of blood to enable multiple types of analyses to be conducted simultaneously.

An Athlete Biological Passport (ABP) test may reveal abnormal variables that warrant immediate analysis for Prohibited Substances or Methods. Should a B Sample analysis be required, it is strongly recommended to have a complementary Sample available.

Conducting multiple types of analyses requires careful consideration, especially regarding the Sample Collection Equipment needed. This Appendix offers Anti-Doping Organizations (ADOs) guidance on integrating multiple types of blood Testing.

Blood Collection Equipment

The following matrix details all Blood Collection Equipment required and routine analysis types (including ABP tests).

<table>
<thead>
<tr>
<th>Test</th>
<th>Analysis matrix</th>
<th>Tubes#</th>
<th>V / tube (mL)</th>
<th>No. of tubes</th>
<th>Tube inversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>GH Isoforms and/or GH biomarkers / HBOCs / ESAs&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Serum</td>
<td>BD Vacutainer® SST II Plus (cat. # 367955) or BD Vacutainer™ SST-II plus Advance tubes (367954)</td>
<td>5</td>
<td>2&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Recommended</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BT&lt;sup&gt;2&lt;/sup&gt; / HBOCs / ESAs</td>
<td>Blood&lt;sup&gt;2&lt;/sup&gt;/ Plasma</td>
<td>BD Vacutainer® EDTA (CE #368856, US #367856)</td>
<td>3</td>
<td>2&lt;sup&gt;5&lt;/sup&gt;, +</td>
<td>At least 3</td>
</tr>
<tr>
<td>ABP&lt;sup&gt;2&lt;/sup&gt; / HBOCs / ESAs&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Blood&lt;sup&gt;2&lt;/sup&gt;/ Plasma</td>
<td>BD Vacutainer® EDTA (CE #368856, US #367856)</td>
<td>3</td>
<td>1-2&lt;sup&gt;5&lt;/sup&gt; +</td>
<td>At least 3</td>
</tr>
</tbody>
</table>

<sup>#</sup> The vaccutainers identified below are recommended as they have been validated by WADA. Alternate equipment that meets the same criteria identified herein may be permissible, but prior to use should be validated by WADA, and be consistent with the collection methodology presented herein.
1 Analysis for ESAs can be performed in either serum or plasma; however, the recommended matrix is serum.

2 For Blood Transfusion (BT) and the ABP, whole non-coagulated blood is used; for HBOCs/ESAs the centrifugation of the Blood Sample (e.g. Ficoll gradient) is required to separate the plasma fraction from the cellular components. These tests may be combined by conducting primary ABP and/or BT analyses prior to centrifugation.

3 One tube is used for collection of the A Sample, the other for the B Sample, if needed.

4 The accessory package includes the specified collection tubes and other accessories (e.g. needle, disinfection pads, etc.).

5 When Testing the blood variables of the ABP only, one (1) EDTA tube is sufficient; however the collection of two (2) EDTA tubes is recommended to allow the simultaneous Testing for ESAs/HBOCs, e.g. in cases of abnormal results for the blood variables included in the ABP.

[Comment: Other Analyses not included in the chart above are available at select laboratories. ADOs are advised to contact laboratories regarding the availability of other analysis types in serum/plasma such as Xenon, Insulin analogues, steroid esters, desmopressin, and IGF-1 analogues, and what equipment should be used for sample collection.]
Possible Test Combinations

The following matrix details Collection Equipment Requirements for possible combinations of multiple types of analysis.

<table>
<thead>
<tr>
<th>GH/ HBOCs / ESAs (Serum)</th>
<th>BT (Whole blood) HBOCS / ESAs (Plasma)</th>
<th>ABP (Plasma)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 2 x serum tubes</td>
<td>• 2 x serum tubes</td>
<td>• 2x serum tubes</td>
</tr>
<tr>
<td>• Total volume: 10mL</td>
<td>• 2 x EDTA tubes</td>
<td>• 1-2 EDTA tubes</td>
</tr>
<tr>
<td></td>
<td>• Total volume: 16mL</td>
<td>• Total volume: 13-16mL</td>
</tr>
<tr>
<td></td>
<td>• 2 x serum tubes</td>
<td>• 2-3 x EDTA tubes</td>
</tr>
<tr>
<td></td>
<td>• 1-2 x EDTA tubes</td>
<td>• Total volume: 6-9 mL</td>
</tr>
<tr>
<td></td>
<td>• Total volume: 13-16mL</td>
<td></td>
</tr>
<tr>
<td>ABP (Whole blood) HBOCS / ESAs (Plasma)</td>
<td>• 2 x EDTA tubes</td>
<td>• 1 EDTA tube</td>
</tr>
<tr>
<td>• 2 x serum tubes</td>
<td>• Total volume: 6mL</td>
<td>• Total volume: 3mL</td>
</tr>
<tr>
<td>• 1-2 x EDTA tubes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Total volume: 13-16mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All analysis types</td>
<td>• 2-3 x EDTA tubes</td>
<td></td>
</tr>
<tr>
<td>• 2 x serum tubes</td>
<td>• Total volume: 6-9mL</td>
<td></td>
</tr>
<tr>
<td>• 2-3 x EDTA tubes</td>
<td>• Total volume: 16-19mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Total volume: 16-19mL</td>
<td></td>
</tr>
</tbody>
</table>

[Comment: The analysis of HBOCs and ESAs can be conducted in either serum or plasma. The analytical matrix used in the assay will vary depending on the Laboratory. Please contact the Laboratory that is to conduct the analysis to determine this information.]

[Comment: When using both types of tubes for multiple test types, the specific procedures followed for each type of tube – for example number of inversions – should still be followed.]

[Comment: These specifications should serve for general guidance only. When wishing to collect blood to test for different Prohibited Substances and/or Methods at the same Sample Collection Session, it is recommended that the ADO in charge of Sample collection contact the Laboratory that is to conduct the analyses to ascertain the type and total number of tubes and total volume of blood to collect.]

[Comment: An Athlete Biological Passport (ABP) test may reveal abnormal variables that warrant immediate analysis for Prohibited Substances or Methods. Should a B Sample analysis be required, it is strongly recommended to have a complementary Sample available.]