### Educate - Where do I find information?

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Standards &amp; Technical Documents</th>
<th>Testing Guides</th>
<th>APMUs, Labs &amp; ADOs</th>
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<tr>
<td>Implementing an</td>
<td>ISTI Annex K - Collection, Storage and Transport of Blood ABP Samples</td>
<td>Growth Hormone (GH) &amp; Growth Hormone Releasing Factors (GHRFs)</td>
<td>APMU reports</td>
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<td>Effective Testing</td>
<td>Annex L – Results Management Requirements and Procedures for the Athlete Biological Passport</td>
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<td>Previous cases</td>
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<td>Program 1.0</td>
<td>Technical Document for Sport Specific Analysis (TDSSA) 3.1</td>
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<td>Peer-reviewed literature</td>
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<td>TDSSA FAQs – Supporting Document B</td>
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Why the ABP?

The Passport can lead to an Anti-Doping Rule Violation by:

• **Adverse Analytical Finding (AAF), Code Article 2.1**: Improved target testing and flagging samples for analytical drug tests (e.g. EPO), leading to direct detection of prohibited substances

• **Adverse Passport Finding (APF), Code Article 2.2**: Identifying profiles requiring expert review. Experts must assess atypical profiles and determine if they are the result of normal physiological variation, a pathology, or a doping scenario
Who to Test?

Sottas, 2018, *Moving from Testing to Strategic Testing: The Athlete Biological Passport*
Plan - Who to Test?

New Athlete
No Data

Established Athlete
Normal ABP

New or Established Athlete
Atypical ABP
ABP Program Inclusion - Risk Assessment

Focus on Maximizing Detection & Deterrence
Testing - How many tests in enough?

Guiding Principles

• Gather meaningful data – *right athlete, right test, right time*
  – Dynamic risk assessment
  – Test planning & ADO collaboration

• Use data gathered through the ABP effectively – *interpretation & follow-up action*
  – APMU & Expert reports
  – Communication with intel & legal teams
  – Communication between ADOs
  – Action!
When and Where to Test? Athlete-Focused ABP
Example ABP Distribution – Annual Testing Strategy

- 3 tests per athlete per year; adjust based on APMU reports
Interpret - How many tests is enough? Testing Scenarios

Sottas, 2018, Moving from Testing to Strategic Testing: The Athlete Biological Passport
Holistic Approach
Gathering Data - Sources of Information

In-house Information
- Biological (ABP) data & APMU guidance
- Testing histories & Frequency
- Doping Control Form data
- Doping Control Officer After Action Reports
- Whereabouts information & Updates
- Play Clean Tips
- Sanctioned athletes
- Competition results & rankings
- WADA investigations
- WADA-accredited Laboratories
- Prior cases

Information to Seek-Out
- Government investigations
- Government databases
- Relationships with law enforcement
- Civil cases
- Media reports
- Reporters
- Blogs/Websites
- Twitter and other social media
- Fellow competitors
- Coaches
- Event organizers
- Other trusted sources
Leverging Existing Data

Q: When should we test target Cyclist A?
New Analytics-based Testing Strategies
Theory to Practice = Effective ABP

1. Educate
2. Plan
3. Test
4. React
5. Interpret

Arrow diagram illustrating the cycle.
Thank you!

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