



wada

Operation Refuge

An Examination of Doping Among Minors

Published 24 January 2024



A Minor is defined by the Code¹ as a Person under the age of eighteen years.

Since 2012, there have been 1518 Adverse Analytical Findings (“Positive Tests”) reported against 1416 Minors, with diuretics, stimulants and anabolic steroids being the most detected substances.²

“I remember no one, not a teammate, a coach, or another parent offered [me] any help or sympathy after I tested positive. My parents tried to console me and tell me this was a life experience and that it would make me stronger. This was a really tough time. Everyone blamed me, and I blamed myself. I had let everyone down. I was trying to do my best and I still let everyone down.”

¹ World Anti-Doping Code (“Code”).

² These figures are current as of 1 September 2023. Not all Positive Tests result in a doping violation or sanction.

Table of Contents

1		Foreword
2		Introduction
3		Background
4		Stories of Impact
5		The ADO Perspective
6		Testing and Results Management Data
7		Intelligence Reporting
8		Research Overview
9		WADA Initiatives
10		Conclusions
11		Recommendations

1

Operation Refuge: Athlete Council Chair Foreword

The World Anti-Doping Agency's (WADA) [Athlete Council](#) is mandated to represent, support and promote the voices of athletes on anti-doping matters. We are athletes, chosen by athletes, to advocate for athletes. One of our many goals is to work with WADA, as the athlete voice, to propose ideas and solutions to help the fight against doping in sport.

In November 2023, WADA's Intelligence and Investigations (I&I) Department introduced the Athlete Council to WADA's Operation Refuge – a broad, compelling analysis and examination of doping amongst Minors. This important work, undertaken by WADA's Intelligence and Investigations Department shines a light on the immense challenges child athletes and the anti-doping community face when a child athlete tests positive for a prohibited substance. Operation Refuge reports in heartbreaking detail the deep trauma and isolation child athletes experience following a positive test and a doping sanction. Moreover, Operation Refuge has identified important areas for improvement by Anti-Doping Organizations on this issue.

Part of my privilege as the Chair of the Athlete Council is that I can use our voice to highlight issues of significant importance to the global anti-doping community and help encourage stakeholders to improve. What issue could be more important than protecting our most vulnerable athletes from the harm of doping?

To this end, I encourage all athletes, their support networks, and the public at large to contact their Anti-Doping Organization or WADA through its [Speak Up program](#) if you have any information that could help protect child athletes. It is vital that we make every effort to remove from sport all those who would encourage our most vulnerable athletes to dope.

Lastly, I commend and thank WADA's I&I Department for taking this first step to discuss how we, in the anti-doping community, can do more in this space. I am proud that WADA's Athlete Council can add their voice to this important topic, and we look forward to supporting the review and implementation of future initiatives that may stem from this report.



Ryan Pini
Chair of WADA's Athlete Council

2

Introduction

Most child athletes (“Minors”) carry the special status of Protected Persons under the World Anti-Doping Code (“Code”).³ Athletes who are Protected Persons are treated differently than other Athletes because of an understanding that, below a certain age or intellectual capacity, the Protected Person may not possess the mental capacity to understand and appreciate the requirements of the Code.

However, despite the special status of a Protected Person, most Anti-Doping Organizations (“ADOs”) do not have specific policies or practices to deal with Minors.⁴ In addition, the belief as to the prevalence of doping amongst Minors differs greatly between ADOs, as does the understanding of why Minors commit doping violations.

Informed by this reality, in 2021, the World Anti-Doping Agency Intelligence and Investigations Department (“WADA I&I”) commenced Operation Refuge – a broad spectrum analysis and examination of doping amongst Minors. Informed by this body of work, WADA I&I encourages all within our anti-doping community to reexamine how they support, educate, and protect Minors as they navigate their sporting careers, the anti-doping system, and the trap of performance enhancing substances.

³ The Code defines a Protected Person as an Athlete who at the time of the anti-doping rule violation: (i) has not reached the age of 16 years; (ii) has not reached the age of 18 years and is not included in any Registered Testing Pool and has never competed in any International Event in an open category; or (iii) for reasons other than age has been determined to lack legal capacity under applicable national legislation.

⁴ Excluding the obligations imposed by the Code and the International Standard for Testing and Investigations (“ISTI”).



3

Background

In early 2021, WADA's Confidential Information Unit ("CIU") observed an increase in confidential reporting of doping activity amongst Minors, including pre-teen athletes. While the lack of detail in many of these reports prevented any substantive enforcement action, those that could be investigated were.

Concerned by the nature and volume of reporting, Operation Refuge was commenced.

Operation Refuge examined the doping activities of Minors with a view to identifying any patterns of offending, any deficiencies in governance, and any possible strategies on how to better address the issue of doping amongst Minors.

This report details information obtained from human intelligence (e.g., interviews, informants), data analysis, external academic study, open-source research, and the anti-doping community.



4

Stories of Impact

An important part of Operation Refuge were the firsthand accounts obtained from not only Minors who had committed doping violations, but also their family and support networks. Although these experiences were shared with WADA on a condition of anonymity, such was the impact of these accounts that permission was obtained from some to share their stories here.

From the firsthand accounts that were obtained, six key themes emerged, namely:

- Trauma;
- Isolation;
- Impact;
- Pressure;
- Ignorance;
- and Abandonment.

4.1

Trauma

One of the major themes to emerge from the interviews was the deep trauma felt by Minors following a Positive Test⁵ and sanction. The Minors described the trauma they or a loved one felt when being removed from their sport and rejected by friends or family members, and how this rejection led to a significant psychological impact.

“I remember no one, not a teammate, a coach, or another parent offered [me] any help or sympathy after I tested positive ... everyone blamed me, and I blamed myself. I had let everyone down. I was trying to do my best and I still let everyone down.”

⁵ For the purposes of this report the term “Positive Test” means an Adverse Analytical Finding.



“My parents felt a great responsibility as they had put their trust in our coach. My mom felt very sad and felt like it was her fault. There was no help provided to my family or to myself as the Athlete. My family and I were struggling mentally with the result of the [Positive Test].”

“Even now, my child remains deeply marked by what happened to them. They fell ill recently, nothing serious, but they refused to take the vitamins I offered them... I am still terribly angry despite the months that have passed. We will never know how [this happened] and it [has] kept us from moving on.”



4.2

Isolation

Another theme to emerge was a sense of isolation, which is not surprising given many had been part of a sports community for the better part of their childhood. The separation from their sporting community took such a toll that many exhibited signs of depression (e.g., difficulty getting out of bed, conducting normal activities, attending school).

“[T]raining on my own, it was quite difficult. For the first several months I was quite depressed, and I found no energy or will to train. I found the sanction to be tougher on me mentally than it was physically. I struggled to keep up with school during my suspension. Instead of attending full-time I was only present two out of five days during the week. For the first six months ... I stayed home ... in bed.”

“When I learned about my [Positive Test], I was 15 years old. My coach notified me and then I didn’t hear anything from him for days. I felt totally isolated. I stayed at the training centre for another few months. I remember being so happy when my parents picked me up to take me home. A couple of days before I left, the media started calling me. They wanted to know how and why I had tested positive. It was a really challenging situation for me.”

“My child had just obtained a scholarship to study abroad and [could] lose everything. They were stigmatized by other Athletes and other parents who spread rumors about them saying that they must have been doping for years and that I [as the parent] was responsible.”



4.3

Impact

The interview of family members provided a unique perspective and highlighted the frustration and trauma felt by those within the Minor's closest support network. Parents and siblings expressed a feeling of being victimized by rumors and innuendo regarding their alleged complicity in the violation. Some had been accused by other parents of being implicated in their child's Positive Test, and this led to a sense of betrayal and further isolation. In one instance the impact was so significant that a parent considered removing their youngest child from the sport for fear that they would be stigmatized for being the sibling of a Minor who had tested positive.

"My child phoned me to tell me they had tested positive. I was on the street when I heard the news. I started to cry. I [have] lost members of my family but when I compare that experience to this, I can say that the moment I learned the news about my child's positive doping test [it] was the worst moment of my life."

Another Athlete explained how their Positive Test led to the investigation of one of their parent's and how this further impacted the family psychologically.

"During the investigation into my [case], one of my parents was also investigated ... My National Anti-Doping Organization [claimed] my parent was involved in [my violation] ... My parent was not provided with any assistance either, which was difficult for them mentally."

4.4

Pressure to Succeed

All Minors that were interviewed spoke about the immense pressure of competition and how this pressure impacted them before, during, and after their sanction. The pressure to continuously achieve better results also directly and indirectly influenced the decision of some to use banned substances or methods.


“I was under extreme pressure. I believe that pressure led directly to my doping violation ... my coach explained to me that my sport was my life and that it had to be my everything. I cried almost every day and I told myself that if others could handle the pressure so could I ... I thought if I spoke about [my suffering] my sports career would be over. I was only eleven years old.”



4.5

Pressure from Coaches

One disturbing account came from a female Minor who recalled the extreme pressure she and other female athletes felt from the male coaches to keep their weight down. This pressure included an impossible expectation to slow down the effects of puberty because puberty would supposedly negatively impact their ability to compete.



“My body was growing, and I was gaining weight. My coach was weighing me four times a day. I felt like I was in prison. I was always hungry.”

4.6

Ignorance

The lack of anti-doping knowledge and education was another theme present in the interviews. One Minor described being unaware that a recovery method they had been prescribed was a Prohibited Method. Consequently, when the Minor was notified of their doping violation, the shock triggered a mental health condition which left them scrambling and unable to mount a proper defense to the violation.

”At the meeting with the National Anti-Doping Organization, I was [told] that they knew I was using a Prohibited Method, and wanted to know if I could confirm this. My mother was with me at the meeting, but we were not prepared for the information that we received ... I [was never] provided with [any] advice or counsel ...”

“As the parent of a top [Minor] athlete, [the] information session on anti-doping [was] not focused enough on supplements and the risks they represent for Athletes.”



4.7

Abandonment

A telling aspect from the interviews was the sense of abandonment felt by Minors following the Positive Test and eventual sanction. Some felt forgotten and were disappointed by the lack of communication and support they claimed to have received from their ADOs.

“Until today no one has ever asked me what happened. I thought my story was forgotten. I’m happy and grateful I can tell it to [WADA] now.”

“There was no help offered to me or my family. My family and I were struggling mentally with the result of the [positive] test. It was up to us to seek assistance, so I contacted my national team, who then provided me with a psychologist. [But there] was no support provided to my parents who were also struggling.”

4.8

Future Learnings

All discussions ended with an invitation to participants for advice on how ADOs could improve the system. Much of the feedback focused on the need for better psychological support, greater assistance in navigating the anti-doping system, and a need to lessen the immense pressure placed on Minors to obtain results.

“When you ask me what could have been done better, what could have been done differently, I think the main thing was the pressure. The pressure is what led to my sanction. Maybe more attention from my [sport] federation ... if they hadn’t left me on my own. I feel like I still have that shame on me, that people blame me for what happened.”

“My strongest request or area that can be improved upon for similar athletes is that they have access to services that can assist them mentally during this process. There is often discussion about the physical and competitive impact of [a doping violation], however I believe the toughest part was the mental struggle throughout the suspension and the drive to return to training following my [sanction].”

5

The ADO Perspective

Having heard the perspective of the Minor and their support network, it is helpful to examine the perspective of the anti-doping administrators, the ADOs.

In September 2022, Operation Refuge sent a questionnaire to 41 ADOs to gauge their experience and perspective on doping amongst Minors. Recipients were selected based on diverse criteria, including their experience with doping violations involving Minors, the number of Minors in the organization's Registered Testing Pool ("RTP"), as well as achieving a broad geographic and demographic representation. Of the 41 ADOs who were invited to complete the questionnaire, 27 ADOs complied (66% response rate).

The questionnaire revealed that the majority (66%) of the ADOs did not believe doping was prevalent among Minors in their country or sport, and most (78%) felt their ability to test Minors was unproblematic.⁶ Notably, some ADOs reported instances where a Minor's first contact with the anti-doping system was via testing, as opposed to an education forum. That said, less than half (48%) of the ADOs had Minors in their RTPs, and where present, the proportion of Minors in that RTP was typically small (less than 5%).⁷

While one in five ADOs (22%) had specific policies for handling the Results Management of a Minor,⁸ even fewer ADOs (15%) had policies and procedures specific to the investigation of cases involving Minors.⁹ Of the ADOs that had investigated cases involving Minors, a third (33%) reported 'interference' from parents as a factor (e.g., refusing to provide information or providing false statements in protection of the Minor).

Given the prevailing view amongst the ADOs that doping among Minors was not a widespread problem, Operation Refuge sought to contextualise this view by examining relevant data sets. More specifically, Operation Refuge examined the number of doping violations committed by Minors in the last 10 years, as well as the intelligence reports implicating Minors in allegations of doping that had been received by CIU via its confidential reporting platform, 'Speak Up', over the last five years.

⁶ The ISTI prescribes special requirements for the testing of Minors (per Annex B – 'Modifications for Athletes who are Minors').

⁷ In two instances the Minors comprised more than 5% of the ADO's RTP Athletes.

⁸ The Code defines Results Management as the process encompassing the timeframe between notification of an ADRV, through the charge until the final resolution of the matter, including the ending of the hearing process at first instance or on appeal.

⁹ Notably, WADA I&Is own internal review revealed that, although its Intelligence and Investigations Manual contained certain prescriptions for interviewing Minors, it did not include specialized guidance for investigating the conduct of Minors. Moreover, intelligence holdings implicating Minors were also not specially categorized. Although cases involving Minors were always afforded greater attention, this was an informal process within the department rather than part of an official intelligence assessment and investigation process. These issues have since been rectified.

6

Testing and Results Management Data

Operation Refuge analysed testing data of samples collected from Minors over the last 10 years.¹⁰ The results, detailed below, were informative.

6.1 Nature of Test

Minors are most tested in-competition (60% of the time) and, therefore, twice as likely to be caught doping in-competition than out-of-competition.

The countries with the most Minors and the most samples collected from Minors are China, Russia, France, South Korea, Germany, and Kazakhstan.

The youngest Minor to be tested was eight years old.

6.2 Gender

As a general observation, gender appeared to be a relevant factor with female Minors often being tested more than their male counterparts, particularly between the ages of 13 and 17.

Female Minors are tested more than males in the sports of football, cycling, and weightlifting, despite there being more male competitors than female in these sports.

6.3 Prohibited Substances

Since 2012,¹¹ there have been 1518 Positive Tests reported against 1416 Minors.¹²

The diuretic, Furosemide, the stimulant, Methylphenidate, and the anabolic steroid, Metandienone, were the Prohibited Substances most detected in Minors.

¹⁰ The date range was 1 January 2012 to 1 September 2023.

¹¹ Per 1 January 2012 to 1 September 2023.

¹² As detailed later in this report, not all Positive Tests results in a sanction.

Methylphenidate is often used to treat Attention Deficit Hyperactivity Disorder (“ADHD”).

When examined by gender, the top five Prohibited Substances detected in female Minors (in descending order) were:

- Furosemide;
- Methylphenidate;
- Meldonium;
- Metandienone;
- and Terbutaline.¹³

The top five Prohibited Substances detected in male Minors (in descending order) were:

- Furosemide;
- Methylphenidate;
- Nandrolone;¹⁴
- Stanozolol;
- and Metandienone. Like Metandienone, Nandrolone and Stanozolol are anabolic steroids.

Notably, Furosemide and Methylphenidate were equally detected in female and male Minors.

¹³ Terbutaline is a bronchodilator.

¹⁴ Including the precursors of Nandrolone.

6.4

Sport and Country

Sports with the most Positive Tests reported against Minors were (in descending order):

- weightlifting,
- athletics,
- and aquatics.

The Prohibited Substances most implicated in those sports were, respectively:

- Stanozolol,
- Metandienone,
- and Methylphenidate.

Countries with the most positive tests reported against Minors were (in descending order) Russia, India, and China. The Prohibited Substances most detected in Minors from those countries were, respectively, Furosemide, Nandrolone (or its precursors),¹⁵ and Clenbuterol.

6.5

Comparative Prevalence

Comparatively, Minors produce a slightly less percentage of Positive Tests than the general population of other athletes.¹⁶

¹⁵ In India, Nandrolone was equally as prevalent as Metandienone.

¹⁶ Except for 2013 and 2020. During these years Minors tested positive slightly more than the general population of athletes.

6.6

Patterns of Use

Operation Refuge observed four instances where multiple Minors from the same sport had produced Positive Tests in samples collected on the same day during the same Testing Mission. More specifically:

- In 2012, four Romanian Minors from the sport of boxing tested positive for Furosemide.
- In 2021, three Chinese Minors from the sport of athletics tested positive for Stanozolol.
- In 2022, two Belarusian Minors from the sport of skating tested positive for Furosemide.
- In 2023, two Kazakhstani Minors from the sport of weightlifting tested positive for Ostarine.

The Code¹⁷ requires automatic investigation of Athlete Support Personnel (“ASP”) in the case of any doping violation involving a Protected Person or ASP who has provided support to more than one athlete found to have committed a doping violation. Operation Refuge will ensure that the responsible Results Management Authorities for the above listed instances have fulfilled that obligation.

6.7

Doping Violations

Not all Positive Tests result in a doping rule violation or sanction. More specifically, since 2012, approximately 80% of Positive Tests (or 916 cases) have resulted in a doping violation.¹⁸

The estimated 20% of Positive Tests (or 257 cases) that have not resulted in a doping violation were closed for legitimate reasons, such as the presence or granting of a Therapeutic Use Exemption (“TUE”).¹⁹

¹⁷ Per Code Article 20.3.12 for International Federations and Article 20.5.12 for National Anti-Doping Organizations.

¹⁸ These figures were established by examining data between 1 January 2012 and 31 December 2021. More recent data cannot be accurately predicted for reasons including the ongoing, unfinalized nature of other doping cases.

¹⁹ Notably, in almost every instance the detection of the ADHD medication, Methylphenidate, did not result into a doping violation.

Sports with the most sanctioned Minors were weightlifting, athletics, and cycling. The Prohibited Substances most implicated in the sanctioning of Minors in these sports were, respectively:

- Stanozolol,
- Erythropoietin,²⁰
- and Meldonium.

Countries with the most sanctioned Minors were Russia, India, and China. The Prohibited Substances most responsible for the sanctions in those countries were, respectively, Furosemide, Stanozolol,²¹ and Clenbuterol.

The substances which most often resulted in a doping violation and sanction were Furosemide and Metandienone. Notably, Furosemide is always detected alone. Meaning, when Furosemide is present there are no other Prohibited Substances in the sample.

The youngest Minor to be sanctioned for a doping violation was 12 years old.

²⁰ In Athletics, Stanozolol was also as equally prevalent as Erythropoietin.

²¹ In India Stanozolol was equally as prevalent as Nandrolone or its precursors.

7

Intelligence Reporting

Between 2018 and 2023,²² 58 confidential reports implicating Minors in doping behaviours were received via WADA's confidential reporting platform, 'Speak Up'.

Analysis of those disclosures revealed that the majority had originated from Russia and India, and that the most reported sports, globally, were aquatics and athletics.

Notably, no 'Speak Up' disclosures were received from China - a country with one of the highest rates of doping violations amongst Minors. While this may be because the Chinese Anti-Doping Agency has its own confidential reporting system, it may also indicate a need for WADA to better promote its 'Speak Up' program within China.

²² 1 January 2018 and 1 September 2023.

8

Research Overview

As part of its assessment, Operation Refuge reviewed the academic research and literature on doping among Minors. However, much of that body of work centered on the ethical considerations around testing and the notion of ‘informed consent’, rather than any substantive explorations of why Minors commit doping violations.

That said, a 2014 study commissioned by the French Sports Ministry identified (through an extensive interview process) that an athlete’s decision to use Prohibited Substances was influenced by a complex system of pressures and incentives on both the athlete and their support network (e.g., parents, coaches, sport administrators).²³

A more contemporary 2021 academic study examined the safeguards in place for a Minor who is subject of a doping related investigation.²⁴ That study concluded that while sufficient safeguards existed for Minors who are the subject of investigation for an analytical doping violation (e.g., Positive Test), there was an apparent lack of protections for Minors subject to an investigation for a non-analytical doping violation (e.g., Possession of a Prohibited Substance).

While Operation Refuge does not take a position on the findings of the 2021 study, it acknowledges and promotes the fundamental right of every athlete to a fair, objective, and impartial investigation.

8.1

Open-Source Review

For completeness, Operation Refuge carried out an open-source review of the most significant cases allegedly implicating Minors in doping over the last ten years. That review identified the most prevalent sports involving doping among Minors as reported in the media were aquatics, gymnastics, weightlifting, cycling, and figure skating.

The fierce global media attention surrounding the case of a Positive Test reported against a Minor involved in 2022 Winter Olympic Games highlighted the tremendous pressure Minors may face while testing positive at an international competition. Notably, that case eventually led to a change in that sport’s minimum age of admissibility for high profile competitions.

²³ Étude qualitative sur les représentations concernant le dopage et sa prévention chez les sportifs et leur entourage. (2014) Ministère chargé des Sports; Fédération nationale des observatoires régionaux de la santé.

²⁴ Hessert B, The protection of minor athletes in sports investigation proceedings. Int Sports Law J 21, 62–73 (2021).

9

WADA Initiatives

WADA develops educational programs and resources aligned to its athlete pathway. WADA has recently published education courses for Talented-Level athletes with a specific version available for those attending a major event/international competition.

WADA has also made significant changes to how its Intelligence and Investigations Department triages allegations involving Minors. These actions have been formalized within the relevant policies and procedures. Additionally, WADA I&I is considering expanding the languages available to a user within the Speak Up platform to include Chinese and Russian.

Lastly in concert with Refuge and in collaboration with the EU I&I Capacity and Capability Project, co-funded by the European Commission, on 20 November 2023, WADA initiated a targeted social media campaign aimed at raising awareness of young people across Europe concerning the use of anabolic steroids.

10

Conclusions

It is the perception of many ADOs that doping amongst Minors is not common. This perception is predicated on the results of testing.

Many ADOs do not have specific policies or practices for dealing with Minors, or staff specifically trained or experienced in dealing with Minors.

Minors and their support networks (e.g., families) experience significant trauma following a Positive Test.

Minors are most tested in-competition and are twice as likely to be caught doping in-competition than out-of-competition.

Female Minors are often tested more than their male counterparts, particularly between the ages of 13 and 17.

Female Minors are tested more than males in football, cycling, and weightlifting.

Since 2012, there have been 1518 Positive Tests reported against 1416 Minors.

The top five Prohibited Substances detected in female Minors are Furosemide, Methylphenidate, Meldonium, Metandienone, and Terbutaline.

The top five Prohibited Substances detected in male Minors are Furosemide, Methylphenidate, Nandrolone (or its precursors), Stanozolol, and Metandienone.

Sports that report the most Positive Tests against Minors are weightlifting, athletics, and aquatics. The Prohibited Substances most implicated in those sports were Stanozolol, Metandienone, and Methylphenidate, respectively.

Countries that report the most Positive Tests against Minors are Russia, India, and China. The Prohibited Substances most detected in Minors from those countries were Furosemide, Nandrolone (or its precursors), and Clenbuterol, respectively.

Minors produce a slightly less percentage of Positive Tests (per capita) than the general population of other athletes.

Approximately 80% of Positive Tests result in a doping violation and sanction. Those that do not result in a doping violation are closed for legitimate reasons (e.g., TUE).

The youngest Minor to be sanctioned for a doping violation was 12 years old.

Education remains the primary tool by which to prevent Minors from committing doping violations.

A better, more unified coordination is required within the anti-doping community to improve the experience and protection of Minors within the anti-doping process.

11

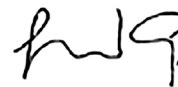
Recommendations

Operation Refuge recommends the following:

1. A copy of this report be provided to the WADA Director General, President, and Chief Operating Officer for their respective information.
2. A copy of this report be provided to the following WADA departments for their respective information: (i) the Program Development Impact Area, (ii) the Compliance Taskforce; (iii) the Compliance, Rules, and Standards Department; (iv) the NADO/RADO Relations Department; (v) the Testing Department; (vi) the Science and Medical Department; (vi) the Legal Affairs Department; (vii) the Data Analytics Unit and (viii) Education.
3. A copy of this report be provided to the WADA Athletes Council, Athlete Engagement Unit, and the Athletes Ombudsman for their respective information.
4. A copy of this report be sent to the Executive Committee and Foundation Board and published to the WADA website.
5. WADA I&I in cooperation with WADA Comms Dept provide a webinar to ADOs to highlight Refuge conclusions and discuss areas for improvement and collaboration.



Dr. Lisa Benaglia
Intelligence Analyst
Intelligence and Investigations Department



Gunter Younger
Director
Intelligence and Investigations Department



Damien Larin
Head of the Confidential Information Unit

Approved: 29 November 2023



wada