

ISU Anti-Doping program: Season 2023-24

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Testing Overview of the season

During the 2023-24 season, more than 2200 samples were collected on 1307 skaters from 57 Nationalities. The gender distribution was close to the equity with 1037 women versus 1203 men (figure 1).



Figure 1 – Gender distribution



Figure 2 – Sample type distribution

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If we look at the distribution of sample types, we notice that **most are urine and blood ABP samples**, with nearly half of the total number of samples falling into these two categories. The third category is represented by the serum samples (figure 2).

It is interesting to note that when considering all sample matrices, the distribution of samples collected in and out of competition clearly favours the latter category (figure 3). One explanation for this distribution is that the blood ABP samples collected during major ABP missions represent a significant number of samples, which are then considered as out-of-competition samples (several missions with between 150 and 200 samples collected each time).



Figure 3 – Out versus Incompetition sample collection



Evolution across the seasons

The overall trend indicates a recovery and growth in sample collection after the pandemic, with the 2023/24 season reaching a peak. The sharp increase from 2020/21 to 2021/22 reflects the resumption of normal operations post-pandemic, while the slight decline in 2022/23 could be attributed to temporary factors. However, the subsequent recovery in 2023/24 suggests a continued effort in maintaining and increasing sample collection activities (figure 4).



Figure 4 – Total sample number evolution across the seasons

The following graph shows a clear recovery in sample collection following the pandemic impact in 2020/21. **Speed Skating** has the highest volume of samples, **peaking in 2023/24**, indicating it as a key focus. **Short Track** also rebounds strongly, surpassing its pre-pandemic levels by **2023/24**. **Figure Skating** sees a steady but slower recovery, while **Synchronized Skating** remains a minor category with only 12 samples annually since 2021/22 (figure 5).



Figure 5 – Evolution of sample collection among disciplines



Urine samples – season 2023-24

The following chart provides a breakdown of the **1016 urine samples** collected during the 2023/24 season, showing the distribution across the skating disciplines. Speed Skating accounts for the largest share, with a significant portion of the samples,

followed by Short Track and **Figure** Skating, which also notable represent proportions.

Synchronized

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Skating, while present, contributes a minimal number of samples to the overall total.



compared

Figure 6 – Urine samples distribution across disciplines

This distribution highlights Speed Skating and Short Track as the key focuses for sample collection efforts in the season (figure 6).



sample collection is highlighted (figure 7). This contrasts with the distribution across all sample types, where out-of-competition samples tend to have a larger share, due to ABP missions. The focus here on in-competition testing underlines its significance for immediate monitoring during events. However, in the upcoming seasons, efforts will be made to better balance these proportions.

to out-of-competition

Figure 7 – Urine samples Out versus In-competition collection





Urine samples – evolution across seasons and disciplines

Where both speed skating and short track out of competition sample collection are quite stable across the seasons, a **noticeable increase** in OOC urine samples is highlighted for **Figure Skating** (figure 8).





Figure 8 – OOC and INC urine samples across seasons and disciplines

In contrast, for the INC urine samples, the number remains stable for Figure Skating, and the most significant increase is seen in Short Track.



Figure 9 – Total urine samples across seasons and disciplines

Taken together, these numbers result in a **peak of urine samples collection during the 2023/24 season**, mainly influenced by the OOC increase in Figure skating and the INC rise in Short Track (figure 9).







Athlete Biological Passport - season 2023-24

The following chart provides a breakdown of the **1098 blood Athlete Biological Passport (ABP)** samples collected during the 2023/24 season, showing the distribution across the skating disciplines. **Speed Skating represents half of the total**

samples, which aligns with the athlete profiles, particularly those competing in disciplines longer than 1500 meters. where endurance is a critical factor. Short Track follows with a notable share, while Figure Skating contributes a smaller proportion. The distribution reflects the varying demands, participation levels. and endurance requirements across these disciplines.



Figure 10 – ABP samples distribution across disciplines



The following pie chart (figure 11) shows the distribution of doping tests conducted in two key categories: pre-competition (PREC) and out-of-competition (OOC). The larger

portion of the chart represents precompetition tests, representing the ABP missions conducted before events (736 samples). During this season, ABP missions were conducted in Montreal (Short Track World Cup), Baselga di Piné (Junior Speed Skating World Cup), Stavanger (Speed Skating World Cup) and Gdansk (World Junior Short Track Championships). The smaller section out-of-competition represents tests. highlighting the importance of year-round monitoring to catch potential doping activities outside of the competitive period.

Figure 11 – ABP samples Out- versus Precompetition collection

This approach reflects a comprehensive effort to maintain fair play both during competition preparation and in athletes' off-seasons.



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Athlete Biological Passport – evolution across seasons and disciplines

Where the pre-competition ABP sample collection is very stable across seasons, a significant and smooth increase is observed for Speed Skating. In addition, a **significant increase for all disciplines** is highlighted compared to last season in out-of-competition sample collection (figure 12).





Figure 12 – PREC and OOC ABP samples across seasons and disciplines

Overall, season 2023-24 shows higher ABP sample collection in every discipline compared to last season, resulting in the highest ABP sample number of the four past seasons (figure 13). This illustrates the constant effort to perform target testing using both indirect and direct methods in a complementary way.



Figure 13 – Total ABP samples across seasons and disciplines

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Serum Samples – Season 2023-24

The following chart provides a breakdown of the 121 serum samples collected during the 2023/24 season, showing the distribution across the skating disciplines. Skating Speed represents half of the total samples. Short Track follows with a notable share, while Figure Skating contributes a smaller proportion. The distribution is very similar to the one shown by the ABP samples (figure 14).



Figure 14 – *Serum samples distribution across disciplines*

These serum samples were used for various specific analyses. Among them, half of these samples were used for endocrine profile analyses. A large portion was used for ERAs analyses, and some of these samples were analyzed for Blood Steroid Profile (BSP) and different GH markers (figure 15). It is important to be aware that more than one analysis could be performed on the same serum sample.



Figure 15 – Distribution of the specific analyses performed on the serum samples

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Figure 16 – Serum samples Out- versus Incompetition collection

Obviously, a significant majority of the serum samples are taken out-of-competition, however, few of them are taken in competition for specific targeting (figure 16). In addition, as shown previously, most of samples are dedicated to the endocrine profile, and as this profile is influenced by exercise, it has been decided to avoid incompetition collection for this purpose in order to build a baseline (see late in the endocrine profile section).

Serum samples – evolution across seasons and disciplines

No significant difference appears across the season for serum sample collection (figure 17), except for the last one where less samples were collected. However, the total number of serum samples should increase significantly in the coming seasons, because of the introduction of the new longitudinal profiles using this matrix, namely the Blood Steroid profile and the endocrine profile.



Figure 17 – Serum samples across disciplines and seasons

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Focus on the endocrine profile

Endocrine module

ISU was part of a pilot project led by the International Testing Agency (ITA) for the implementation of the Endocrine module. This project aim was to implement the Endocrine Module to detect hGH abuse by **building baseline profiles of athletes**. It focuses on identifying key biomarkers, understanding their reference ranges, and **optimizing testing timing based on training and competition**.

The sample collection was **standardized** through the season to avoid any external confounding factors. Sixteen skaters from our RTP were selected, **representing all skating disciplines**, and at least 3 serum samples were taken for each skater to build their endocrine profile. A **total of 65 endocrine analyses** were conducted for this project.

Most of the samples were collected from Speed Skating athletes, with Short Track and Figure Skating also represented in the project (figure 18). No atypical passport findings (ATPF) were detected throughout the project, including samples from other International Federations involved. Only a few samples were flagged, primarily for elevated P-III-NP values. The next step is to share data among all participants to enhance future testing strategies for this new module.







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Additional analyses - ERAs

Performing analyses for ERAs to detect use of EPO is crucial across all disciplines, as these substances can be used not only to enhance endurance performance but also to aid recovery and support heavy training loads. Additionally, these tests are mandated by the Technical Document for Sport Specific Analysis (TDSSA), with Minimum Levels of Analysis (MLA) applying to samples from all skating disciplines.



Figure 19: distribution of analyses by disciplines

During the 2023-24 season, 115 ERAs analyses were conducted, primarily on urine samples, the preferred matrix for this type of testing (71% in urine versus 29% in serum). Most tests were carried out in Speed Skating, the discipline considered at higher risk for EPO use (figure 19).



Examining the evolution of **ERAs** analyses across disciplines and seasons, we see that the upward trend observed over the past three seasons was interrupted in the 2023-24 season. This shift is the result of a more targeted intelligent testing and strategy, gradually replacing previous the systematic approach (figure 20).

Figure 20: distribution of ERAs analyses across discipline and season

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Additional analyses – GH and GHRF

Until recently, Human Growth Hormone (hGH) misuse was primarily detected through direct methods, such as the GH Isoform test or GHRF/GHRH measurements. However, the detection window for these methods is very short, typically lasting only 12 to 24 hours. Additionally, **GH testing is not mandatory** under the Technical Document for Sport Specific Analysis (TDSSA), as the focus has shifted toward the longitudinal detection of GH via the new Endocrine Module (indirect testing). This shift likely explains the reduction in GH analyses observed in recent seasons (figure 21). Conversely, **GHRF testing remains mandatory across all skating disciplines**, as required by the TDSSA, and has been steadily increasing, particularly in Short Track and Speed Skating (figure 22).



Figure 21: GH analyses across discipline and season



Figure 22: GHRF analyses across discipline and season





RTP – TP season 2024/25

The objective of our risk assessment is to accurately determine which skaters should be included in our Testing Pool (TP) and Registered Testing Pool (RTP). For the upcoming season, we aim to **reduce the size of the RTP slightly to concentrate more effectively on a smaller group** of skaters, as shown by the numbers in each discipline (see Figure 23). The situation differs for the TP, where athletes were included for potential qualification in the 2026 Olympic Games and return to international Event, especially for the Russian skaters (see Figure 24).



Figure 23 – Evolution of RTP (red) and TP (blue) numbers across seasons and disciplines

Consequently, the following graph shows the actual decrease in the total number of skaters included in our testing pools (TP and RTP merged) to a total of 115 skaters to start the next 2024/25 season (figure 24), with skaters being added or removed from TPs during the season.



Figure 24 – Evolution of total number of skaters in our testing pools (TP + RTP)



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Therapeutic Use Exemptions

Therapeutic Use Exemptions (TUE) numbers are quite similar compared to last season with a total of 20 active TUEs during season 2023/24. More than two thirds of them have been **approved directly by the ISU** TUE Committee, and the rest have been granted by the skater's NADO and recognized by ISU (figure 25).

Comparatively to last season, most of the TUEs were issued for treatments from the S6 WADA class, namely *Stimulants,* to threat Attention-Deficit/Hyperactivity Disorder (ADHD, figure 26).



Figure 25 – Recognized by ISU versus approved by ISU TUEs



Figure 26 – Repartition of TUEs by WADA prohibited substances class





Result Management

ISU as Result Management Authority

One Adverse Passport Finding (APF) was recorded, resulting in a mandatory provisional suspension. However, the case was ultimately resolved as negative, and no Anti-Doping Rule Violation (ADRV) was declared.

2 Adverse Analytical Findings (AAF) were recorded but were reported as negative due to a valid TUE.

25 Whereabouts Failures were confirmed, 18 as Missed Tests and 7 as Filling Failures.

ISU Members

13 Adverse Analytical Findings (AAF) were recorded. 3 were considered as ADRV and induced sanctions. 10 were reported as Negative due to a valid TUE or use of metabolic residues of a topical ophthalmic administration (not prohibited).

1 ADRV following 3 Whereabouts Failures.

1 ADRV without AAF, resulting from the athlete supplement records

2 ATF without ADRV, one because of a retroactive TUE and the other induced by meat contamination.

The Class Substances leading to ADRV were S1.1 Anabolic Androgenic Steroids (AAS) & S4 Hormone and Metabolic Modulators





Pure as Ice Program

ISU "Pure as Ice" Outreach Report:

The ISU "Pure as Ice" campaign continues to prioritize Anti-Doping education as an integral part of its events for junior Skaters. Below is a summary of the campaign's activities during the 2023/24 Season.

The seminar introduced the basics of Clean Sport through participative and interactive sessions. Skaters and ASPs learned mainly about the testing process, TUE, and supplements, amongst other topics

Junior World Cup Speed Skating (Baselga di Piné, ITA)

- Attendance: 127 skaters from 19 countries
- **Countries:** Kazakhstan, Finland, Hungary, Portugal, Romania, Bulgaria, Italy, Poland, Sweden, Japan, Spain, Australia, South Korea, China, Belgium, Ukraine, Colombia, and the USA.

World Junior Short Track Speed Skating Championships (Gdansk, POL)

- Attendance: 73 skaters from 16 countries
- **Countries:** Norway, Singapore, Great Britain, Italy, Austria, Poland, South Korea, Australia, China, Hong Kong, Canada, Bulgaria, Ukraine, Croatia, and Turkey.

World Junior Synchronized Skating Championships (Neuchatel, SUI)

- Attendance: 196 skaters from 11 countries
- **Countries:** Italy, France, Spain, Sweden, Great Britain, the Netherlands, New Zealand, Hungary, Australia, Finland, and Switzerland

Pure as Ice outreach booths were set up in conjunction with NADOs from Canada (CCES) and Taiwan at **5 ISU Events**.

More than **400** Skaters, Coaches, and Athlete Support Personnel (ASPs) visited the booth and participated in the Pure as Ice Seminar and Kahoot! Quiz

At the end of the season 2022/23, around **120 Skaters** were included in **ICEPACK** (ISU Clean Education Pool Actors)

Published **P.L.A.Y.s** - Pocket Learning Anti-Doping and You on **ICEPACK**, **REVEAL**, **Testing Pools** and the **Prohibited List 2024 Update**



A new eLearning Small Bites Course of Skating was launched with topics such as **Unintentional Doping, Whereabouts, TUE's, Supplement Check** and more, available in





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