

# Summary of Major Modifications and Explanatory Notes

## 2024 Prohibited List

Subclasses of sections S1, S2, S4, M1, M2, M3 and S6 of the *Prohibited List* were renumbered for better clarity throughout the document to avoid any misinterpretation of subclasses but there was no change in classification.

## SUBSTANCES AND METHODS PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

# PROHIBITED SUBSTANCES

### S0. Non-Approved Substances

- 2,4-Dinitrophenol (DNP) and troponin activators (e.g. Reldesemtiv and Tirasemtiv) were listed as examples.

### S1. Anabolic Agents

- Trestolone (7 $\alpha$ -methyl-19-nortestosterone, MENT), dimethandrolone (7 $\alpha$ ,11 $\beta$ -Dimethyl-19-nortestosterone) and 11 $\beta$ -methyl-19 nortestosterone were added as examples of nandrolone (19-nortestosterone) analogues.

### S2. Peptide Hormones, Growth Factors, Related Substances, and Mimetics

- S2.2.1 was reworded under the heading of “Testosterone-stimulating peptides in males” for clarity. This specifies that busarelin, deslorelin, goserelin, histrelin, leuprorelin, nafarelin and triptorelin are examples of Gonadotrophin-Releasing Hormone (GnRH) agonist analogues, with histrelin added as a new example.  
Kisspeptin and its agonist analogues, which act to stimulate GnRH secretion, and consequently testosterone, were also added.
- S2.2.2 : Tetracosactide (ACTH 1-24) was added as an example, as it is the first 24 amino acid portion of natural corticotrophin (ACTH), and possesses the full biological activity of the natural hormone.
- S2.2.4: Capromorelin and ibutamoren (MK-677) were added as examples of growth hormone secretagogues (GHS), which are mimetics of the natural hormone, ghrelin, that stimulates the production of growth hormone (GH) and, in turn, insulin-like growth factor 1 (IGF-1).
- S2.3: The INN name for recombinant human IGF-1, mecasermin, was added.

## S4. Hormone and Metabolic Modulators

- S4.4.1 was updated to include Rev-Erb- $\alpha$  agonists and as example, SR9011 was added and SR9009 was relocated.

## S5. Diuretics and Masking Agents

- Editorial changes were made to section S5 to improve clarity. Conivaptan and mozavaptan were added as further examples of vaptan drugs.

# PROHIBITED METHODS

## M1. Manipulation of Blood and Blood Components

- Donation by *Athletes* of plasma or plasma components by plasmapheresis is no longer prohibited when performed in a registered collection center.

# SUBSTANCES AND METHODS PROHIBITED IN-COMPETITION

## PROHIBITED SUBSTANCES

### S6. Stimulants

- 2-phenylpropan-1-amine (BMPEA,  $\beta$ -methylphenethylamine) was added as an example of a specified stimulant due to its presence in dietary supplements.
- Tramazoline was added as an imidazoline derivatives under Exceptions.

### S7. Narcotics

- Tramadol is prohibited *In-Competition* as of 1 January 2024 as approved by the Executive Committee on 23 September 2022. Tramadol has been on the WADA Monitoring Program for some years. Monitoring data has indicated significant *Use* in sports including cycling, rugby and football. Tramadol abuse, with its dose-dependent risks of physical dependence, opiate use disorder and overdoses in the general population, is of concern and has led to it being a controlled drug in many countries. Research studies funded by WADA<sup>1</sup> have confirmed the potential for tramadol to enhance physical performance in sports. The recommended washout period<sup>§</sup> will be communicated before 1 January 2024.

<sup>§</sup> The “washout period” refers to the time from the last administered dose to the time of the start of the *In-Competition* period (i.e. beginning at 11:59 p.m. on the day before a *Competition* in which the *Athlete* is scheduled to participate, unless a different period was approved by WADA for a given sport).

<sup>1</sup> a) Holgado D, Zandonai T, Zabala M, Hopker J, Perakakis P, Luque-Casado A, Ciria L, Guerra-Hernandez E, Sanabria D. Tramadol effects on physical performance and sustained attention during a 20-min indoor cycling time-trial: A randomised controlled trial. *J Sci Med Sport*. 2018 Jul;21(7):654-660.

b) Mauger L, Thomas T, Smith S, Fennell C. Tramadol is a performance-enhancing drug in highly trained cyclists: a randomized controlled trial.

*J Appl Physiol*. 2023 Jul;135: 467-474.

## S9. Glucocorticoids

- The minimum washout periods following rectal administration of glucocorticoids are now included in the Glucocorticoid Washout Table; glucocorticoids remain prohibited *In-Competition* when administered by the rectal route. These washout periods are based on the use of these medications according to the maximum manufacturer's licensed doses:

Route	Glucocorticoid	Washout period*
<b>Oral**</b>	All glucocorticoids;	3 days
	<b>Except:</b> triamcinolone; triamcinolone acetonide	10 days
<b>Intramuscular</b>	Betamethasone; dexamethasone; methylprednisolone	5 days
	Prednisolone; prednisone	10 days
	Triamcinolone acetonide	60 days
<b>Local injections</b> (including periarticular, intra-articular, peritendinous and intratendinous)	All glucocorticoids;	3 days
	<b>Except:</b> prednisolone; prednisone; triamcinolone acetonide; triamcinolone hexacetonide	10 days
<b>Rectal</b>	All glucocorticoids;	3 days
	<b>Except:</b> triamcinolone diacetate; triamcinolone acetonide	10 days

\*The “washout period” refers to the time from the last administered dose to the time of the start of the *In-Competition* period (i.e. beginning at 11:59 p.m. on the day before a *Competition* in which the *Athlete* is scheduled to participate, unless a different period was approved by *WADA* for a given sport). This is to allow elimination of the glucocorticoid to below the reporting level.

\*\* Oral routes also include e.g. oromucosal, buccal, gingival and sublingual.

- The Washout Period Table is also found in the List FAQ <https://www.wada-ama.org/en/prohibited-list#faq-anchor>

# MONITORING PROGRAM

- Salmeterol and vilanterol were removed as the required prevalence data were obtained.
- Tramadol was removed as it is now prohibited under S7: Narcotics .
- Tapentadol and dihydrocodeine were added to monitor patterns of use *In Competition*.
- The GLP-1 analogue semaglutide was added to examine the prevalence and pattern of use in sport.

\* For further information on previous modifications and clarifications, please consult the *Prohibited List* Frequently Asked Questions at <https://www.wada-ama.org/en/prohibited-list#faq-anchor>.