Horseracing Integrity & Welfare Unit: Known Detection Times and Screening Limits of Common Controlled Medications

Background:

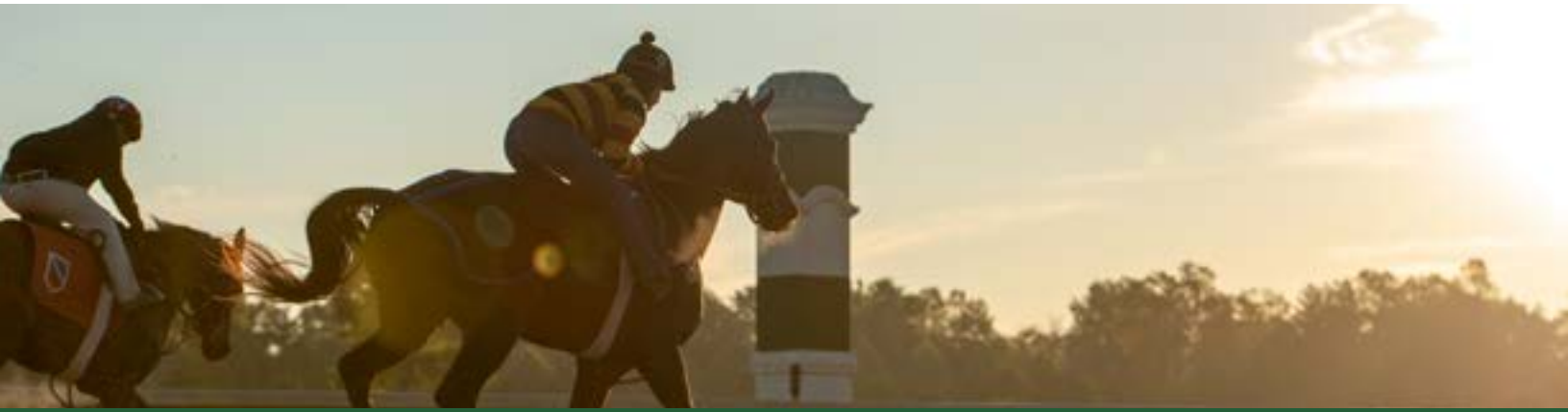
Under HISA's Anti-Doping and Medication Control (ADMC) Program, it is the responsibility of attending veterinarians and Responsible Persons, i.e., trainers, to determine appropriate withdrawal guidance for a substance administered to a Covered Horse based on factors including, but not limited to, that individual horse's health and metabolism, other prescribed medications the horse may be receiving, a veterinarian's and/or trainer's risk aversion level, and published Detection Times.

The attached table should be consulted as a guide when determining appropriate withdrawal guidance for the medications listed.

Empty boxes indicate that there is not information available regarding dosing protocol, Detection Time, or Screening Limit for that specific substance.

All administrations of Controlled Medication Substances are prohibited within 48 hours of a race (restricted administration time), with the following exceptions as per HISA's ADMC Program Prohibited List. These substances may be administered ≥24 hours before a race or Vets' List workout:

- Orally administered vitamins
- Vaccines
- Anti-ulcer medications (e.g., Cimetidine, Omeprazole, and Ranitidine)
- Unsupplemented isotonic electrolyte solutions by oral or IV administration (NOTE: The use of a nasogastric tube is prohibited within 48 hours of a horse's race.)
- Altrenogest in female horses
- Antimicrobials (antibiotics) and other anti-infective agents, excluding procaine penicillin or other antimicrobial/anti-infective agents containing or metabolizing to Prohibited Substances
- Antiparasitic/anthelmintics approved and registered for use in horses, excluding levamisole or other antiparasitic/anthelmintics metabolizing to and/or containing other Prohibited Substances



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Terms To Know:

- **Banned Substance:** prohibited at all times from being possessed, administered, or present in relation to a Covered Horse.
- **Controlled Medication Substance:** permitted for use or administration in a Covered Horse, except in close proximity to a race or Vets' List workout. As specified in the Prohibited List, certain Controlled Medication Substances are also prohibited from being present in samples collected following an official timed workout.
- **Covered Horse:** a Thoroughbred that has completed at least one official timed workout.
- **Detection Time (DT):** the earliest time after administration of a medication to a group of test horses that the medication's concentration is below the Limit of Detection (i.e., the lowest concentration of a substance that can be identified by a laboratory) or defined Screening Limit in a specific matrix (e.g., serum, plasma, urine, or hair) in all of the test horses. The number of test horses used to determine a DT will be specified.
- **Prohibited List:** identifies Banned Substances/Methods and Controlled Medication Substances/Methods.
- **Responsible Person:** a Covered Horse's trainer; if the horse doesn't have a trainer, the Responsible Person is the Covered Horse's owner; included as a Covered Person.
- **Restricted Administration Time (RAT):** an interval prior to a race during which the administration of a substance, or substances, is strictly prohibited. RATs can be enforced by drug testing, as well as by surveillance or the acquisition of evidence that an administration occurred during the prohibited period.
- **Screening Limit (SL):** An internal trigger for laboratories. If initial testing detects a concentration of a substance in a sample from a Covered Horse that is below the SL, the laboratory will not pursue the possible presence of a Prohibited Substance. If initial testing detects a concentration of a substance to be above the SL, the laboratory will pursue confirmatory analysis to solidify the positive finding.
- **Withdrawal Guidance:** a recommendation traditionally provided by regulators or veterinarians as to the minimum interval between administration of a medication, including specific dosage and route of administration, and a race or timed workout. Under HISA's ADMC Program, it is the responsibility of attending veterinarians and Responsible Persons, i.e., trainers, to determine appropriate withdrawal guidance for a substance administered to a Covered Horse. Such guidance will not be provided by HISA or HIWU.

*Please be advised that the responsibilities and requirements set forth above are contained in the Anti-Doping and Medication Control (ADMC) Program regulations submitted by the Horseracing Integrity and Safety Authority to the Federal Trade Commission (FTC). These regulations were approved by the FTC on March 27, 2023. The information enclosed herein is not exhaustive, and more information can be found by consulting the approved regulations, which were posted to the Federal Register on January 26, 2023.

Table Endnotes:

*Number of test horses used in research studies to determine Detection Time.

1 Albuterol administered by any route other than inhalation is a Banned Substance. Evidence that albuterol was administered by a route other than inhalation constitutes an Anti-Doping Rule Violation.

2 The detection of more than one NSAID in a horse's Post-Race or Post-Work blood sample constitutes a Stacking Violation.

3 Three NSAIDs (Flunixin, Ketoprofen, Phenylbutazone) are associated with DTs of 48 hours. Only one of the three may be administered using a withdrawal guidance based on the 48-hour DT. To avoid a Stacking Violation, the following secondary DTs should be applied for the following 3 NSAIDs: Flunixin: 144 hours; Ketoprofen 96 hours; Phenylbutazone: 168 hours.

4 The detection of more than one corticosteroid in a horse's Post-Race or Post-Work blood sample constitutes a Stacking Violation.

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Substance	Dosage	Detection Time Unless Specified as Restricted Administration Time (RAT)(#Horses*)	Screening Limit
Acepromazine	1. 0.15 mg/kg single oral dose 2. 0.05 mg/kg single IV dose (20 horses)	1. 72 hours (6) 2. 48 hours (20)	10 ng/mL as 2-(1- hydroxyethyl) promazine sulfoxide (HEPS) in urine or 0.02 ng/mL in serum or plasma
Albuterol[1] (Salbutamol)	5 x 100 µg actuations per dose for 2 days dosed every 4 hours	72 hours	0.5 ng/mL in urine
Betamethasone[4]			0.2 ng/mL in urine
Butorphanol	0.1 mg/kg single IV dose	72 hours (6)	1 ng/mL in hydrolyzed urine or 0.01 ng/mL in serum or plasma
Cetirizine	0.4 mg/kg twice daily for 5 doses.	48 hours (9)	3 ng/mL in serum or plasma
Ciclesonide[4]	5.5 mg/day x 5 days, then 4.1 mg/day x 5 days via inhalation (Aservo Equihaler).	48 hours (6)	
Cimetidine	20 mg/kg orally twice daily for a total of 7 doses	RAT: 24 hours (9)	400 ng/mL in serum or plasma
Dantrolene	500 mg orally once daily for 3 days	48 hours (12)	3 ng/mL of 5-hydroxydantrolene in unhydrolyzed urine or 0.1 ng/mL in serum or plasma as 3-hydroxydantrolene
Detomidine	0.02 mg/kg single IV dose	48 hours (10)	2 ng/mL 3-carboxydetomidine in urine or 0.02 ng/mL in serum or plasma
Dexamethasone[4]	Single 20 mg oral dose	72 hours (20)	0.2 ng/mL in urine
Dexamethasone Sodium phosphate[4]	0.06 mg/kg single IV dose	72 hours (6)	
Diclofenac[2]			50 ng/mL in urine
Dimethylsulfoxide (DMSO)	70 mL 90% DMSO in 500 mL LRS IV single administration	48 hours (30)	15,000 ng/mL in urine or 1,000 ng/mL in serum or plasma
Dipyrone[2]	30 mg/kg single IV dose	72 hours (10)	1,000 ng/mL of 4-methylaminoantipyrine in urine
Firocoxib[2]	100 mcg/kg orally once daily for total of 7 doses	360 hours (20)	2 ng/mL in serum or plasma
Flunixin[2,3]	1. 1.1 mg/kg single IV dose 2. 500 mg single IV dose	1. 48 hours (16) 2. 48 hours (12)	4 ng/mL in serum or plasma
Furosemide	1 mg/kg single IV dose	RAT: 48 hours (6)	50 ng/mL in urine or 0.1 ng/mL in serum or plasma

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Substance	Dosage	Detection Time Unless Specified as Restricted Administration Time (RAT)(#Horses*)	Screening Limit
Furosemide (where permitted by exemption)		RAT: 4 hours	100 ng/mL in serum or plasma AND urine specific gravity < 1.010
Glycopyrrolate	1 mg single dose IV	48 hours (20)	0.003 ng/mL in serum or plasma
Guaifenesin (glycerol guaiacolate)	2 grams total body dose, orally twice daily for 5 doses	48 hours (9)	1 ng/mL in serum or plasma
Hydroxyzine	190 mg twice daily for a total of 9 doses	96 hours (2)	
Ipratropium	5.5 mcg/kg once daily via nebulization for 3 total doses	120 hours (6)	0.25 ng/mL in urine
Isoflupredone[4]		Serum concentrations associated with an experimental dose of 8 mg IA single joint (6 horses) were all below Limit of Detection by 14 days	
Ketoprofen[2,3]	2.2 mg/kg single IV dose	48 hours (24)	2 ng/mL in serum or plasma
Lidocaine	200 mg of lidocaine, as lidocaine hydrochloride, administered subcutaneously	48 hours (6)	10 ng/mL as 3-hydroxylidocaine in urine or 0.02 ng/mL as 3-hydroxylidocaine in serum or plasma
Medetomidine			5 ng/mL as 3-hydroxymedetomidine in urine
Mepivacaine	40 mg (2 mL) single dose SQ distal limb	72 hours (6)	10 ng/mL as 3-hydroxymepivacaine in urine or 0.05 ng/mL in serum or plasma
Methocarbamol	15 mg/kg single IV dose	48 hours (20)	1 ng/mL in serum or plasma
Misoprostol	5 mcg/kg orally twice daily for 14 days	48 hours (6)	
N-Butylscopolammonium	0.3 mg/kg single IV dose	48 hours (6)	25 ng/mL in urine
Omeprazole	2.2 g orally once daily for 4 doses	RAT: 24 hours (9)	10 ng/mL in serum or plasma as omeprazole sulfide
Phenylbutazone[2,3]	4.4 mg/kg single IV dose	48 hours (17)	0.2 mcg/mL in serum or plasma
Procaine	17 mg (~17,000 IU) per kg IM		25 ng/mL in serum or plasma
Ranitidine	8 mg/kg orally twice daily for 7 doses	RAT: 24 hours (9)	40 ng/mL in serum or plasma
Romifidine	80 mcg/kg single IV dose	60 hours (6)	1 ng/mL in urine
Triamcinolone[4]			0.5 ng/mL in urine
Xylazine	200 mg single IV dose	72 hours	10 ng/mL in urine (as 4-hydroxyxylazine) or 0.05 ng/mL in serum or plasma