

PUBLIC PROTECTION CABINET
Kentucky Horse Racing Commission
(As Amended at ARRS, June 8, 2021)

810 KAR 8:025. Drug, medication, and substance withdrawal guidelines.

RELATES TO: KRS 230.215, 230.225, 230.240, 230.260, 230.265, 230.290, 230.320, 230.370

STATUTORY AUTHORITY: KRS 230.215(2), 230.225, 230.240(2), 230.260, 230.320, 230.370

NECESSITY, FUNCTION, AND CONFORMITY: KRS 230.215(2) authorizes the Kentucky Horse Racing Commission ~~[(the “commission”)]~~ to promulgate administrative regulations prescribing conditions under which all legitimate horse racing and wagering thereon is conducted in Kentucky. KRS 230.240(2) requires the commission to promulgate administrative regulations restricting or prohibiting the administration of drugs or stimulants or other improper acts to horses prior to the horse participating in a race. This administrative regulation establishes the withdrawal guidelines for permitted drugs, medications, and substances that may be administered to race horses competing in Kentucky.

Section 1. The Kentucky Horse Racing Commission Withdrawal Guidelines Thoroughbred; Standardbred; Quarter Horse, Appaloosa, and Arabian.

(1) This administrative regulation shall provide certain mandatory treatment requirements, guidance, and advice on medication withdrawal intervals.

(2)(a) These withdrawal guidelines ~~shall~~**[do]** not apply to two (2) year-old or stakes horses pursuant to 810 KAR 8:010, Section 6.

(b) Unless otherwise specified in these withdrawal guidelines, ~~KAR~~ Title 810 ~~[of the Kentucky Administrative Regulations]~~, or ~~KRS~~ Chapter 230 ~~[of the Kentucky Revised Statutes]~~, the following withdrawal guidelines are voluntary and advisory. The guidelines are recommendations based on current scientific knowledge that may change over time.

(c) A licensee may present evidence of full compliance with these guidelines to the commission and the stewards as a mitigating factor to be used in determining violations and penalties.

(d) These withdrawal interval guidelines assume that administration of medications will be performed at doses that are not greater than the manufacturer’s maximum recommended dosage, or the dosage recommended in this document. Medications administered at dosages above manufacturer’s recommendations, in compounded formulations, or in combination with other medications or administration inside the withdrawal interval may result in test sample concentrations above threshold concentrations that could lead to positive test results and the imposition of penalties.

(e) The time of administration of an orally administered substance, for the purposes of withdrawal interval, shall be considered to be the time of complete ingestion of the medication by the horse via eating or drinking.

(f) For products containing multiple medications, the withdrawal time to be used should be no less than the longest identified for any of the individual constituent substances--even if that substance is not present in the highest concentration in the product.

(g) Brand names of medications, where applicable, are listed in parentheses following the generic name of a drug.

(3)(a) Withdrawal Guidelines. Furosemide shall be administered pursuant to 810 KAR 8:010.

(b) The following substances may be administered or applied up to the scheduled paddock time of the race in which the horse is to compete:

1. Topical applications, such as liniments, leg paints, salves, and ointments, which may contain antibiotics or DMSO, but do not contain steroids, anesthetics, or any other prohibited substances.

2. The following substances may be administered up to twenty-four (24) hours prior to the scheduled post time of the race in which the horse is to compete as long as their use follows **subsection (2) of this** section ~~[1(a) of this administrative regulation]~~:

- a. Antibiotics, except those containing prohibited drugs, such as Procaine;
- b. Antiprotozoals, such as ponazuril (Marquis), toltrazuril (Baycox), sulfamethoxazole/pyrimethamine (Daraprim);
- c. Antifungal agents, such as Griseofulvin and Ketoconazole;
- d. Certain inhalation agents that do not exhibit bronchodilator properties, such as cromolyn sodium (Intal), and acetylcysteine (Mucomyst);
- e. Cimetidine (Tagamet), orally at 20 mg/kg twice daily for 7 doses;
- f. Electrolytes, Vitamins, and Minerals, via IV, IM or oral administration;
- g. Any oral supplements or nutrients not containing drugs;
- h. Hyaluronic Acid (Legend), via IV administration;
- i. Misoprostol;
- j. Non-Androgenic Reproductive Hormones, such as HCG, Regumate and GnRH, in fillies and mares only;
- k. Omeprazole (Gastrogard), orally at 2.2 g once daily for 4 days;
- l. Polysulfated glycosaminoglycan (Adequan), via IM administration;
- m. Proprionibacterium acnes suspension (Eqstim), or comparable immunostimulants, excluding levamisole;
- n. Ranitidine (Zantac), orally at 8 mg/kg twice daily for 7 doses; and
- o. Sucralfate.

3. Non-steroidal anti-inflammatory drugs (NSAIDS):

a. Elected NSAID: Only one of the following three NSAIDS may be administered up to the manufacturer's maximum labeled dosage until forty-eight (48) hours prior to the scheduled post time of the race in which the horse is to compete, as long as their use follows Section 1(2) of this **administrative** regulation and the requirements of 810 KAR 8:010.

- (i) Phenylbutazone (Butazolidin) 4.4 mg/kg, via IV administration only;
- (ii) Flunixin Meglumine (Banamine) 1.1 mg/kg, via IV administration only; and
- (iii) Ketoprofen (Ketofen) 2.2 mg/kg, via IV administration only.

b. In accordance with the European Horserace Scientific Liaison Committee, the following withdrawal intervals shall be observed for all NSAIDS, except for those **established[set forth]** in **subparagraph 3.a. of this paragraph**~~[Section 1(b)(3)(a) of this regulation]~~, for administration prior to the scheduled post time of the race in which the horse is to compete, as long as their use follows Section 1(2) of this **administrative** regulation:

(i) Flunixin Meglumine (Banamine) 1.1 mg/kg, via IV administration: 6-day withdrawal interval;

(ii) Phenylbutazone (Butazolidin) 4.4 mg/kg, via IV administration: 7-day withdrawal interval;

(iii) Ketoprofen (Ketofen) 2.2 mg/kg, via IV administration: 4-day withdrawal interval;

(iv) Diclofenac Sodium Topical (Surpass Cream), via a single, 5-inch application: 7-day withdrawal interval; and

(v) Firocoxib (Equioxx) 0.1 mg/kg, via a single oral or IV dose, repeated daily administration: 15-day withdrawal interval from date of last administration.

c. The following substances have a forty-eight (48) hour withdrawal guidance prior to the scheduled post time of the race in which the horse is to compete as long as their use follows Section 1(2) of this **administrative** regulation:

(i) Acepromazine (Promace), via IV administration at 0.05 mg/kg;

(ii) Butorphanol (Torbugesic), via IV administration at 0.1 mg/kg;

(iii) Cetirizine (Zyrtec), orally at 0.4 mg/kg twice daily for 5 doses; although it is recommended that ivermectin should not be administered within forty-eight (48) hours of a race if horse has been administered cetirizine;

(iv) Dantrolene (Dantrium), via oral administration at 500 mg total dose;

(v) Detomidine (Dormosedan), via IV administration at 5 mg single dose;

(vi) DMSO via IV, oral, or topical administration up to 60 ml;

(vii) Glycopyrrolate (Robinol), via IV administration at 1 mg total dose;

(viii) Guaifenesin, orally at 2 g twice daily for 5 doses;

(ix) Methocarbamol (Robaxin-V), via single IV at 15 mg/kg;

(x) Procaine penicillin, via IM administration at 17 mg/kg; and

(xi) Xylazine (Rompun), via IV administration at 200 mg single dose.

d. The following substances shall not be administered within forty-eight (48) hours of a race:

(i) Beta-2 agonists by inhalation, such as terbutaline, salmeterol, and fenoterol;

(ii) Ergot alkaloids, such as Ergonovine and Methergine;

(iii) Ipratropium;

(iv) Isoxsuprine; and

(v) Pentoxifylline (Trental).

e. The following substances may be administered up to seventy-two (72) hours prior to the scheduled post time of the race in which the horse is to compete as long as their use follows Section 1(2) of this **administrative** regulation:

(i) Albuterol (Proventil) via inhalation at 720 mcg;

(ii) Dexamethasone (Azium), via oral, IV, IM administration at 0.05 mg/kg. However, if another corticosteroid was administered systemically or intra-articularly, this withdrawal guidance **shall/does** not apply and a minimum five (5) day withdrawal is recommended;

(iii) Lidocaine, via subcutaneous administration at 200 mg total dose;

(iv) Mepivacaine (Carbocaine), via subcutaneous administration at 0.07 mg/kg; **and**

(v) Romifidine (Sedivet), via IV administration at 50 mg.

f. The following substances may be administered up to ninety-six (96) hours prior to the scheduled post time of the race in which the horse is to compete as long as their use follows Section 1(2) of this **administrative** regulation:

(i) Hydroxyzine (Atarax); and

(ii) Phenytoin (Dilantin).

g. Reserpine (Serpasil) may be administered up to seven (7) days prior to the scheduled post time of the race in which the horse is to compete as long as its use follows Section 1(2) of this **administrative** regulation.

h. The use of an extra-corporeal shock wave therapy or radial pulse wave therapy machine may be performed until ten (10) days prior to the scheduled post time of the race in which the horse is to compete, as long as its use complies with 810 KAR 8:010.

i. The following substance may be administered up to twenty-one (21) days prior to the scheduled post time of the race in which the horse is to compete, as long as its use follows Section 1(2) of this **administrative** regulation, and its use complies with 810 KAR 8:010, Section 10: Clenbuterol (Ventipulmin), orally up to 0.8 mcg/kg twice daily.

j. Any horse that has been treated with therapeutic medications found in Section 1 of this **administrative** regulation may, at the trainer's request and expense, and on permission of a commission veterinarian, have samples of blood **or[and/or]** urine collected by the commission veterinarian for analysis by the commission **[-authorized]** laboratory prior to entry to race in the state of Kentucky.

(i) As a condition of this elective testing, the trainer **shall[will]** be required to disclose the date and time, dose, and route of administration of the substance for which clearance testing is requested.

(ii) A report from the commission laboratory of a negative finding in this pre-race, elective testing **shall[does]** not provide a safe harbor for the owner, trainer, veterinarian, or horse. A report from the commission laboratory of a positive finding in a post-race sample shall be treated as a violation of **KAR Title 810[KHRC regulations]** even if there was a negative finding by the commission laboratory in the clearance testing sample.

k. The following **shall** have a fourteen (14) day stand down period for intra-articular injection. Any IA corticosteroid injection within fourteen (14) days **shall be/is]** a violation:

(i) Betamethasone, via IA administration at 9 mg total dose in a single articular space. Withdrawal time should be increased for use of betamethasone products with a ratio of greater than 1:1 betamethasone acetate to betamethasone sodium phosphate. Intramuscular administration is associated with substantially longer withdrawal times.

(ii) Isoflupredone (Predef 2x), via IA administration at 20 mg in a single joint space or 10 mg subcutaneous.

(iii) Methylprednisolone (Depo-Medrol), via IA administration at a total dose of less than 100 mg in a single articular space. Intramuscular administration is associated with substantially longer withdrawal times and is not recommended, in accordance with the Racing Medication and Testing Consortium. Clearance testing is recommended in blood and urine prior to entry.

(iv) Triamcinolone acetonide (Vetalog), via IA administration at 9 mg total dose in a single articular space. Intramuscular administration is associated with substantially longer withdrawal times.

l. It is recommended that any horses receiving Fluphenazine (Prolixin) receive pre-race clearance testing.

(4) Withdrawal Guidelines Chart:

Substance	Brand Name	Recommended Minimum Withdrawal	Administration Specifications

Acepromazine	PromAce	48 hours	0.05 mg/kg via IV administration
Acetylcysteine	Mucomyst	24 hours	Inhalation
Albuterol	Proventil	72 hours	720 mcg via inhalation
Beclomethasone	Beclovent	24 hours	Inhalation only
Butorphanol	Torbugesic	48 hours	0.1 mg/kg via IV administration
Cetirizine	Zyrtec	48 hours	0.4 mg/ml orally twice daily for 5 doses
Cimetadine	Tagamet	24 hours	20 mg/kg orally twice daily for 7 doses
Clenbuterol	Ventipulmin	21 days	0.8 mcg/kg orally. <u>Pursuant to 810 KAR 8:010, Section 10, clenbuterol shall be prohibited unless the prescription is made for a specific horse based on a specific diagnosis. The veterinarian shall provide a copy of the treatment sheet to the Equine Medical Director or designee for review within twenty-four (24) hours of administration. A horse administered clenbuterol shall be placed on the veterinarian's list for at least twenty-one (21) days after the last administration. The horse shall meet all conditions for removal from the list, including negative blood and urine sampling.</u>
Cromolyn sodium	Intal	24 hours	Inhalation
Dantrolene	Dantrium	48 hours	500 mg orally
Detomidine	Dormosedan	48 hours	5 mg via IV administration
Dexamethasone	Azium	72 hours IV PO, with no other corticosteroids administered. 5 days if other corticosteroids have been administered.	IV, PO, IM, pursuant to the European Horserace Scientific Liaison Committee.
DMSO		48 hours	Topical, IV, or oral administration up to 60 ml
Ergonovine		48 hours	No dose specified
Fenoterol		48 hours	Via inhalation, no dose specified
Furosemide	Salix	24 hours	Administration <u>shall be</u>

2-year-olds beginning in 2020 Stakes horses beginning in 2021			<u>prohibited[is not permitted]</u> at less than 24 hours, and limited to a maximum 500 mg single dose via IV administration
Furosemide	Salix	4 hours	150-500 mg single IV dose administered by KHRC veterinarian. See 810 KAR 8:010, Section 6.
Guaifenesin		48 hours	2 g orally twice daily for 5 doses
Glycopyrrolate	Robinol	48 hours	1 mg
Griseofulvin	Fulvacin	24 hours	No dose specified
Hyaluronic Acid	Legend	24 hours	IV administration only; no dose specified
Hydroxyzine	Atarax	96 hours	No dose specified
Ipratropium		48 hours	Via inhalation, no dose specified
Isoxsuprine	Vasodilan	48 hours	No dose specified
Ketoconazole	Nizoral	24 hours	No dose specified
Lidocaine		72 hours	200 mg total dose SQ
Mepivacaine	Carbocaine	72 hours	0.07 mg/kg SQ
Methocarbamol	Robaxin	48 hours	15 mg/kg single IV
Methylergonovine	Methergine	48 hours	No dose specified
Misoprostol	Cytotec	24 hours	No dose specified
Omeprazole	Gastrogard	24 hours	2.2 g orally once daily for 4 days
Omeprazole	Gastrogard	24 hours	2.2 g orally once daily for 4 days
Pentoxifylline	Trental	48 hours	No dose specified
Phenytoin	Dilantin	96 hours	No dose specified
Ponazuril/Diclazuril/Sulfadiazine-Pyrimethamine	Marquis/Protazil	24 hours	Oral
Procaine Penicillin		48 hours	17 mg/kg IM Procaine penicillin treatments <u>shall[must]</u> be reported to the stewards no later than twenty-four (24) hours after the last injection is administered. Horses so treated may be required to be under commission-approved, continuous surveillance for the six-hour interval prior to the post time for the race in which the horse is entered. The owner of the horse <u>shall be[is]</u> responsible for all costs associated with the surveillance. Prospective

			surveillance arrangements <i>shall[must]</i> be submitted to the stewards no later than close of business on the day of entry.
PSGAG	Adequan	24 hours	Via IM administration
Ranitidine	Zantac	24 hours	8 mg/kg orally twice daily for 7 doses
Reserpine	Serpasil	7 days	No dose specified
Romifidine	Sedivet	72 hours	50 mg via IV administration
Salmeterol		48 hours	Via inhalation, no dose specified
Sucralfate	Carafate	24 hours	No dose specified
Terbutaline		48 hours	No dose specified
Xylazine	Rompun	48 hours	200 mg via IV administration

(5) NSAID withdrawal guidelines chart:

Substance	Brand Name	Recommended Minimum Withdrawal	Administration Specifications
Phenylbutazone	Butazolidin	48 hours—single elected NSAID. If this is not the single elected NSAID, then 7 days, pursuant to the European Horserace Scientific Liaison Committee.	4.4 mg/kg via IV administration
Flunixin	Banamine	48 hours—single elected NSAID. If this is not the single elected NSAID, then 6 days, pursuant to the European Horserace Scientific Liaison Committee.	1.1 mg/kg via IV administration
Ketoprofen	Ketofen	48 hours—single elected NSAID, If this is not the single elected NSAID, then 4 days, pursuant to the European Horserace Scientific Liaison Committee.	2.2 mg/kg via IV administration
Diclofenac	Surpass	7 days, pursuant to the European Horserace Scientific Liaison Committee.	5 inch ribbon of Surpass every 12 hours to one site
Firocoxib	Equioxx	15 days, pursuant to the European Horserace Scientific Liaison Committee.	0.1 mg/kg once daily for 4 days

(6) Miscellaneous withdrawal guidelines chart:

Substance	Brand Name	Recommended Minimum Withdrawal	Administration Specifications
Anthelmintics (except thiazide)		72 hours	

products			
Non-androgenic reproductive hormones	Including HCG, Regumate, GnRH, in fillies and mares only	24 hours	
Propionibacterium acnes suspension or comparable immunostimulants		24 hours	
Electrolytes, vitamins, minerals		24 hours	Via IV or IM administration
Antibiotics		24 hours	
Any injectable other than furosemide		24 hours	<u>810 KAR 8:010</u> [KHRC regulations] specifically <u>prohibits</u> [prohibit] any injections at less than 24 hours to post time for any substance.
Intra-articular injections, other than corticosteroids		72 hours	

(7) Available Threshold Levels Associated to KHRC Withdrawal Guidelines:

SUBSTANCE	THRESHOLD
Acepromazine	10 nanograms per ml in urine of hydroxyethylpromazine sulfoxide (HEPS)
Albuterol	1 nanogram per ml in urine
Boldenone Male horses other than Geldings	15 nanograms per ml in urine of boldenone, free and conjugated OR 25 picograms per ml in serum or plasma of boldenone, free
Boldenone Geldings and female horses	1 nanogram per ml in urine of boldenone, free and conjugated
Butorphanol	2 nanograms per ml in serum or plasma of butorphanol, free OR 300 nanograms per ml in urine of total butorphanol
Cetirizine	6 nanograms per ml in serum or plasma
Cimetadine	400 nanograms per ml in serum or plasma
Clenbuterol	140 picograms per ml of urine OR Limit of detection in both urine and blood
Dantrolene	0.1 nanograms per ml of serum or plasma of 5-OH dantrolene
Detomidine	2 nanogram per ml in urine of carboxydetomidine OR

	1 nanogram per ml of detomidine in serum or plasma
Diclofenac	5 nanograms per ml in serum or plasma
DMSO	10 micrograms per ml in serum or plasma
Firocoxib	20 nanograms per ml in serum or plasma
Flunixin	5 nanograms per ml in serum or plasma
Furosemide	For horses eligible to race on furosemide, 100 nanograms per ml in serum or plasma AND Urine specific gravity of less than 1.010 OR 1 nanogram per ml in serum or plasma for 2-year-olds beginning in 2020 or stakes horses beginning in 2021, see 810 KAR 8:010
Glycopyrrolate	3 picograms per ml in serum or plasma
Guaifenesin	12 nanograms per ml in serum or plasma
Ketoprofen	2 nanograms per ml of serum or plasma
Lidocaine	20 picograms per ml in serum or plasma of Total 3-OH-lidocaine
Mepivacaine	10 nanograms per ml in urine of OH-mepivacaine OR Limit of detection in serum or plasma
Methocarbamol	1 nanogram per ml in serum or plasma
Methylprednisolone	100 picograms per ml in serum or plasma
Nandrolone Male horses other than geldings	45 nanograms per ml in urine of 5 α -estrane-3 β , 17 α -diol OR In urine a ratio of 5 α estrane-3 β , 17 α -diol to 5 α estrene-3 β , 17 α -diol of > 1:1
Nandrolone Geldings and female horses	1 nanogram per ml in urine of nandrolone, free and conjugated OR 50 picograms per ml of procaine in blood, serum, or plasma of nandrolone, free
Omeprazole	10 nanograms per ml omeprazole sulfide in serum or plasma
Phenylbutazone	0.3 micrograms per ml in serum or plasma
Prednisolone	10 nanograms per ml free Prednisolone in urine
Procaine Penicillin Horses reported to have been treated with procaine penicillin	25 nanograms per ml of procaine in serum or plasma Procaine penicillin treatments <i>shall/must</i> be reported to the stewards no later than 24 hours after the last injection is administered. Horses so treated may be required to be under KHRC approved, continuous surveillance for the six hour interval prior to the post time for the race in which the horse is entered. The owner of the horse <i>shall be/is</i> responsible for all costs associated with the surveillance. Prospective surveillance arrangements <i>shall/must</i> be submitted to the stewards no later than close of business on the day of entry.
Procaine Penicillin Horses not reported to have	Limit of detection for procaine in serum or plasma 2 nanograms per ml of serum or plasma. Procaine penicillin treatments

been treated with procaine penicillin	<u>shall/must</u> be reported to the stewards no later than 24 hours after the last injection is administered. Horses so treated may be required to be under KHRC approved, continuous surveillance for the six hour interval prior to the post time for the race in which the horse is entered. The owner of the horse <u>shall be/is</u> responsible for all costs associated with the surveillance. Prospective surveillance arrangements <u>shall/must</u> be submitted to the stewards no later than close of business on the day of entry.
Ranitidine	40 nanograms per ml in serum or plasma
Testosterone Geldings	20 nanograms per ml in urine of testosterone, free and conjugated OR 25 picograms per ml in serum or plasma of testosterone, free
Testosterone Female horses (unless in foal)	55 nanograms per ml in urine of testosterone, free and conjugated OR 100 picograms per ml in serum or plasma of testosterone, free
Xylazine	200 picograms per ml in serum or plasma

(8) All other NSAIDs not listed on the withdrawal guidelines **shall** have a threshold set at limit of detection in serum or plasma.

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