



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION
WITHDRAWAL TIME RECOMMENDATIONS
2022

IMPORTANT WARNING:

The information on drug withdrawal times does not constitute and is not a warranty, guarantee, assurance, undertaking or anything similar that the results of the use of any of the drugs in the manner set out will be as stated or will not result in a positive pre or post-race violation. The Washington Horse Racing Commission is not responsible for results differing in any way from the results stated herein.

Use of guidelines provided in this document does not relieve or lessen any trainer's responsibility for assuring that, during a horse race, a horse is free from any drug listed or below the appropriate threshold and for complying with provisions of the Washington Horse Racing Commission Rules of Racing and Statutes.

Where a permitted medication has thresholds in both urine and serum or plasma as set forth by the WHRC, it is not a defense to a violation that the permitted medication does not exceed both thresholds.

Owners, trainers or any other person in charge or having care of a race horse are strongly advised to consult their own veterinarian for advice and guidance in the use of all drugs. The guidelines in this document may not be consistent with regulations and laboratory methods in place in other jurisdictions.

The Commission reserves the right to alter thresholds and withdrawal guidance as more scientific data becomes available.

NOTES:

1) Corticosteroid joint injections:

A) Intraarticular corticosteroids are prohibited within 7 days of racing or working off the veterinarian's list. For purposes of counting, the day of injection is day 1.

B) The detection of 2 or more corticosteroids in a post race sample will be considered stacking and carry a Class C penalty.



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

2) Oral Medication Administration:

In 2021 oral administration of phenylbutazone and dexamethasone were responsible for 3 violations. This is a dramatic improvement from 2019. In 2019 the oral administration of *phenylbutazone*, *methocarbamol*, and *flunixin* were known to be responsible for ten (10) of the sixteen (16) violations resulting in penalties totaling \$1,700. Additionally, nine (9) horses required additional attempts to work off the veterinarian's list because of phenylbutazone and flunixin overages totaling an additional 96 days on the list. Similar findings were seen in 2018. It is advisable to reconsider the necessity, timing, and frequency when administering these and other oral medications in the days leading up to a race or to work off the veterinarian's list

3) Issues remain around Cannabinoid use, Nutraceuticals, and Compounded Medication. Please refer to the following links or contact the WHRC for more information:

A) Cannabinoids:

i) *WHRC CBD Update (4/2/19)*

<http://www.whrc.wa.gov/forms-and-reports.html>

ii) *RMTC Cannabidiol Bulletin (2/19)*

<https://toba.org/wp-content/uploads/2019/02/Cannabidiol-Bulletin-February-2019.pdf>

B) Nutraceuticals:

RMTC Nutraceuticals 101: A Trainers Guide- April 2019:

<https://rmtcnet.com/wp-content/uploads/RMTC-Nutraceuticals-101-A-Trainers-Guide-April-2019.pdf>

C) Compounded medication:

RMTC Guide to Compounded Medications.

<https://rmtcnet.com/wp-content/uploads/RMTC-Guide-to-Compounded-Medications-What-Horsemen-Should-Know-April-2019.pdf>



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

DRUG LISTING:

1. Acepromazine

Threshold—10 ng/ml in urine (metabolite)

Dose and/or route: 0.05 mg/kg as a single IV injection

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021—0

Note: Caution should be taken when acepromazine is administered orally for an extended period of time. The drug and metabolites can be detected in the urine after repeated oral administration for as long as 30 days. If a horse requires repeated administration in order to better manage the animal, it is recommended that a sample be obtained and analyzed at the laboratory prior to entry in order to avoid inadvertent positive tests. RCI Class 3; Penalty Class B

2. Albuterol

Threshold—1 ng/ml in urine

Dose and/or route: 720 micrograms total dose, intranasal route

Recommended withdrawal time: 72 hours

Number of Positive Tests 2021—0

Note: Recent studies have shown that albuterol administered orally to horses is ineffective as a bronchodilator. Administration via this route is not recommended as it serves no therapeutic purpose and carries a substantial risk of exceeding the threshold. RCI Class 3; Penalty Class B

3. Betamethasone

Threshold—10 pg/ml in serum/plasma

Dose and/or route: IA administration of 9 mg total in one articular space as BetaVet™ (3.15 mg betamethasone as betamethasone sodium phosphate; 2.85 mg betamethasone as betamethasone acetate) – note that Celestone™ has a different ratio between the phosphate and acetate and may require an extended withdrawal time.

Recommended withdrawal time: 7 days

- **Intraarticular corticosteroids are prohibited within 7 days of racing or working off the veterinarian's list. For purposes of counting, the day of injection is day 1.**
- **The detection of 2 or more corticosteroids in a post race sample will be considered stacking and carry a Class C penalty**

Number of Positive Tests 2021—3

Note: IM administrations are discouraged due to lengthy detection period of weeks or even months. RCI Class 4; Penalty Class C.



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

4. Boldenone

Threshold— 25 pg/ml in serum- all horses regardless of sex
— 1 ng/ml in urine for geldings, fillies, and mares;
— 15 ng/ml in urine of males other than geldings

Dose and/or route: 500 mg IM (single dose)

Recommended withdrawal time: 60 days to 6 months *see Notes:*

Number of Positive Tests 2021 — 0

Note: Boldenone has a very long detection period following a single dose, with reports ranging from 60 days to 6 months. If a horse has been diagnosed with a condition that a veterinarian believes would benefit from the use of this drug it is recommended that the Commission veterinarian be notified in order to place the horse on the Vet's list. Alternatively – testing prior to entry is advised. As the above were tested with Equipoise®, which is no longer marketed, it should be noted that compounded and generic formulations often have significant variability in concentration which can significantly affect the elimination time. At the time this document was written, no FDA approved market products are available. RCI Class 3; Penalty Class B

5. Bupivacaine

Threshold— 5ng/ml in urine

Dose and /or route: RMTC and RCI make no recommendation.

Recommended withdrawal time: RMTC and RCI make no recommendation.

Number of Positive Tests 2021 — 0

Note: RCI Class 2; Penalty Class A.

6. Butorphanol

Threshold—2 ng/ml in serum/plasma; 300ng/ml in urine

Dose and/or route: 0.1 mg/kg (tartrate) IV as a single dose

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021 —0

Note: Single IV dose of butorphanol as Torbugesic® at 0.1mg/kg. Class3; Penalty Class B

7. Cetirizine

Threshold—6 ng/ml in serum/plasma

Dose and/or route: 0.4 mg/kg PO Bid for 5 doses

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021 —0

Note: Do not administer avermectin drugs including ivermectin within 48 hours of a race if the horse has been administered cetirizine as it carries an increased risk of a cetirizine threshold violation. RCI Class 4; Penalty Class C



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

8. Cimetidine

Threshold—400 ng/ml in serum/plasma
Dose and/or route: 8-20mg/kg PO BID-TID
Recommended withdrawal time: 24 hours
Number of Positive Tests 2021 — 0

Note: RCI Class 5; Penalty Class D

9. Clenbuterol

**Threshold: Thoroughbred: 2 pg/ml in serum/plasma,
140 pg/ml in urine**
Quarter horse: Prohibited in serum/plasma/urine/hair
Dose and/or route: 0.8 mcg/kg PO BID maximum 30 days
Recommended withdrawal time: 14 days thoroughbred, use prohibited in Quarter horses
Number of Positive Tests 2021 — 0

Note: Clenbuterol is prohibited in Quarter horse and mixed breed races. It is recommended that only Ventipulmin® be administered to horses in training. Other sources of clenbuterol are likely to have significant variations in mcg/ml concentration and the withdrawal recommendation for these products vary widely. Doses higher than 1.6 mcg/kg are not recommended and it should be noted that high doses of clenbuterol carry significant toxicity risks to the horse. RCI Class 3; Penalty Class B

10. Dantrolene

Threshold—100 pg/ml in serum/plasma
Dose and/or route: 500 mg total dose PO
Recommended withdrawal time: 48 hours
Number of Positive Tests 2021 — 1

Note: Oral administration of 500mg of dantrolene as paste (compounding pharmacy) or capsule formulation (Proctor and Gamble). When using a compounded paste, please note that if the concentration of dantrolene can vary widely which can significantly affect the withdrawal recommendations. RCI Class 4; Penalty Class C.

11. Detomidine (serum/plasma), Carboxydetomidine (urine)

Threshold—1ng/ml plasma; 1ng/ml urine
Dose and/or route: single IV dose of Domosedan® of 5mg
Recommended withdrawal time: 48 hrs
Number of Positive Tests 2021 — 0

Note: RCI Class 3; Penalty Class B



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

12. Dexamethasone

Threshold—5 pg/ml in serum/plasma

Dose and/or route: 0.05 mg/kg regardless of route (IM, IV, oral)

Recommended withdrawal time: 72 hours.

- **Intraarticular corticosteroids are prohibited within 7 days of racing or working off the veterinarian's list. For purposes of counting, the day of injection is day 1.**
- **The detection of 2 or more corticosteroids in a post race sample will be considered stacking and carry a Class C penalty**

Number of Positive Tests 2021 — 14

Note: Administration of dexamethasone at less than the recommended withdrawal times, and dosages greater than recommended resulted in **12 violations in 2021.**

Oral administration of medication results in slower and irregular absorption and led to 1 dexamethasone positive tests in 2021 and 2019, and 3 positive tests in 2018. Exceptional care is advised when administering oral powder in packets. The recommended withdrawal for oral administration is a minimum of 72 hours, however with multiple administration days, increased withdrawal is advised. RCI Class 4; Penalty Class C.

13. Diclofenac

Threshold—5 ng/ml in serum/plasma

Dose and/or route: 180 mg topically twice daily X 5 days (5" ribbon of Surpass® to one site)

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021—0

Note: RCI Class 4; Penalty Class C.

14. DMSO

Threshold—10 mcg/ml in serum/plasma

Dose and/or route: Topical, oral, or IV administration

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021 — 0

Note: The stewards will be notified of any horse entering the paddock smelling of DMSO and it will be considered grounds for selection of the horse for post-race testing. Evidence of administration of DMSO by the oral or intravenous routes on raceday will be considered an aggravating factor in the consideration of the penalty for a positive test. RCI Class 4; Penalty Class C.



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

15. Firocoxib

Threshold—20 ng/ml in serum/plasma

Dose and/or route: 0.1 mg/kg PO SID X 4 days

Recommended withdrawal time: 14 days

Number of Positive Tests 2021 —0

Note: Oral administration of firocoxib as Equioxx® oral paste. Withdrawal guidance for IV usage may found in: [*Knych et. al. Detection and pharmacokinetics of three formulations of firocoxib following multiple administrations to horses. Equine Vet J, 2014 Nov;46(6),734-8.*] RCI Class 4; Penalty Class C.

16. Flunixin meglumine

Threshold—20 ng/ml in serum/plasma

Secondary “Stacking” threshold- 3.0 ng/ml (administration 48 hours prior)

Dose and/or route: 1.1 mg/kg IV (single dose)

Recommended withdrawal time: 32 hours

Number of Positive Tests 2021 — 0.

Note: Flunixin administered orally, IM, or SQ may result in positive tests due to slower absorption in the horse. Oral administration of **both** phenylbutazone and flunixin resulted in the stacking violation. Oral administration of flunixin also resulted in 2 horses failing to ‘work’ off the Vet’s List in 2019. The Commission does not allow “stacking” of NSAIDS on raceday. RCI Class 4; Penalty Class C.

17. Furosemide

Threshold—Specific gravity < 1.010, 100 ng/ml in serum or plasma

Dose and/or route: 150-500 mg IV (single dose)

Recommended withdrawal time: 4 hours

Number of Positive Tests 2021— 0

Note: Splitting the dose between IV and IM or “topping off” within the four hour time limit will result in overages of the threshold. These practices should be discontinued.

18. Glycopyrrolate

Threshold—3 pg/ml in serum or plasma

Dose and/or route: 1 mg IV (single dose)

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021 —0

Note: RCI Class 4; Penalty Class C



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

19. Guaifenesin

Threshold—12 ng/ml in serum or plasma

Dose and/or route: 2 g BID PO for 5 doses

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021 —0

Note: RCI Class 4; Penalty Class C.

20. Isoflupredone

Threshold—100 pg/ml in serum or plasma

Dose and/or route: 10 mg total dose SQ, or 20 mg total dose in one articular space

Recommended withdrawal time: 7 days

- **Intraarticular corticosteroids are prohibited within 7 days of racing or working off the veterinarian's list. For purposes of counting, the day of injection is day 1.**
- **The detection of 2 or more corticosteroids in a post race sample will be considered stacking and carry a Class C penalty**

Number of Positive Tests 2021 —0

Note: RCI Class 4; Penalty Class C.

21. Ketoprofen

Threshold—2 ng/ml in serum or plasma

Secondary 'stacking' threshold - 1ng/ml (administration 48 hours prior)

Dose and/or route: 2.2 mg/kg IV (single dose)

Recommended withdrawal time: 24 hours

Number of Positive Tests 2021 — 0

Note: The Commission does not allow "stacking" of NSAIDS on raceday. RCI Class 4; Penalty Class C.

22. Lidocaine

Threshold—20 pg/ml in serum or plasma

Dose and/or route: 200 mg (total dose) SQ

Recommended withdrawal time: 72 hours

Number of Positive Tests 2021 —0

Note: RCI Class 2; Penalty Class B.

23. Mepivacaine

Threshold— 10ng/ml in urine

Dose and/or route: 0.07 mg/kg SQ (single injection, distal limb)

Recommended withdrawal time: 72 hours

Number of Positive Tests 2021—0

Note: RCI Class 2; Penalty Class B.



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

24. Methocarbamol

Threshold—1 ng/ml in serum or plasma

Dose and/or route: 15 mg/kg IV as Robaxin® (single dose)

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021 — 3

Note: Be cautious when administering methocarbamol by the oral route. In 2019 oral administration of methocarbamol was responsible for 3 of the 4 violations, and suspected of contributing to the 4th violation. Based on a small study performed by the RMTTC, a withdrawal time of at least 72 hours is recommended when methocarbamol is administered orally especially in repeated doses. RCI Class 4; Penalty Class C.

25. Methylprednisolone

Threshold—100 pg/ml in serum or plasma

Dose and/or route: 100 mg IA (total dose)(single joint)

Recommended withdrawal time: 21 days

- **Intraarticular corticosteroids are prohibited within 7 days of racing or working off the veterinarian's list. For purposes of counting, the day of injection is day 1.**
- **The detection of 2 or more corticosteroids in a post race sample will be considered stacking and carry a Class C penalty**

Number of Positive Tests 2021 —0

Note: At the 100 mg experimental dose, the recommended withdrawal recommendation for a 100 pg/ml threshold was 21 days. A 7-day withdrawal guideline anticipates that protocols vary and a smaller dose may be utilized which may allow plasma concentrations to fall below the threshold more quickly. Anecdotal information suggests that the elimination period may be longer when joint spaces in rear limbs are injected. Much longer withdrawal times (up to 30 days) should be considered when multiple joints are injected. Intramuscular administration may result in serum threshold overages for weeks or even months. RCI Class 4; Penalty Class C.

26. Nandrolone

Threshold—25 pg/ml in serum or plasma (fillies, mares, geldings)

—1 ng/ml in urine (fillies, mares, geldings); 45 ng/ml (intact males)

Dose and/or route: 200 mg IM (single dose)

Recommended withdrawal time: 60 days to 6 months

Number of Positive Tests 2021—0

Note: No FDA approved market products are available. If a horse has been diagnosed with a condition that a veterinarian believes would benefit from the use of this drug it is recommended that the Commission veterinarian be notified in order to place the horse on the Vet's list. Alternatively – testing prior to entry is advised. RCI Class 3; Penalty Class B.



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

27. Omeprazole

Threshold—10ng/ml in serum or plasma

Dose and/or route: 2.2 gm PO SID for 4 doses

Recommended withdrawal time: 24 hours

Number of Positive Tests 2021 — 0

Note: It is recommended that only Gastrogard® be used as it was the medication used in the research to establish thresholds, and the compounded and generic formulations often have significant variability in absorption. RCI Class 5; Penalty Class D.

28. Phenylbutazone

Threshold—2 mcg/ml in serum or plasma

Secondary 'stacking' threshold - 0.3 mcg/ml (administration at 48 hours prior)

Dose and/or route: 4.0 mg/kg IV (single dose)

Recommended withdrawal time: 24 hours

Number of Positive Tests 2021 — 2

Note: Oral administration of phenylbutazone resulted in numerous violations in 2021, 2019, and 2018.

Oral administration of **both** phenylbutazone and flunixin resulted in a stacking violation in 2018. Oral administration of phenylbutazone also resulted in 8 horses failing to work off the Vet's List in 2019 and 6 horses in 2018. If administered orally during training it recommended that final dose be administered no closer than 72 hours prior to the race. The Commission does not allow "stacking" of NSAIDS on raceday. RCI Class 4; Penalty Class C.

29. Prednisolone

Threshold—1 ng/ml in serum or plasma

Dose and/or route: 1 mg/kg PO

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021 —0

Note: RCI Class 4; Penalty Class C.

30. Procaine Penicillin G

Threshold—25 ng/ml in serum or plasma (procaine)

Dose and/or route: 22,000 IU/kg IM BID X 5 days

Recommended withdrawal time: 3days

Number of Positive Tests 2021 —0

Note: Administration to those horses entered must be reported to Commission and may require surveillance up to 6 hours prior to post time. RCI Class 3; Penalty Class B



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

31. Promazine

Threshold - 25 ng/ml in urine

Dose and/or route: *RMTC or RCI make no recommendation for this threshold*

Recommended withdrawal time: *RMTC or RCI make no recommendation for this threshold.*

Number of Positive Tests 2021 - 0

Note: Sparine, RCI Class 3; Penalty Class B

32. Pyrilamine

Threshold- 25ng/ml in urine

Dose and /or route: RMTC and RCI make no recommendation.

Recommended withdrawal time: RMTC and RCI make no recommendation.

Number of Positive Tests 2021 — 0

Note: RCI Class 3; Penalty Class B.

33. Ranitidine

Threshold—40 ng/ml in serum or plasma

Dose and/or route: 8mg/kg PO BID for 7 doses

Recommended withdrawal time: 24 hours

Number of Positive Tests 2021 —0

Note: Zantac®. RCI Class 5; Penalty Class D

34. Testosterone

Threshold— 100 pg/ml in serum or plasma (fillies, mares, geldings)

— 20 ng/ml in urine (geldings); 55 ng/ml in urine (fillies and mares)

Dose and/or route: 75 mg IM (single dose)

Recommended withdrawal time: 30 days - 6 months

Number of Positive Tests 2021—0

Note: No FDA approved market products are available. If a horse has been diagnosed with a condition that a veterinarian believes would benefit from the use of this drug it is recommended that the Commission veterinarian be notified in order to place the horse on the Vet's list. Alternatively - testing prior to entry is advised. Samples from intact males will not be tested for the presence of testosterone. RCI Class 3; Penalty Class B.



STATE OF WASHINGTON
WASHINGTON HORSE RACING COMMISSION

35. Triamcinolone acetonide

Threshold—100 pg/ml in serum or plasma

Dose and/or route: Total dose of 9 mg in one articular space

Recommended withdrawal time: 7 days

- **Intraarticular corticosteroids are prohibited within 7 days of racing or working off the veterinarian's list. For purposes of counting, the day of injection is day 1.**
- **The detection of 2 or more corticosteroids in a post race sample will be considered stacking and carry a Class C penalty**

Number of Positive Tests 2021— 1

Note: For the IV administration of a dose of 0.04 mg/kg, a withdrawal time of 48 hours can be used. IM administrations are discouraged due to lengthy detection period. Anecdotal information suggests that the elimination period may be longer when joint spaces in rear limbs are injected. RCI Class 4; Penalty Class C.

36. Xylazine

Threshold—200 pg/ml in serum or plasma

Dose and/or route: 200mg Single IV injection

Recommended withdrawal time: 48 hours

Number of Positive Tests 2021— 0

Note: RCI Class 3; Penalty Class B.