DETECTION TIMES FOR EQUINE MEDICATIONS

RURAL INDUSTRIES
Research & Development Corporation

Detection times for equine medications from research findings in *The Pharmacokinetics of Equine Medications* (RIRDC Pub. No. 11/117)

Disclaimer

This information is based on a series of studies in which each drug was administered to a limited number of horses. The data should not be regarded as absolute for every horse to which these substances are administered, nor does it apply to routes of administration or dosages other than those specified. Formulation differences exist between drugs of different companies and may also affect the pharmacokinetics of a drug. Screening limits are those approved by the Australian Racing Board as of July 2013.

You must not rely on any information contained in this fact sheet without taking specialist advice relevant to your circumstances. While reasonable care has been taken in preparing this fact sheet to ensure that information is true and correct, the Commonwealth of Australia gives no assurance as to its accuracy. The Commonwealth of Australia, the Rural Industries Research and Development Corporation (RIRDC), the authors (ETRA) or contributors expressly disclaim, to the maximum extent permitted by law, all responsibility and liability to any person, arising directly or indirectly from any act or omission, or for any consequences of any such act of omission, made in reliance on the contents of this publication, whether or not caused by any negligence on the part of the Commonwealth of Australia, RIRDC, the authors or contributors. The Commonwealth of Australia does not necessarily endorse the views in this publication.

RIRDC and ETRA are of the view that you should not administer a therapeutic drug to a horse without guidance of a relevant specialist.

Compound	Preparation administered	Active ingredients	Route	Dose*	No. of horses studied	Period of detection in urine (including metabolites, isomers and/or artifacts)
Acepromazine	ACP 10 injection (Delvet Pty Ltd)	acepromazine maleate 13.5 mg/mL	I/V	3 mL/horse (equivalent to 0.045 to 0.063 mg/kg)	12	3 days, based on a screening limit in urine of 10 ng/mL of the 2-(1-hydroxyethyl) promazine sulfoxide metabolite
Buscopan	Buscopan Compositum (Boehringer Ingelheim Pty Ltd)	hyoscine N-butylbromide (N-butylhyoscine bromide; scopolamine N-butylbromide; N-butylscopolamine bromide) 4 mg/mL; dipyrone 500 mg/mL	I/V	30 mL/horse (equivalent to 0.2 to 0.27 mg/kg hyoscine N-butylbromide and 26 to 33 mg/kg dipyrone)	12	3 days, based on a screening limit in urine of 1000 ng/mL of the 4-methylaminoantipyrine metabolite of dipyrone, and a screening limit in urine of 25 ng/mL for hyoscine N-butylbromide (or N-butylscopolammonium).
Butorphanol	Torbugesic (Fort Dodge)	butorphanol tartrate 10 mg/mL (equivalent to 6.9 mg/mL butorphanol)	I/V	2 mL/horse (equivalent to 0.03 to 0.05 mg/kg)	12	4 days

Compound	Preparation administered	Active ingredients	Route	Dose*	No. of horses studied	Period of detection in urine (including metabolites, isomers and/or artifacts)
Detomidine	Dormosedan (Novartis Animal Health Australasia Pty Ltd)	detomidine hydrochloride 10 mg/mL (equivalent to 8.4 mg/mL detomidine)	I/V	2.1 to 2.8 mL/horse (equivalent to 0.04 mg/kg)	12	48 hours,based on a screening limit in urine of 2 ng/mL for the 3'-hydroxydetomidine metabolite.
Dexamethasone	Ilium Dexapent (Troy Laboratories)	dexamethasone sodium phosphate 5 mg/mL (equivalent to 3.8 mg/mL dexamethasone)	I/V	5 to 7.5 mL/horse (equivalent to 0.06 mg/kg)	11	3 days
Flunixin	Flunix (Bomac)	flunixin meglumine 50 mg/mL (equivalent to 30.1 mg/mL flunixin)	I/V	9 to 11.5 mL/horse (equivalent to 1.1 mg/kg)	12	3 days, based on a screening limit in urine of 100 ng/mL for flunixin.
Ketoprofen	Ileum Ketoprofen Injection (Troy Laboratories)	ketoprofen 100 mg/mL	I/V	10 mL/horse (equivalent to 1.76 to 2.29 mg/kg)	12	3 days, based on a screening limit in urine of 100 ng/mL for ketoprofen.
Lignocaine	Ilium Lignocaine 20 (Troy Laboratories)	lignocaine hydrochloride (lidocaine hydrochloride) 20 mg/mL (equivalent to 17.3 mg/mL lignocaine)	S/C	17 to 22.2 mL/horse (equivalent to 0.8 mg/kg)	12	3 days, based on a screening limit in urine of 10 ng/mL for the 3'-hydroxylignocaine metabolite.
Mepivacaine	Mepivacaine (Nature Vet)	mepivacaine hydrochloride 20 mg/mL (equivalent to 17.4 mg/mL mepivacaine)	S/C	20 mL/horse (equivalent to 0.68 to 0.99 mg/kg)	12	May exceed 4 days, based on a screening limit in urine of 10 ng/mL for the 3'hydroxymepivacaine metabolite.
Methylprednisolone	Depo-Medrol (Pfizer Animal Health)	methylprednisolone acetate 20 mg/mL	I/M	10 mL/horse (equivalent to 0.39 to 0.47 mg/kg)	12	Greater than 45 days in some horses based on the screening of urine for methylprednisolone.
Phenylbutazone	Bute Paste (Ranvet)	phenylbutazone 200 mg/mL	Oral 6-day course	10 mL twice on the first day, then 5 mL twice daily for 4 consecutive days, then 5 mL once on day 6 (equivalent to 3.1 to 3.9 mg/kg twice on the first day, then 1.5 to 2.0 mg/kg twice daily for 4 days, then 1.5 to 2.0 mg/kg once on day 6)	12	5 days, based on a screening limit in urine of 100 ng/mL for phenylbutazone
Prednisolone	Preddy Granules (Vetsearch International)	prednisolone 200 mg/5g sachet	Oral 5-day course	1 g/day for 5 consecutive days (equivalent to 1.72 to 2.28 mg/kg/day)	12	48 hours, based on the screening of urine for prednisolone

Compound	Preparation administered	Active ingredients	Route	Dose*	No. of horses studied	Period of detection in urine (including metabolites, isomers and/or artifacts)
Prilocaine	Prilocaine 2% (Delvet Pty Ltd)	prilocaine hydrochloride 20 mg/mL (equivalent to 17.2 mg/mL prilocaine)	S/C	20 mL/horse (equivalent to 0.60 to 0.84 mg/kg)	12	48 hours, based on the screening of urine for prilocaine and its metabolites
Procaine penicillin	Ilium Propercillin (Troy Laboratories)	procaine penicillin 300 mg/mL (equivalent to 120 mg/mL procaine)	I/M single admin	20 to 25 mL per horse (equivalent to 12 mg/kg)	12	9 days
			I/M repeated admin	19.5 to 24 mL per horse (equivalent to 12 mg/kg/dose) provided as 10 doses as follows –once on day 1, twice per day on days 2 to 5, then once on day 6	12	14 days

*All drugs were given as a single administration unless stated otherwise
For further information about each of the above equine medications refer to individual fact sheets that are available at www.rirdc.gov.au/publications

Equine Therapeutics Research Australia (ETRA)

RIRDC has collaborated with several key industry bodies to sponsor a research consortium – *Equine Therapeutics Research Australia* (ETRA) – to provide more accurate information about the pharmacokinetics of equine medications. Four Universities, four Australian horseracing forensic laboratories and *Equine Veterinarians Australia* together identified the 18 most important drugs. After administration to a number of horses, the concentration of these drugs was measured in blood plasma and urine. The information in this fact sheet is based on this research and is provided for the guidance of equine veterinarians.

Acknowledgement

The ETRA group acknowledges the generous financial support of RIRDC and their industry sponsors, which made this research possible.

Pub. No. 13/075

Contact for further information

Professor Martin Sillence
Science and Engineering Faculty
Queensland University of Technology

Phone: 07 3138 2565

Email: martin.sillence@qut.edu.au

(Version 1, November 2013)