

University of Karbala

College of veterinary medicine

Pharmacology laboratory Lect # 3

Pharmaceutical preparations for farm animals and poultry

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Abbreviations used in prescription writing:

SID – once daily

BID – twice daily

TID- three times daily

QID – four times daily IV- intravenous

IM - intramuscular

SC - subcutaneous

PO – per os (by mouth)

Acepromazine maleate

Other names: acetylpromazine maleate, ACE, *Notesil*, *Atravet*

Use: Tranquilizer, preanesthetic, sedative

Dose form: 10mg/ml, 50 ml vial

Dose:	Horse	0.01 – 0.08 mg/kg IV, IM, SQ
	Cattle	0.05 - 0.1 mg/kg IV, IM, SQ
	Swine	0.03 – 0.2 mg/kg IV, IM, SQ
	Dog, cat	0.03 – 0.25 mg/kg IV, IM, SQ,
	Dog, cat	1.1 – 2.2 mg/kg PO

Aspirin

Other names: ASA, acetylsal acid, acetylsalicylic acid, acidum acetylsalicylicum, polopiryna, or salicylic acid acetate

Use: Analgesic, antipyretic, anti-inflammatory

Dose form: Oral 81mg/tab 325 mg/tab

Dose:	Horse	25 mg/kg bid first day, then 10 mg/kg daily
	Swine	10 mg/kg q 6 hours
	Bovine, Ovine	50-100 mg/kg q 12 hours
	Dog	10-25 mg/kg q 12 hours
	Cat	10 mg/kg every other day

Note: Give with food. Discontinue use if signs of gastric upset occur.

Note: Lower dose by IV route, higher doses by IM or SC route. Maximum dose 3 mg/dog and 1 mg/ cat

Amoxicillin

Other names: amoxicillin, p-hydroxyampicillin, BRL, Amoxil

Use: Broad spectrum antibiotic

Dose form: Oral 50,100,200,400mg/tablets
50 mg/ml suspension, 15 ml bottle

Dose: Dog, cat 10-20 mg/kg once per day up to 3 times per day

Atropine

Other names: atropine sulfate

Use: Preanesthetic, bradycardia, organophosphate antidote

Dose form: Injectable 0.5 mg/ml, 15 mg/ml

Dose: Dog, cat 0.02-0.04 mg/kg IV, SQ, IM
Dog, cat: organophosphate poisoning 0.2-0.5 mg/kg. Give 1/4 of dose IV and the rest IM or SQ

Note:

Butorphanol

Other names: Butorphanol tartarate, torbugesic, torbutrol, levo-BC-2627.

Use: Analgesic, preanesthetic, antitussive

Dose form: Injectible Oral 10 mg/ml, 50 ml vial 5 mg tablets

Dose: Horse 0.02-0.05 mg/kg IV
Cattle 0.05 mg/kg q 6-8 hours IV
Dog-analgesic 0.1-1.0 mg/kg IV IM, SQ, PO q 1-4 hours
Dog-preanesthetic 0.05 mg/kg IV 0.2-0.4 mg/kg IM
Dog-antitussive 0.5-1.0 mg/kg PO tid-qid
Cat-analgesic 0.1-1.0 mg/kg IV, IM, SQ q 1-3 hr
Cat-preanesthetic 0.25-0.5 mg/kg SQ or IM

Note: Use lowest dose for IV. Withdrawal meat 38 hours, milk 48 hours.

Chloramphenicol

Other names: chloramphenicol sodium succinate, chloramphenicol, chloranfenicol, cloranfenicol, kloramfenikol, laevomycetinum.

Use: Broad spectrum antibiotic

Dose form: Oral Injectible 250 mg and 500 mg tabs 1 gm vial

Dose: Horse 100 mg/kg PO initial, 50 mg/kg tid
Dog 25-60 mg/kg IV, IM, SQ, PO tid
Cat 25-50 mg/kg PO, IV, IM, SQ bid-qid

Note: Cannot be used in animals used for food. Do not use in young or pregnant animals. Wear gloves with powder, can cause fatal aplastic anemia in humans.

Chorionic gonadotropin (HCG)

Other names: CG, choriogonadotrophin, chorionic gonadotrophin, chorionic, gonadotropin, chorionic, HCG, hCG, human chorionic gonadotrophin, pregnancy-urine hormone, PU, *Follutein*.

Use: Lutenizing hormone, increase libido, cystic ovaries, induce ovulation

Dose form:	Injectible	1000 units/ml, 10 ml
Dose:	Horse	
	Bovine	1,000-5,000 units IV, 10,000 units IM
	Sheep	250-500 units, IV, 2,000 units IM

Note: Read the label for dosage instructions.

Dexamethasone

Other names: *Azium, Decadron*, desamethsone, dexametasone, dexamethasonum, 9alpha-Fluoro-16alpha-methylprednisolone, hexadecadrol.

Use: Corticosteroid therapy

Dose form:	Injectible	2 mg/ml, 100 ml vial	Injectible Oral	4 mg/ml 4 mg tablet
Dose:	Horse, bovine, swine	0.1 mg/kg IM		
	Dog, cat	0.28 to 2.2 mg/kg PO or IM		

Note: May induce parturition in horse, bovine, swine, ovine, caprine. 4 mg/ml is Dexamethasone sodium phosphate for IV use only. Dosage will vary with condition being treated. Always consult relevant literature to determine proper dosage and duration of therapy.

Dextrose

Use: Nutrition, treatment of hypoglycemia, ketosis

Dose form:	Powder	Injectible	50%, 50 and 500 ml vial
Dose:	Adult bovine		500 ml 50% solution IV or SQ
	Sheep		200 ml 50% solution IV or SQ
	Horse		500 ml 50% solution IV or SQ
	Pediatric dog, cat		1-5 ml 50% solution SQ

Note: Approximately 4 calories per gram of dextrose. Once bottle is penetrated, refrigerate and use remaining contents within 48 hours. Discard after 48 hours.

Doxycycline

Other names: doxycycline monohydrate, doxycyclinum, GS-3065, *Vibramycin, Doryx, Monodox, Periostat, Vibra-Tab, Doxirobe*

Use: Long acting, broad spectrum tetracycline

Dose form:	Oral	100 mg tablet (Suspensions often compounded from tablets)
Dose:	Horse	10 mg/kg PO bid
	Avian	22-50 mg/kg PO bid
	Dog, Cat	5-10 mg/kg PO once daily to bid

Note:

Epinephrine

Other names: Adrenaline

Use: Cardiac resuscitation, acute allergic reactions (anaphylaxis)

Dose form: Injectible 1:1000 solution, 30 ml vial

Dose: Horse-resuscitation (foal) 0.01-0.02 mg/kg 1:1000 solution IV q 3 minutes

Horse-anaphylaxis 3-5 ml per 450kg IM or SQ

Bovine - anaphylaxis 0.5-1.0 ml/45 kg 1:1000 solution IM or SQ q 15minutes

Sheep, swine - anaphylaxis 1-3 ml 1:1000 solution IM or SQ

Dog, cat-resuscitation 0.5-5ml 1:10,000 solution IV or IT

Dog, cat- anaphylaxis 0.01-0.02mg/kg 1:10,000 IV, IM, SQ

Note: To make 1:10,000 concentration, dilute 1 ml of 1:1,000 solution with 9 ml normal saline.

Erythromycin

Other names: eritromicina, erythromycinum,

Use: Macrolide antibiotic

Dose form: Oral 250 mg tabs

Dose: Foal 22 mg/kg PO bid-qid

Dog, cat 11-22 mg/kg PO tid with a small amount of food

Note:

Fenbendazole

Other names: *Panacur*, Hoe-881V, *Safe-Guard*

Use: Anthelmintic

Dose form: Oral 10% solution, 1000 ml bottle

Dose: Horse 5 mg/kg PO once daily for 5 days for small and large strongyles, pinworms
10 mg/kg PO once daily for 5 days for control of ascarids

Cattle 5-7.5 mg/kg

Swine 5 mg/kg once daily for 3 days

Sheep and goats 5 mg/kg once daily for 3 days

Dog (for Ascarids, hookworms, whipworms, Giardia) 50 mg/kg PO daily for 3 days

Cat (for Ascarids, Giardia) 50 mg/kg PO daily for 3 days
Note: Repeat treatment in 3 weeks and again in 3 months. Consult the label for dosages.

Firocobic

Other names: equioxx, previcox

Use: Analgesic, anti-inflammatory

Dose form:	Equine paste	Canine	0.82% paste (6.93 gm tube)
	tablet		57 mg and 227 mg chewable tablet
Dose:	Horse		Loading dose 0.3 mg/kg day 1, then 0.1 mg/kg once daily for up to 14 days
	Dog		5 mg/kg q 24 hours

Note:

Florfenicol

Other names: *Nuflor*, Sch-25298

Use: Broad spectrum antibiotic

Dose form: Injectible 300 mg/ml, 100 ml vial

Dose:	Bovine	20 mg/kg IM followed by a second dose 48 hours later. 40 mg/kg sq as a single injection
	Sheep/goats	20 mg/kg once a day for 2 days.
	Dog	25-50 mg/kg IM, SQ once daily for 3-5 days
	Cat	25-50 mg/kg IM, SQ bid for 3-5 days

Note: Give only in neck musculature, not more than 10 ml per site. Meat withdrawal IM 28 days, SQ 38 days

Fluconazole

Other names: UK-49858, *Diflucan*

Use: Antifungal

Dose form: Oral 100 mg tablets

Dose:	Dog	2.5-5 mg/kg q 24 hour PO for 56-84 days
	Cat	2.5-10 mg/kg q 24 hour PO
	Avian	5-10 mg/kg q 24 hour PO for 6 weeks

Note:

Flunixin meglumine

Dose form: Injectible Oral 50 mg/ml, 100 ml vial 1.5 gm paste syringe

Dose: Horse Other names: 3-pyridine-carboxylic acid, Sch-14714, *Finadyne*, *Banamine*,

Cattle

Use:

Dog

0.5-2.2 mg/kg IM or IV one time only

Note: Withdrawal IV: meat 4 days, milk 72 hours. IM or SQ: meat 10 days, milk 120 hours.

Furosemide

Other names: *Lasix*, *Salix*, frusemide, furosemidum, LB-502.

Use: Diuretic

Dose form: Injectible Oral 50 mg/ml, 100 ml vial
12.5, 50 mg tabs; 10 mg/ml solution, 60 ml

Dose: Horse, bovine 0.5-1.0 mg/kg IM or IV 2.2 – 4.5 mg/kg daily, PO
Dog, cat 2.2-4.4 mg/kg PO, IV, IM once daily to bid

Note:

Gentamicin

Other names: Gentamicin sulphate, gentamicini sulfas, NSC-82261, Sch-9724.

Use: Aminoglycoside antibiotic

Dose form: Injectible 100 mg/ml 50mg/ml

Dose: Horse, dog 6.6 mg/kg as a single daily dose IM, IV or SQ

Note: Do not use in animals used for food. If given IV administer slowly. Beware of nephrotoxicity with prolonged use.

Gonadorelin

Other names: follicle stimulating hormone-releasing factor, GnRH, gonadoliberin, gonadorellinum, gonadotrophin-releasing hormone, Hoe-471, Lh/FSH-RF, Lh/Fsh-RH, LH-RF, LH-RH, luliberin, luteninising hormone-releasing factor, *Cryptocur*, *Fertiral*, *HRF*, *Kryptocur*, *LRH*, *Luforan*, *Luteoliberina*, *Lutrefact*, *Parlib*, *Pulsti*, *Relefact LH-RH*, *Stimu-LH*

Use: Treat cystic ovaries and other reproductive disorders

Dose form: Injectible 50 mcg/ml, 10 ml vial

Dose: Bovine 100 mcg/cow, IM or IV
Dog 50-100 mcg IM daily for 3 days

Note: May be used in place of HCG

Iron Dextran

Other names: iron dextran complex, *Cosmofer*, *Deciron*, *Driken*, *Fercayl*, *Ferrocyl*, *Ferroin*, *Ferrum Hausmann*, *Fexiron*, *Imferdex*, *Imferon*, *Infufer*.

Use: Injectible
hematinic

Dose: Injectible 100 mg iron/ml, 100 ml vial

form:

Dose:	Horse, bovine, sheep	2.22 mg/kg IM
	piglets	200 mg IM repeat in 10-14 days (treatment) 100-150 mg IM from 1-3 days (prevention)
	Dog, cat	11-22 mg/kg once

Note:

Ivermectin

Other names: Ivomec, Equimax, Eqvalan, Meltra, *Mectizan*, *Revectina*, *Securo*.

Use: Anti-parasiticide

Dose form:	Injectible	10 mg/ml (1%), 2.7 mg/ml (.27%) 18.7 mg/gm (1.87%)
	Oral paste Oral tablets Pour-on	55,68,136,165 mcg 5mg/ml
Dose:	Horse	0.2 mg/kg PO
	Bovine-Injectible	0.2 mg/kg SQ as a single dose
	Swine-injectible	0.3 mg/kg SQ as a single dose
	Canine – sarcoptes scabiei or otodectes cynotis infestations.	0.3 mg/kg SQ or PO, repeat in 14 days.
	Canine – demodicosis	0.3-0.4 mg/kg PO daily , 2-4 months

Note: 10 mg/ml (1%) Injectible form can be given orally to canines as treatment for scabies or demodectic mange.

Ketamine hydrochloride

Other names: CI-581, CL-369, CN-52372-2, ketamini hydrochloridum, *Brevinaze*, *Calypsol*, *Cost*, *Inducmina*, *Keta*, *Keta-Hameln*, *Ketalin*, *Ketanest*, *Ketava*, *Ketina*, *Ketmin*, *Ketolar*, *Velonarcon*, *Ketaset*, *Ketaved*, *Vetalar*

Use: Anesthesia

Dose form:	Injectible	100 mg/ml, 10 ml vial
Dose:	Horse	2 mg/kg IV, 5 minutes following 1 mg/kg IV xylazine
	swine	6-11 mg/mg IM after or in conjunction with sedative/tranquilizer
	Dog	10-21 mg/kg IM 2.2-4.4 mg/kg IV
	cat	6-10 mg/kg IV Restraint: 11 mg/kg IM Anesthesia: 22-33 mg/kg IM

Note: In horse use only in conjunction with xylazine. Extralabel suggested withdrawal time: meat 3 days, milk 48 hours. See xylazine for drug combination for surgical

anesthesia.

Levothyroxine

Other names: T4, T4 thyroxine sodium, levothyroxin natrium, levothyrocinum natricum.

Use: hypothyroidism

Dose form: Oral: 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0 mg tablets

Dose: Dog 0.022 mg/kg bid PO

Note: Perform serum T4 level prior to beginning therapy. Treatment is life long.

Lidocaine

Other names: lidocaini hydrochloridum, lignocaine hydrochloride, *Xylocaine*.

Use: Local, regional and topical anesthetic

Dose form: Injectible 2% - 50, 100, 250 ml vials

Dose: Dog 1.0 ml/kg

Horse 15-20 ml/45 kg

Bovine 15-20 ml/45 kg

Note: Suggested withdrawal for meat and milk 48 hours.

Oxytetracycline

Other names: glomycin, hydroxytetracycline, ocytetracylinium, riomitsin, terrafungine.

Use: Broad spectrum antibiotic

Dose form: Injectible Oral tablets 100 mg/ml
200 mg/ml (LA-200) 250 mg/tablet

Dose: Bovine 5-10 mg/kg IM q24 hr or
20 mg/kg Q48-72hr (LA200)

Dogs and cats 20 mg/kg tid

Swine, sheep and goats 6-11 mg/kg IV or IM 10-20 mg/kg PO qid

Note: Label withdrawal meat 28 days, milk 120 hours. Use of tetracyclines in horses may cause intractable diarrhea. Use only in the last half of pregnancy as use may affect fetal teeth and bones. Do not use in young animals.

Oxytocin

Other names: alpha-hypophamine, oxytocinum

Use: Induction or enhancement of uterine contractions at parturition (OB), postpartum retained placenta (RP), acute postpartum metritis (M), milk let down (MLD).

Dose form: Injectible 20 units/ml 100 ml vial

Dose: Horse OB: 2.5-5 units q 15-20 minutes until foal is born

RP: 20 units IV or IM q 1 hr beginning 2-3 hours after foaling

M: 20 units IM tid-qid for 2-3 days

	IM, repeat no sooner than 30 minutes if necessary RP: 40-60 units q 2 hrs
Bovine	M: 20 units IM tid-qid for 2-3 days MLD: 10-20 units IV
Sheep, goats	RP: 10-20 units M: 5-10 units IM tid-qid for 2-3 days MLD: 20-40 units IM tid-qid
Swine	RP: 20-30 units q 2-3 hours OB: 10 units IM repeat no sooner than 30 minutes if necessary
dog	OB: 0.5-3 units SQ or IM q30-60 minutes M: 0.5-1 unit/kg IM. May repeat in 1-2 hours.
cat	OB: 0.25-1 unit SQ or IM q 30-60 minutes

Note:

Penicillin G Procaine

Other names: benzylpenicillin, crystalline penicillin G, penicillin, Crystacillin, pen-Aqueous, Microcillin, Pfi-Pen G, Agri-Cillin, Aquacillin

Use: Gram positive infections

Dose form: Injectible: 300,000 units/ml aqueous suspension, 100 and 250 ml vial

Horse 0.7 -0.15ml/kg IM, SQ bid

Cattle 0.15-0.22 ml/kg IM, SQ, once daily

Swine 0.13 ml/kg IM, SQ, once daily

Dog 0.06 ml/kg IM, SQ q 24-48 hours

Dose: All species Loading dose 40,000 units/kg IM (14mls/100 kg); then 20,000 units/kg (7 mls/100 kg) once or twice daily IM

Note: Meat withdrawal 30 days, milk 48 hours, slaughter 10 days.

Permethrin

Other names: Permethrin II

Use: External and premise insecticide

Dose form: Spray: 11% concentrate, 32 oz bottle

Dose: Livestock Use as directed on label

Note: Synthetic pyrethrin, good residual activity due to absorption by skin.

Phenylbutazone

Other names: butadiene, fenibutazona, phenylbutazonum, *Phenylbute*, *Butaject*,

Butazolidin

Use:	Anti-inflammatory	
Dose form:	Injectible Oral	200 mg/ml, 100 ml vial 1 gm tablets
	Oral	12 gm paste
Dose:	Horse	3.0-6.0 mg/kg IV once daily
		4.4-8.8 mg/kg PO once daily
		1-2 grams paste once or twice daily*
	Bovine	2-5 mg/kg IV
		4-8 mg/kg PO
		2-4 grams paste once or twice daily
	Ovine	5 mg/kg daily IV or PO
	Swine	4 mg/kg daily, IV or PO
	Dog	1-5 mg/kg PO tid, (maximum of 800 mg/day)

Note: Horse paste dose is for a 400-500 kg horse- adjust dose for smaller or larger size horses. Discontinue use in horse as soon as significant improvement due to risk of renal damage and gastric ulcers. Give injectible form IV ONLY.

Povidone-Iodine

Other names: *Betadine, Etodine*

Use: Topical antiseptic

Dose form: Topical Solution, surgical scrub
 Ointment, 0.9 gram packet, 1 lb jar

Dose:

Note:

Praziquantel

Other names: Droncit

Use: cestocide

Dose form: Injectible Oral 56.8 mg/ml, 10 ml vial
 23 mg tabs (feline) 34 mg tabs (canine)

Dose: Dog Cat Dose according to label directions

Note:

Prednisolone

Other names: deltahydrocortisone, metacortadnralone.

Use: Corticosteroid therapy, anti-inflammatory

Dose form: Oral 5 mg and 20 mg tablets, oral solution

Dose: Horse: 1 mg/kg daily before tapering

Dog, cat 0.5 – 2.0 mg/kg PO once daily to bid

Note:

Prednisone

Other names: delta(1)-cortisone, 1,2 dehydrocortisone, deltacortisone, deltadehydrocortisone, metacortandracin, NSC-10023, prenisonum. Deltasone

Use: Corticosteroid therapy, anti-inflammatory

Dose form: Oral 5 mg and 20 mg tables, oral solution

Dose: Dog, cat 0.5-2.0 mg/kg PO once daily to bid

Note: Must taper dose before stopping. Not effective in horses.

Sulfadimethoxine

Other names: solfadimetossina, solfadimetossptirimidina, sulphadimethoxine, *Chemisolfa*, *Deltin*, *Risulpir*, *Ritarsulfa*, *Sulfadren*, *Sulfastop*, *Sulfathox*, *Albon*

Use: Long acting antibiotic

		400 mg/ml
	Injectible Oral	250 mg tablets
Dose form:	Oral	94.6 gm packet
	Oral	50 mg/ml suspension
		55 mg/kg as the first dose
Dose:	All species	then 25 mg/kg daily PO, IV

Note: Label withdrawal time meat 28 days, milk 120 hours

Trimethoprim/sulfadiazine

Other names: Co-trimoxazole, SMX-TMP, TMP-SMX, trimethoprim-sulfamethoxazole, sulfamethoxazole-trimethoprim, sulfadiazine-trimethoprim, trimethoprim-sulfadiazine, TMP- SDZ, SDZ-TMP, Co-trimazine, *Tribriksen*,

Use: Potentiated antibiotic

480 mg and 960 mg tablets. 48 mg/ml oral suspension.

Dose form: Oral Combination product containing one part trimethoprim to 5 parts sulfamethoxazole

Dose: horse 15-30 mg/kg bid PO

dog 15-30 mg/kg bid PO

cat 15-30 mg/kg bid PO

Note:

Tylosin

Other names: *Tylan*

Use: Macrolide antibiotic

Dose form: Injectible Oral powder 200mg/ml
25 gm (base)/318.6 gm bottle

Dose: pig 8.8 mg/kg IM twice a day

Dose: dog 11 mg/kg tid PO (approx. 1/4 tsp powder per 4.5kg)

Note:

Vitamin A

Use: Nutrition

Dose form: Injectible 500,000 IU/ml with Vitamin D3

Dose: 65 IU/kg daily, minimum requirement

bovine 2-4 ml, IM

Ovine, swine 0.1-2.0 ml IM

Note: For vitamin A deficiency in cattle lacking adequate green, leafy forage, or eating hay fertilized recently with nitrogen.

Vitamin B Complex

Use: Nutrition

Dose form: Injectible 100 ml vial

Dose: Horse 10-20 ml daily IM or IV

sheep 3-5 ml/daily IM or IV

Bovine 10-20 ml daily IM or IV

Swine 2-5 ml daily IM or IV

Dog, cat 1-2 ml daily IM or IV

Note: Good for neurological problems or in case of deficiency.

Vitamin E

Other names: d-alpha-tocopheryl

Use: Nutrition, antioxidant

Dose form: Oral 400 IU capsules, 28,000 IU/oz bottle

Dose: horse 1 ml/45 kg IM or IV

dog 400 IU once daily for large or medium dogs

Note: Follow label directions. Try to get laboratory confirmation of deficiency prior to starting therapy if possible.

Xylazine

Other names: Bay-Va-1470, *Rompun*, *AnaSed*, *Tranquived*, *Sedazine*, *Xyla-ject*

Use:	Sedative, analgesic	
Dose form:	Injectible	20 mg/ml 100 mg/ml
Dose:	Horse	1-2 mg/kg IM 0.5-1.1 mg/kg IV
	Bovine, sheep, goats	0.1-0.3 mg/kg IM Sedative dose 0.03 to 0.1 mg/kg IV
	Swine	2.2 mg/kg IV
	Dog, cat	1.1-2.2 mg/kg IV IM, SQ

Note: Lower doses IV, higher doses IM, SQ. Cattle, sheep, goats are extremely sensitive to Xylazine – use with caution in ruminants.

Field anesthesia guidelines for xylazine:

Ruminants: Xylazine IM or IV in higher doses than listed above will cause recumbency in ruminants. This is useful to achieve total chemical restraint for surgical or obstetrical procedures. Get ruminant in sternal recumbency as soon as possible or regurgitation or bloat (rumenal tympany) can occur and be fatal. Reverse xylazine with tolazoline or yohimbine if possible.

Dogs: Xylazine will often cause vomiting in dogs. This can be useful to empty stomach contents, but be very careful to prevent aspiration. Xylazine causes secondary AV nodal block in dogs. Monitor cardiovascular activity carefully during use in dogs. Have reversal agent (Yohimbine or Tolazoline) and cardiac arrest drug (atropine) available when using in dogs. Horse: To induce short term recumbency/surgical anesthesia in horses: 1-2 mg/kg xylazine IV, wait several minutes until horses' head is lowered significantly, then give 2-3 mg/kg ketamine IV to induce anesthesia. This combination of drugs will give approximately 15-30 minutes of recumbency, making this an excellent protocol for castration.