Fagron Advanced Veterinary

Handbook

Fagron
personalizing medicine

Fagron's Handbook on Veterinary Formulations

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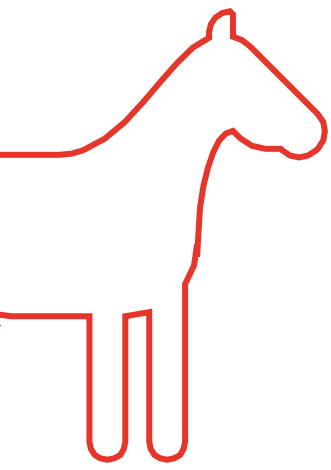
About Fagron

Established in 1990, we have grown into a trusted global company becoming a leading player in personalized medical solutions.

Thanks to our talented team of over 2,000 professionals located in 34 countries, we proudly satisfy the needs of over 200,000 customers around the world.

From leading-edge compounding to natural products, from software to equipment, and pioneering genomics, we aim to deliver, on a global scale, ready-to-use and ready-to-administer innovative and high-quality personalized solutions that enhance medical compliance and significantly improve healthcare.

Our people are driven by passion, a solid scientific core, and a dedication to innovate. We collaborate with our partners to continuously improve and discover new solutions, to bring quality to customers and positively impact people's lives.



Introduction

Animals have many therapeutic needs, while the availability of approved drugs intended for them is relatively small. Hence, compounding medication is commonly used in order to cover veterinary medical needs.

Fagron has developed an innovative line of vehicles for the preparation of palatable, veterinary compounded formulations.

Fagron's Advanced Veterinary line is:

- A set of solution intended to meet the therapeutic needs of an animal
- A range of vehicles designed to standardize the preparation of formulations and at the same time to facilitate the administration of the drug to all kind of animals
- All the vehicles under Fagron Advanced Veterinary consist of ingredients free of toxic effects, allergenic or irritant substances for maximum safety and tolerability of the treatment

This handbook was created on the basis of indications and the professional and clinical experience of an expert team. The information contained in this document has derived from the most accredited scientific literature and is based on our current knowledge, accurate and correct. However, information is published without any guarantees of possible errors present on the scientific literature. The choice of active ingredient will have to be evaluated each time by the veterinary doctor based on the characteristics of each patient. It's always advisable to refer to the international bibliography for collateral effects and warnings associated with each API. The recommended beyond-use date mentioned in the formulations is based on the USP, but it is advised that, when available, local regulations should be followed.

Dr. Alessia Luciani created the part of the handbook concerning the therapeutic indications, dosages and reference literature.

Dr. Luciani graduated from the field Veterinary Medicine of the University of Teramo in July 2000. In 2003 she attained the specialization "Medicine and Surgery in horses" at the Faculty of Veterinary Medicine of the University of Teramo and in 2006 she obtained a master's degree in "Gastroenterology and digestive endoscopy in animals" from the University of Teramo.

Since March 2005 she is a university researcher for the scientific-disciplinary sector VET/08 (Clinical Medical Veterinary). She is professor at the faculty of Veterinary Medicine of the University of Teramo and carries out regular clinical activities at the Didactic Veterinarian Hospital. She is author and co-author of more than 40 publications in medicine and diagnostic imaging.

Dr. Umberto Pompili was responsible for the formulation part of this handbook.

Dr. Pompili of the Pompili Pharmacy in Rome holds a Pharmacy Degree from the Sapienza University of Rome and also holds a master's degree in "traditional and clinical compounding" from the University of Camerino, Italy. Dr. Pompili is a member of the drug group of FNOVI, the National Federation of Italian Veterinary Board.

He performed several seminars regarding veterinary compounding at the veterinary faculties of the University of Parma, Teramo, Bari and Perugia. He is also member of an Italian galenic group that elaborates with the creation of new veterinary formulations.

Fagron’s Advanced Veterinary vehicles

The line of Fagron Advanced Veterinary vehicles includes:

- **SyrSvet ™**: Ready to use compounding vehicle for oral liquid formulations
- **EcciVet ™**: Mixture of excipients for capsules preparations. With the addition of some drops of water to the content of the compounded capsule, the capsule gets the taste of a meatball
- **Pentravan®**: Oil-in-water emulsion for transdermal formulations

Contents

Description of vehicles for veterinary use

EcciVet ™

General Information	Ready-to-use powder vehicle for veterinary compounded formulations in capsules. EcciVet™ contains a mixture of excipients that allows a proper preparation of compounded capsules. The content of a capsule compounded with EcciVet™ can be opened and after adding some drops of water, the formulation senses as a meatball.
Characteristics	Appearance: Powder Color: white or almost white
Ingredients	Pre-gelatinized cornstarch, Carboxymethylcellulose, Magnesium stearate, Silicon dioxide amorphous, Tartaric acid.
Properties	EcciVet™ allows the rapid formulation of personalized veterinary capsules with the most suitable flavors for each animal. After the addition of a few ml of water it obtains a palatability similar to meatballs and an ideal consistency that facilitates the treatment of animals.
Applications	EcciVet™ is ideal for the preparation of customized veterinary capsules in different dosages and flavors, but with a standardized way of preparation.
Safety	EcciVet™ is free of gluten, ethanol, parabens, sorbitol, carrageenan, dextrose, xylitol, glycerin, saccharin, benzyl alcohol, propylene glycol, sugars and dyes.

SyrSvet ™

General Information	Ready-to-use vehicle for liquid veterinary compounded formulations for oral administration. SyrSvet™ allows to formulate flavored oral solutions and suspensions according to the specific preference of the animal. Furthermore, an optimal consistency is obtained resulting to an easy administration and optimal compliance.
Characteristics	Appearance: White, semi- transparent PH: 4.0-5.0
Ingredients	Purified water, Modified food starch, Sodium citrate, Citric acid, Sucralose, Sodium benzoate, Malic acid, Simethicone
Applications	SyrSvet™ is ideal for the preparation of oral suspensions.
Safety	SyrSvet™ is free of gluten, ethanol, parabens, sorbitol, carrageenan, dextrose, xylitol, glycerin, saccharin, benzyl alcohol, propylene glycol, sugars and dyes.
Storage and shelf life	Store between 15-25°C in a dry place. Shelf-life (product closed): 36 months

Pentravan ®

General Information	Pentravan® is an oil-in-water base that uses penetration enhancing ingredients to ensure effective and reproducible transdermal drug delivery. Pentravan® is a fragrance-free cream with a light texture, providing an elegant skin feel.
Characteristics	Appearance: Stiff, yellow cream Odor: Slight odor of lecithin PH: 4.0-5.5
Ingredients	Purified water, Isopropyl myristate, Glyceryl stearate, PEG-40 stearate, Stearic acid, Isopropyl palmitate, Lecithin, Simethicone, Urea, Cetyl alcohol, Stearyl alcohol, Potassium sorbate, Benzoic acid, BHT (Butylated hydroxytoluene), Disodium EDTA, Sorbic acid, Carbomer, Hydrochloric acid
Properties	Pentravan® has a very good skin feel and a fast absorption that favors a better compliance of the animal. Pentravan® has proven effectiveness and reproducibility of transdermal drug delivery. Pentravan® is a ready-to-use base, allowing an easy preparation of transdermal creams. Minimal odor. Fragrance-free formula. Pentravan® is a noninvasive, patient-friendly alternative for other routes of administration. Pentravan® can be used with a broad variety of APIs.
Applications	Some studies show that active formulations with Pentravan® have a higher and faster release than the same assets formulated in a PLO gel. Pentravan® presents the same applications as a PLO gel, but with several of advantages: Greater rate and extent of absorption Ketoprofen in Pentravan® shows 3.8 times more absorption compared to preparation with PLO*. Testosterone in Pentravan® shows 1.7 times more absorption compared to preparation with PLO*.

Incompatibilities	Avoid the use of transdermal preparations with substances that have antibiotic or antipsychotic activity. Antibiotics: The molecules are too large to pass completely through the skin. The risk of resistance to the antibiotic is significant. For this reason, transdermal delivery of antibiotic for systemic absorption is not recommended. Antipsychotics: In case of administration of antipsychotics, it is necessary to carefully evaluate the dosage of the drug. Transdermal absorption does not ensure a steady-state blood level maintenance of the drug. In general, it is advised not to use transdermal preparation for APIs with a narrow therapeutic index
Quality	All the ingredients of Pentravan® are recognized as safe according to FDA.

* Lehman, P.A., Raney, S.G. In vitro percutaneous absorption of ketoprofen and testosterone: comparison of pluronic lecithin organogel vs. Pentravan® cream. International Journal of Pharmaceutical Compounding; 16 (43). May/June 2012

Suggested solvents for the preparation of transdermal preparations

Active ingredient	Dosage	Water/Solvent
Methimazole	5 mg/0.1 ml	Water

(Table I)

Animal icons

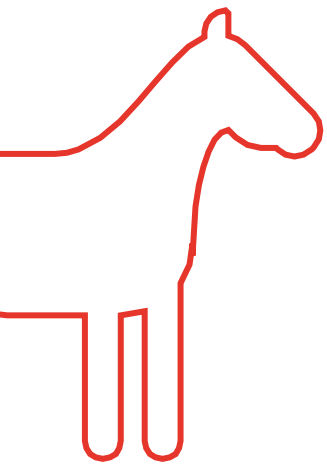
Icon	Animal
	Dog
	Cat
	Ferret
	Bird
	Horse
	Cattle
	Sheep-Goat
	Reptile
	Rabbit-Rodent-Small mammal
	Pig

(Table II)

Suggested flavors for oral preparations

Animal	Flavor
 Dogs	Bacon
 Cats	Chicken
 Ferrets	Fruits/apple
 Birds	Fruits/apple
 Horses	Apple
 Cattle	Apple
 Sheep-Goats	Apple
 Reptiles	Fruits
 Rabbits-Rodents-Small mammals	Fruits/Apple
 Pig	Bacon/Apple

(Table III)



General Compounding Steps

Capsules with EcciVet™
Compounding Steps

1. Calculate the amount of each substance needed for the preparation.
2. Weigh the active ingredient(s) and the amount of flavor.
3. Transfer the powders into a mortar, grind slightly until the preparation is homogenous.
4. Add the necessary amount of EcciVet™ in the preparation to compound the capsules.
5. Transfer the powders in a mortar and mix until the preparation is homogeneous.
6. Encapsulate, pack and label the preparation.

Paste with SyrSvet™
Compounding Steps

1. Calculate the amount of each substance needed for the preparation.
2. Weigh the active ingredient(s) and the amount of flavor.
3. Transfer the powders into a mortar, grind slightly, add some SyrSvet ™ and mix until the paste is homogeneous.
4. Add the amount of SyrSvet ™ using the geometric dilution method and homogenize after each addition.
5. Add 3% of carboxymethylcellulose and disperse homogeneously in the suspension. Leave the powder to moisturize for about an hour.
6. Mix, pack and label the preparation.

***Packaging**: 10 cc Fagron syringes with cap*

Suspension with SyrSvet™
Compounding Steps

1. Calculate the amount of each substance needed for the preparation.
2. Weigh the active ingredient(s) and the amount of flavor.
3. Transfer the powders into a mortar, grind slightly, add some ml of SyrSvet™ and mix until the preparation is homogeneous.
4. Add the amount of SyrSvet ™ using the geometric dilution method and homogenize after each addition.
5. Transfer the preparation into a graduated cylinder and add SyrSvet™ until final volume.
6. Pack and label the preparation.

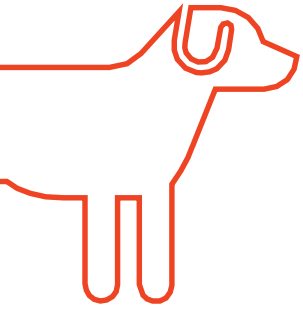
Packaging: Glass bottle with screw cap, 10 cc Fagron syringes with cap

Transdermal cream with Pentravan®

Compounding Steps

1. Calculate the quantity of each substance required for the preparation (consider calculating 10% more of the total formulation).
2. Weigh the active ingredient(s).
3. Transfer the powder(s) to the plate, grind slightly, add a few parts of solvent (see table I) and smooth to form a homogeneous paste.
4. Add Pentravan® gradually and homogenize after each addition.
5. Pack and label the preparations.

Packaging: 2 cc Fagron syringes with cap



Regulatory aspect under EU

Always refer to your local regulations for veterinary medicinal products

Directive 2004/28/EC of the European Parliament and of the Council of 31 March 2004 amending Directive 2001/82/EC on the Community code relating to veterinary medicinal products

Article 11

1. Member States shall take the necessary measures to ensure that, if there is no authorized veterinary medicinal product in a Member State for a condition affecting a food-producing species, by way of exception, the veterinarian responsible may, under his direct personal responsibility and to avoid causing unacceptable suffering, treat the animals concerned on a particular holding with:

(a) a veterinary medicinal product authorized in the Member State concerned under this Directive or under Regulation (EC) No 726/2004 for use with another animal species, or for another condition in the same species; or

(b) if there is no product as referred to in point (a), either: a medicinal product for human use authorized in the Member State concerned in accordance with Directive 2001/83/EC or under Regulation (EC) No 726/2004, or a veterinary medicinal product authorized in another Member State in accordance with this Directive for use in the same species or in another food-producing species for the condition in question or for another condition; or

(c) if there is no product as referred to in subparagraph (b), and within the limits of the law of the Member State concerned, a veterinary medicinal product prepared extemporaneously by a person authorized to do so under national legislation in accordance with the terms of a veterinary prescription.

The veterinarian may administer the medicinal product personally or allow another person to do so under the veterinarian's responsibility.

2. The pharmacologically active substances included in the medicinal product must be listed in Annex I, II or III of Regulation (EEC) No 2377/90, and the veterinarian needs to specify an appropriate withdrawal period to ensure that the food derived from the treated animals do not contain harmful residues for the consumers. Unless the medicinal product used indicates a withdrawal period for the species concerned, the specified withdrawal period shall not be less than 7 days for eggs, 7 days for milk, 28 days for meat from poultry and mammals including fat and offal and 500 degree-days for fish meat.

However, these specific withdrawal periods may be modified in accordance with the procedure referred to in Article 89(2).

3. With regard to homeopathic veterinary medicinal products in which active principles figure in Annex II to Regulation (EEC) No 2377/90, the withdrawal period shall be reduced to zero.

4. When a veterinarian has recourse to the provisions of paragraphs 1 and 2 of this Article, he shall keep adequate records of the date of examination of the animals, details of the owner, the number of animals treated, the diagnosis, the medicinal products prescribed, the doses administered, the duration of treatment and the withdrawal periods recommended, and shall make these records available for inspection by the competent authorities for a period of at least five years.

5. Without prejudice to the other provisions of this Directive, Member States shall take all necessary measures concerning the import, distribution, dispensing of and information on the medicinal products which they permit for administration to food-producing animals in accordance with paragraph 1(b)(ii).

Formulations
Aluminium Hydroxide

Features	Aluminium hydroxide is a intestinal phosphate chelating agent, which can be effective in reducing the phosphate serum levels in dogs and cats with chronic kidney disease (CKD). Occasionally it is also used as an anti-acid.
Dosages and indications	 Hyperphosphatemia 30-90 mg/kg PO q24h  As anti-acid 30 grams/animal
Pharmaceutical form	Paste with SyrSvet™ 45mg/ml **Packaging**: Fagron syringes from 10 cc with cap **Expiration**: 14 days or as stated in local regulations ***For the compounding steps see page 15*** SyrSvet™ Suspension 45mg/ml **Packaging**: Glass bottle with screw cap, Fagron syringes from 10cc with cap **Expiration**: 14 days or as stated in local regulations Compounding steps: 1. Calculate the amount of each substance needed for the preparation. 2. Weigh the active ingredient(s) and the amount of flavor. 3. Measure the needed volume of SyrSvet™ for the preparation and add sodium bicarbonate until PH is 7. 4. Transfer the powders into a mortar, grind slightly, add some ml of the buffered SyrSvet ™ and mix until the paste is homogeneous. 5. Transfer the preparation into a graduated a cylinder and add the buffered SyrSvet ™ until final volume. 6. Pack and label the preparation.
References	- Alves Mdo S, Mantilla TF, Bridi EC, Basting RT, França FM, Amaral FL, Turssi CP (2016). Rinsing with antacid suspension reduces hydrochloric acid-induced erosion. Arch Oral Biol.; 61: 66-70. - Barber PJ, Rawlings JM, Markwell PJ, Elliott J (1999). Effect of dietary phosphate restriction on renal secondary hyperparathyroidism in the cat. J Small Anim Pract.; 40: 62-70. - Elliott J, Watson ADJ. Chronich Kidney Disease: Staging and Management. In: Bonagura JD, Twedt DC, eds. Kirk's Current

Veterinary Therapy. 14th ed. St. Louis; Saunders Elsevier 2009; 883-892.

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- Segev G, Bandt C, Francey T, Cowgill LD (2008). Aluminum toxicity following administration of aluminum-based phosphate binders in 2 dogs with renal failure. J Vet Intern Med.; 22: 1432-1435.

Amitriptyline HCL

Features	Amitriptyline is a tricyclic antidepressant used to treat different behavioral disorders, such as generalized anxiety in dogs and excessive lick and anxiety in cats. Furthermore, it can be used as an additional treatment of pruritus, or of chronic pain of neuropathic origin in dogs and cats. Amitriptyline has also been used for the treatment of feather plucking in birds.
Dosages and indications	 Behavioral disorders Initial dose: 1-2 mg/kg PO q12h for 2-4 weeks. Gradually increase by 1 mg/kg up to a maximum of 4 mg/kg PO q12h if well tolerated. Decrease the dosages gradually before discontinuing the therapy. Pruritus 1-2.2 mg/kg PO q12h for 3-4 weeks and evaluate the therapeutic response. Decrease the dosages gradually before discontinuing the therapy. Chronic pain, predominantly of neuropathic origin 3-4 mg/kg PO q12h. Decrease the dosages gradually before discontinuing the therapy.  Behavioral disorders 0.5-1 mg/kg PO q24 (or divide into two administrations) or 2.5-12.5 mg/animal q24h. Start with a low dose and gradually increase if well tolerated. Decrease the dosages gradually before discontinuing the therapy. Pruritus (when conventional therapies have failed) 2.5-12.5 mg/animal PO q24h or 2.5-7.5 mg q12h. To minimize adverse reactions, start with 2.5 mg/animal q24h and increase the dosage gradually if well tolerated. Symptomatic treatment of the feline lower urinary tract disease (FLUTD) 2.5-12.5 mg/animal PO q24h in the evening. Chronic pain mainly of neuropathic origin: 2.5-12.5 mg/animal PO q24h  Feather plucking 1-2 mg/kg PO q12-24h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations ***For the compounding steps see page 15***

References	Kraijer M, Fink-Gremmels J, Nickel RF (2003). The short-term clinical efficacy of amitriptyline in the management of idiopathic feline lower urinary tract disease: a controlled clinical study. J Feline Med Surg.;5: 191-196. - Kukes VG, Kondratenko SN, Savelyeva MI, Starodubtsev AK, Gneushev ET (2009). Experimental and clinical pharmacokinetics of amitryptiline: comparative analysis. Bull Exp Biol Med; 147: 434–437 - Lightfoot T (2001). Feather "Plucking". Proceedings: Atlantic Coast Veterinary Information Network. - Moore SA (2016). Managing Neuropathic Pain in Dogs. Front Vet Sci.; 3: 1-8. - Robertson SA (2005). Managing pain in feline patients. Vet Clin North Am Small Anim Pract. 2005; 35:129-146. Review

Atenolol

Features	Atenolol belongs to the family of β-blockers and is used in the treatment of supraventricular tachyarrhythmia, premature ventricular contractions, subarticular stenosis, pulmonary stenosis and systemic hypertension.
Dosages and indications	 Initial dose 0.2 mg/kg PO q12-24h. Gradually increase until 0.5-1 mg/kg q12-24h.  Hypertension and in the course of hypertrophic cardiomyopathy (where β -blockers can be used) 6.25-12.5 mg/cat q12-24h Note: maximum dose per day: 12.5mg 2 mg/kg PO q12-24h (hyperthyroid animals that must being treated with methimazole, are treated for 15 days with atenolol)  Hypertrophic cardiomyopathy 3.13-6.25 mg/animal PO q24h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **Paste with SyrSvet ™ 10 mg/ml** **Packaging:** Fagron Syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations **SyrSvet ™ Suspension 2 mg/ml** **Packaging:** Glass bottle with cap and Fagron syringes from 10 cc with cap **Expiration:** 60 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Eason BD, Fine DM, Leeder D, Stauthammer C, Lamb K, Tobias AH (2014). Influence of beta blockers on survival in dogs with severe subaortic stenosis. J Vet Intern Med.; 28: 857-862. - Henik RA, Stepien RL, Wenholz LJ, Dolson MK (2008). Efficacy of atenolol as a single antihypertensive agent in hyperthyroid cats. J Feline Med Surg.; 10: 577- 582.

- Schober KE, Zientek J, Li X, Fuentes VL, Bonagura JD (2013). Effect of treatment with atenolol on 5-year survival in cats with preclinical
(asymptomatic) hypertrophic cardiomyopathy. J Vet Cardiol.; 15: 93-104.

- Visser LC, Scansen BA, Brown NV, Schober KE, Bonagura JD (2015). Echocardiographic assessment of right ventricular systolic function in conscious healthy dogs following a single dose of pimobendan versus atenolol. J Vet Cardiol.; 17: 161-172

- Williams BH (2000). Therapeutics inferrets. Vet Clin North Am Exot Anim Pract.; 3: 131-153. Review

Bethanechol chloride

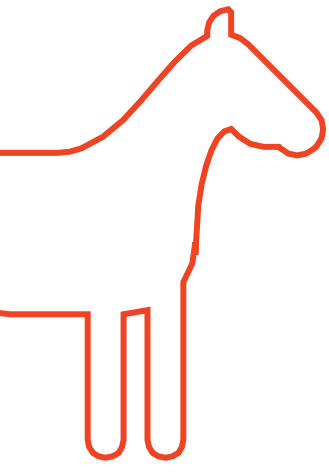
Features	Bethanechol chloride is used to stimulate bladder contraction to facilitate the emptying of vesical atony.
Dosages and indications	 General recommended dose 5-25 mg/animal PO q8h. Small dogs: starting dose 5 mg Large dogs: starting dose 10 mg The therapeutic efficacy is achieved within 1-2 days. If ineffective, it is possible to increase by 2.5-5 mg up to one maximum dosage of 25 mg q8h  General recommended dose 1.25-7.5 mg/animal PO q8h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **SyrSvet ™ Suppension 5 mg/ml** **Packaging:** Glass bottle with cap and Fagron syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15***
References	Buranakarl C, Kijtawornrat A, Angkanaporn K, Komolvanich S, Bovee KC (2001). Effects of bethanechol on canine urinary bladder smooth muscle function. Res Vet Sci.; 71: 175-181. - Ghoreishi SM, Nouri M, Rasooli A, Ghorbanpour M, Mokhber-Dezfouli MR, Constable PD (2015). Effect of orally administered cisapride, bethanechol, and erythromycin on the apparent efficiency of colostral IgG absorption in neonatal Holstein-Friesian calves. J Vet Intern Med.; 29: 714-720. - Marti M, Mevissen M, Althaus H, Steiner A (2005). In vitro effects of bethanechol on equine gastrointestinal contractility and functional characterization of involved muscarinic receptor subtypes. J Vet Pharmacol Ther.; 28: 565-574. - Niederberger MD, Hirsbrunner G, Steiner A, Brechbühl M, Meylan M (2010). In vitro effects of bethanecholon abomasal and duodenal smooth muscle preparations from dairy cows with left displacement of the abomasum and from healthy dairy cows. Vet J.; 184: 88-94. - Noël S, Massart L, Hamaide A (2013). Urodynamic investigation by telemetry in Beagledogs: validation and effects of oral administration of current urological drugs: a pilot study. BMC Vet Res.; 9: 197.

- Rendle DI, Durham AE, Hughes KJ, Lloyd D, Summerhays GE (2008). Long-term management of sabulous cystitis in five horses. Vet Rec.; 162: 783-787.

Cimetidine

Features	Cimetidine is used in the treatment of gastric ulcers and duodenal, uremic gastritis and gastroesophageal reflux. It can also be used in hypersecretory conditions associated with gastrinoma, systemic mastocytosis and as a collateral therapeutic agent in metabolic alkalosis. It is also used for the treatment of melanoma in horses.
Dosages and indications	  Esophagitis, gastric reflux, chronic gastritis, GI tract ulcers, gastrinoma and mastocytosis 5-10 mg/kg PO q8h  Gastric ulcer 5-10 mg/kg PO q8h  Rabbits, gastric ulcers 5-10 mg/kg PO q8-12h Mammals-Rats-Gerbils-Hamsters-Chinchilla 5-10 mg/kg PO q6-12h  Diseases affecting the gastrointestinal tract in horses 300-600 mg/animal PO q6-8h For the treatment in case of melanoma 2.5-5 mg/kg PO q12-24h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **Paste with SyrSvet ™ 60 mg/ml** **Packaging:** Fagron syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15*** **SyrSvet ™ Suspension 60 mg/ml** **Packaging:** Glass bottle with cap and Fagron syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations **Compounding steps** 1. Calculate the amount of each substance needed for the preparation. 2. Weigh the active ingredient(s) and the amount of flavor.

	3. Measure the needed volume of SyrSvet™ for the preparation and add sodium bicarbonate until PH is 7. 4. Transfer the powders into a mortar, grind slightly, add some ml of the buffered SyrSvet ™ and mix until the paste is homogeneous. 5. Transfer the preparation into a graduated a cylinder and add the buffered SyrSvet ™ until final volume. 6. Pack and label the preparation.
References	Adamcak A, Otten B (2000). Rodent therapeutics. Vet Clin North Am Exot Anim Pract.; 3: 221-237. Review - Ivey ES1, Morrisey JK (2000). Therapeutics for rabbits. Vet Clin North Am Exot Anim Pract.; 3: 183-220. - Knych HK, Stanley SD, Arthur RM, McKemie DS (2017). Disposition of the antiulcer medications ranitidine, cimetidine, and omeprazole following administration of multiple doses to exercised Thoroughbred horses. J Vet Pharmacol Ther.; 40: 92-96. - Le Traon G, Burgaud S, Horspool LJ (2009). Pharmacokinetics of cimetidine in dogs after oral administration of cimetidine tablets. J Vet Pharmacol Ther.; 32: 213-218. - Lewis S (2003). Gastric ulceration in an equine neonate. Can Vet J.; 44: 420-421. - MacGillivray KC, Sweeney RW, Del Piero F (2002). Metastatic melanoma in horses. J Vet Intern Med.; 16: 452-456. - Williams BH (2000). Therapeutics in ferrets. Vet Clin North Am Exot Anim Pract.; 3: 131-153. Review



Clindamycin HCl

Features	Clindamycin is an antibiotic that belongs to the lincosamides class. It acts against various anaerobic bacteria, aerobic gram (+) and toxoplasma.
Dosages and indications	 Skin infections (bites, abscesses) 5.5-33 mg/kg PO q12h Osteomyelitis 11-33 mg/kg PO q12h Superface pyoderma 5.5 mg/kg PO q12h or 11 mg/kg PO q24h for 21 days Deep pyoderma 11 mg/kg PO q12-24h Toxoplasmosis 10-40 mg/kg PO q8-12h  Skin infections (bites, abscesses) and dental infections 11-33 mg/kg PO q24h Toxoplasmosis 25 mg/kg PO q8-12h for 4 weeks  Infections by sensitive microorganisms 5-10 mg/kg PO q12h  Infections by sensitive microorganisms 25 mg/kg PO q8h  Infections by sensitive microorganisms (anaerobic) 5 mg/kg PO q24h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **SyrSvet ™ Suspension 25 mg/ml** **Packaging:** Glass bottle with cap and Fagron syringes from 10 cc with cap

	Expiration: 14 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Allen KE, Johnson EM, Little SE (2011). Hepatozoon spp infections in the United States. Vet Clin North Am Small Anim Pract.; 41: 1221-1238. Review. - Brandão J, Wong C, Kurotaki T, Johnson J, Mitchell M, Roy A, Pucheu-Haston C, Del Piero F, Tully T (2013). Chronic dermatitis caused by Lactobacillus jensenii infection in a blue and gold macaw (Ara ararauna). J Am Vet Med Assoc.; 243: 1030-1034. - Ortega E, Gutiérrez L, Bernad MJ, Salmerón F, Juárez I, Vargas D (2017). Evaluation of Different Oral Formulations of Clindamycin Extended Release in Dogs. Drug Res (Stuttg).; 67: 32-37. - Priyantha R, Gaunt MC, Rubin JE (2016). Antimicrobial susceptibility of Staphylococcus pseudintermedius colonizing healthy dogs in Saskatoon, Canada. Can Vet J.; 57: 65-69. - Scott DW, Miller WH Jr (2016). Clindamycin for first-time or recurrent canine staphylococcal pyoderma. Vet Dermatol.; 27: 62-63. - Torres-Henderson C, Hesser J, Hyatt DR, Hawley J, Brewer M, Lappin MR (2014). Pilot study to evaluate the role of Mycoplasma species in cat bite abscesses. J Feline Med Surg.; 16: 997-1000.

Clomipramine

Features	Clomipramine is a tricyclic antidepressant used mainly in dogs for obsessive compulsive disorders (stereotyped behaviors). Can be used also to control aggression and separation anxiety. In the cat it is used for disorders linked to the limitation or change of the territory and aging. Clomipramine can also be used for the treatment of feather plucking syndrome in birds.
Dosages and indications	 General recommended dose 1-2 mg/kg PO q12h. In case of improvement after 2 months of therapy, the treatment must be discontinued gradually.  General recommended dose 0.1-0.4 mg/kg q24h. Possible to divide the dose into two administrations. Dosages should be increased gradually. Decrease the dosages gradually before discontinuing the therapy.  General recommended dose 0.5-9 mg/kg PO q12-24h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations ***For the compounding steps see page 15***
References	- Hewson CJ, Luescher UA, Parent JM, Conlon PD, Ball RO (1998). Efficacy of clomipramine in the treatment of canine compulsive disorder. J Am Vet Med Assoc; 213: 1760-1766 - Hewson CJ, Conlon PD, Luescher UA, Ball RO (2008). The pharmacokinetics of clomipramine and desmethylclomipramine in dogs: parameter estimates following a single oral dose and 28 consecutive daily oral doses of clomipramine. J Vet Pharmacol Ther.; 21: 214-222. - Kook PH, Kranjc A, Dennler M, Glaus TM (2009). Pancreatitis associated with clomipramine administration in a dog. J Small Anim Pract.; 50: 95-98 - Mertens PA, Torres S, Jessen C (2006). The effects of clomipramine hydrochloride in cats with psychogenic alopecia: a prospective study. J Am Anim Hosp Assoc.; 42: 336-343

- Siebert LM (2007). Pharmacotherapy for Behavioral Disorders in Pet Birds. Journal of Exotic Pet Medicine; 16: 30-37

Diltiazem HCl

Features	Diltiazem is part of a classification of drugs known as calcium channel blockers. It is used to treat a range of heart conditions, including certain types of cardiac arrhythmia like atrial flutter, atrial fibrillation and supraventricular tachycardia.
Dosages and indications	 Supraventricular tachycardia 0.5-1.5 mg/kg PO q8-12h  General recommended dose 0.5-1.0 mg/kg PO q8h up to a maximum of 7-8 mg/day PO. The first 3 doses must be reduced by 50%. Severe hypertensive crises 0.5 mg/kg PO q6h 7.5 mg/animal PO q8-12h  Hypertrophic cardiomyopathy 2-7.5 mg/kg PO q12h. Modify the dose if necessary.
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **SyrSvet ™ Suspension 12 mg/ml** **Packaging:** 10 cc Fagron syringes with cap **Expiration:** 90 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Jung SW, Sun W, Griffiths LG, Kittleson MD (2016). Atrial Fibrillation as a Prognostic Indicator in Medium to Large-Sized Dogs with Myxomatous Mitral Valvular Degeneration and Congestive Heart Failure. J Vet Intern Med.; 30: 51- 57. - Kittleson M (2010). Drugs used in treatment of cardiac arrhythmias. Small Animal Cardiovascular Medicine, 2nd ed. - Maton BL, Simmonds EE, Lee JA, Alwood AJ (2013). The use of high-dose insulin therapy and intravenous lipid emulsion to treat severe, refractory diltiazem toxicosis in a dog. J Vet Emerg Crit Care (San Antonio); 23: 321-327 - Wall M, Calvert CA, Sanderson SL, Leonhardt A, Barker C, Fallaw TK (2005). Evaluation of extended-release diltiazem once daily for cat swith hypertrophic cardiomyopathy. J Am Anim Hosp Assoc.; 41: 98-103.

- Williams BH (2000). Therapeutics in ferrets. Vet Clin North Am Exot Anim Pract.; 3: 131-153, Review.

Doxycycline HCL

Features	Doxycycline is used in small animals for the treatment of different infections caused by many microorganisms including: Borrelia, Leptospira Rickettsia Spp. Chlamydia Ehrlichia spp., Mycoplasma, Bartonella and Bordetella. Furthermore, the pharmacokinetic parameters make doxycycline suitable for azotemic animals that must use an antibiotic of this class, as it doesn't excrete from the renal system and therefore is suitable to be used in nephropathic animals without having to adjust the dose. Intravenous administration of doxycycline in horses has been associated with some death incidences, therefore we do not recommend it for intravenous administration.
Dosages and indications	 Infections from microorganisms susceptible to doxycycline 10 mg/kg PO q24h Infections from ehrlichiosis and rickettsia 10 mg/kg PO for 28 days Leptospirosis 5 mg/kg PO Infections from anaplasma phagocytophilum 5 mg/kg PO q12h for 14 days  Infections from microorganisms susceptible to doxycycline 10 mg/kg PO q24h Infections from mycoplasma haemofelis 10 mg/kg PO q24h for 7-14 days Infections from chlamydia felis 10 mg/kg PO for 3-4 weeks  Infections from microorganisms susceptible to doxycycline 20 mg/kg PO q12-24h Note: Intravenous administration of doxycycline in horses has been associated with some death incidences, therefore we do not recommend it for systemic administration. Ehrlichiosis 10 mg/kg PO q12h for 10-14 days
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **Paste with SyrSvet ™ 100 mg/ml** **Packaging:** Fagron syringes from 10 cc with cap

	Expiration: 14 days or as stated in local regulations **SyrSvet ™ Suspension 100 mg/ml (animals of big size)** **Packaging:** 10 cc Fagron syringes with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Allen AE, Buckley GJ, Schaer M (2016). Successful treatment of severe hypokalemia in a dog with acute kidney injury caused by leptospirosis. J Vet Emerg Crit Care (San Antonio); 26: 837-843. - Brochmann RP, Helmfrid A, Jana B, Magnowska Z, Guardabassi L (2016). Antimicrobial synergy between carprofen and doxycycline against methicillinresistant Staphylococcus pseudintermedius ST71. BMC Vet Res.; 12: 126. - Carrade DD, Foley JE, Borjesson DL, Sykes JE (2009). Canine granulocytic anaplasmosis: a review. J Vet Intern Med.; 23: 1129-1141. Review. - Collins SP, Labelle AL, Dirikolu L, Li Z, Mitchell MA, Hamor RE (2016). Tear film concentrations of doxyxycline following oral administration in ophthalmologically normal dogs. J Am Vet Med Assoc.; 249: 508-514. - Lloret A, Addie DD, Boucraut-Baralon C, Egberink H, Frymus T, Gruffydd-Jones T, Hartmann K, Horzinek MC, Hosie MJ, Lutz H, Marsilio F, Pennisi MG, Radford AD, Thiry E, Truyen U, Möstl K; European Advisory Board on Cat Diseases (2015). Hepatozoonosis incats: ABCD guidelines on prevention and management. J Feline Med Surg.; 17: 642-644. Review. - Robinson CS, Timofte D, Singer ER, Rimmington L, Rubio-Martínez LM (2016). Prevalence and antimicrobial susceptibility of bacterial isolates from horses with synovial sepsis: A cross sectional study of 95 cases. Vet J.; 216: 117-121. - Savidge C, Ewing P, Andrews J, Aucoin D, Lappin MR, Moroff S (2016). Anaplasma phagocytophilum infection of domesticcats: 16 cases from the northeastern USA. J Feline Med Surg.; 18: 85-91. - Schnabel LV, Papich MG, Watts AE, Fortier LA (2010). Orally administered doxycycline accumulates in synovial fluid compared to plasma. Equine Vet J.; 42: 208-212.

Enalapril Maleate

Features	Enalapril is an angiotensin-converting enzyme (ACE). It is indicated in the treatment of heart failure, of chronic renal failure and glomerulopathies of arterial hypertension.
Dosages and indications	 Heart failure 0.5 mg/kg PO q24h. In the absence of clinical response: 0.5 mg/kg PO q12h Chronic renal failure and glomerulopathy 0.5 mg/kg PO q24h Arterial hypertension 0.5 mg/kg PO q12h  Congestive heart failure therapy, hypertrophic myocardiopathy 0.25-0.5 mg/kg PO q12- 24h Renal and proteinuric pathology of hypertension during chronic kidney disease 0.25-0.5 mg/kg PO q12-24h  Heart failure Initial dose: 0.5 mg/kg PO q48h and increase to q24h if well tolerated Dilated cardiomyopathy 0.25-0.5 mg/kg PO q24-48h  Heart failure 1.25 mg/kg PO 2-3 times a day or 0.25-0.5 mg/kg PO q24-48h in combination with furosemide
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **Paste with SyrSvet ™ 1 mg/ml** **Packaging:** Fagron syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations **SyrSvet ™ Suspension 1 mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 90 days or as stated in local regulations

	For the compounding steps see page 15
References	- Bartges JW (2012).Chronic kidney disease in dogs and cats.Vet Clin North Am Small Anim Pract.; 42: 669-692 - Hoeffer H (2000). Heart Disease in Ferrets. Kirk's Current Veterinary Therapy: XIII Small animal Practice. J Bonagura, Philadelphia, WB Saunders: 1144-1148 - Littman MP (2011). Protein-losing nephropathy in small animals.Vet Clin North Am Small Anim Pract.; 41: 31-62 - McNaughton A, Frasca S Jr, Mishra N, Tuttle AD (2014). Valvular dysplasia and congestive heart failure in a juvenile African penguin (Spheniscus demersus). J Zoo Wildl Med.; 45: 987-990. - Polzin DJ (2013). Evidence-based step-wise approach to managing chronic kidney disease in dogs and cats. J Vet Emerg Crit Care (San Antonio): 205-215. Review.

Famotidine

Features	Famotidine is used for the treatment and/or prophylaxis of gastric ulcers, gastric reflux esophagitis and duodenal, uremic and drug-induced gastritis.
Dosages and indications	 General recommended dose 0.5-1.1 mg/kg PO q12-24h (q24 for animals with severe renal dysfunction)  General recommended dose 0.5-1.1 mg/animal  0.25-0.5 mg/kg PO q24h  1.88 mg/kg PO q8h or 2.8 mg/kg PO q12h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **Paste with SyrSvet ™ 8 mg/ml** **Packaging:** Fagron syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15*** **SyrSvet ™ Suspension 8 mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 14 days or as stated in local regulations **Compounding steps:** 1. Calculate the amount of each substance needed for the preparation. 2. Weigh the active ingredient (s) and the amount of flavor. 3. Measure the needed volume of SyrSvet ™ for the preparation and add sodium bicarbonate until PH is 7. 4. Transfer the powders into a mortar, shred slightly, add some ml of the buffered SyrSvet ™ and mix until the paste is homogeneous. 5. Transfer the preparation into a graduated a cylinder and add the buffered SyrSvet ™ until final volume. 6. Pack and label the preparation.

References	- de Brito Galvao JF, Trepanier LA (2008). Risk of hemolytic anemia with intravenous administration offamotidineto hospitalizedcats. J Vet Intern Med.; 22: 325-329. - Parente NL, Bari Olivier N, Refsal KR, Johnson CA (2014). Serum concentrations of gastrin after famotidine and omeprazole administration to dogs. J Vet Intern Med.; 28: 1465-1470. - Parkinson S, Tolbert K, Messenger K, Odunayo A, Brand M, Davidson G, Peters E, Reed A, Papich MG (2015). Evaluation of the effect of orally administered acid suppressants on intragastric pH incats. J Vet Intern Med.; 29: 104-112. - Tolbert MK, Odunayo A, Howell RS, Peters EE, Reed A (2015). Efficacy of intravenous administration of combined acid suppressants in healthy dogs. J Vet Intern Med.; 29: 556-560. - Tolbert MK, Graham A, Odunayo A, Price J, Steiner JM, Newkirk K, Hecht S (2017). Repeated Famotidine Administration Results in a Diminished Effect on Intragastric pH in Dogs. J Vet Intern Med. [Epub ahead of print]. - Williams BH (2000). Therapeutics inferrets. Vet Clin North Am Exot Anim Pract.; 3: 131-153. Review - Williamson KK 1, Willard MD, Payton ME, Davis MS (2010). Efficacy of omeprazole versus high-dose famotidine for prevention of exercise-induced gastritis in racing Alaskan sled dogs. J Vet Intern Med.; 24: 285-288

Fenbendazole

Features	Fenbendazole is an anthelmintic benzimidazole agent characterized by a broad spectrum of action. It is not active against Dipylidium caninum.
Dosages and indications	  Infections caused by giardia 50 mg/kg PO q24h for 3-5 days Infections caused by Ancylostoma caninum, Trichuris vulpis, Toxocara, Toxascaris, Taenia spp 50 mg/kg PO q24h for 3 days Infections caused by Paragonimus Kellicotti and Aelurostrongylus abstrusus 25-50 mg/kg PO q24h for 14 days Infections caused by from Capillaria plica and Capillaria feliscati Dogs: 50 mg/kg PO q24h for 10 days Cats: 25 mg/kg PO q24h for 10 days  Infections caused by Haemonchus spp., Ostertagia spp.,Trichostrongylus spp., Cooperia, Nematodirus spp., Oesophagostomum spp., Bunostomum spp., Trichostrongylus spp., Dictyocaulus viviparus 5 mg/kg PO. Repeat the treatment after 4-6 weeks Infections caused by Giardia in calves 15 mg/kg PO for 3 consecutive days  Infections caused by Strongylus spp., Oxyuris equi, Parascaris equorum, Cyathostomin spp. Adults: 5 mg/kg PO Colts: 10 mg/kg PO Larval forms of Cyathostomin and Strongylus vulgaris 10 mg/kg PO for 5 consecutive days  Infections caused by gastrointestinal and pulmonary nematodes, tapeworms 5 mg/kg PO. Repeat the treatment after 4-6 weeks  Routine antiparasitic treatment 20 mg/kg PO q24h for 5 days. Repeat the treatment every 3

	months  Infections caused by nematodes 50-100 mg/kg PO q24h every 7 days for 2 times. If still positive, repeat a new one dose until negative coprological examination
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **Paste with SyrSvet ™ 25 mg/ml** **Packaging:** Fagron syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations **SyrSvet ™ Suspension 100 mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Daniels SP, Proudman CJ (2016). Ovicidal efficacy of fenbendazole after treatment of horses naturally infected with cyathostomins. Vet Parasitol.; 227: 151-156 - Pennisi MG, Hartmann K, Addie DD, Boucraut-Baralon C, Egberink H, Frymus T, Gruffydd-Jones T, Horzinek MC, Hosie MJ, Lloret A, Lutz H, Marsilio F, Radford AD, Thiry E, Truyen U, Möstl K; European Advisory Board on Cat Diseases (2015). Lungworm disease in cats: ABCD guidelines on prevention and management. J Feline Med Surg.; 17: 626-636. - Ravinet N, Chartier C, Bareille N, Lehebel A, Ponnau A, Brisseau N, Chauvin A (2016). Unexpected Decrease in Milk Production after Fenbendazole Treatment of Dairy Cows during Early Grazing Season. PLoS One.; 11. - Saes IL, Vera JH, Fachiolli DF, Yamada PH, Dellaqua JV, Saes RL, Amarante AF, Soutello RV (2016). Time required by different anthelmintics to reach expected efficacy levels in horses infected by strongyles. Vet Parasitol.; 229:90-92. - Saleh MN, Gilley AD, Byrnes MK, Zajac AM (2016). Development and evaluation of a protocol for control of Giardia duodenalis in a colony of group-housed dogs at a veterinary medical college. J Am Vet Med Assoc.; 249: 644-649. - Studzinska MB, Obara-Gałek J, Demkowska-Kutrzepa M, Tomczuk K (2015). Diagnosis and therapy of Capillaria plica infection: report and literature review. Acta Parasitol.; 60: 563-566. Review.

Gabapentin

Features	Gabapentin shows antiepileptic activity and has analgesic effect against chronic neuropathic pain.
Dosages and indications	 Refractory epilepsy 10-20 mg/kg PO q8h Neuropathic pain 5-10 mg/kg PO q12h  Refractory epilepsy 5-10 mg/kg PO q8-12h Neuropathic pain 1.25-10 mg/kg PO q24h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **SyrSvet ™ Suspension 100 mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration: 125** days or as stated in local regulations ***For the compounding steps see page 15***
References	- Crociolli GC, Cassu RN, Barbero RC, Rocha TL, Gomes DR, Nicácio GM (2015). Gabapentin as an adjuvant for postoperative pain management in dogs undergoing mastectomy. J Vet Med Sci.; 77: 1011-1015. - Mathews K.A (2008). Neuropathic Pain in Dogs and Cats: If Only They Could Tell Us If They Hurt.Vet. Clin. North. Am. Small Anim. Pract.; 38: 1365-1414. - Pakozdy A1, Halasz P, Klang A (2014). Epilepsy in cats: theory and practice. J Vet Intern Med.; 28: 255-263. - Platt SR1, Adams V, Garosi LS, Abramson CJ, Penderis J, De Stefani A, Matiasek L (2006). Treatment with gabapentin of 11 dogs with refractory idiopathic epilepsy. Vet Rec.; 159: 881-884 - Plessas IN, Volk HA, Rusbridge C, Vanhaesebrouck AE, Jeffery ND (2015). Comparison of gabapentin versus topiramate on clinically affected dogs with Chiari-like malformation and syringomyelia. Vet Rec; 177: 288- .

Itraconazole

Features	Itraconazole is a synthetic antimycotic triazole used for the treatment of systemic and cutaneous mycoses. Presents high activity against dermatophytes (Trichophyton spp, Microsporum spp), yeasts (Candida spp, Malassezia spp), zygomycetes and eumycetes (Aspergillus).
Dosages and indications	 Systemic mycoses 5-10 mg/kg PO q24h (the dose can be divided into 2 doses) with food. The duration of the treatment varies, and it depends on the infectious agent and the area of the infection. Treatment must be continued for at least one month after clinical evaluation Dermatophytosis, onychomycosis 5-10 mg/kg PO q24h Malassezia dermatitis 5 mg/kg PO q24h and continue again for a week after clinical evaluation  Microsporum canis dermatophytosis 5 mg/kg PO q24h for 7 days followed by one week without treatment. Treatment must be repeated 3 times Malassezia dermatitis 5 mg/kg PO q24h and continue again for a week after clinical evaluation  Mice - blastomycosis 50-150 mg/kg q24h Rats – vaginal candidiasis 2.5-10 mg/kg q24h Guinea pig - systemic candida 5 mg/kg q24  Mycoses of guttural pouchs, mycotic rhinitis and osteomyelitis 5mg/kg PO q24h

	 5-10 mg/kg PO q12-24h (use with caution in the African grey parrot) Aspergillosis 5-10 mg/kg PO q24h; 2.5-5 mg/kg PO q24h (for the African gray parrot)  General recommended dose 10-20 mg/kg PO q24h
Pharmaceutical form	**SyrSvet ™ Suspension 40 mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 90 days or as stated in local regulations ***For the compounding steps see page 15***

Ketoprofen

Features	Ketoprofen is used in arthritis pain, inflammation, and other musculoskeletal disorders. Also, it is used for the short-term management of postsurgical pain.
Dosages and indications	 Acute pain 2 mg/kg PO, q24h; The following day: 1 mg/kg PO q24h for 3-5 days  Chronic pain resulting from osteoarthritis or musculoskeletal disorders 1 mg/kg PO q24h for 3-5 day  0.25 mg/kg PO q24h for maximum one month
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **SyrSvet ™ Suspension 10 mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 70 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Denise Tabacchi Fantoni, Keila Kazue Ida, Thais Ingles de Almeida, Aline Magalhães Ambrósio (2015). A comparison of pre and post-operative vedaprofen with ketoprofen for pain control in dogs. BMC Veterinary Research; 11: 24-31 - Janßen S, Wunderlich C, Heppelmann M, Palme R, Starke A, Kehler W, Steiner A, Rizk A, Meyer U, Daenicke S, Rehage J (2016). Short communication: Pilot study on hormonal, metabolic, and behavioral stress response to treatment of claw horn lesions in acutely lame dairy cows. J Dairy Sci.; 99: 7481 7488. - Knych HK, Arthur RM, Steinmetz S, McKemie DS (2016). Pharmacokinetics of ketoprofen enantiomers following intravenous and oral administration to exercised Thoroughbred horses. Vet J.; 207:196-8. - Sano T, King JN, Seewald W, Sakakibara N, Okumura M (2012). Comparison of oral robenacoxib and ketoprofen for the treatment of acute pain and inflammation associated with

musculoskeletal disorders in cats: a randomized clinical trial. Vet J.; 193: 397-403.

- Thomas HJ, Miguel-Pacheco GG, Bollard NJ, Archer SC, Bell NJ, Mason C, Maxwell OJ, Remnant JG, Sleeman P, Whay HR, Huxley JN(2015). Evaluation of treatments for claw horn lesions in dairy cows in a randomized controlled trial. J Dairy Sci.; 98: 4477-4486.

Levetiracetam

Features	Levetiracetam can be indicated as a third-choice drug for the treatment of refractory epilepsy or when the drugs phenobarbital and bromide are not tolerated by the patient.
Dosages and indications	 General recommended dose 20 mg/kg q8h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **Paste with SyrSvet ™ 50mg/ml** **Packaging:** Fagron syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations **SyrSvet ™ Suspension 50 mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Boozer LB, Platt SR, Haley AC, Linville AV, Kent M, Barron LE, Nie B, Arnold RD (2015). Pharmacokinetic evaluation of immediate- and extended-release formulations of levetiracetam in dogs. Am J Vet Res.; 76: 719-723. - Charalambous M, Shivapour SK, Brodbelt DC, Volk HA (2016). Antiepileptic drugs' tolerability and safety--a systematic review and meta-analysis of adverse effects indogs. BMC Vet Res.; 12: 79. Review. - Fredsø N, Sabers A, Toft N, Møller A, Berendt M (2016). A single-blinded phenobarbital-controlled trial oflevetiracetamas mono-therapy indogswith newly diagnosed epilepsy. Vet J.; 208: 44-49. - Lowrie M, Bessant C, Harvey RJ, Sparkes A, Garosi L (2016). Audiogenic reflex seizures in cats. J Feline Med Surg.; 18: 328-336. - Lowrie M, Thomson S, Bessant C, Sparkes A, Harvey RJ, Garosi L (2017). Levetiracetamin the management of feline audiogenic reflex seizures: a randomised, controlled, open-label study. J Feline Med Surg. 2017; 19: 200-206. - Muñana KR, Nettifee-Osborne JA, Papich MG (2015). Effect of chronic administration of phenobarbital, or bromide, on pharmacokinetics of levetiracetam in dogs with epilepsy. J Vet Intern Med.; 29: 614-619.

	- Packer RM, Nye G, Porter SE, Volk HA (2015). Assessment into the usage of levetiracetam in a canine epilepsy clinic. BMC Vet Res.; 11: 25. - Peters RK, Schubert T, Clemmons R, Vickroy T (2014). Levetiracetam rectal administration in healthy dogs. J Vet Intern Med.; 28: 504-509.

Methimazole

Features	Methimazole is used for the treatment of feline hyperthyroidism. The transdermal gel with methimazole can potentially be effective in those animals that do not tolerate oral administration.
Dosages and indications	 General recommended dose 2.5 mg/animal PO q12h Transdermal gel: 50 mg/ml; 5 mg/0.1 ml (2.5 mg auricle q12h)
Pharmaceutical form	**Pentravan® (transdermal) 5 mg/0.1 ml** **Packaging:** Fagron syringes from 2 cc with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Aldridge C, Behrend EN, Martin LG, Refsal K, Kemppainen RJ, Lee HP, Chciuk K (2015). Evaluation of thyroid-stimulating hormone, total thyroxine, and free thyroxine concentrations in hyperthyroid cats receiving methimazole treatment. J Vet Intern Med.; 29: 862-868. - Boretti FS, Sieber-Ruckstuhl NS, Schäfer S, Gerber B, Baumgartner C, Riond B, Hofmann-Lehmann R, Reusch CE (2014). Transdermal application of methimazole in hyperthyroid cats: a long-term follow-up study. J Feline Med Surg.; 16: 453-459. - Bush JL, Nemanic S, Gordon J, Bobe G (2016). Computed Tomographic characteristics of the thyroid glands in eight hyperthyroid cats pre- and post methimazole treatment compared with seven euthyroidcats. Vet Radiol Ultrasound. [Epub ahead of print] - Hill KE, Chambers JP, Jones BR, Bolwell CF, Aberdein D, Mills PC (2015). Regional variations in percutaneous absorption of methimazole: an invitro study on cat skin. J Vet Pharmacol Ther.; 38: 616-618. - Hill KE, Chambers JP, Jones BR, Bolwell CF, Aberdein D, Mills PC (2015). Transpinnal movement of methimazole: an in vitro study showing that methimazole can cross from the inner to outer pinna of cats. J Feline Med Surg.; 17: 1005- 1011. - Hill KE, Mills PC, Jones BR, Bolwell CF, Aberdein D, Chambers JP (2015). Percutaneous absorption of methimazole: an in vitro study of the absorption pharmacokinetics for two different vehicles. J Vet Pharmacol Ther.; 38: 581-589.

Methionine

Features	Methionine is a urinary acidifier.
Dosages and indications	 As urinary acidifier 0.2-1 g/animal PO q8h  As urinary acidifier 0.2-1 g/animal PO in one or two daily administrations
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations ***For the compounding steps see page 15***
References	- Hickey MC, Son TT, Wismer T (2015). Retrospective evaluation of methionine intoxication associated with urinary acidifying products indogs: 1,525 cases (2001-2012). J Vet Emerg Crit Care (San Antonio): 640 - 5. - Raditic DM (2015). Complementary and integrative therapies for lower urinary tract diseases. Vet Clin North Am Small Anim Pract.; 45: 857-878. Review.

Metronidazole benzoate

Features	Metronidazole is indicated in the treatment of various protozoan diseases for dogs and cats. Also, for anaerobic microorganism infections in dogs, cats and horses.
Dosages and indications	 Infections caused by Giardia 30-60 mg/kg PO q24h for 5-7 days Gingivitis, stomatitis, abscesses, skin and genital infections by microorganism's sensitive to metronidazole 8-10 mg/kg PO q6-8h Clostridium enteritis 10-15 mg/kg PO q8-12h for 5 days Lymphocytic plasmacytic gastroenteritis 10 mg/kg PO q12h for 2-4 weeks Infections caused by helicobacter 15.4 mg/kg q8h in combination with amoxicillin (11 mg/kg q8h) and with bismuth subsalicylate (0.22 ml/kg PO q4-6h) for 3 weeks  Infections caused by Giardia 10-25 mg/kg PO q24h for 5 days Chronic lymphocytic enteritis 10 mg/kg PO q24h Clostridium enteritis 62.5 mg/cat PO q12h for 5 days Infections caused by helicobacter 10-15 mg/kg q12h in combination with clarithromycin (7.5 mg/kg q12h) and with amoxicillin (20 mg/kg PO q12h) for 14 days  Clostridium enterocolitis in horses 15 mg/kg PO q8-12h 10 g/kg q12h for horses younger than 5 days Infections caused by anaerobic microorganisms 15-25 mg/kg PO q12h  Infections caused by anaerobic microorganisms 10-30 mg/kg PO q12-24h

	 Infections caused by anaerobic microorganisms 20 mg/kg PO q12 for 3-5 days
Pharmaceutical form	**Paste with SyrSvet ™ 1000mg/ml** **Packaging:** Fagron syringes from 10 cc with cap **Expiration:** 14 days or as stated in local regulations **SyrSvet ™ Suspension 100 mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 366 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Britzi M, Gross M, Lavy E, Soback S, Steinman A (2010). Bioavailability and pharmacokinetics of metronidazole in fed and fasted horses. J Vet Pharmacol Ther.; 33: 511-514. - Jergens AE, Crandell J, Morrison JA, Deitz K, Pressel M, Ackermann M, Suchodolski JS, Steiner JM, Evans R (2010). Comparison of oral prednisone and prednisone combined with metronidazole for induction therapy of canine Inflammatory bowel disease: a randomized-controlled trial. J Vet Intern Med.; 24: 269-277. - Lawhon SD, Taylor A, Fajt VR (2013). Frequency of resistance in obligate anaerobic bacteria isolated from dogs, cats, and horses to antimicrobial agents. J Clin Microbiol.; 51: 3804-3810. - Leib MS, Duncan RB, Ward DL (2007). Triple antimicrobial therapy and acid suppression in dogs with chronic vomiting and gastric Helicobacter spp. J Vet Intern Med.; 21: 1185-1192. - Menozzi A, Dall'Aglio M, Quintavalla F, Dallavalle L, Meucci V, Bertini S (2016). Rifaximin is an effective alternative to metronidazole for the treatment of chronic enteropathy in dogs: a randomised trial. BMC Vet Res.; 12: 217-226. - Swain EA, Magdesian KG, Kass PH, Edman J E, Knych H K (2015). Pharmacokinetics of metronidazole in foals: influence of age within the neonatal period. J Vet Pharmacol Ther.; 38: 227-234.

Omeprazole

Features	Omeprazole is used in the treatment of hypersecretory states and pathological conditions where there are risk factors for gastric mucosal ulceration or erosion such as gastric ulcers/erosions, esophagitis from reflux, gastrinoma, mastocytoma, uremic gastritis. It can be used also for the prevention of gastric ulcers caused by NSAIDs.
Dosages and indications	 For the treatment and prevention of gastrointestinal ulcers, gastric erosions, reflux esophagitis, gastrinoma, mastocytoma 0.5-1 mg/kg PO q24h  Gastric ulcers 4 mg/kg PO q24h for 4 weeks Horses - gastric ulcers 4 mg/kg PO q24h For preventive action 1-2 mg/kg PO q24h  Gastric ulcers 40 mg PO q24h for 2 days
Pharmaceutical form	**SyrSvet ™ Suspension 2mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 14 days or as stated in local regulations **Compounding steps** 1. Calculate the amount of each substance needed for the preparation. 2. Weigh the active ingredient(s) and the amount of flavor. 3. Measure the needed volume of SyrSvet ™ for the preparation and add sodium bicarbonate until PH is 7. 4. Additionally, add 168 mg/ml sodium bicarbonate. 5. Transfer the powders into a mortar, grind slightly, add some ml of the buffered SyrSvet ™ and mix until the paste is homogeneous. 6. Transfer the preparation into a graduated a cylinder and add the buffered SyrSvet ™ until final volume. 7. Pack and label the preparation. ***For the compounding steps see page 15***
References	- Davis MS, Williamson KK (2016). Gastritis and Gastric Ulcers in Working Dogs. Front Vet Sci.; 3: 30. Review.

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Phenoxybenzamine

Features	Phenoxybenzamine is used to reduce the tone of the urethral system. It can also be used for the treatment of hypertension associated with pheochromocytoma.
Dosages and indications	 General recommended dose 0.25 mg/kg PO q12h  General recommended dose 2.5-7.5 mg/animal PO q12-24h  General recommended dose 0.7 mg/kg PO q6h (in combination with bethanechol: 0.25-0.75 mg/kg PO q6-12h)
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations ***For the compounding steps see page 15***
References	- Balducci F, De Risio L, Shea A, Canal S, Stabile F, Bernardini M (2017). Neurogenic urinary retention in cats following severe cluster seizures. J Feline Med Surg.; 19: 246-250. - Herrera MA, Mehl ML, Kass PH, Pascoe PJ, Feldman EC, Nelson RW (2008). Predictive factors and the effect of phenoxybenzamine on outcome in dogs undergoing adrenalectomy for pheochromocytoma. J Vet Intern Med.; 22: 1333- 1339. - Hetrick PF, Davidow EB (2013). Initial treatment factors associated with feline urethral obstruction recurrence rate: 192 cases (2004-2010). J Am Vet Med Assoc.; 243: 512-519. - Waldridge B. (2010). Disorders of the Urinary System. In “Equine Internal Medicine”. Reed S.M., Bayly W.M., Sellon D.C., Third Edition, Sanders Elsevier, pp 1140-1247.

Piroxicam

Features	Piroxicam is a non-steroidal anti-inflammatory drug used mainly for its indirect antitumor activity (transitional cell bladder cancer, squamous-cell carcinoma, mammary adenocarcinoma). It is also used as analgesic, antipyretic and anti-inflammatory.
Dosages and indications	 As adjuvant therapy for transitional cell bladder cancer 0.3 mg/kg PO q24h As analgesic, antipyretic and anti-inflammatory 0.3 mg/kg PO q24h  As adjuvant therapy for neoplasms 0.3 mg/kg PO q24-72h As analgesic, antipyretic and anti-inflammatory 1 mg/animal PO q24h for up to 7 days  As adjuvant therapy for squamous-cell carcinoma 80 mg/animal PO q24h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **SyrSvet ™ Suspension 2mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Allstadt SD, Rodriguez CO Jr, Boostrom B, Rebhun RB, Skorupski KA (2015). Randomized phase III trial of piroxicam in combination with mitoxantrone or carboplatin for first-line treatment of urogenital tract transitional cell carcinoma in dogs. J Vet Intern Med.; 29: 261-267. - Bulman-Fleming JC, Turner TR, Rosenberg MP (2010). Evaluation of adverse events in cats receiving long-term piroxicam therapy for various neoplasms. J Feline Med Surg.; 12: 262-268. - Marconato L, Buchholz J, Keller M, Bettini G, Valenti P, Kaser Hotz B (2013). Multimodal therapeutic approach and interdisciplinary challenge for the treatment of unresectable head and neck squamous cell carcinoma in six cats: a pilot study. Vet Comp Oncol.; 11: 101-112.

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Potassium bromide

Features

Potassium bromide has depressing effect on the motor cortex, on the basal ganglia, on the marrow and on the bulb. It can be used as a monotherapy as a first-choice drug or be combined with phenobarbital. Rarely used in cats due to the side effects on the respiratory apparatus.

Dosages and indications

General recommended dose
20-40 mg/kg/day PO in 1 or 2 administrations together with food (effect of the drug in 3-4 months).

Attack dose
120 mg/kg PO for 5 days. Dose of maintenance: 40 mg/kg

General recommended dose
10-20 mg/kg/day
Note: rarely used in cats due to the side effects on the respiratory apparatus)

Pharmaceutical form

Capsules with EcciVet ™
Expiration: 6 months or as stated in local regulations

For the compounding steps see page 15

SyrSvet ™ Suspension 500 mg/ml
Packaging: Glass bottle with cap, 10 cc Fagron syringes with cap
Expiration: 14 days or as stated in local regulations

Compounding steps:

1. Calculate the amount of each substance needed for the preparation.
2. Weigh the active ingredient (s) and the amount of flavor.
3. Measure the needed volume of SyrSvet ™ for the preparation and add sodium bicarbonate until PH is 7.
4. Transfer the powders into a mortar, shred slightly, add some ml of the buffered SyrSvet ™ and mix until the paste is homogeneous.
5. Transfer the preparation into a graduated a cylinder and add the buffered SyrSvet ™ until final volume.
6. Pack and label the preparation.

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Prednisolone acetate

Features	Prednisolone is a steroid anti-inflammatory drug.
Dosages and indications	 As an anti-inflammatory treatment 0.5 mg/kg/day PO Immune mediated disorders 2.2 mg/kg/day (not to exceed 80 mg/day) PO for 3 weeks, then 1 mg/kg/day PO for 3 weeks, then 0.5 mg/kg/day PO for 3 weeks, and finally 0.5 mg/kg/day PO every other day Use in antineoplastic chemotherapy protocols 10-40 mg/m^2, or 2.2 mg/kg q24-56h PO  As an anti-inflammatory treatment 0.5 mg/kg/day PO Immune mediated disorders 4.4 mg/ kg/day PO for 3 weeks, then 2.2 mg/kg/day PO for 3 weeks, then 1 mg/kg/day PO for 3 weeks, and finally 1 mg/kg/day PO every other day Use in antineoplastic chemotherapy protocols 10-40 mg/m^2, or 2.2 mg/kg q24-56h PO  Pruritus 2 mg/kg/day PO for 3-10 days. Once the itching subsides: 0.5 mg/kg q48h Use in antineoplastic chemotherapy protocols 1 mg/kg PO every other day
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **SyrSvet ™ Suspension 10mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 14 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Collette SA, Allstadt SD, Chon EM, Vernau W, Smith AN, Garrett LD, Choy K, Rebhun RB, Rodriguez CO Jr, Skorupski KA (2016). Treatment of feline intermediate- to high-grade lymphoma with a modified university of Wisconsin-Madison protocol: 119 cases (2004-2012). Vet Comp Oncol.; 14: 136- 146.

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Ronidazole

Features	Ronidazole is an antimicrobial/antiparasitic drug that belongs to the class of nitroimidazoles. It is considered to be the drug of choice for treating tritrichomonas foetus infection in cats. Also used as an alternative treatment for giardia.
Dosages and indications	 Giardia 30-50 mg PO q24h for 7 days  Infections caused by tritrichomonas foetus 30 mg/kg PO q24h for 14 days
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations ***For the compounding steps see page 15***
References	- Arranz-Solís D, Pedraza-Díaz S, Miró G, Rojo-Montejo S, Hernández L, Ortega- Mora LM, Collantes-Fernández E (2016). Tritrichomonas foetus infection in cats with diarrhea from densely housed origins. Vet Parasitol.; 221: 118-122. - Aurélien Grellet, Seyf Eddine Makhlouf, Loic Desquilbet, Fani Hovhannessian, Cassandre Boogaerts, Vanessa Dore, Myriam Anthony, Bernadette Espana, Caroline Prouillac, Plamen Kirilov, Bruno Polack and Sébastien Perrot (2017). Efficacy of guar gum-based ronidazole capsules as a treatment for Tritrichomonas foetus infection in cats. Journal of Feline Medicine and Surgery, 19: 177–184. - Fiechter R, Deplazes P, Schnyder M (2012). Control of Giardia infections with ronidazole and intensive hygiene management in a dog kennel. Vet Parasitol. 8; 187: 93-98. - LeVine DN, Papich MG, Gookin JL, Davidson GS, Davis JL, Hayes RB (2011). Ronidazole pharmacokinetics after intravenous and oral immediate-release capsule administration in healthy cats. J Feline Med Surg.; 13: 244-250. - Lim S, Park SI, Ahn KS, Oh DS, Shin SS (2012). Efficacy of ronidazole for treatment of cats experimentally infected with a Korean isolate of Tritrichomonas foetus. Korean J Parasitol. 2012; 50: 161-164

Sildenafil citrate

Features	Sildenafil has been used in dogs for the treatment of primary pulmonary hypertension, associated with Eisenmenger's syndrome, or left congestive heart failure.
Dosages and indications	 General recommended dose 1 mg/kg PO q8h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations **SyrSvet ™ Suspension 2mg/ml** **Packaging:** Glass bottle with cap, 10 cc Fagron syringes with cap **Expiration:** 90 days or as stated in local regulations ***For the compounding steps see page 15***
References	- Brown AJ, Davison E, Sleeper MM (2010). Clinical efficacy of sildenafil in treatment of pulmonary arterial hypertension in dogs. J Vet Intern Med.; 24: 850-854. - Kellihan HB, Waller KR, Pinkos A, Steinberg H, Bates ML (2015). Acute resolution of pulmonary alveolar infiltrates in 10 dogs with pulmonary hypertension treated with sildenafil citrate: 2005-2014. J Vet Cardiol.; 17: 182-191. - Kellum HB, Stepien RL (2007). Sildenafil citrate therapy in 22 dogs with pulmonary hypertension. J Vet Intern Med.; 21: 1258-1264. - Nakamura K, Yamasaki M, Ohta H, Sasaki N, Murakami M, Bandula Kumara WR, Takiguchi M (2011). Effects of sildenafil citrate on five dogs with Eisenmenger's syndrome. J Small Anim Pract.; 52: 595-598.

Tylosin

Features	Tylosin is an antimicrobial that belongs to the class of macrolides. It is used for the treatment of inflammatory bowel disease (IBD).
Dosages and indications	 IBD 20 mg/kg PO q8-12h  IBD 10-20 mg/kg PO divided in two doses Cryptosporidiosis 10-15 mg/kg PO q12h  Enteric infections 10 mg/kg PO q12-24h
Pharmaceutical form	**Capsules with EcciVet ™** **Expiration:** 6 months or as stated in local regulations ***For the compounding steps see page 15***
References	- Devreese M, Osselaere A, Goossens J, Vandenbroucke V, De Baere S, De Backer P, Croubels S (2012). Interaction between tylosin and bentonite clay from a pharmacokinetic perspective. Vet J.; 194: 437-439. - Hall EJ (2011). Antibiotic-responsive diarrhea in small animals. Vet Clin North Am Small Anim Pract.; 41: 273-286. Review. - Kilpinen S, Spillmann T, Westermarck E (2014). Efficacy of two low-dose oral tylosin regimens in controlling the relapse of diarrhea in dogs with tylosinresponsive diarrhea: a prospective, single-blinded, two-arm parallel, clinical field trial. Acta Vet Scand.; 56:43-50. - Weese JS (2011). Bacterial enteritis in dogs and cats: diagnosis, therapy, and zoonotic potential. Vet Clin North Am Small Anim Pract.; 41: 287-309. Review. - Westermarck E, Frias R, Skrzypczak T (2005). Effect of diet and tylosin on chronic diarrhea in beagles. J Vet Intern Med.; 19: 822-827.