

BOOK REVIEW

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Review of *NWRA Wildlife Formulary, 5th edition*: National Wildlife Rehabilitators Association. 2024. 500 pp. ISBN 9781931439329. US \$70.00.

The new, fifth edition of the *NWRA Wildlife Formulary*, edited by EA Miller and S Cox, is more than just a list of medications and doses. It is a thoroughly researched and referenced resource that includes general information essential for every rehabilitator and veterinarian who provides care for wildlife patients.

The book begins with a description of the format, a list of abbreviations used in the book, warnings regarding withdrawal times in species that may be hunted, and restrictions on the use of specific drugs in food animals. The remainder of the formulary is divided by class of medication; each section offers recommendations and advice on medication selection within its class. Indications for use, doses, contraindications, adverse effects, and additional reference resources are provided for each medication.

The anesthetics section discusses which types are best used in specific circumstances (e.g., examination, radiographs, or surgery) and recommends combinations for certain situations as well as reversal agents. Antidotes to various toxins are listed, along with the steps needed to stabilize and treat animals who have either ingested toxins or been bitten by a venomous animal.

Anti-infective medications include antibacterial, antifungal, antiparasitic, and antiviral medications. Concern for antibiotic resistance is highlighted, as well as duration of use and considerations for hindgut fermenters (e.g., lagomorphs or cervids). A table listing the types of infection and the best medication choices for each group of species precedes the descriptions of the antibiotics themselves. Length of treatment and absorption

rates for anti-fungal agents are addressed; guidelines for prophylactic use are included. The formulary shares various rationales of parasite treatment, such that true infections can be treated without creating resistance. The anti-infective section ends with the National Wildlife Rehabilitation Association's (NWRA) position statement on the use of anti-viral medications in wildlife.

The section describing emergency drugs is prefaced by emergency protocols that should be practiced prior to administering medication and references other sources for cardiopulmonary resuscitation (CPR) information. Euthanasia drugs are listed, with an admonition that they should only be administered by those who are trained in their use or by veterinarians (or under a veterinarian's supervision). Specific requirements for reptile euthanasia, as well as proper disposition of carcasses, are addressed as well as commonly recommended protocols by species group.

Fluid therapy protocols are discussed, including the process of calculating fluid deficit, maintenance, and replacement and various routes of administration are explained. Gastrointestinal and urinary tract disorders, although not common, still have a section, as do miscellaneous medications and nutritional supplements. Ophthalmic and topical medication uses, including species-specific considerations, are followed by the stages of wound care and healing. The final section addresses vaccination of wildlife: purpose, timing, and types of vaccines, and common protocols.

The formulary contains a quick-reference table for all the medications it describes and shares an extensive list of references for those who would like further information. It is a vital part of every rehabilitation library and would be a lovely gift for those veterinarians who provide support to rehabilitators.

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