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TABLE 6 - 1 Emergency Hotlines

| Need | Agency | Phone number |
|--|--|---|
| To obtain information regarding the treatment of a known or suspected poisoning/toxicosis case. | ASPCA Animal Poison Control Center (\$50 fee for service may apply) | 888-426-4435 |
| To report known or suspected adverse drug (<i>not vaccine</i>) reactions. | Food & Drug Administration (FDA) Center for Veterinary Medicine (CVM) | 888-332-8387 (voice messages accepted) |
| To report shortages of medically necessary veterinary drugs. | Food & Drug Administration (FDA) Center for Veterinary Medicine (CVM) | 301-827-4570 or 888-463-6332 |
| To report known or suspected adverse vaccine reactions. | US Dept of Agriculture (USDA) Center for Veterinary Biologics (Also, contact vaccine manufacturer directly. NOTE: this is for reporting purposes <i>only</i> ; adverse event information on a specific product is usually not provided.) | 800-752-6255 |
| For inquiries on transfusion medicine (no charge). | Animal Blood Bank HOTLINE | 800-243-5759 (24-hour) |
| For inquiries on transfusion medicine and purchase of blood and blood components. | Eastern Veterinary Blood Bank | 800-949-3822 (24-hour) |
| For inquiries on access to blood and blood products for all species. | Midwest Animal Blood Services | 517-851-8244 (24 hour) |
| For inquiries on transfusion medicine—a full-service, nonprofit blood bank and educational network for animals | HEMOPET | 714-891-2022 (24-hour) |
| Access to a commercial blood bank and purchase of blood and blood components. | Veterinarians' Blood Bank | 812-358-8500 |
| For inquiries on pesticides, pesticide products, poisonings and toxicities. | National Pesticide Information Center | 800-858-7378 npic@ace.orst.edu |
| For inquiries on pet shipping regulations and regulations for shipping pets on airlines | US Dept of Agriculture (USDA) (voice response service) | 800-545-8732 |
| To contact the Office of Diversion Control of the DEA | Drug Enforcement Agency | 800-882-9539 |

TABLE 6 - 2 Dog Breeds Recognized by the American Kennel Club (AKC)

The American Kennel Club (AKC) currently recognizes 150 dog breeds, each of which is assigned to one of 7 breed groups. The AKC maintains an excellent website offering considerable information on individual breeds (see <http://www.akc.org/breeds/index.cfm>)

Sporting group

American Water Spaniel
 Brittany Spaniel
 Chesapeake Bay Retriever
 Clumber Spaniel
 Cocker Spaniel
 Curly-Coated Retriever
 English Cocker Spaniel
 English Setter
 English Springer Spaniel
 Field Spaniel
 Flat-Coated Retriever
 German Shorthaired Pointer
 German Wirehaired Pointer
 Golden Retriever
 Gordon Setter
 Irish Setter
 Irish Water Spaniel
 Labrador Retriever
 Nova Scotia Duck Tolling Retriever
 Pointer
 Spinone Italiano
 Sussex Spaniel
 Vizsla
 Weimaraner
 Welsh Springer Spaniel
 Wirehaired Pointing Griffon

Hound group

Afghan Hound
 American Foxhound
 Basenji
 Basset Hound
 Beagle
 Black and Tan Coonhound
 Bloodhound
 Borzoi
 Dachshund
 English Foxhound
 Greyhound
 Harrier
 Ibizan Hound
 Irish Wolfhound
 Norwegian Elkhound
 Otterhound
 Petit Basset Griffon Vendéen
 Pharaoh Hound
 Rhodesian Ridgeback

Saluki
 Scottish Deerhound
 Whippet

Working group

Akita
 Alaskan Malamute
 Anatolian Shepherd Dog
 Bernese Mountain Dog
 Black Russian Terrier
 Boxer
 Bullmastiff
 Doberman Pinscher
 German Pinscher
 Giant Schnauzer
 Great Dane
 Great Pyrenees
 Greater Swiss Mountain Dog
 Komondor
 Kuvasz
 Mastiff
 Neapolitan Mastiff
 Newfoundland
 Portuguese Water Dog
 Rottweiler
 Saint Bernard
 Samoyed
 Siberian Husky
 Standard Schnauzer

Terrier group

Airedale Terrier
 American Staffordshire Terrier
 Australian Terrier
 Bedlington Terrier
 Border Terrier
 Bull Terrier
 Cairn Terrier
 Dandie Dinmont Terrier
 Irish Terrier
 Kerry Blue Terrier
 Lakeland Terrier
 Manchester Terrier (Standard)
 Miniature Bull Terrier
 Miniature Schnauzer
 Norfolk Terrier
 Norwich Terrier
 Parson Russell Terrier
 Scottish Terrier

TABLE 6 - 2 Dog Breeds Recognized by the American Kennel Club (AKC)—cont'd

| | |
|-------------------------------|----------------------------|
| Sealyham Terrier | Dalmatian |
| Skye Terrier | Finnish Spitz |
| Smooth Fox Terrier | French Bulldog |
| Soft Coated Wheaten Terrier | Keeshond |
| Staffordshire Bull Terrier | Lhasa Apso |
| Welsh Terrier | Löwchen |
| West Highland White Terrier | Poodle |
| Wire Fox Terrier | Schipperke |
| Toy group | Shiba Inu |
| Affenpinscher | Tibetan Spaniel |
| Brussels Griffon | Tibetan Terrier |
| Cavalier King Charles Spaniel | Herding group |
| Chihuahua | Australian Cattle Dog |
| Chinese Crested | Australian Shepherd |
| English Toy Spaniel | Bearded Collie |
| Havanese | Belgian Malinois |
| Italian Greyhound | Belgian Sheepdog |
| Japanese Chin | Belgian Tervuren |
| Maltese | Border Collie |
| Manchester Terrier (Toy) | Bouvier des Flandres |
| Miniature Pinscher | Briard |
| Papillon | Canaan Dog |
| Pekingese | Cardigan Welsh Corgi |
| Pomeranian | Collie |
| Pug | German Shepherd Dog |
| Shih Tzu | Old English Sheepdog |
| Silky Terrier | Pembroke Welsh Corgi |
| Toy Fox Terrier | Polish Lowland Sheepdog |
| Yorkshire Terrier | Puli |
| Non-sporting group | Shetland Sheepdog |
| American Eskimo Dog | Miscellaneous class |
| Bichon Frise | Beauceron |
| Boston Terrier | Glen of Imaal Terrier |
| Bulldog | Plott |
| Chinese Shar-pei | Redbone Coonhound |
| Chow Chow | |

TABLE 6 - 3 Cat Breeds Recognized by the Cat Fanciers' Association (CFA)

The Cat Fanciers' Association (CFA) presently recognizes 37 pedigreed breeds for showing in the Championship Class, and 4 breeds as Miscellaneous. For additional information on individual breeds on the CFA website, see <http://www.cfainc.org/breeds.html>.

| | |
|----------------------------------|-----------------------------|
| <i>Championship class</i> | Manx |
| Abyssinian | Norwegian Forest Cat |
| American Curl | Ocicat |
| American Shorthair | Oriental |
| American Wirehair | Persian |
| Balinese | Ragdoll |
| Birman | Russian Blue |
| Bombay | Scottish Fold |
| British Shorthair | Selkirk Rex |
| Burmese | Siamese |
| Chartreux | Singapura |
| Colorpoint Shorthair | Somali |
| Cornish Rex | Sphynx |
| Devon Rex | Tonkinese |
| Egyptian Mau | Turkish Angora |
| European Burmese | Turkish Van |
| Exotic | <i>Miscellaneous</i> |
| Havana Brown | American Bobtail |
| Japanese Bobtail | LaPerm |
| Javanese | RagaMuffin |
| Korat | Siberian |
| Maine Coon | |

POCKET PETS - PHYSIOLOGICAL DATA (TABLES 6-4 TO 6-10)

| | Hamster | Rabbit | Mouse | Rat | Gerbil | Guinea pig |
|---|---|---|-------------------------------|---------------------------------|----------------------------|-------------------------------|
| Weight at birth | 2 g | 100 g | 1.5 g | 5.5 g | 3 g | 100 g |
| Puberty | (F) 28–31 days (M) 45 days (best to breed 70 days) | 4–9 mo | 35 days | 50–60 days | (F) 3–5 mo (M) 10–12 wk | (F) 20–30 days (M) 70 days |
| Duration of estrous cycle* | 4 days | Ovulation not spontaneous; stimulated by copulation; doe ovulates 10–13 hr after | 4 days | 4 days | 4 days | 16 days |
| Gestation (days) | 16 | 28–36 | 19–21 | 21–23 | 24 | 62–72 |
| Separation of adults during parturition and weaning | Yes | Yes | No | No | No (mates for life) | No |
| Number per liter | 4–10 | 7 | 10 | 8–10 | 1–12 | 1–4 |
| Eyes open | 15 days | 10 days | 11–14 days | 14–17 days | 16–20 days | Prior to birth |
| Wean at | 25 days | 42–56 days | 21 days | 21 days | 21 days | 14–21 days or 160 g |
| Postpartum estrus | Within 24 hr | 14 days | Within 24–48 hr | Within 24–48 hr | Within 24–72 hr | Within 24 hr |
| Breeding life | 11–18 mo | 1–3 years (max. 6 yr) | 12–18 mo | 14 mo | 15–20 mo | 3–4 yr |
| Adult weight | (F) 120 g (M) 108 g | (F) 4.0 kg (M) 4.3 kg | (F) 30 g (M) 39 g | (F) 300 g (M) 500 g | (F) 75 g (M) 85 g | (F) 850 g (M) 1000 g |
| Life span (yr) | 2–3 | 5–7 | 3.0–3.5 | 3 | 4 | 4–5 |
| Body temperature | 97°–101°F (36.1°–38.3°C) | 101°–103.2°F (38.3°–39.5°C) | 96.4°–100°F (35.8°–37.7°C) | 99.5°–100.6°F (37.5°–38.1°C) | 100.8°F (32.8°C) | 100.4°–102.5°F (38–39.2°C) |

| | | | | | | |
|--|--|---|-----------------------|------------------------------|---|--|
| Daily adult water consumption | 8–12 mL/day | 80 mL/kg body weight | 3–3.5 mL/day | 20–30 mL/day | 4 mL/day | 10 mL/100 g body weight |
| Daily adult food consumption (varies with age and condition) | 7–12 g/day | 100–150 g/day | 2.5–4.0 g/day | 20–40 g/day | 10–15 g/day | 30–35 g/day |
| Diet | Commercial rat, mouse, or hamster chow supplemented with kale,† cabbage,† apples, milk | Commercial rabbit pellets, greens in moderation | Commercial mouse chow | Commercial rat or mouse chow | Commercial mouse or rat chow (lowest fat possible); sunflower seeds | Commercial guinea pig chow, good-quality hay, kale, cabbage, fruits (cannot rely on vitamin C levels of commercial ration) |
| Room temperature | 65°–75°F (18.3°–24°C) | 62°–68°F (17°–20°C) | 70°–80°F (21°–27°C) | 76°–18°F (24.5°–25.5°C) | 65°–80°F (18.3°–26.6°C) | 65°–75°F (18.3°–24°C) |
| Humidity (%) | 50 | 50 | 50 | 50 | <50 | 50 |

* All species listed except rabbits are seasonally polyestrous.

† Better source of vitamin C than lettuce.

From Schuchman SM: Individual care and treatment of rabbits, mice, rats, guinea pigs, hamsters, and gerbils. *In* Kirk RW, ed: Current Veterinary Therapy X. Philadelphia, WB Saunders, 1989, p 739.

TABLE 6 - 5 Determination of the Sex of Mature and Immature Rodents and Rabbits

Mature hamsters, mice, rats, guinea pigs, and gerbils

Male

1. Anogenital distance longer in the male
2. Manipulate “genital papilla” (prepuce) to protrude penis.
3. Palpate for testicles either in a scrotal sac (if present) or subcutaneous in inguinal region.
4. Males have only two external openings in the inguinal area:
 - a. Anus
 - b. Urethral orifice at tip of penis.

In very fat males there may be a depression between the penis and anus. This depression can be obliterated by manipulating the skin in this area.

Female

1. Anogenital distance shorter in the female.
2. Look for the three external openings in the inguinal area:
 - a. Anus (most caudal opening).
 - b. Vaginal orifice (middle opening) – look carefully.
 - c. Urethral orifice at tip of urethral papilla (most anterior opening).

In these animals the urethral papilla is located outside the vagina (unlike dogs and cats).

In very fat females or young females, the vaginal orifice may be either hidden by folds of skin (the former) or sealed (latter). Gentle manipulation of the skin in this area will divulge the orifice.

Mature rabbits

Male

1. Protrude penis by manipulating skin of prepuce.
2. Palpate for testicles.
3. Anogenital distance is longer.

Female

1. There is a common orifice for both the vagina and urethra (like dogs and cats).
2. No. structure like a “penis” can be protruded from the urogenital orifice.
3. Anogenital distance is shorter

From Schuchman SM: Individual care and treatment of rabbits, mice, rats, guinea pigs, hamsters, and gerbils. *In* Kirk RW, ed: Current Veterinary Therapy X. Philadelphia, WB Saunders, 1989, p 740.

TABLE 6-6 Blood Values and Serum Chemical Constituents for Rodents and Rabbits

| Laboratory test | Rats | Mice | Hamsters | Guinea pigs | Rabbits | Mongolian gerbils |
|---|---------|-----------|------------|-------------|-----------|-------------------|
| AST (Sigma-Frankel units) | 25-42 | 32-41 | 22-36 | 10-25 | 14-27 | - |
| Alkaline phosphatase (Bodansky units) | 4.1-8.6 | 2.4-4.0 | 2.0-3.5 | 1.5-8.1 | 2.1-3.2 | - |
| BUN (mg/dL) | 10-20 | 8-30 | 10-40 | 8-20 | 5-30 | 18-24 |
| Sodium (mEq/L) | 144 | 114-154 | 106-185 | 120-155 | 100-145 | 144-158 |
| Potassium (mEq/L) | 5.9 | 3.0-9.6 | 2.3-9.8 | 6.5-8.2 | 3.0-7.0 | 3.8-5.2 |
| Bilirubin, total (mg/dL) | 0.42 | 0.18-0.54 | 0.3-0.4 | 0.24-0.30 | 0.15-0.20 | - |
| Blood glucose (mg/dL) | 50-115 | 108-192 | 32.6-118.4 | 60-125 | 50-140 | 69-119 |
| RBCs (10 ⁶ cells/mm ³) | 7.2-9.6 | 9.3-10.5 | 4.0-9.3 | 4.5-7.0 | 3.2-7.5 | 8.3-9.3 |
| Hemoglobin (g/dL) | 14.8 | 12-14.9 | 9.7-16.8 | 11-15 | 10-15 | 10-16 |
| Hematocrit (%) | 40-50 | 35-50 | 40-52 | 35-50 | 35-45 | 35-45 |
| WBCs (10 ³ cells/mm ³) | 8-14 | 8-14 | 7-15 | 5-12 | 8-10 | 9-14 |
| Segmented (%) | 30 | 26 | 16-28 | 42 | 30-50 | 10-20 |
| Nonsegmented (%) | 0 | 0 | 8 | 0 | 0 | 0 |
| Lymphocytes (%) | 65-77 | 55-80 | 64-78 | 45-81 | 30-50 | 70-89 |
| Eosinophils (%) | 1 | 3 | 1 | 5 | 1 | 1 |
| Monocytes (%) | 4 | 5 | 2 | 8 | 9 | 0 |
| Basophils (%) | 0 | 0 | 0 | 2 | 0 | 0 |

AST, aspartate aminotransferase; BUN, blood urea nitrogen; RBCs, red blood cells; WBCs, white blood cells.

*These are values found in healthy-appearing animals and can be used as guides but should not be interpreted as physiologic norms for the species listed. Modified from Schuchman SM: Individual care and treatment of rabbits, mice, rats, guinea pigs, hamsters, and gerbils. *In* Kirk RW, ed: Current Veterinary Therapy X. Philadelphia, WB Saunders, 1989, p 746.

TABLE 6 - 7 Ferrets—Physiologic, Anatomic, and Reproductive Data

| Data | Range or value |
|--------------------------|----------------------------------|
| Physiologic data | |
| Life span | 5–9 yr (average 5–7) |
| Commercial breeding life | 2–5 yr |
| Body temperature | 101°–104°F (38°–40°C) |
| Respiratory rate | 32–36 breaths/min |
| Heart rate | 220–250 bpm (average 240) |
| Water consumption | 75–100 mL/day |
| Chromosome number | 2n = 40 |
| Anatomical data | |
| Dental formula | 2 (I3/3, C1/1, P3/4, M1/2) |
| Vertebral formula | C-7, T-14, L-6, S-3, Cd-14–Cd-18 |
| Reproductive data | |
| Gestation | 39–46 days (average 42) |
| Litter size | 2–17 kits (average 8) |
| False pregnancy | 40–42 days |
| Placentation | Zonal |
| Implantation time | 12–31 days |
| Weaning | 5–6 wk |
| Ovulation | 30–40 hr post coitus |

From Randolph RW: Medical and surgical care of the pet ferret. *In* Kirk RW, ed: Current Veterinary Therapy X. Philadelphia, WB Saunders, 1989, p 766.

TABLE 6 - 8 Hematologic Values for Normal Ferrets*

| Laboratory test | Mean | Range |
|--|------|----------|
| Hematocrit (%) | 52.3 | 42–61 |
| Hemoglobin (g/dL) | 17.0 | 15–18 |
| RBCs (10^6 cells/mm ³) | 9.17 | 6.8–12.2 |
| WBCs (10^3 cells/mm ³) | 10.1 | 4.0–19 |
| WBCs | | |
| Lymphocytes (%) | 34.5 | 12–54 |
| Neutrophils (%) | 58.3 | 11–84 |
| Monocytes (%) | 4.4 | 0–9.0 |
| Eosinophils (%) | 2.5 | 0–7.0 |
| Basophils (%) | 0.1 | 0–2.0 |
| Reticulocytes (%) | 4.6 | 1–14 |
| Platelets (10^3 cells/mm ³) | 499 | 297–910 |
| Total protein (g/dL) | 6.0 | 5.1–7.4 |

*Values are for both sexes.

From Ryland L, Bernard S, Gorham J: A clinical guide to the pet ferret. *Compend Contin Educ Pract Vet* 5:25, 1983, which was adapted from Thornton, et al: *Lab Anim* 13:119, 1979.

TABLE 6 - 9 Serum Chemistry Values for Normal Ferrets*

| Analyte | Unit | Mean | Range |
|----------------------|-------|------|----------|
| Glucose | mg/dL | 136 | 94–207 |
| BUN | mg/dL | 22 | 10–45 |
| Albumin | mg/dL | 3.2 | 2.3–3.8 |
| Alkaline phosphatase | IU/L | 23 | 9–84 |
| AST | IU/L | 65 | 28–120 |
| Total bilirubin | mg/dL | <1.0 | |
| Cholesterol | mg/dL | 165 | 64–296 |
| Creatinine | mg/dL | 0.6 | 0.4–0.9 |
| Sodium | mEq/L | 148 | 137–162 |
| Potassium | mEq/L | 5.9 | 4.5–7.7 |
| Chloride | mEq/L | 116 | 106–125 |
| Calcium | mg/dL | 9.2 | 8.0–11.8 |
| Phosphorus | mg/dL | 5.9 | 4.0–9.1 |

BUN, blood urea nitrogen; AST, aspartate aminotransferase.

*Values for both sexes.

From Ryland L, Bernard S, Gorham J: A clinical guide to the pet ferret. *Compend Contin Educ Pract Vet* 5:25, 1983, which was adapted from Thornton, et al: *Lab Anim* 13:119, 1979.

TABLE 6 - 10 Electrocardiographic Data for Normal Ferrets*

| Parameter | Mean | Range |
|---|---------------|-----------------|
| Rate rhythm | 224 ± 51 | 150–340 |
| Normal sinus rhythm | | |
| Sinus arrhythmia | | |
| Measurements | | |
| P wave | | |
| Width | 0.03 ± 0.009 | 0.015–0.04 s |
| Height | 0.106 ± 0.03 | 0.05–0.20 mV |
| P–R interval | | |
| Width | 0.05 ± 0.01 | 0.04–0.08 s |
| QRS complex | | |
| Q wave | Usually none | |
| R wave | | |
| Width | 0.049 ± 0.008 | 0.04–0.06 s |
| Height | 1.59 ± 0.63 | 0.6–3.15 mV |
| S wave | | |
| Height | 0.166 ± 0.101 | 0.1–0.25 mV |
| S–T segment | | |
| Width | 0.030 ± 0.016 | 0.01–0.06 s |
| Q–T interval | | |
| Width | 0.13 ± 0.027 | 0.10–0.18 s |
| T wave | | |
| Width | 0.06 ± 0.01 | 0.03–0.1 s |
| Height | 0.24 ± 0.12 | 0.10–0.45 mV |
| Mean electrical axis (frontal plane) | | +65–100 degrees |

*Ferrets in right lateral recumbency; sedation with ketamine and xylazine.

TABLE 6 - 11 Conversion of Body Weight in Kilograms to Body Surface Area in Meters Squared for Dogs

| Kg | M ² | Kg | M ² |
|-------|----------------|-------|----------------|
| 0.50 | 0.06 | 26.00 | 0.88 |
| 1.00 | 0.10 | 27.00 | 0.90 |
| 2.00 | 0.15 | 28.00 | 0.92 |
| 3.00 | 0.20 | 29.00 | 0.94 |
| 4.00 | 0.25 | 30.00 | 0.96 |
| 5.00 | 0.29 | 31.00 | 0.99 |
| 6.00 | 0.33 | 32.00 | 1.01 |
| 7.00 | 0.36 | 33.00 | 1.03 |
| 8.00 | 0.40 | 34.00 | 1.05 |
| 9.00 | 0.43 | 35.00 | 1.07 |
| 10.00 | 0.46 | 36.00 | 1.09 |
| 11.00 | 0.49 | 37.00 | 1.11 |
| 12.00 | 0.52 | 38.00 | 1.13 |
| 13.00 | 0.55 | 39.00 | 1.15 |
| 14.00 | 0.58 | 40.00 | 1.17 |
| 15.00 | 0.60 | 41.00 | 1.19 |
| 16.00 | 0.63 | 42.00 | 1.21 |
| 17.00 | 0.66 | 43.00 | 1.23 |
| 18.00 | 0.69 | 44.00 | 1.25 |
| 19.00 | 0.71 | 45.00 | 1.26 |
| 20.00 | 0.74 | 46.00 | 1.28 |
| 21.00 | 0.76 | 47.00 | 1.30 |
| 22.00 | 0.78 | 48.00 | 1.32 |
| 23.00 | 0.81 | 49.00 | 1.34 |
| 24.00 | 0.83 | 50.00 | 1.36 |
| 25.00 | 0.85 | | |

TABLE 6 - 12 Conversion of Body Weight in Kilograms to Body Surface Area in Meters Squared for Cats

| Kg | M ² |
|-------|----------------|
| 0.50 | 0.06 |
| 1.00 | 0.10 |
| 1.50 | 0.12 |
| 2.00 | 0.15 |
| 2.50 | 0.17 |
| 3.00 | 0.20 |
| 3.50 | 0.22 |
| 4.00 | 0.24 |
| 4.50 | 0.26 |
| 5.00 | 0.28 |
| 5.50 | 0.29 |
| 6.00 | 0.31 |
| 6.50 | 0.33 |
| 7.00 | 0.34 |
| 7.50 | 0.36 |
| 8.00 | 0.38 |
| 8.50 | 0.39 |
| 9.00 | 0.41 |
| 9.50 | 0.42 |
| 10.00 | 0.44 |

TABLE 6 - 13 French Scale Conversion Table

The standard French, or Charrière, scale (abbreviated F or Fr) is generally used in the size calibration of catheters and other tubular instruments. It is based on the metric system, with each unit being approximately 0.33 mm, with a difference of 0.33 mm in diameter between consecutive sizes. Example: 27F indicates a diameter of 9 mm; 30F, a diameter of 10 mm. A convenient conversion table from the French scale to the English and American scales that is sometimes used for certain instruments is given below.

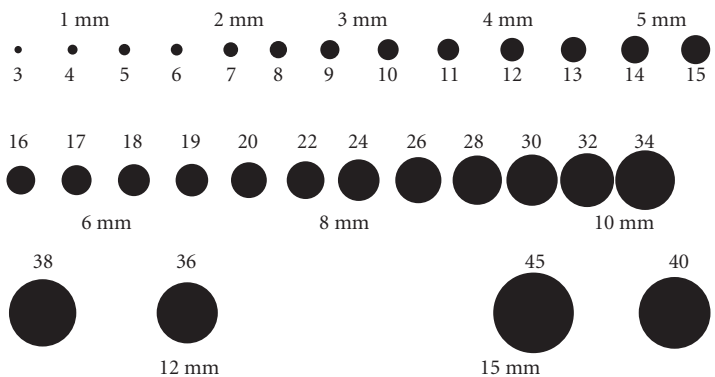


TABLE 6 - 1 4 International System of Units (SI) Conversion Guide *

| Analyte | Fluid | Traditional units | Conversion Factor | | SI units |
|--|----------------|---------------------------|-------------------|------------------|---------------------------|
| | | | ← Divide (÷) | Multiply (×) → | |
| ACTH (adrenocorticotropin; corticotropin) | Plasma | pg/mL | 0.2202 | | pmol/L |
| ALT (alanine aminotransferase; SGPT) | Serum | mg/dL | 1 | | U/L |
| Albumin | Serum | g/dl | 10 | | g/L |
| Aldosterone | Serum | ng/dL | 27.74 | | pmol/L |
| Ammonia (NH ₃) | Plasma | µg/dL | 0.5872 | | µmol/L |
| Ammonium (NH ₄ ⁺) | Plasma | µg/dL | 0.5543 | | µmol/L |
| Amylase | Serum | units/L | 1 | | U/L |
| Antibodies | Serum | Highest possible dilution | 1 | | Highest possible dilution |
| AST (aspartate aminotransferase; SGOT) | Serum | units/L | 1 | | U/L |
| Bile acids (total) | Serum | µg/mL | 2.547 | | µmol/L |
| Bilirubin (total) | Serum | mg/dL | 17.1 | | µmol/L |
| Blood gases: | Arterial blood | | | | |
| PCO ₂ | | mm Hg | 0.1333 | | kPa |
| pH | | pH units | 1 | | pH units |
| PO ₂ | | mm Hg | 0.1333 | | kPa |
| BUN (blood urea nitrogen) | Serum | mg/dL | 0.357 | | mmol/L of urea |
| Calcium | Serum | mg/dL | 0.250 | | mmol/L |
| Calcium, ionized (iCa) | Serum, plasma | mEq/L | 0.500 | | mmol/L |
| CBC (complete blood count): | Whole blood | | | | |
| Hematocrit | | % | 0.01 | | as a fraction of 1 |
| Hemoglobin | | g/dL | 10 | | g/L |
| MCH (mean corpuscular hemoglobin) | | pg | 1 | | pg |
| MCHC (mean corpuscular hemoglobin concentration) | | g/dL | 10 | | g/L |
| | | | 1 | | |

| | | | |
|---|----------------------------------|---------|-------------------------|
| MCV (mean corpuscular volume) | | | |
| Platelet count | um ² | 1 | fl |
| Reticulocyte count | 10 ³ /mm ³ | 1 | 10 ⁹ /L |
| Reticulocyte count | No. per 1000 RBCs | 0.001 | as a fraction of 1 |
| Reticulocyte count | As a % | 0.01 | as a fraction of 1 |
| Differential cell count | | | |
| Neutrophils (segmented) | cells/mm ³ (µL) | 1 | 10 ⁶ cells/L |
| Neutrophils (band) | cells/mm ³ | 1 | |
| Lymphocytes | cells/mm ³ | 1 | |
| Monocytes | cells/mm ³ | 1 | |
| Eosinophils | cells/mm ³ | 1 | |
| Basophils | cells/mm ³ | 1 | |
| Cholesterol (total) | mg/dL | 0.02586 | mmol/L |
| CK (creatine kinase) | Units/L | 1 | U/L |
| Cortisol | µg/dL | 27.59 | nmol/L |
| Cortisol (free) | µg/24 hours | 2.759 | nmol/day |
| Creatinine | mg/dL | 88.4 | µmol/L |
| Electrolytes | | | |
| Chloride | mEq/L | 1 | mmol/L |
| CO ₂ (bicarbonate) | mEq/L | 1 | mmol/L |
| Potassium | mEq/L | 1 | mmol/L |
| Sodium | mEq/L | 1 | mmol/L |
| Fibrinogen (coagulation factor I) | g/dL | 29.41 | µmol/L |
| | or | 0.01 | g/L |
| Fibrin (fibrin degradation products) | | | |
| Fibrin (fibrin degradation products) | mg/dL | 1 | mg/L |
| GGT (gamma glutamyl transferase) | µg/mL | 1 | U/L |
| Glucose | mg/dL | 0.05551 | mmol/L |
| Insulin | µU/ml | 7.175 | pmol/L |
| | mU/L | 7.175 | pmol/L |
| | µg/L | 172.2 | pmol/L |

Continued

TABLE 6 - 1 4 International System of Units (SI) Conversion Guide*—cont'd

| Analyte | Fluid | Traditional units | Conversion Factor | | SI units |
|-----------------------------------|--------|-------------------|-------------------|---------------|--------------------|
| | | | ←Divide (÷)→ | Multiply (×)→ | |
| Lead | Plasma | µg/dL | 0.04826 | | µmol/L |
| Lipase | Serum | mg/dL | 48.26 | | µmol/L |
| | Serum | units/L | 1 | | U/L |
| Magnesium | Serum | mg/dL | 0.4114 | | mmol/L |
| | Serum | mEq/L | 0.500 | | mmol/L |
| Phosphorus | Serum | mg/dL | 0.3229 | | mmol/L |
| Plasminogen | Plasma | % | 0.01 | | as a fraction of 1 |
| Protein (total) | Serum | g/dL | 10 | | g/L |
| Protein (spinal fluid) | CSF | mg/dL | 0.01 | | g/L |
| PT (prothrombin time) | Plasma | seconds | 1 | | seconds |
| PTT (partial thromboplastin time) | Plasma | seconds | 1 | | seconds |
| Thyroid tests: | | | | | |
| TSH (thyroid-stimulating hormone) | Serum | µU/mL | 1 | | mU/L |
| T ₄ (thyroxine) | Serum | µg/dL | 12.87 | | nmol/L |
| Thyroxine, free T ₄ | Serum | ng/dL | 12.87 | | pmol/L |
| T ₃ (triiodothyronine) | Serum | ng/dL | 0.01536 | | nmol/L |

*Presented in alphabetical order.

TABLE 6 - 15 Units of Length, Volume, and Mass in the Metric System

| Prefix | Multiply by | Factor |
|--------|----------------|------------------|
| milli- | 0.001 (1/1000) | $\times 10^{-3}$ |
| centi- | 0.01 (1/100) | $\times 10^{-2}$ |
| deci- | 0.1 (1/10) | $\times 10^{-1}$ |
| deka- | 10 | $\times 10$ |
| hecto- | 100 | $\times 10^2$ |
| kilo- | 1000 | $\times 10^3$ |

| Parameter | Unit | Abbreviations |
|---|----------------------------|---|
| The standard unit of volume in the metric system is the liter. | 1 milliliter = 0.001 liter | 1 milliliter = 1 mL = 1 cc ¹ |
| | 1 centiliter = 0.01 liter | 1 centiliter = 1 cL |
| | 1 deciliter = 0.1 liter | 1 deciliter = 1 dL |
| | 1 liter | 1 liter = 1 L |
| | 1 kiloliter = 1000 liters | 1 kiloliter = 1 kL |
| The standard unit of mass in the metric system is the gram. | 1 milligram = 0.001 gram | 1 milligram = 1 mg |
| | 1 centigram = 0.01 gram | 1 centigram = 1 cg |
| | 1 decigram = 0.1 gram | 1 decigram = 1 dg |
| | 1 gram | 1 gram = 1 g |
| | 1 kilogram = 1000 grams | 1 kilogram = 1 kg |
| The standard unit of length in the metric system is the meter. | 1 millimeter = 0.001 meter | 1 millimeter = 1 mm |
| | 1 centimeter = 0.01 meter | 1 centimeter = 1 cm |
| | 1 meter | 1 meter = 1 m |
| | 1 decimeter = 0.1 meter | 1 decimeter = 1 dm |
| | 1 kilometer = 1000 meters | 1 kilometer = 1 km |

¹1 cc (or cubic centimeter) = 1 cm³ = 1 mL.

ANNUALIZED VACCINATION PROTOCOLS AND CRITERIA DEFINING RISK FOR THE DOG AND CAT

The fact that the canine and feline criteria recommend triennial vaccination for certain vaccines in no way stipulates that adult dogs and cats should *only* be vaccinated every 3 years. In fact, annual vaccination does represent a high standard of medical care, *as long as the vaccination appointment incorporates a thorough health/wellness examination*. Considering the large population of pet dogs and cats and the remarkable spectrum of risk factors for exposure to infectious pathogens, it is quite unreasonable to assume that a single vaccination protocol would be applicable in all patients seen in practice. Two of the most important variables to consider when assessing risk are the *age* of the patient and the patient's "*lifestyle*." In implementing a vaccination protocol in clinical practice, it is critical that the clinician consider these factors when recommending core, or non-core, vaccines for an individual patient.

The following tables exemplify *annualized* vaccination protocols for dogs and cats at *moderate risk* (applies to most), *high risk*, and *low risk* of exposure to infectious agents while also taking into consideration the recommendations set forth in the canine and feline criteria.

TABLE 6 - 1 - 6 Types of Vaccines Licensed for Use in Dogs in the United States

| Vaccine type | Core vs. non-core | Recommended vaccination interval for administration of booster inoculations | Minimum duration of immunity |
|---|-------------------|---|--|
| Distemper: modified live (parenteral) | Core | 3 years | 5+ to 7+ years (depending on strain) |
| Recombinant distemper (parenteral) | Core | 3 years | 3 years+ |
| Distemper-measles: modified live (parenteral) | Non-core | Not indicated | Not applicable |
| Parvovirus: modified live (parenteral) | Core | 3 years | 7+ years |
| Parvovirus: killed (parenteral) | Non-core | Annual | 1 year (studies are not available) |
| Coronavirus: modified live (parenteral) | NR | Not indicated | Cannot be determined |
| Coronavirus: killed (parenteral) | NR | Not indicated | Cannot be determined |
| Canine adenovirus-2: modified live (parenteral) | Core | 3 years | 7+ years |
| Canine adenovirus-2: modified live (topical) | Core | 3 years | 7+ years |
| Canine adenovirus-2: killed (parenteral) | Non-core | Annual | Unknown |
| Canine adenovirus-1: modified live & killed (parenteral) | NR | DO NOT USE | Unknown |
| Parainfluenza virus: modified live (parenteral) | Non-core | 3 years | 5 + years |
| Parainfluenza virus: modified live (topical) | Non-core | 3 years | 5 + years (preferred) |
| <i>Bordetella bronchiseptica</i> : killed (parenteral) | Non-core | Annual | ~12 months |
| <i>Bordetella bronchiseptica</i> : avirulent live (topical) | Non-core | Annual | ~12 months |
| <i>Bordetella bronchiseptica</i> : antigen extract (parenteral) | Non-core | Annual | 1 year |
| <i>Leptospira var. canicola</i> | Non-core | Annual | Not definitively established (antibody titers persist for approximately 3 months in dogs that seroconvert following an initial vaccination series) |
| <i>Leptospira var. icterhemorrhagiae</i> | Non-core | Annual | 1 year |
| <i>Leptospira var. pomona</i> | Non-core | Annual | 1 year |
| <i>Leptospira var. grippityphosa</i> | Non-core | Annual | 1 year |
| Recombinant Lyme (parenteral) | Non-core | Annual | 1 year |
| Lyme: killed (parenteral) | Non-core | Annual | 1 year |
| <i>Crotalus atrox</i> (Rattlesnake vaccine) | Non-core | Annual or as recommended by manufacturer based on risk | Unknown (license is conditional at this writing—challenge studies in dogs have not been performed) |
| <i>Giardia lamblia</i> : killed (parenteral) | NR | Not applicable | Is not known to prevent infection |
| Rabies, 1-year: killed (parenteral) | Core | As defined by local/state law | 3+ years |
| Rabies, 3-year: killed (parenteral) | Core | As defined by local/state law | 3+ years |

NR, Not Generally Recommended.

TABLE 6 - 17 Types of Vaccines Licensed for Use in Cats in the United States

| Vaccine type | Adjuvanted vs. non-adjuvanted | Core vs. non-core | Recommended vaccination interval for administration of booster inoculations | Minimum duration of immunity |
|--|-------------------------------|-------------------|---|--|
| Panleukopenia: modified live (parenteral) | Non-adjuvanted | Core | 3 years | 7+ years |
| Panleukopenia: killed (parenteral) | Adjuvanted | Non-core | Annual | 5+ years |
| Panleukopenia: modified live (topical) | Non-adjuvanted | Non-core | 3 years | Not known to be more than 1 year...but is likely |
| Herpesvirus-calicivirus: modified live (parenteral) | Non-adjuvanted | Core | 3 years | 5+ years |
| Herpesvirus-calicivirus: killed (parenteral) | Adjuvanted | Non-core | Annual | 5+ years |
| Herpesvirus-calicivirus: modified live (topical) | Non-adjuvanted | Non-core | Annual (3 year duration of immunity is likely) | Not known...but expected to be at least 2 years |
| <i>Chlamydia felis</i> : killed | Adjuvanted | Non-core | Annual | 1 year (maximum) |
| <i>Chlamydia felis</i> : live, avirulent | Non-adjuvanted | Non-core | Annual | |
| Recombinant feline leukemia | Non-adjuvanted | Non-core* | Annual | 1 year |
| Feline leukemia virus: killed | Adjuvanted | Non-core* | Annual | 1 year |
| Feline immunodeficiency virus: killed | Adjuvanted | Non-core† | Annual | 1 year |
| Feline infectious peritonitis: modified live (topical) | Non-adjuvanted | NR | Not applicable | Does not confer protective immunity |
| <i>Bordetella bronchiseptica</i> : modified live (topical) | Non-adjuvanted | Non-core | Annual | 1 year |
| <i>Giardia lamblia</i> : killed (parenteral) | Adjuvanted | NR | Not applicable | Is not known to prevent infection |
| <i>Microsporium canis</i> : killed | Adjuvanted | | Vaccine has been discontinued | |
| Recombinant rabies (parenteral) | Non-adjuvanted | Core | Annual | 3 years |
| Rabies, 1-year: killed (parenteral) | Adjuvanted | Core | Annual | 3+ years |
| Rabies, 3-year: killed (parenteral) | Adjuvanted | Core | 3 years (as required by law) | 3+ years |

*Because of the high susceptibility for infection in kittens, several authors have recommended FeLV vaccine be classified as *core* through the first year of life, then *non-core* thereafter.

†The Recombinant (Transdermal) FeLV vaccine and FIV vaccine were not licensed in 2000 when the latest iteration of the feline vaccine guidelines was published. The “Non-Core” classification is the author’s recommendation.

TABLE 6 - 18 Annualized Vaccination Protocol for Dogs at Moderate Risk*

| Age at vaccination | Vaccine |
|--------------------|--|
| 6-8 weeks | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 <i>Optional:</i> + Parainfluenza virus |
| 10-12 weeks | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies (1 dose at 12, 14, or 16 weeks) [†] <i>Optional:</i> + Parainfluenza virus + <i>B. bronchiseptica</i> (killed parenteral, 2 doses required, 3-4 weeks apart) [‡] + Leptospirosis (serovars as indicated at 12 weeks or older) |
| 14-16 weeks | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies (now or at 12 weeks) <i>Optional:</i> + Parainfluenza virus + <i>B. bronchiseptica</i> (Live-intranasal, 1 dose or the 2nd killed-parenteral dose) + Leptospirosis (serovars as indicated) |
| +1 year | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies (booster required) <i>Optional:</i> + <i>B. bronchiseptica</i> (intranasal or parenteral) + Parainfluenza + Leptospirosis (serovars as indicated) |
| +2 years | <i>Optional:</i> + <i>B. bronchiseptica</i> (intranasal or parenteral) + Leptospirosis (serovars as indicated) |
| +3 years | <i>Optional:</i> + <i>B. bronchiseptica</i> (intranasal or parenteral) + Leptospirosis (serovars as indicated) |
| +4 years | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies <i>Optional:</i> + <i>B. bronchiseptica</i> (parenteral) + Parainfluenza + Leptospirosis (serovars as indicated) |
| +5 years | <i>Optional:</i> + <i>B. bronchiseptica</i> (parenteral) + Leptospirosis (serovars as indicated) |
| +6 years | <i>Optional:</i> + <i>B. bronchiseptica</i> (parenteral) + Leptospirosis (serovars as indicated) |

TABLE 6 - 18 Annualized Vaccination Protocol for Dogs at Moderate Risk*—cont'd

| Age at vaccination | Vaccine |
|--------------------|---|
| +7 years | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies <i>Optional:</i> + <i>B. bronchiseptica</i> (parenteral) + Parainfluenza + Leptospirosis (serovars as indicated) |
| Beyond 7 years | Cycle repeats as indicated |

Defining criteria for MODERATE RISK-canine (applies to most dogs)

- B. bronchiseptica* vaccination is indicated if:
 - Dog is ever boarded in a commercial kennel, or
 - Dog requires occasional grooming, or
 - Dog regularly has supervised walks/runs outside with likelihood of contact with other dogs.
- Parainfluenza vaccination is indicated if:
 - Dog is ever boarded in a commercial kennel, or
 - Dog requires occasional grooming, or
 - Dog regularly has supervised walks/runs outside with likelihood of contact with other dogs.
 - NOTE: Parainfluenza vaccine is combined with all intranasal *B. bronchiseptica* vaccines.
- Leptospira* vaccination is indicated if:
 - The dog is 12 weeks of age or older, and
 - Dog has opportunities for unsupervised outdoor activities, or
 - Cases of leptospirosis are known to have been confirmed in the area, or
 - Dog has access (supervised or otherwise) to areas inhabited by “reservoir” hosts (eg: opossum, skunk, raccoon, vole) or other domestic animals such as cattle or pigs (horses).
 - NOTE: risk of exposure is *not* limited to rural areas.
- Lyme borreliosis vaccination is not indicated unless:
 - Dog will travel to known endemic areas (Northeastern US or upper Midwest) and will spend time outside, or
 - Lyme borreliosis cases have been diagnosed (via IDEXX Snap 3Dx or Western Blot analysis) in the community, or
 - Dog is not receiving any form of topical tick preventative (eg, fipronil).

*For any vaccine preceded by “+,” see defining criteria.

†In some states or municipalities, annual rabies vaccination may be required.

‡All intranasal *B. bronchiseptica* vaccines also contain parainfluenza virus; some also contain canine adenovirus-2.

MLV, modified live virus.

TABLE 6 - 19 Annualized Vaccination Protocol for Dogs at Low Risk*

| Age at vaccination | Vaccine |
|--------------------|--|
| 6-8 weeks | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 <i>Optional:</i> + Parainfluenza virus |
| 10-12 weeks | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies (1 dose at 12, 14, or 16 weeks) [†] <i>Optional:</i> + Parainfluenza virus |
| 14-16 weeks | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies (now or at 12 weeks) <i>Optional:</i> + Parainfluenza virus |
| +1 year | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies (required in most states) <i>Optional:</i> + Parainfluenza |
| +2 years | Health examination Non-core vaccines considered if risk assessment changes Health examination |
| +3 years | Non-core vaccines considered if risk assessment changes |
| +4 years | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Rabies (required in most states) <i>Optional:</i> + Parainfluenza |
| +5 years | Health examination Non-core vaccines considered if risk assessment changes |
| +6 years | Health examination Non-core vaccines considered if risk assessment changes |
| +7 years | Distemper Parvovirus Adenovirus-2 Rabies (required in most states) <i>Optional:</i> + Parainfluenza |
| Beyond 7 years | Cycle repeats as indicated |

TABLE 6 - 19 Annualized Vaccination Protocol for Dogs at Low Risk*—cont'd**Defining criteria for LOW RISK-canine
(only CORE vaccines need be administered)**

1. *B. bronchiseptica* is NOT indicated because:
 - Dog is never boarded in a commercial kennel.
 - Grooming is not an issue.
 - Dog lives exclusively indoors.
 - Dog has no exposure to other dogs (does occur...but is rare)
2. Parainfluenza vaccination is indicated if:
 - Dog is ever boarded in a commercial kennel, or
 - Dog requires occasional grooming, or
 - Dog regularly has supervised walks/runs outside with likelihood of contact with other dogs.

• NOTE: Parainfluenza vaccine is combined with all intranasal *B. bronchiseptica* vaccines.
3. *Leptospira canicola*, *L. icterohemorrhagiae*, *L. pomona*, and *L. grippityphosa* are NOT indicated because:
 - There is NO exposure to other dogs.
 - There is NO opportunity for unsupervised outdoor activities.
 - The dog lives exclusively indoors.
 - Leptospirosis is not known to occur in the area.
3. **Lyme borreliosis is NOT indicated because:**
 - Dog does not reside in a known Lyme borreliosis endemic area.
 - Dog does not travel to known endemic areas.
 - Dog neither lives in or travels into a known tick-vector area.
 - Dog is reliably treated with topical flea/tick preparation.
 - Dog has never known a tick and never will.

*For any vaccine preceded by “+,” see defining criteria.

†All intranasal *B. bronchiseptica* vaccines also contain parainfluenza virus; some also contain canine adenovirus-2.

‡In some states or municipalities, annual rabies vaccination may be required.
MLV, modified live virus.

TABLE 6 - 20 Annualized Vaccination Protocol for Dogs at High Risk*

| Age at vaccination | Vaccine |
|--------------------|--|
| 6-8 weeks | Distemper (recombinant) Parvovirus Adenovirus-2 Parainfluenza <i>B. bronchiseptica</i> [intranasal recommended] [†] |
| 10-12 weeks | Distemper (recombinant) Parvovirus Adenovirus-2 Parainfluenza Rabies (at 12, 14, or 16 weeks) [‡] <i>B. bronchiseptica</i> [intranasal recommended] <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) |
| 14-16 weeks | Distemper (recombinant) Parvovirus Adenovirus-2 Parainfluenza <i>B. bronchiseptica</i> [intranasal recommended] Rabies (now or at 12 weeks) <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) |
| +1 year | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Parainfluenza <i>B. bronchiseptica</i> (intranasal or parenteral) Rabies (required) <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) |
| +2 years | <i>B. bronchiseptica</i> (intranasal or parenteral) <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) |
| +3 years | <i>B. bronchiseptica</i> (intranasal or parenteral) <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) |
| +4 years | Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Parainfluenza <i>B. bronchiseptica</i> (intranasal or parenteral) Rabies (required) <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) |
| +5 years | <i>B. bronchiseptica</i> (intranasal or parenteral) |

TABLE 6 - 20 Annualized Vaccination Protocol for Dogs at High Risk*—cont'd

| Age at vaccination | Vaccine |
|--------------------|---|
| +6 years | <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) <i>B. bronchiseptica</i> (intranasal or parenteral) |
| +7 years | <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) Distemper (MLV or recombinant) Parvovirus Adenovirus-2 Parainfluenza <i>B. bronchiseptica</i> (intranasal or parenteral) Rabies (required) <i>Optional:</i> + Leptospirosis + Lyme borreliosis (recombinant) |
| Beyond 7 years | Cycle repeats as indicated |

Defining criteria for HIGH RISK-canine**1. *B. bronchiseptica* booster is indicated because:**

- Dog is regularly boarded in a commercial kennel.
- Dog is routinely groomed at a facility where other dogs are maintained.
- Dog is regularly allowed outdoors and is unsupervised.
- Dog has regular exposure to other, unknown dogs.
- Dog is on a first-name basis with animal control officers.

2. Annual *Leptospira* spp booster is indicated if:

- Dog lives outside and is not constrained to a gated kennel.
- Dog lives on a farm and has ample outdoor activity.
- Dog is regularly allowed to roam freely.
- Dog is exclusively outdoors.
- Dog is used for hunting or other extended outdoor activity.
- Cases of leptospirosis are known to have been confirmed in the area.
- Dog has access (supervised or otherwise) to areas inhabited by “reservoir” hosts (e.g., opossum, skunk, raccoon, vole) or other domestic animals such as cattle or pigs (horses?).

3. Annual Lyme borreliosis booster is indicated if:

- Dog resides in a known Lyme borreliosis endemic area (eg: Northeastern US or Upper Midwest).
- Dog resides outside most or all of the time and does have tick exposure.
- Dog regularly travels to known endemic areas.
- Cases of Lyme borreliosis have been identified by serologic testing (IDEXX Snap 3Dx or Western Blot) among dogs in the patient population.
- Dog is inconsistently treated with topical flea/tick preparation.
- Dog is only treated with OTC tick preparations.
- Ticks are known to be constant companions for this dog.

*For any vaccine preceded by “+,” see defining criteria.

†All intranasal *B. bronchiseptica* vaccines also contain parainfluenza virus; some also contain canine adenovirus-2.‡In some states or municipalities, annual rabies vaccination may be required.
MLV, modified live virus.

TABLE 6 - 21 Annualized Vaccination Protocol for Cats at Moderate Risk*

| Age at vaccination | Vaccine |
|--------------------|--|
| 9-10 weeks | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) <i>Optional:</i> + FeLV (recombinant, transdermal) |
| 12-14 weeks | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) [†] <i>Optional:</i> + FeLV (recombinant, transdermal) |
| +1 year | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) |
| +2 years | + Rabies (recombinant, transdermal) |
| +3 years | + Rabies (recombinant) Panleukopenia (MLV) |
| +4 years | Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) |
| +5 years | + Rabies (recombinant) |
| +6 years | + Rabies (recombinant) Panleukopenia (MLV) |
| +7 years | Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) |
| +8 years | + Rabies (recombinant) |
| +9 years | + Rabies (recombinant) |
| +10 years | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) |
| Beyond 10 years | Cycle repeats as indicated |

Defining criteria for MODERATE RISK-feline (applies to most cats)**1. FeLV vaccine is indicated if:**

- The cat lives indoors predominantly, but *not* exclusively ... *and*
- The cat is less than 6 months of age ... *and*
- The cat is known to occasionally have contact with other cats of unknown health status ... *or*
- Other cats in the household are known to be FeLV infected
- Other cats live in the household but are of unknown FeLV status ... *or*
- Other cats in the household are known to roam at will, or
- Owner may bring stray cats into the household.

2. *Bordetella bronchiseptica* and *Chlamydophila felis* vaccines are not indicated because:

- The cat is an adult (current literature suggests that clinical *B. bronchiseptica* infections are most likely to occur in kittens), ... *and*
- The cat does not have exposure to other cats, ... *and*
- Any other cats in the household are known to be strictly indoor cats ... *and*
- Owner is unlikely to bring stray cats into the household.

3. Rabies vaccination in cats

- Is NOT required by many states and municipalities; however, in accordance with the Feline Vaccination Guidelines, rabies is a CORE vaccine and is highly recommended for all cats.

*For any vaccine preceded by “+,” see defining criteria.

†Although administration of rabies vaccine to cats may not be required by state or local statutes, it is recommended for all cats, regardless of risk.

MLV, modified live virus.

TABLE 6 - 22 Annualized Vaccination Protocol for Cats at Low Risk*

| Age at vaccination | Vaccine |
|--------------------|---|
| 9-10 weeks | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) |
| 12-14 weeks | Panleukopenia (MLV) Herpesvirus and calicivirus (MLV) + Rabies (recombinant) [†] |
| +1 year | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) |
| +2 years | + Rabies (recombinant) |
| +3 years | + Rabies (recombinant) |
| +4 years | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) |
| +5 years | + Rabies (recombinant) |
| +6 years | + Rabies (recombinant) |
| +7 years | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) |
| +8 years | + Rabies (recombinant) |
| +9 years | + Rabies (recombinant) |
| +10 years | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) |
| Beyond 10 years | Cycle repeats as indicated |

Defining criteria for low risk-feline (protocol centers around CORE vaccines)**1. FeLV and FIV vaccines are not indicated because:**

- Cat is known to be a strictly indoor cat, *and*
- Any other cats in the household are known to be both FeLV and FIV-free and were tested within the last 12 months, *and*
- Other cats in the household are known to be strictly indoor cats.
- Owner does not bring stray cats into the household.

2. *Bordetella bronchiseptica* and *Chlamydophila felis* vaccines are not indicated because:

- The cat is an adult (current literature suggests that clinical *B. bronchiseptica* infections are most likely to occur in kittens), *and*
- The cat does not have exposure to other cats, *and*
- Any other cats in the household are known to be strictly indoor cats.
- Owner does not bring stray cats into the household.

3. Rabies vaccination in cats

- Is NOT required by many states and municipalities; however, in accordance with the Feline Vaccination Guidelines, rabies is a CORE vaccine and is highly recommended for all cats.

*For any vaccine preceded by “+,” see defining criteria.

[†]Although administration of rabies vaccine to cats may not be required by state or local statutes, it is recommended for all cats, regardless of risk.

MLV, modified live virus.

TABLE 6 - 23 Annualized Vaccination Protocol for Cats at High Risk*

| Age at vaccination | Vaccine |
|--------------------|--|
| 9-10 weeks | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) [†] + FIV |
| 12-14 weeks | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) [‡] <i>Optional:</i> + FeLV (non-adjuvanted) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +1 year | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +2 years | + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +3 years | + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +4 years | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +5 years | + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |

Continued

TABLE 6 - 23 Annualized Vaccination Protocol for Cats at High Risk*—cont'd

| Age at vaccination | Vaccine |
|--------------------|---|
| +6 years | + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +7 years | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +8 years | + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +9 years | + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| +10 years | Panleukopenia (MLV) Herpesvirus-1 and calicivirus (MLV) + Rabies (recombinant) <i>Optional:</i> + FeLV (recombinant, transdermal) + <i>B. bronchiseptica</i> + <i>Chlamydophila</i> (non-adjuvanted) + FIV |
| Beyond 10 years | Cycle repeats as indicated |

Defining criteria for HIGH RISK-feline**1. Both FeLV and FIV vaccines are indicated because:**

- Cat is known to roam at will and engage in fighting (risk of FIV in male cats is 4X greater than in female cats), *or*
- There is likely exposure to other cats with unknown health status, *or*
- There are other cats in the household that are known to roam at will and engage in fighting...*or*
- Owner regularly adopts (or hoards) cats.

2. *Bordetella bronchiseptica* and *Chlamydophila felis* vaccines are indicated because:

- The cat is a kitten and resides within a cluster household (current literature suggests that clinical *B. bronchiseptica* infections are most likely to occur in kittens), *or*
- The cat has regular exposure to other cats of unknown health status, *or*

TABLE 6 - 23 Annualized Vaccination Protocol for Cats at High Risk*—cont'd

- There are other cats in the household known to roam at will and have contact with other cats ... *or*
 - Owner regularly adopts (or hoards) cats.
- 3. Rabies vaccination in cats:**
- Is NOT required by many states and municipalities; however, in accordance with the Feline Vaccination Guidelines, rabies is a CORE vaccine and is highly recommended for all cats.

*For any vaccine preceded by “+,” see defining criteria.

†*Chlamydia psittaci* has been renamed *Chlamydophila felis* (the name on vaccine label may not reflect the new classification).

‡Although administration of rabies vaccine to cats may not be required by state or local statutes, it is recommended for all cats, regardless of risk.

MLV, modified live virus.

Additional Reading

Richards J, Rodan I, Elston T, et al: 2000 Report of the American Association of Feline Practitioners and Academy of Feline Medicine Advisory Panel on Feline Vaccines, Nashville, Tenn.

Report of the American Animal Hospital Association (AAHA) Canine Vaccine Task Force: 2003 Canine and Recommendations. *J Am Anim Hosp Assoc* 39:119-131, 2003. (The complete report, including supporting literature, is available to AAHA members at www.aahanet.org.)

Ford RB (ed): *Veterinary Clinics of North America: Small Animal Practice*. WB Saunders, Philadelphia, May 2001.

TABLE 6 - 24 Compendium of Animal Rabies Prevention and Control, 2005*, National Association of State Public Health Veterinarians, Inc. (NASPHV)†

Rabies is a fatal viral zoonosis and a serious public health problem.¹ The recommendations in this compendium serve as the basis for animal rabies prevention and control programs throughout the United States and facilitate standardization of procedures among jurisdictions, thereby contributing to an effective national rabies-control program. This document is reviewed annually and revised as necessary. Principles of rabies prevention and control are detailed in Part I; Part II contains recommendations for parenteral vaccination procedures. All animal rabies vaccines licensed by the United States Department of Agriculture (USDA) and marketed in the United States are listed in Part III.

Part I: Rabies prevention and control

A. Principles of rabies prevention and control

1. **Rabies exposure.** Rabies is transmitted only when the virus is introduced into bite wounds, open cuts in skin, or onto mucous membranes from saliva or other potentially infectious material such as neural tissue.² Questions about possible exposures should be directed to state or local health authorities.
2. **Human rabies prevention.** Rabies in humans can be prevented either by eliminating exposures to rabid animals or by providing exposed persons with prompt local treatment of wounds combined with the administration of human rabies immune globulin and vaccine. The rationale for recommending preexposure and postexposure rabies prophylaxis and details of their administration can be found in the current recommendations of the Advisory Committee on Immunization Practices (ACIP).² These recommendations, along with information concerning the current local and regional epidemiology of animal rabies and the availability of human rabies biologics, are available from state health departments.
3. **Domestic animals.** Local governments should initiate and maintain effective programs to ensure vaccination of all dogs, cats, and ferrets and to remove strays and unwanted animals. Such procedures in the United States have reduced laboratory-confirmed cases of rabies in dogs from 6949 in 1947 to 117 in 2003.³ Because more rabies cases are reported annually involving cats (321 in 2003) than dogs, vaccination of cats should be required. Animal shelters and animal control authorities should establish policies to ensure that adopted animals are vaccinated against rabies. The recommended vaccination procedures and the licensed animal vaccines are specified in Parts II and III of the compendium.
4. **Rabies in vaccinated animals.** Rabies is rare in vaccinated animals.⁴ If such an event is suspected, it should be reported to state public health officials; the vaccine manufacturer; and USDA, Animal and Plant Health Inspection Service, Center for Veterinary Biologics (Internet: <http://www.aphis.usda.gov/vs/cvb/ic/adverseeventreport.htm>, telephone: 800-752-6255, or e-mail: CVB@usda.gov). The laboratory diagnosis should be confirmed and the virus characterized by a rabies reference laboratory. A thorough epidemiologic investigation should be conducted.
5. **Rabies in wildlife.** The control of rabies among wildlife reservoirs is difficult.⁵ Vaccination of free-ranging wildlife or selective population reduction might be useful in some situations, but the success of such procedures depends on the circumstances surrounding each rabies outbreak (see Part I. C. Control Methods in Wildlife). Because of the risk of rabies in wild animals (especially raccoons, skunks, coyotes, foxes, and bats), AVMA, NASPHV, and CSTE strongly recommend the enactment and enforcement of state laws prohibiting their importation, distribution, and relocation.
6. **Rabies surveillance.** Laboratory-based rabies surveillance is an essential component of rabies control and prevention programs. Accurate and timely information is necessary to guide human postexposure prophylaxis decisions, determine the management of potentially exposed animals, aid in emerging pathogen discovery, describe the epidemiology of the disease, and assess the need for and effectiveness of oral vaccination programs for wildlife.

TABLE 6 - 24 Compendium of Animal Rabies Prevention and Control, 2005*, National Association of State Public Health Veterinarians, Inc. (NASPHV)[†]—cont'd

7. **Rabies diagnosis.** Rabies testing should be performed by a qualified laboratory that has been designated by the local or state health department⁶ in accordance with the established national standardized protocol for rabies testing (http://www.cdc.gov/ncidod/dvrd/rabies/Professional/publications/DFA_diagnosis/DFA_protocol-b.htm). Euthanasia⁷ should be accomplished in such a way as to maintain the integrity of the brain so that the laboratory can recognize the anatomic parts. Except in the case of very small animals, such as bats, only the head or brain (including brainstem) should be submitted to the laboratory. Any animal or animal specimen being submitted for testing should be kept under refrigeration (not frozen or chemically fixed) during storage and shipping.
 8. **Rabies serology.** Some “rabies-free” jurisdictions may require evidence of vaccination and rabies antibodies for importation purposes. Rabies antibody titers are indicative of an animal’s response to vaccine or infection. Titers do not directly correlate with protection because other immunologic factors also play a role in preventing rabies, and our abilities to measure and interpret those other factors are not well developed. Therefore, evidence of circulating rabies virus antibodies should not be used as a substitute for current vaccination in managing rabies exposures or determining the need for booster vaccinations in animals.⁸
- B. Prevention and control methods in domestic and confined animals*
1. **Preexposure vaccination and management.** Parenteral animal rabies vaccines should be administered only by or under the direct supervision of a veterinarian. Rabies vaccinations may also be administered under the supervision of a veterinarian to animals held in animal control shelters prior to release. Any veterinarian signing a rabies certificate must ensure that the person administering vaccine is identified on the certificate and is appropriately trained in vaccine storage, handling, and administration and in the management of adverse events. This practice ensures that a qualified and responsible person can be held accountable to ensure that the animal has been properly vaccinated.

Within 28 days after primary vaccination, a peak rabies antibody titer is reached and the animal can be considered immunized. An animal is currently vaccinated and is considered immunized if the primary vaccination was administered at least 28 days previously and vaccinations have been administered in accordance with this compendium.

Regardless of the age of the animal at initial vaccination, a booster vaccination should be administered 1 year later (see Parts II and III for vaccines and procedures). No laboratory or epidemiologic data exist to support the annual or biennial administration of 3-year vaccines following the initial series. Because a rapid anamnestic response is expected, an animal is considered currently vaccinated immediately after a booster vaccination.

 - a. **Dogs, cats, and ferrets.** All dogs, cats, and ferrets should be vaccinated against rabies and revaccinated in accordance with Part III of this compendium. If a previously vaccinated animal is overdue for a booster, it should be revaccinated. Immediately following the booster, the animal is considered currently vaccinated and should be placed on an annual or triennial schedule depending on the type of vaccine used.
 - b. **Livestock.** Consideration should be given to vaccinating livestock that are particularly valuable or that might have frequent contact with humans (e.g., in petting zoos, fairs, and other public exhibitions).^{9,10} Horses traveling interstate should be currently vaccinated against rabies.
 - c. **Confined animals.**
 - 1) **Wild.** No parenteral rabies vaccines are licensed for use in wild animals or hybrids (the offspring of wild animals crossbred to domestic animals). Wild animals or hybrids should not be kept as pets.¹¹⁻¹⁴

TABLE 6 - 24 Compendium of Animal Rabies Prevention and Control, 2005*, National Association of State Public Health Veterinarians, Inc. (NASPHV)†—cont'd

- 2) **Maintained in exhibits and in zoological parks.** Captive mammals that are not completely excluded from all contact with rabies vectors can become infected. Moreover, wild animals might be incubating rabies when initially captured; therefore, wild-caught animals susceptible to rabies should be quarantined for a minimum of 6 months before being exhibited. Employees who work with animals at such facilities should receive preexposure rabies vaccination. The use of pre- or postexposure rabies vaccinations for employees who work with animals at such facilities might reduce the need for euthanasia of captive animals. Carnivores and bats should be housed in a manner that precludes direct contact with the public.
- 3) **Stray animals.** Stray dogs, cats, and ferrets should be removed from the community. Local health departments and animal control officials can enforce the removal of strays more effectively if owned animals have identification and are confined or kept on leash. Strays should be impounded for at least 3 business days to determine if human exposure has occurred and to give owners sufficient time to reclaim animals.
2. **Importation and interstate movement of animals.**
- a. **International.** The CDC regulates the importation of dogs and cats into the United States. Importers of dogs must comply with rabies vaccination requirements (42 CFR, Part 71.51 [c] [<http://www.cdc.gov/ncidod/dq/animal.htm>]) and complete CDC form 75.37 (<http://www.cdc.gov/ncidod/dq/pdf/cdc7537-05-24-04.pdf>). The appropriate health official of the state of destination should be notified within 72 hours of the arrival into his or her jurisdiction of any imported dog required to be placed in confinement under the CDC regulation. Failure to comply with these requirements should be promptly reported to the Division of Global Migration and Quarantine, CDC (telephone: 404-498-1670).
- Federal regulations alone are insufficient to prevent the introduction of rabid animals into the country.^{15,16} All imported dogs and cats are subject to state and local laws governing rabies and should be currently vaccinated against rabies in accordance with this compendium. Failure to comply with state or local requirements should be referred to the appropriate state or local official.
- b. **Interstate.** Before interstate (including commonwealths and territories) movement, dogs, cats, ferrets, and horses should be currently vaccinated against rabies in accordance with the compendium's recommendations (see Part I. B.1. Preexposure Vaccination and Management). Animals in transit should be accompanied by a currently valid NASPHV Form 51, Rabies Vaccination Certificate (<http://www.nasphv.org/83416/106001.html>). When an interstate health certificate or certificate of veterinary inspection is required, it should contain the same rabies vaccination information as Form 51.
- c. **Areas with dog-to-dog rabies transmission.** The movement of dogs from areas with dog-to-dog rabies transmission for the purpose of adoption or sale should be eliminated. Rabid dogs have been introduced into the United States from areas with dog-to-dog rabies transmission.^{15,16} This practice poses the risk of introducing canine-transmitted rabies to areas where it does not currently exist.
3. **Adjunct procedures.** Methods or procedures which enhance rabies control include the following:
- a. **Identification.** Dogs, cats, and ferrets should be identified (e.g., metal or plastic tags or microchips) to allow for verification of rabies vaccination status.
- b. **Licensure.** Registration or licensure of all dogs, cats, and ferrets may be used to aid in rabies control. A fee is frequently charged for such licensure, and revenues collected are used to maintain rabies- or animal-control programs. Evidence of current vaccination is an essential prerequisite to licensure.

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- c. **Canvassing.** House-to-house canvassing by animal control officials facilitates enforcement of vaccination and licensure requirements.
 - d. **Citations.** Citations are legal summonses issued to owners for violations, including the failure to vaccinate or license their animals. The authority for officers to issue citations should be an integral part of each animal-control program.
 - e. **Animal control.** All communities should incorporate stray animal control, leash laws, and training of personnel in their programs.
4. **Postexposure management.** Any animal potentially exposed to rabies virus (see Part I. A.1. Rabies Exposure) by a wild, carnivorous mammal or a bat that is not available for testing should be regarded as having been exposed to rabies.
- a. **Dogs, cats, and ferrets.** Unvaccinated dogs, cats, and ferrets exposed to a rabid animal should be euthanized immediately. If the owner is unwilling to have this done, the animal should be placed in strict isolation for 6 months. Rabies vaccine should be administered upon entry into isolation or 1 month prior to release to comply with preexposure vaccination recommendations (see Part I.B.1.a.). Protocols for the postexposure vaccination of previously unvaccinated domestic animals have not been validated, and evidence exists that the use of vaccine alone will not prevent the disease.¹⁷ Animals with expired vaccinations need to be evaluated on a case-by-case basis. Dogs, cats, and ferrets that are currently vaccinated should be revaccinated immediately, kept under the owner's control, and observed for 45 days. Any illness in an isolated or confined animal should be reported immediately to the local health department.
 - b. **Livestock.** All species of livestock are susceptible to rabies; cattle and horses are among the most frequently infected. Livestock exposed to a rabid animal and currently vaccinated with a vaccine approved by USDA for that species should be revaccinated immediately and observed for 45 days. Unvaccinated livestock should be slaughtered immediately. If the owner is unwilling to have this done, the animal should be kept under close observation for 6 months. Any illness in an animal under observation should be reported immediately to the local health department.
The following are recommendations for owners of livestock exposed to rabid animals:
 - 1) If the animal is slaughtered within 7 days of being bitten, its tissues may be eaten without risk of infection, provided that liberal portions of the exposed area are discarded. Federal guidelines for meat inspectors require that any animal known to have been exposed to rabies within 8 months be rejected for slaughter.
 - 2) Neither tissues nor milk from a rabid animal should be used for human or animal consumption.¹⁸ Pasteurization temperatures will inactivate rabies virus; therefore, drinking pasteurized milk or eating cooked meat does not constitute a rabies exposure.
 - 3) Having more than one rabid animal in a herd or having herbivore-to-herbivore transmission is uncommon; therefore, restricting the rest of the herd if a single animal has been exposed to or infected by rabies might not be necessary.
 - c. **Other animals.** Other mammals bitten by a rabid animal should be euthanized immediately. Animals maintained in USDA-licensed research facilities or accredited zoological parks should be evaluated on a case-by-case basis.
5. **Management of animals that bite humans**
- a. **Dogs, cats, and ferrets.** Rabies virus may be excreted in the saliva of infected dogs, cats, and ferrets during illness and/or for only a few days prior to illness or death.¹⁹⁻²⁰ A healthy dog, cat, or ferret that bites a person should be confined and observed daily for 10 days²²; administration of rabies vaccine to the animal is not recommended during the observation period to avoid confusing signs of rabies with possible side effects of vaccine administration.

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Such animals should be evaluated by a veterinarian at the first sign of illness during confinement. Any illness in the animal should be reported immediately to the local health department. If signs suggestive of rabies develop, the animal should be euthanized and the head shipped for testing as described in Part I.A.7. Any stray or unwanted dog, cat, or ferret that bites a person may be euthanized immediately and the head submitted for rabies examination.

- b. **Other biting animals.** Other biting animals that might have exposed a person to rabies should be reported immediately to the local health department. Management of animals other than dogs, cats, and ferrets depends on the species, the circumstances of the bite, the epidemiology of rabies in the area, and the biting animal's history, current health status, and potential for exposure to rabies. Prior vaccination of these animals may not preclude the necessity for euthanasia and testing.

C. Prevention and control methods related to wildlife

The public should be warned not to handle or feed wild mammals. Wild mammals and hybrids that bite or otherwise expose persons, pets, or livestock should be considered for euthanasia and rabies examination. A person bitten by any wild mammal should immediately report the incident to a physician who can evaluate the need for antirabies treatment (see current rabies prophylaxis recommendations of the ACIP²). State-regulated wildlife rehabilitators may play a role in a comprehensive rabies control program. Minimum standards for persons who rehabilitate wild mammals should include rabies vaccination, appropriate training, and continuing education. Translocation of infected wildlife has contributed to the spread of rabies^{23,24}; therefore, the translocation of known terrestrial rabies reservoir species should be prohibited.

1. **Terrestrial mammals.** The use of licensed oral vaccines for the mass vaccination of free-ranging wildlife should be considered in selected situations, with the approval of the state agency responsible for animal rabies control.⁵ The distribution of oral rabies vaccine should be based on scientific assessments of the target species and followed by timely and appropriate analysis of surveillance data; such results should be provided to all stakeholders. In addition, parenteral vaccination (trap-vaccinate-release) of wildlife rabies reservoirs may be integrated into coordinated oral rabies vaccination programs to enhance their effectiveness. Continuous and persistent programs for trapping or poisoning wildlife are not effective in reducing wildlife rabies reservoirs on a statewide basis. However, limited population control in high-contact areas (e.g., picnic grounds, camps, suburban areas) may be indicated for the removal of selected high-risk species of wildlife.⁵ State agriculture, public health, and wildlife agencies should be consulted for planning, coordination, and evaluation of vaccination or population-reduction programs.
2. **Bats.** Indigenous rabid bats have been reported from every state except Hawaii and have caused rabies in at least 40 humans in the United States.²⁵⁻²⁹ Bats should be excluded from houses, public buildings, and adjacent structures to prevent direct association with humans.^{30,31} Such structures should then be made bat-proof by sealing entrances used by bats. Controlling rabies in bats through programs designed to reduce bat populations is neither feasible nor desirable.

Part II: Recommendations for parenteral rabies vaccination procedures

A. Vaccine administration

All animal rabies vaccines should be restricted to use by, or under the direct supervision of a veterinarian³² except as recommended in Part I.B.1. All vaccines must be administered in accordance with the specifications of the product label or package insert.

TABLE 6-24 Compendium of Animal Rabies Prevention and Control, 2005*, National Association of State Public Health Veterinarians, Inc. (NASPHV)[†]—cont'd

B. Vaccine selection

Part III lists all vaccines licensed by USDA and marketed in the United States at the time of publication. New vaccine approvals or changes in label specifications made subsequent to publication should be considered as part of this list. Any of the listed vaccines can be used for revaccination, even if the product is not the same brand previously administered. Vaccines used in state and local rabies control programs should have a 3-year duration of immunity. This constitutes the most effective method of increasing the proportion of immunized dogs and cats in any population.³³ No laboratory or epidemiologic data exist to support the annual or biennial administration of 3-year vaccines following the initial series.

C. Adverse events

Currently, no epidemiologic association exists between a particular licensed vaccine product and adverse events, including vaccine failure.^{34,35} Adverse events should be reported to the vaccine manufacturer and to USDA, Animal and Plant Health Inspection Service, Center for Veterinary Biologics (Internet: <http://www.aphis.usda.gov/vs/cvb/ic/adverseeventreport.htm>; telephone: 800-752-6255; or e-mail: CVB@usda.gov).

D. Wildlife and hybrid animal vaccination

The safety and efficacy of parenteral rabies vaccination of wildlife and hybrids have not been established, and no rabies vaccines are licensed for these animals. Parenteral vaccination (trap-vaccinate-release) of wildlife rabies reservoirs may be integrated into coordinated oral rabies vaccination programs as described in Part I. C.1. to enhance their effectiveness. Zoos or research institutions may establish vaccination programs, which attempt to protect valuable animals, but these should not replace appropriate public health activities that protect humans.⁹

E. Accidental human exposure to vaccine

Human exposure to parenteral animal rabies vaccines listed in Part III does not constitute a risk for rabies infection. However, human exposure to vaccinia-vectored oral rabies vaccines should be reported to state health officials.³⁶

F. Rabies certificate

All agencies and veterinarians should use NASPHV Form 51, Rabies Vaccination Certificate, which can be obtained from vaccine manufacturers or from NASPHV (<http://www.nasphv.org>). It is also available from CDC (<http://www.cdc.gov/ncidod/dvrd/rabies/professional/professi.htm>). The form must be completed in full and signed by the administering or supervising veterinarian. Computer-generated forms containing the same information are also acceptable.

*The material in this report originated at the National Center for Infectious Diseases (Anne Schuchat, MD, Acting Director), and the Division of Viral and Rickettsial Diseases (James W. LeDuc, PhD, Director).

[†]The NASPHV Committee: Suzanne R. Jenkins, VMD, MPH, Co-Chair; Mira J. Leslie, DVM, MPH, Co-Chair; Michael Auslander, DVM, MSPH; Lisa Conti, DVM, MPH; Paul Ettestad, DVM, MS; Faye E. Sorhage, VMD, MPH; and Ben Sun, DVM, MPVM.

Consultants to the Committee: Donna M. Gatewood, DVM, MS, Center for Veterinary Biologics, U.S. Department of Agriculture (USDA); Ellen Mangione, MD, MPH, Council of State and Territorial Epidemiologists (CSTE); Lorraine Moule, National Animal Control Association (NACA); Greg Pruitt, Animal Health Institute; Charles E. Rupprecht, VMD, MS, PhD, CDC; John Schiltz, DVM, American Veterinary Medical Association (AVMA); Charles V. Trimarchi, MS, New York State Health Department; and Dennis Slate, PhD, Wildlife Services, USDA.

This compendium has been endorsed by AVMA, CDC, CSTE, and NACA. Corresponding author: Mira J. Leslie, DVM, MPH, Washington Department of Health, Communicable Disease Epidemiology, 1610 NE 150th Street, MS K17-9, Shoreline, WA 98155-9701.

Continued

TABLE 6-24 Compendium of Animal Rabies Prevention and Control, 2005*,
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Rabies vaccines licensed and marketed in the United States, 2005

| Product name | Produced by | Marketed by | For use in | Dosage (mL) | Age at primary vaccination* | Booster recommended | Route of inoculation |
|---------------------------------|--|-----------------------------|---------------------------------|------------------|----------------------------------|--|--|
| MONOVALENT (inactivated) | | | | | | | |
| Defensor 1 | Pfizer, Inc. License No. 189 | Pfizer, Inc. | Dogs Cats | 1 1 | 3 mos [†] 3 mos | Annually Annually | IM [†] or SC [§] SC |
| Defensor 3 | Pfizer, Inc. License No. 189 | Pfizer, Inc. | Dogs Cats Sheep Cattle | 1 1 2 2 | 3 mos 3 mos 3 mos 3 mos | 1 year later and triennially 1 year later and triennially Annually Annually | IM or SC SC IM IM |
| Rabdomun | Pfizer, Inc. License No. 189 | Schering-Plough | Dogs Cats Sheep Cattle | 1 1 2 2 | 3 mos 3 mos 3 mos 3 mos | 1 year later and triennially 1 year later and triennially Annually Annually | IM or SC SC IM IM |
| Rabdomun 1 | Pfizer, Inc. License No. 189 | Schering-Plough | Dogs Cats | 1 1 | 3 mos 3 mos | Annually Annually | IM or SC SC |
| Rabvac 1 | Fort Dodge Animal Health License No. 112 | Fort Dodge Animal Health | Dogs Cats | 1 1 | 3 mos 3 mos | Annually Annually | IM or SC SC |
| Rabvac 3 | Fort Dodge Animal Health License No. 112 | Fort Dodge Animal Health | Dogs Cats Horses | 1 1 2 | 3 mos 3 mos 3 mos | 1 year later and triennially 1 year later and triennially Annually | IM or SC IM or SC IM |
| Rabvac 3 TF | Fort Dodge Animal Health License No. 112 | Fort Dodge Animal Health | Dogs Cats Horses | 1 1 2 | 3 mos 3 mos 3 mos | 1 year later and triennially 1 year later and triennially Annually | IM or SC IM or SC IM |
| Prorab-1 | Intervet, Inc. License No. 286 | Intervet, Inc. | Dogs Cats Sheep | 1 1 2 | 3 mos 3 mos 3 mos | Annually Annually Annually | IM or SC IM or SC IM |

| Prorab-3F | Intervet, Inc. License No. 286 | Intervet, Inc. | Cats | 1 | 3 mos | 1 year later and triennially | IM or SC |
|---|-----------------------------------|----------------|---------------------|------------|-------|------------------------------------|----------|
| Imrab 3 | Merial, Inc. License No. 298 | Merial, Inc. | Dogs | 1 | 3 mos | 1 year later and triennially | IM or SC |
| | | | Cats | 1 | 3 mos | 1 year later and triennially | IM or SC |
| | | | Sheep | 2 | 3 mos | 1 year later and triennially | IM or SC |
| | | | Cattle | 2 | 3 mos | Annually | IM or SC |
| | | | Horses | 2 | 3 mos | Annually | IM or SC |
| Imrab 3 TF | Merial, Inc. License No. 298 | Merial, Inc. | Ferrets | 1 | 3 mos | Annually | SC |
| | | | Dogs | 1 | 3 mos | 1 year later or triennially | IM or SC |
| | | | Cats | 1 | 3 mos | 1 year later or triennially | IM or SC |
| | | | Ferrets | 1 | 3 mos | Annually | SC |
| | | | Cattle | 2 | 3 mos | Annually | IM or SC |
| Imrab Large Animal | Merial, Inc. License No. 298 | Merial, Inc. | Horses | 2 | 3 mos | Annually | IM or SC |
| | | | Sheep | 2 | 3 mos | 1 year later or triennially | IM or SC |
| | | | Dogs | 1 | 3 mos | Annually | SC |
| Imrab 1 | Merial, Inc. License No. 298 | Merial, Inc. | Dogs | 1 | 3 mos | Annually | SC |
| | | | Cats | 1 | 3 mos | Annually | SC |
| Monovalent (Rabies glycoprotein, live canary pox vector) | | | | | | | |
| Purevax feline Rabies | Merial, Inc. License No. 298 | Merial, Inc. | Cats | 1 | 8 wks | Annually | SC |
| Combination (Inactivated rabies) | | | | | | | |
| Equine Potomavac + Imrab | Merial, Inc. License No. 298 | Merial, Inc. | Horses | 1 | 3 mos | Annually | IM |
| Mystique II Potomavac + | Intervet, Inc. License No. 286 | Intervet, Inc. | Horses | 1 | 3 mos | Annually | IM |
| Combination (Rabies glycoprotein, live canary pox vector) | | | | | | | |
| Purevax feline 3/Rabies | Merial, Inc. License No. 298 | Merial, Inc. | Cats | 1 | 8 wks | Annually | SC |
| Purevax Feline 4/Rabies | Merial, Inc. License No. 298 | Merial, Inc. | Cat | 1 | 8 wks | Annually | SC |
| Oral (Rabies glycoprotein, live vaccinia vector)- RESTRICTED TO USE IN STATE AND FEDERAL RABIES-CONTROL PROGRAMS | | | | | | | |
| Raboral V-RG | Merial, Inc. License No. 298 | Merial, Inc. | Raccoons Goyotes | N/A N/A | N/A | AG determined by local authorities | Oral |

*Minimum age (or older) and revaccinated 1 year later.

† 1 month = 28 days.

‡Intramuscularly.

§Subcutaneously.

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TABLE 6 - 25 Prescription Writing Reference . . . Do's & Don'ts

| Veterinarian information | Owner information |
|---|---|
| <i>Always include:</i> | |
| Prescribing veterinarian's name | Patient's name (in "quotes") |
| Practice address | Patient's age or date of birth |
| Practice telephone number | Owner's name (or that of an owner representative) |
| DEA # (if written for a controlled substance) | Owner's address |
| Current date | Owner's phone number |
| Rx | |
| <ul style="list-style-type: none"> • Drug Name: (Print FULL brand name or generic name... NEVER abbreviate) • Dosage Form: (specify tablet, capsule, suspension, other) • Strength: (mg, g, µg, etc.) or concentration (mg/ml)... use metric units • Total Quantity: (# 10 [for 10 tablets]; 60 ml) • Sig: <i>Include the following:</i> Dose (individual); route; frequency; duration; indication or use • Number of Refills: define the number permitted • Designate: whether or not generic substitution is permissible • Signature: | |
| <i>Common prescription writing errors</i> | |
| <ul style="list-style-type: none"> • Always use metric units: e.g., g (gram) for solids; ml or mL (milliliter) for liquids. • Use per instead of a slash (<i>/</i>), which can be interpreted as the number 1. • Use units instead of the abbreviation u, which can be interpreted as 0 or 4 or µ. • Use once daily instead of sid, which has been interpreted as 5/d or 5 per day! (NOTE: "sid" is <i>not</i> a conventional prescription abbreviation.) • Use three times daily instead of tid, and four times daily instead of qid. • Use every other day instead of qod. • REMEMBER—abbreviations like qd, qid, and qod are easily confused with each other • When writing numbers: <ul style="list-style-type: none"> • Use a leading zero with decimals: e.g., use 0.5 ml rather than .5 ml. • Avoid using a trailing zero: e.g., use 3 rather than 3.0. • And FINALLY—When in doubt ...spell it out. | |

TABLE 6 - 2 6 Common Drug Indications and Dosages†

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|----------------------------|--|---|---|--|
| Acepromazine | Many generic products | Tranquilizer and antiemetic | 5-, 10-, and 25-mg tablets and 10-mg/mL injection | Dog: 0.56-1.13 mg/kg IM, SC, IV; 0.56-2.25 mg/kg PO q6-8h Cat: 1.13-2.25 mg/kg IM, SC, IV |
| Acetaminophen | Tylenol and other generic brands | NSAID/ <i>analgesia</i> | 120-, 160-, 325-, and 500-mg tablets | Dog: 15 mg/kg PO q8h Cat: DO NOT USE |
| Acetaminophen with codeine | Tylenol with codeine; other generic products | NSAID + opioid/ <i>analgesia</i> | Oral solution and tablets. Many forms (e.g., 300 mg acetaminophen plus either 15, 30, or 60 mg codeine) | Follow dosing recommendations for codeine Dog: (analgesia) 0.5-1 mg/kg PO q4-6h Cat: DO NOT USE |
| Acetazolamide | Diamox | Diuretic/ <i>management of glaucoma</i> | 125- and 250-mg tablets | Glaucoma: 5-10 mg/kg PO q8-12h Diuretic: 4-8 mg/kg PO q8-12h |
| ◆ Acetylcysteine | Mucomyst | Antidote/ <i>acetaminophen toxicosis in cats</i> | 20% solution (200 mg/mL) | Cat: (<i>acetaminophen toxicosis</i>) 140 mg/kg (initial loading dose; then 70 mg/kg PO or IV q4h for 5 doses) |
| ACTH Gel | See Corticotropin | | | |
| Activated charcoal | See Charcoal, activated | | | |
| Albendazole | Valbazen | Antiparasitic/ <i>especially respiratory parasites and Giardia spp.</i> | 113.6-mg/mL suspension and 300 mg/mL paste | <i>General antiparasitic</i> : 25-50 mg/kg PO q12h for 3 days <i>Respiratory parasites</i> : 50 mg/kg, q24h PO for 10-14 days <i>Giardia</i> : 25 mg/kg q12h for 2 days; 2 to 5 puffs four times daily |
| Albuterol | Proventil; Ventolin | Bronchodilator | 2-, 4-, and 5-mg tablets; 2 mg/5 mL syrup; aerosol (metered inhaler @ 90 mcg/dose) | 20-50 µg/kg four times/day; up to maximum of 100 µg/kg four times/day |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---------------------------|--|---|---|--|
| Allopurinol | Lopurin; Zylproim | Antiinflammatory/ adjunct therapy for <i>Leishmaniasis</i> ; uroolith prevention | 100- and 300-mg tablets | Urolith prevention: 10 mg/kg q8h; then reduce to 10 mg/kg q24h Leishmaniasis: 10 mg/kg, q12h PO for 4 months or more. |
| Aluminum carbonate gel | Basalgel | Antacid/GI phosphate binder (uncommonly used today) | Capsules (equivalent to 500 mg aluminum hydroxide) | 10-30 mg/kg PO q8h (with meals) |
| Aluminum hydroxide gel | Amphogel | Antacid/GI phosphate binder (uncommonly used today) | 64 mg/mL oral suspension; 600-mg tablet | 10-30 mg/kg PO q8h (with meals) |
| Amikacin | Amiglyde-V (veterinary); Amikin (human) | Antibacterial | 50- and 250-mg/mL injection | Dog and cat: 6.5 mg/kg IV, IM, SC q8h or 20 mg/kg IV, IM, SC q24h |
| Aminophylline | Many generic brands | Bronchodilator/ chronic bronchitis and asthma | 100- and 200-mg tablets; 25 mg/mL injection | Dog: 10 mg/kg PO, IM, IV q8h Cat: 6.6 mg/kg PO q12h Dog: 10-15 mg/kg, PO, q12h, up to 1 wk; then 5-7.5 mg/kg PO q12h for 2 wk; then 7.5 mg/kg q24h as maintenance Cat: no dosage recommendation |
| ◆ Amiodarone | Cordarone | Antiarrhythmic/life- threatening arrhythmias | 200 mg tablets and 50 mg/mL injection | 10.6 mL per 7.5 L water (0.025% solution); apply three to six topical treatments every 2 weeks for refractory cases, this dose has been exceeded to produce increased efficacy. Doses that have been used include 0.025%, 0.05%, and 0.1% concentration applied twice a week and 0.125% solution applied to one-half body every day for 4 weeks to 5 months. |
| Amitraz | Mitaban | Antiparasitic/specially ectoparasites: <i>Demodex</i> and <i>Sarcoptes</i> | 10.6 mL concentrated dip (19.9%) | |

| | | | | |
|-----------------------------|---|--|--|--|
| Amitriptyline | Elavil | Behavior modifier/ separation anxiety and (in cats) chronic idiopathic cystitis | 10-, 25-, 50-, 75-, 100-, and 150-mg tablets; 10 mg/mL injection | Dog: 1-2 mg/kg PO q12-24h (range: 0.25-4 mg/kg q12-24h) Cat: 2 mg/kg or approx 5-10 mg per cat per day PO |
| Amlodipine | Norvasc | Calcium channel blocker/ vasodilator for systemic hypertension | 2.5-, 5-, and 10-mg tablets | Dog: 2.5 mg/dog or 0.1 mg/kg PO once daily Cat: 0.625 mg/cat/day PO initially; then increase if needed to 1.25 mg/cat/day (average is 0.18 mg/kg once daily) |
| Ammonium chloride | Generic | Urinary acidifier/acidify urine and treat metabolic alkalosis | Available as crystals | Dog: 100 mg/kg PO q12h Cat: 800 mg/cat (approximately 1/3 to 1/4 tsp) mixed with food daily |
| Amoxicillin trihydrate | Amoxi-Tabts; Amoxi-drops; Amoxil; others | Broad-spectrum antibacterial | 50-, 100-, 200-, and 400-mg tablets; 50 mg/mL oral suspension | 6-20 mg/kg PO q8-12h |
| Amoxicillin/ clavulanate | Clavamox | Broad-spectrum antibacterial | 62.5-, 125-, 250-, and 375-mg tablets; 62.5 mg/mL suspension | Dog: 12.5-15 mg/kg PO q12h Cat: 62.5 mg/cat PO q12h; consider administering these doses q8h for gram- negative infections |
| Amphotericin B | AmBisome (new formulation; less toxic but expensive) | Antifungal (liposomal formulation)/deep, systemic fungal infection & leishmaniasis | 50-mg injectable vial | 3-5 mg/kg/day IV administered over 60-120 min |
| Ampicillin | Fungizone (traditional formulation) Omnipen; Principen; others | Antifungal/deep systemic fungal infection & leishmaniasis Broad-spectrum antibacterial | 50-mg injectable vial 250- and 500-mg capsules; 125-, 250-, and 500-mg vials of ampicillin sodium | 0.5 mg/kg IV (slow infusion) q48h; cumulative dose is 4-8 mg/kg CAUTION: Monitor renal function 10-20 mg/kg IV, IM, SC q6-8h (ampicillin sodium); 20-40 mg/kg PO q8h |

Note: Listings preceded by  are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2.6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---------------------------|--|--|---|--|
| ◆ Ampicillin + sulbactam | Unasyn | Broad-spectrum antibacterial | 1.5- and 3-g vials in 2:1 combination for injection | 10-20 mg/kg IV, IM q8h |
| Ampicillin trihydrate | Polyflex | Broad-spectrum antibacterial | 10- and 25-mg vials for injection | 6.5-10 mg/kg IM, SC, q12h |
| Amprolium | Amprol, Corid | Thiamine analog/ <i>treatment of coccidia</i> | 9.6% (9.6 g/dL) oral solution; soluble powder | 1.25 g of 20% amprolium powder to daily feed, or 30 mL of 9.6% amprolium solution to 3.8 L of drinking water for 7 days |
| ◆ Antiserum, snakebite | Antivenin | Antivenin/ <i>concentrated serum globulin from horses immunized with multiple types of venom</i> | 10-mL vials | Dose varies from 10 to 50 mL (1 to 5 vials) initially; additional doses may be administered 2 h following initial treatment |
| Apomorphine hydrochloride | Generic | Emetic (potent) | 6-mg tablet | 0.02-0.04 mg/kg IV, IM, 0.1 mg/kg SC, or instill 0.25 mg in conjunctiva of eye (dissolve 6-mg tablet in 1-2 mL of saline) |
| Ascorbic acid | Vitamin C | Vitamin supplement | Various forms | 100-500 mg/animal/day (diet supplement) or 100 mg/animal q8h (urine acidification) |
| L-Asparaginase | Elspar | Antineoplastic/ <i>lymphoid malignancies</i> | 10,000 U per vial for injection | Dog: 10,000 to 20,000 IU/m ² IV once weekly Cat: 400 U/kg SC or IM (as part of a protocol) |
| Aspirin | Many generic and brand name products (e.g., Bufferin, Ascriptin) | NSAID; anticoagulant | 81- and 325-mg tablets | <i>Pretreatment with antihistamine (diphenhydramine), 2 mg/kg (dog) and 1 mg/kg (cat) 30 minutes earlier is recommended</i> Dog: <i>Mild analgesia</i> : 10 mg/kg q12h <i>Antiinflammatory</i> : 20-25 mg/kg q12h <i>Antiplaquet</i> : 5-10 mg/kg q24-48h Cat: 10-20 mg/kg q48h <i>Antiplaquet</i> : 80 mg q48h |

| | | | | |
|------------------------------------|-----------------------|---|--|--|
| Atenolol | Tenormin | Beta-blocker/hypertension and tachyarrhythmias | 25-, 50-, and 100-mg tablets; 25 mg/mL oral suspension; and 0.5 mg/mL ampule for injection | Dog: 6.25-12.5 mg/dog q12h (or 0.25-1.0 mg/kg q12-24h) Cat: 6.25-12.5 mg/cat q12h (approx. 3 mg/kg) 0.2 mg/kg IV initially; then 0.15 mg/kg q30min (or IV infusion at 3-8 µg/kg/min) |
| Atracurium | Tracrium | Neuromuscular blocking agent/ <i>adjunct to general anesthesia for muscle relaxation</i> | 10-mg/mL injection | |
| ◆ Atropine | Many generic products | Antimuscarinic-anticholinergic/ <i>preanesthetic agent and treatment of some bradyarrhythmias</i> | 400-, 500-, and 540 µg/mL injection; 15 mg/mL injection | 0.02-0.04 mg/kg IV, IM, SC q6-8h or 0.2-0.5 mg/kg (as needed) for organophosphate and carbamate toxicosis |
| Auranofin (triethylphosphine gold) | Ridaura | Gold compound/ <i>immune-mediated skin disease</i> | 3-mg capsule | 0.1-0.2 mg/kg PO q12h |
| Aurothiogluucose | Solganol | Gold compound/ <i>immune-mediated skin disease</i> | 50 mg/mL injection | Dog <10 kg: 1 mg IM 1st wk, 2 mg IM 2nd wk, and then 1 mg/kg/wk maintenance; >10 kg: 5 mg IM 1st wk, 10 mg 2nd wk, and then 1 mg/kg/wk maintenance Cat: 0.5-1 mg/cat IM q7days |
| Azathioprine | Imuran | Purine antagonist/ <i>immunosuppressive agent</i> | 50-mg tablet; 10 mg/mL injection | Dog: 2 mg/kg PO q24h initially; then 0.5-1 mg/kg q48h Cat (use cautiously): 1 mg/kg PO q48h <i>Monitoring patient CBC is indicated during therapy</i> |
| Azithromycin | Zithromax | Antibacterial/ <i>broad-spectrum activity with very long tissue half-life</i> | 250-mg capsule; 250- and 600-mg tablets; 20 mg/mL oral suspension | Dog: 5-10 mg/kg PO once daily for 3-5 days (treatment may be extended for up to 10 days of consecutive treatment) Cat: 5-10 mg/kg PO daily for 3-5 days. |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|--------------------------|------------------------------|--|---|---|
| BAL | See Dimercaprol, Lotensin | | | |
| Benazepril | | ACE inhibitor/ <i>chronic heart failure, hypertension, first choice in treating protein-losing nephropathies</i> | 5-, 10-, 20-, and 40-mg tablets | Dog: <i>Heart failure</i> : 0.25-0.5 mg/kg PO q24h <i>Hypertension</i> : 0.25 mg/kg PO q12h Cat: <i>Heart failure</i> : 0.25-0.5 mg/kg PO once or twice daily <i>Hypertension</i> : 0.25-1.0 mg/kg PO once or twice daily |
| Betamethasone | Celestone | Potent glucocorticoid/ <i>antiinflammatory and immune-mediated disease</i> | 600- μ g (0.6-mg) tablet; 3 mg/mL sodium phosphate injection | Dog and cat: <i>Antiinflammatory</i> : 0.1-0.2 mg/kg PO q12-24h <i>Immunosuppressive</i> : 0.2-0.5 mg/kg once or twice daily |
| Bethanechol | Urecholine | Muscarinic-cholinergic/ <i>enhance urinary bladder contraction</i> | 5-, 10-, 25-, and 50-mg tablets; 5 mg/mL injection | Dog: 5-15 mg/dog PO q8h Cat: 1.25-5 mg/cat PO q8h |
| Bisacodyl | Dulcolax | Stimulant laxative | 5-mg tablet | 5 mg/animal PO q8-24h |
| Bismuth subsalicylate | Pepto-Bismol | GI protectant/ <i>treatment of simple (uncomplicated) diarrhea</i> | Oral suspension; 262 mg/15 mL or 525 mg/mL in extra strength formulation; 262-mg tablet | 1-3 mL/kg/day (in divided doses) PO |
| Bleomycin | Blenoxane | Antineoplastic/ <i>used in multiple cancer protocols</i> | 15-U vials for injection | Dog: 10 U/m ² IV or SC for 3 days; then 10 U/m ² weekly (maximum cumulative dose 200 U/m ²) |
| Bromide | See Potassium bromide | | | |
| Bromocriptine mesylate | Parlodel | Dopamine agonist and prolactin inhibitor/ <i>pregnancy termination or pseudopregnancy (pseudocystis) in dogs</i> | 2.5-mg tablets and 5.0-mg capsules | <i>Pseudocystis</i> : 10 μ g/kg PO for 10 days, or 30 μ g/kg PO for 16 days <i>Pregnancy termination</i> : 50-100 μ g/kg PO for 4-7 days; begin treatment from day 35-45 after LH surge CAUTION: Vomiting is a common side effect |
| Bunamidine hydrochloride | Scolaban | Antiparasitic/ <i>tape worms</i> | 400-mg tablet | 20-50 mg/kg PO per treatment |

| | | | |
|-----------------------|--|--|--|
| Bupivacaine | Local anesthetic (parenteral) | 2.5- and 5-mg/mL solution injection | 1 mL of 0.5% solution/10 cm for an epidural |
| Buprenorphine | Partial opiate agonist <i>analgesic</i> | 0.3 mg/mL solution | Dog: 0.005-0.02 mg/kg IV, IM, SC q6-12h Cat: 0.005-0.01 mg/kg IV, IM q6-12h Buccal administration is well tolerated in cats and lasts ~6 hours |
| Buspirone | Non-benzodiazepine anxiolytic/ <i>control urine spraying</i> | 5- and 10-mg tablets | Cat: 2.5-5 mg/cat PO daily (may be increased to twice daily for some cats) |
| Busulfan | Oral antineoplastic/ <i>chronic granulocytic leukemia</i> | 2-mg tablet | 3-4 mg/m ² PO q24h |
| Butorphanol | Opioid analgesic/ <i>perioperative analgesia</i> | 1-, 5-, and 10-mg tablets; 0.5 or 10 mg/mL injection | Dog: <i>Antitussive</i> : 0.055 mg/kg SC q6-12h or 0.55 mg/kg PO <i>Preeuthetic</i> : 0.2-0.4 mg/kg IV, IM, SC (with acepromazine) <i>Analgesic</i> : 0.2-0.4 mg/kg IV, IM, SC q2-4h or 0.55-1.1 mg/kg PO q6-12h Cat: <i>Analgesic</i> : 0.2-0.8 mg/kg IV, SC q2-6h or 1.5 mg/kg PO q4-8h |
| Calcitriol | Calcium supplement/ <i>increases calcium absorption in the GI tract; used in management of hypoparathyroidism</i> | Available as injection (Calcijex) and capsules (Rocaltrol): 0.25- and 0.5-µg capsules; 1- or 2-µg/mL injection | Dog: 0.25 to 0.5 µg/dog/day PO q2-4h Cat: 0.25 µg/cat PO q48h |
| Calcium carbonate | Calcium supplement | Many tablets or oral suspension (e.g., 650-mg tablet contains 260 mg calcium ion) | 5-10 mL oral solution PO q4-6h <i>For phosphate binder</i> : 60-100 mg/kg/day PO in divided doses |
| ◆ Calcium chloride | Calcium supplement | 10% (100 mg/ml) solution | 0.1-0.3 mL/kg IV (slowly) |
| Calcium citrate (OTC) | Calcium supplement | 950-mg tablet (contains 200 mg calcium ion) | Dog: 20 mg/kg/day PO (with meals) Cat: 10-30 mg/kg q8h PO (with meals) |
| ◆ Calcium gluconate | Calcium supplement | 10% (100 mg/mL) injection | 0.5-1.5 mL/kg IV (slowly) |
| Calcium lactate (OTC) | Calcium supplement | Available as a powder and various-sized tablets | Dog: 0.5-2.0 g/dog/day PO (in divided doses) Cat: 0.2-0.5 g/cat/day PO (in divided doses) |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|--------------------------------|-----------------------------|--|--|---|
| Captopril | Capoten | ACE inhibitor (vasodilator)/ <i>hypertension and congestive heart failure</i> | 25-mg tablet | Dog: 0.5-2 mg/kg PO q8-12h Cat: 3.12-6.25 mg/cat PO q8h |
| Carbencillin | Geopen; Pyopen | Antibacterial | 1-, 2-, 5-, 10-, and 30-g vials for injection 500-mg tablet | 40-50 mg/kg and up to 100 mg/kg IV, IM, SC q6-8h 10 mg/kg PO q8h |
| Carbencillin indanyl sodium | Geocillin | Antibacterial | 50- and 150-mg vials for injection | Dog: 300 mg/m ² IV q3-4 wk Cat: 200 mg/m ² IV q4wk |
| Carboplatin | Paraplatin | Antineoplastic/multiple <i>tumor types</i> | 25-, 75-, and 100-mg tablets 50 mg/mL in 20-mL vials for injection | Dog: 2.2 mg/kg PO q12h Cat: Not approved for use in cats |
| ◆ Carprofen | Rimadyl | NSAID | 100- and 325-mg tablets | Dog: 1-5 mg/kg/day PO Cat: 1-2 mg/cat/day |
| Cascara sagrada (OTC) | Many brand name products | Laxative | Oral liquid (100%) | Dog: 8-30 mL/day PO Cat: 4-10 mL/day PO |
| Castor oil (OTC) | Generic | Laxative | 250- and 500-mg capsules and 25 mg/mL oral suspension | 4-20 mg/kg PO q8h |
| Cefaclor | Ceclor | Antibacterial | 50 mg/mL oral suspension; 50-, 100-, 200-, and 1000-mg tablets | Dog: 22-30 mg/kg PO q12h Cat: 22 mg/kg PO q24h |
| ◆ Cefadroxil | Cefa-Tabs; Cefa-Drops | Antibacterial | 500-mg, 1-g, and 2-g vials for injection | 40 mg/kg IV q6h |
| Cefepime | Maxipime | Antibacterial | 20 mg/mL oral suspension; 200- and 400-mg tablets | 10 mg/kg PO q12h <i>For cystitis:</i> 5 mg/kg PO q12-24h |
| Cefixime | Suprax | Antibacterial | 500-mg and 1-, 2-, and 10-g vials for injection | Dog: 50 mg/kg IV, IM, SC q12h Cat: 20-80 mg/kg IV, IM q6h |
| Cefotaxime | Claforan | Antibacterial | 1-, 2-, and 10-g vials for injection | 30 mg/kg IV, SC q8h |
| Cefotetan | Cefotan | Antibacterial | 1-, 2-, and 10-g vials for injection | 30 mg/kg IV q6-8h |
| ◆ Cefoxitin sodium | Mefoxin | Antibacterial | 1-, 2-, and 10-g vials for injection | 30 mg/kg IV q6-8h |

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|---|--|---|---|--|
| Ceftazidime | Fortaz; Ceptaz; Tazicef | Antibacterial | 0.5-, 1-, 2-, and 6-g vials reconstituted to 280 mg/mL | Dog and cat: 30 mg/kg IV, IM q6h CRI: Loading dose 4.4 mg/kg; then 4.1 mg/kg/h with IV fluids |
| Ceftiofur | Naxcel (ceftiofur sodium); Excenel (ceftiofur HCl) | Antibacterial | 50 mg/mL injection | Dog: 30 mg/kg, SC, q4-6h 2.2-4.4 mg/kg SC q24h (for urinary tract infections) |
| ◆ Cephalixin | Keflex; generic | Antibacterial/especially skin, urinary, respiratory tract infections | 250- and 500-mg capsules; 250- and 500-mg tablets; 100 mg/mL or 125 and 250 mg/5 mL oral suspension | 10-30 mg/kg PO q6-12h <i>Pyoderma</i> : 22-35 mg/kg PO q12h |
| Cephalothin sodium | Keflin | Antibacterial | 1- and 2-g vials for injection | 10-30 mg/kg IV, IM q4-8h |
| Cephapirin | Cefadyl | Antibacterial | 500-mg and 1-, 2-, and 4-g vials for injection | 10-30 mg/kg IV, IM q4-8h |
| ◆ Charcoal, activated | ActaChar; Charcodote; Toxiban; generic | GI adsorbent | Oral suspension | 1-4 g/kg PO (granules) 6-12 mg/kg (suspension) |
| Chlorambucil | Leukeran | Antineoplastic/has also been used to treat eosinophilic granuloma complex in cats | 2-mg tablet | Dog: 2-6 mg/m ² q24h initially; then q48h PO Cat: 0.1-0.2 mg/kg q24h initially; then q48h PO |
| Chloramphenicol and chloramphenicol palmitate | Chloromycetin; generic | Antibacterial | 30 mg/mL oral suspension (palmitate); 250-mg capsule; and 100-, 250-, and 500-mg tablets | Dog: 40-50 mg/kg PO q8h Cat: 12.5-20 mg/kg PO q12h |
| Chloramphenicol sodium succinate | Chloromycetin; generic | Antibacterial | 100 mg/mL injection | Dog: 40-50 mg/kg IV, IM q6-8h Cat: 12.5-20 mg/cat IV, IM q12h |
| Chlorothiazide | Diuril | Diuretic/also used as an antihypertensive | 250- and 500-mg tablets; 50 mg/mL oral suspension and injection | 20-40 mg/kg PO q12h |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---|--|---|---|---|
| Chlorpheniramine maleate (OTC) | Chlor-Trimeton; Pheneton; others | Antihistamine (H ₁ -blocker)/ <i>weak antipruritic agent in allergic animals</i> | 4- and 8-mg tablets | Dog: 4-8 mg/dog PO q12h (up to maximum of 0.5 mg/kg q12h) Cat: 2 mg/cat PO q12h |
| Chlorpromazine | Thorazine | Tranquilizer/ <i>antiemetic</i> | 25-mg/mL injection solution | 0.5 mg/kg IM, SC q6-8h <i>Before cancer chemotherapy: 2 mg/kg SC q3h</i> 25 mg/kg PO q6-8h |
| Chlortetracycline Chorionic gonadotropin | Generic See Gonadotropin | Antibacterial | Powdered feed additive | 25 mg/kg PO q6-8h |
| Cimetidine | Tagamet | Antihistamine (H ₂ blocker)/ <i>treatment and prevention of gastric ulcer</i> | 100-, 150-, 200-, and 300-mg tablets; 60 mg/mL injection | 10 mg/kg IV, IM, PO q6-8h <i>In renal failure: 2.5-5 mg/kg IV, PO q12h</i> |
| Ciprofloxacin | Cipro | Antibacterial | 250-, 500-, and 750-mg tablets, 2 mg/mL injection | 5-15 mg/kg PO, IV q12h |
| Cisapride | Propulsid | Prokinetic/ <i>stimulates GI tract motility</i> | 10-mg tablet | Dog: 0.1-0.5 mg/kg PO q8-12h (doses as high as 0.5-1.0 mg/kg have been used in some dogs) Cat: 2.5-5 mg/cat PO q8-12h (doses as high as 1 mg/kg q8h have been used in cats) |
| Cisplatin | Platinol | Antineoplastic/ <i>multiple tumor types</i> | 1-mg/mL injection; 50-mg vials | Dog: 60-70 mg/m ² IV q3-4wk (administer fluid for diuresis with therapy) Cat: DO NOT USE. |
| Clemastine | Tavist; Contac 12 Hour; generic | Antihistamine (H ₁ -blocker)/ <i>antipruritic in allergic dogs</i> | 1.34-mg tablet (OTC); 2.64-mg tablet (Rx); 0.134 mg/mL syrup | Dog: 0.05-0.1 mg/kg PO q12h |
| ◆ Clindamycin | Antirobe; Cleocin | Antibacterial/ <i>especially gram-positive infections. Recommended for toxoplasmosis (controversial).</i> | 25 mg/mL oral liquid; 25-, 75-, and 150-mg capsule; and 150-mg/mL injection (Cleocin) | Dog: 11 mg/kg PO q12h or 22 mg/kg PO q24h Cat: 5.5 mg/kg q12h, or 11 mg/kg q24h (staphylococcal infections); 11 mg/kg q12h or 22 mg/kg q24h (anaerobic infections) PO <i>Toxoplasmosis: 12.5 mg/kg PO q12h for 4 wk</i> Cat: 1 mg/kg PO up to maximum of 4 mg/kg/day |
| Clofazimine | Lamprene | Antibacterial | 50- and 100-mg capsules | Cat: 1 mg/kg PO up to maximum of 4 mg/kg/day |
| Clomipramine | Anafranil (human); Clomicalm (veterinary) | Tricyclic antidepressant/ <i>behavior modification</i> | 10-, 25-, and 50-mg tablets (human); 5-, 20-, and 80-mg tablets (veterinary) | Dog: 1-2 mg/kg PO q12h up to maximum of 3 mg/kg PO q12h Cat: 1-5 mg/cat PO q12-24h |

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|----------------------------|---|--|---|--|
| Clonazepam | Klonopin | Anticonvulsant/also used to manage certain types of behavior disorders | 0.5-, 1-, and 2-mg tablets | 0.5 mg/kg PO q8-12h |
| Clorazepate | Tranxene | Anticonvulsant/also used to manage certain types of behavior disorders | 3.75-, 7.5-, 11.25-, 15-, and 22.5-mg tablets | 2 mg/kg PO q12h |
| Clotrimazole (CTL) | Many generic products, including lotrimazole topical solution, USP 1% | Antifungal (topical only)/nasal aspergillosis | 1% topical solution in 30 mL | For nasal aspergillosis in dogs: Infuse 1% solution in each nasal cavity for 1 h in anesthetized dog. NOTE: patient preparation is required |
| Cloxacillin | Cloxapen; Orbenin; Tegopen | Antibacterial | 250- and 500-mg capsules; 25 mg/mL oral solution | 20-40 mg/kg PO q8h |
| Codeine | Generic | Opioid analgesic | 15-, 30-, and 60-mg tablets; 5 mg/mL syrup; 3 mg/mL oral solution | Analgesia: 0.5-1 mg/kg PO q4-6h Antitussive: 0.1-0.3 mg/kg PO q4-6h |
| Colchicine | Generic | Antiinflammatory/hepatic failure | 500- and 600-µg tablets; 500 µg/mL ampule injection | 0.01-0.3 mg/kg PO q24h |
| Colony-stimulating factor | Neupogen | Hormone/stimulate granulocyte production in bone marrow | 300 µg/mL injection | 2.5 µg/kg SC q12h |
| ◆ Corticotropin (ACTH Gel) | H.P. Acthar Gel (expensive) | Hormone/diagnostic test drug for the diagnosis of hyper- and hypoadrenocorticism | 5 mL (multiple dose) 80 USP units/mL | Response test: Collect pre-ACTH sample and inject 2.2 IU/kg IM; Dog: Collect post-ACTH sample in 2 h Cat: Collect post-ACTH samples at 1 and 2 h |
| ◆ Cosyntropin | Cortrosyn | Hormone/diagnostic test drug for the diagnosis of hyper- and hypoadrenocorticism | 250 µg per vial (can be stored in freezer for 6 months) | Response test: Dog: Collect pre-sample and inject 5 µg/kg IV Cat: Collect pre-sample and inject 0.125 mg IV Dog and cat: Collect post sample 1 h post-administration. |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/use | Formulation | Recommended dosage |
|-----------------------------------|--|--|--|--|
| Cyanocobalamin | See Vitamin B ₁₂ | | | |
| Cyclophosphamide | Cytoxan; Neosar | Antineoplastic/multiple tumor types and adjunctive in immune-mediated disorders | 25 mg/mL injections; 25- and 50-mg tablets | Anticancer: 50 mg/m ² PO once daily 4 days/wk or 150-300 mg/m ² IV and repeat in 21 days <i>Immunosuppressive therapy</i> : 50 mg/m ² (approx 2.2 mg/kg) PO q48h or 2.2 mg/kg once daily for 4 days/wk Cat: 6.25-12.5 mg/cat once daily 4 days/wk |
| Cyclosporine (cyclosporin A) | Neoral, Sandimmune; Optimmune (ophthalmic) | Immunosuppressant (CMI)/multiple uses ranging from atopic dermatitis to hemolytic anemia to perianal fistulas <i>Consult additional references before prescribing</i> | Neoral: 25-mg and 100-mg microemulsion capsules; 100-mg/mL oral solution (for microemulsion) Sandimmune: 100-mg/mL oral solution; 25- and 100-mg capsules Optimmune: 0.2% ointment | Dog: 3-7 mg/kg, PO, q12-24h (adjust dose based on condition being treated and by monitoring blood levels) <i>Hemolytic anemia</i> : Up to 10 mg/kg PO q12h (as adjunctive therapy) Cat: 4-6 mg/kg PO q12h NOTE: multiple products are available but all are NOT bioequivalent |
| Cyproheptadine | Periactin | Antihistamine/appetite stimulant in cats | 4-mg tablet; 2 mg/5 mL syrup | Antihistamine: 1.1 mg/kg PO q8-12h Appetite stimulant: 2 mg/cat PO |
| Cytarabine (cytosine arabinoside) | Cytosar-U | Antineoplastic/lymphoma and leukemia | 100-mg vial | Dog (lymphoma): 100 mg/m ² IV, SC once daily or twice daily for 4 days Cat: 100 mg/m ² once daily for 2 days |
| Dacarbazine | DTIC | Antineoplastic/lymphoreticular neoplasms and soft tissue sarcomas | 200-mg vial for injection | 200 mg/m ² IV for 5 days q3wks; or 800-1000 mg/m ² IV q3wks |
| ◆ Dalteparin | Fragmin | Low molecular weight heparin/management of thromboembolic disease | Multiple injectable preparations | <i>Prophylaxis</i> : 70 IU/kg q24h SC <i>Treatment</i> : 200 IU/kg q24h SC |
| Danazol | Danocrine | Anabolic steroid/adjunctive therapy for immune-mediated disease | 50-, 100-, and 200-mg capsules | 5-10 mg/kg PO q12h |

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| Dantrolene | Dantrium | Muscle relaxant/ <i>urethral obstruction and prevention of malignant hyperthermia</i> | 100-mg capsules; 0.33 mg/mL injection | <i>Malignant hyperthermia</i> : 2-3 mg/kg IV <i>Muscle relaxation</i> : Dog: 1-5 mg/kg PO q8h Cat: 0.5-2 mg/kg PO q12h |
| Dapsone | Generic | Antibacterial/ <i>Mycobacterium</i> spp. | 25- and 100-mg tablets | 1.1 mg/kg PO q8-12h |
| ◆ Deferoxamine | Desferal | Antidote/ <i>iron toxicosis</i> | 500-mg vial for injection | 10 mg/kg IV, IM q2h for two doses; then 10 mg/kg q8h for 24 h |
| ◆ Deprenyl (L-deprenyl) | See Selegiline (Anipryl) | | | |
| ◆ Desmopressin acetate | DDAVP | Hormone/ <i>used in the clinical management of patients with diabetes insipidus and patients with von Willebrand's disease</i> | 100 µg/mL injection and desmopressin acetate nasal solution (0.01% metered spray); 0.1- and 0.2-mg tablets | Diabetes insipidus: 2-4 drops (2 µg) q12-24h intranasally or in eye; animal oral dose not established, but dose extrapolated from humans is 0.05 mg/animal q12h PO with increase to 0.1 or 0.2 mg/animal as needed. <i>von Willebrand's disease</i> : 1 µg/mL (0.01 mL/kg) SC, IV diluted in 20 mL saline administered over 10 min |
| Desoxycorticosterone pivalate | Percorten-V; DOCP; DOCA pivalate | Mineralocorticoid/ <i>hypoadrenocorticism</i> | 25 mg/mL suspension for injection | 1.5-2.2 mg/kg IM q25days |
| ◆ Dexamethasone (dexamethasone solution and dexamethasone sodium phosphate) | Azium solution in polyethylene glycol; sodium phosphate forms include Dexaject SP, Dexavet, and Dexasone; tablets include Decadron and generic | Glucocorticoid/ <i>multiple uses as antiinflammatory agent; also used in the diagnosis of hyperadrenocorticism</i> | Azium solution, 2 mg/mL; sodium phosphate forms are 3.33 mg/mL; 0.25-, 0.5-, 1-, 1.5-, 2-, 4-, and 6-mg tablets. | Antiinflammatory: 0.07-0.15 mg/kg IV, IM, PO q12-24h <i>For shock, spinal injury</i> : 2.2-4.4 mg/kg IV (of sodium phosphate form) <i>Diagnostic testing use</i> : See Dexamethasone Suppression in Section 5. |
| ◆ Dextran | Dextran 70; Gentrin-70 | Replacement fluid | Injectable solution: 250, 500, and 1000 mL | 10-20 mL/kg IV to effect |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---------------------------------|--|--|---|---|
| Dextromethorphan | Benlynin and others | Antitussive/weak cough suppressant | Available in syrup, capsule, and tablet; many OTC products | 0.5-2 mg/kg PO q6-8h |
| ◆ Dextrose solution 5% in water | D5W | Replacement fluid | Fluid solution for IV administration | 40-50 mL/kg IV q24h |
| ◆ Diazepam | Valium; generic | Anticonvulsant/multiple neurotropic effects ranging from behavior disorders to seizure control | 2- and 5-mg tablets; 5 mg/mL solution for injection | <i>Prenesthetic</i> : 0.5 mg/kg IV <i>Status epilepticus</i> : 0.5 mg/kg IV, 1.0 mg/kg rectal; repeat if necessary <i>Appetite stimulant (cat)</i> : 0.2 mg/kg IV |
| ◆ Dichlorophenamide | Daranide | Diuretic/management of glaucoma | 50-mg tablet | 3-5 mg/kg PO q8-12h |
| Dichlorvos | Task | Antiparasitic/roundworms, hookworms, whipworms | 10- and 25-mg tablets | Dog: 26.4-33 mg/kg PO Cat: 11 mg/kg PO |
| Dicloxacillin | Dynapen | Antibacterial | 125-, 250-, and 500-mg capsules; 12.5 mg/mL oral suspension | 25 mg/kg IM q6h Oral doses not absorbed |
| Diethylcarbamazine (DEC) | Caricide; Filaribits | Antiparasitic/prevention of heartworm disease in dogs; treatment of ascarids in cats | Chewable tablets; 50-, 60-, 180-, 200-, and 400-mg tablets | <i>Heartworm prophylaxis</i> : 6.6 mg/kg PO q24h Cat: (for ascarids) 55-110 mg/kg PO once |
| Diethylstilbestrol (DES) | Limited availability; compounding required | Hormone/estrogen replacement and urinary incontinence; induce abortion in dogs | Tablets (prepared through compounding pharmacies) | Dog: 0.1-1.0 mg/dog PO q24h Cat: 0.05-0.1 mg/cat PO q24h |
| Difloxacin | Dicural | Antibacterial | 11.4-, 45.4-, and 136-mg tablets | 5-10 mg/kg/day PO |
| Digitoxin | Crystodigin | Cardiac inotrope/congestive heart failure and management of various tachyarrhythmias | 0.05- and 0.1-mg tablets | 0.02-0.03 mg/kg PO q8h |

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| Digoxin | Lanoxin; Cardoxin | Cardiac inotrope/congestive heart failure and management of various tachyarrhythmias | 0.0625-, 0.125-, 0.25-mg tablets; 0.05 and 0.15 mg/mL elixir | Dog: <20 kg, 0.01 mg/kg q12h; >20 kg, 0.22 mg/m ² PO q12h (subtract 10% for elixir) Dog (rapid digitalization): 0.0055-0.011 mg/kg IV q1h to effect Cat: 0.08-0.01 mg/kg PO q48h (approximately 1/4 of a 0.125-mg tablet/cat) |
| Dihydrotachysterol (DHT) | See Vitamin D analog | | | |
| ◆ Diltiazem | Cardizem; Dilacor | Calcium channel blocker/hypertension; also supraventricular tachycardia and hypertrophic cardiomyopathy | 30-, 60-, 90-, and 120-mg tablets; 50 mg/mL injection | Dog: 0.5-1.5 mg/kg PO q8h; 0.25 mg/kg over 2 min IV (repeat if necessary) Cat: 1.75-2.4 mg/kg PO q8h; for <i>Dilacor XR</i> or <i>Cardizem CD</i> , dose is 10 mg/kg PO once daily |
| ◆ Dimenhydrinate | Dramamine | Antihistamine/prevention of motion sickness | 50-mg tablets; 50 mg/mL injection | Dog: 4-8 mg/kg PO, IM, IV q8h Cat: 12.5 mg/cat IV, IM, PO q8h |
| Dimercaprol (BAL) | BAL in Oil | Chelating agent/bind heavy metals (lead, mercury) and arsenicals | 100 injection | 4 mg/kg IM q4h |
| Dinoprost tromethamine | See Prostaglandin F _{2a} | | | |
| Dioctyl calcium sulfosuccinate | See Docusate calcium | | | |
| Dioctyl sodium sulfosuccinate | See Docusate sodium | | | |
| ◆ Diphenhydramine | Benadryl | Antihistamine/weak sedative, prevents motion sickness | Available OTC: 2.5 mg/mL elixir; 25- and 50-mg capsules and tablets; 50 mg/mL injection | 2-4 mg/kg PO q6-8h or 1 mg/kg IM, IV (for dogs, administer 25-50 mg/dog IV, IM, PO q8h) |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/use | Formulation | Recommended dosage |
|-----------------------------------|--|--|---|---|
| Diphenoxylate | Lomotil | Meperidine congener/ <i>treatment of diarrhea</i> | 2.5 mg tablets | Dog: 0.1-0.2 mg/kg PO q8-12h Cat: 0.05-0.1 mg/kg PO q12h |
| Diphenylhydantoin | See Phenytoin | | | |
| Diphosphonate disodium etidronate | See Etidronate disodium | | | |
| Dipyridamole | Persantine | Anticoagulant/ <i>prevention of thromboembolism</i> | 25-, 50-, 75-mg tablets; 5 mg/mL injection | 4-10 mg/kg PO q24h |
| Disopyramide | Norpace | Antiarrhythmic in dogs/ <i>oral treatment or prevention of ventricular arrhythmias (dog only)</i> | 100- and 150-mg capsules | Dog: 6-15 mg/kg, PO, q8h |
| Divalproex sodium | See Valproic acid | | | |
| ◆ Dobutamine | Dobutrex | Rapid acting cardiac inotrope (beta-agonist)/ <i>short-term treatment of heart failure</i> | 250 mg/20 mL vial for injection (12.5 mg/mL) | Dog: 5-20 µg/kg/min IV infusion Cat: 0.5-2 µg/kg/min IV infusion WARNING: may induce arrhythmias, facial twitching, or seizure (cats) |
| Docusate calcium | Surfak; Doxidan | Stool softener | 60-mg tablet (and many others) | Dog: 50-100 mg/dog PO q12-24h Cat: 50 mg/cat PO q12-24h |
| Docusate sodium | Colace; Doxan; Doss; many OTC products | Stool softener | 50- and 100-mg capsules; 10 mg/mL liquid | Dog: 50-200 mg/dog PO q8-12h Cat: 50 mg/cat PO q12-24h |
| ◆ Dolasetron | Anzemet | 5-HT ₃ receptor antagonist/ <i>antiemetic</i> | 50- and 100-mg tablets; 20 mg/mL injection | <i>Prevention:</i> 0.6 mg/kg, PO or IV q24h <i>Treatment:</i> 1 mg/kg, PO or IV q24h |
| ◆ Dopamine | Intropin | Cardiac inotrope (beta-agonist)/ <i>vasodilation (lower doses); adjunctive treatment of acute heart failure and oliguric renal failure</i> | 40-, 80-, or 160-mg/mL | 2-10 µg/kg/min by IV infusion; treatment limited to the critical care setting. |

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| ◆ Doxapram | Dopram | CNS stimulant/stimulate <i>respiration, especially in neonates</i> | 20-mg/mL injection | 5-10 mg/kg IV Neonate: 1-5 mg SC, sublingual, or via umbilical vein |
| Doxepin | Sinequan | Tricyclic antidepressant/ <i>psychogenic dermatoses</i> | Various capsules; 10 mg/mL oral solution | 0.5-1.0 mg/kg PO q12h (<i>especially lick granuloma</i>) |
| Doxorubicin | Adriamycin | Antineoplastic (antibiotic)/ <i>used in treatment protocols for multiple tumor types</i> | 2 mg/mL injection | 30 mg/m ² IV q 21 days; or >20 kg, 30 mg/m ² ; <20 kg, 1 mg/kg Cat: 1 mg/kg IV q3wk |
| Doxycycline | Vibramycin; generic | Antibacterial | 10 mg/mL oral suspension; 100-mg tablet; 100-mg injection vial | 3-5 mg/kg PO, IV q12h; or 10 mg/kg PO q24h <i>For Rickettsia in dogs: 5 mg/kg q12h</i> |
| ◆ EDTA (edetate calcium disodium) | Calcium disodium versenate | Chelates heavy metals/ <i>treatment of lead or zinc toxicosis</i> | 20 mg/mL injection | 25 mg/kg SC, IM, IV q6h for 2-5 days |
| Edrophonium | Tensilon; others | Short-acting cholinergic/ <i>administered as a test agent for myasthenia gravis</i> | 10 mg/mL injection | Dog: 0.11-0.22 mg/kg IV Cat: 2.5 mg/cat IV |
| Enalapril | Enacard | ACE inhibitor/vasodilator <i>used in the treatment of heart failure and/or hypertension; also used in the treatment of patients with protein-losing nephropathies and chronic renal failure</i> | 2.5-, 5-, 10-, and 20-mg tablets | Dog: 0.5 mg/kg PO q12-24h Cat: 0.25-0.5 mg/kg PO q12-24h |
| Enflurane | Ethane | Inhalation anesthetic | Available as solution for inhalation | <i>Induction: 2-3% Maintenance: 1.5-3%</i> |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/use | Formulation | Recommended dosage |
|--------------|--|--|---|--|
| Emiconazole | Imaverol; Clinafarm-EC | Antifungal (topical only)/ <i>infusion for treatment of nasal aspergillosis and topical uses in certain dermatophytoses</i> | 10% or 13.8% emulsifiable concentrate | <i>Nasal aspergillosis:</i> 10 mg/kg q12h instilled into nasal sinus via surgically implanted tubes for 14 days (10% solution diluted 50/50 with water)... this is nasty! NOTE: generally replaced by clotrimazole soak (see Clotrimazole). <i>Dermatophytes:</i> dilute 10% solution to 0.2% and wash lesion with solution four times at 3- to 4-day intervals |
| Enoxaparin | Lovenox | Low molecular weight heparin/ <i>thromboembolic disease</i> | Multiple preparations | <i>Prevention:</i> 0.5 mg/kg SC q24h <i>Treatment:</i> 1-2 mg/kg SC q12h |
| Enrofloxacin | Baytril | Antibacterial | 68-, 22.7-mg, and 5.7-mg tablets; Taste Tabs are 22.7 and 68 mg; 22.7 mg/mL injection | 5-10 mg/kg/once daily (or divided twice daily) PO or IM; Parenteral solution for IM use has been administered by the IV route...administer slowly if indicated. WARNING: Doses of 10 mg/kg and higher are not recommended in cats because of risk of drug-induced retinal damage and blindness |
| Ephedrine | Ephedrin sulfate | Sympathomimetic/ <i>primarily for urinary incontinence</i> EMERGENCY USE: <i>Hypotension associated with anesthesia</i> | 25-mg capsules and 50 mg/mL in 1-mL ampules for injection | Urinary incontinence: Dog: 4 mg/kg, or 12.5-50 mg/dog (total) PO q8-12h; Also, 1.2 mg/kg PO q8h, or 5 to 15 mg/dog (total) q8h Cat: 2-4 mg/kg, PO q8-12h <i>Hypotension:</i> 0.03-0.1 mg/kg IV bolus NOTE: dilute 5 mg in 10 mL saline; give the lower dose first; may repeat in 5 minutes after first dose if hypotension does not improve <i>Cardiac arrest:</i> 10-20 µg/kg IV or 200 µg/kg intratracheal (may be diluted in saline) <i>Anaphylaxis:</i> 2.5-5 µg/kg IV or 50 µg/kg intratracheal (may be diluted in saline) |
| Epinephrine | Adrenalin; generic products (adrenaline) | Alpha- and beta-adrenergic agonist/ <i>anaphylaxis and cardiac arrest</i> | 1 mg/mL (1:1,000) injection solution | |

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| Epsiprantel | Cestex | Oral cesticide/tapeworms | Coated tablet | Dog: 5.5 mg/kg PO given once Cat: 2.75 mg/kg PO given once |
| Ergocalciferol | See Vitamin D ₂ | | | |
| Erythromycin | Many brand name and generic products | Antibacterial/also used as a prokinetic (increases gastric emptying in dogs and cats) | 250-mg capsule or tablet | <i>Antibacterial dose:</i> 10-20 mg/kg PO q8-12h <i>Prokinetic dose:</i> 0.5-1.0 mg/kg PO q8h |
| Erythropoietin, human recombinant (rHuEPO) | Epoetin; Epoetin alfa; Procrit | Hormone/ <i>induction of erythropoiesis in anemia associated with chronic renal failure</i> | Various preparation as U/mL in single-dose and multidose vials for injection | Doses range from 35 or 50 U/kg three times/wk to 400 U/kg/wk IV, SC (adjust dose to hematocrit of 0.30-0.34) |
| Esmolol | Brevibloc | Ultrashort-acting beta-1 blocker/ <i>short-term treatment of cardiac arrhythmias, especially supraventricular tachycardia</i> | 10 mg/mL injection | 500 µg/kg IV, which may be given as 0.05-0.1 mg/kg slowly every 5 minutes or 50-200 µg/kg/min infusion |
| Estradiol cypionate | ECP; Depo-Estradiol; generic | Hormone/ <i>previously used to prevent pregnancy following an unplanned breeding</i> WARNING: NOT recommended for use as an abortifacient in dogs or cats | 2 mg/mL injection | <i>Pregnancy Avoidance:</i> Dog: 22-44 µg/kg IM (total dose not to exceed 1.0 mg) Cat: 250 µg/cat IM between 40 h and 5 days of mating WARNING: may cause bone marrow suppression; in some cases, may cause aplastic anemia. |
| Etidronate disodium | Didronel | Bisphosphonate/ <i>reduced calcium resorption from bone in hypercalcemic patients</i> | 200- and 400-mg tablets; 50 mg/mL injection | Dog: 5 mg/kg/day PO Cat: 10 mg/kg/day PO |
| Etodolac | Etogesic | Oral NSAID/ <i>pain management in dogs</i> | 150- and 300-mg tablets | Dog: 10-15 mg/kg PO once daily Cat: DO NOT USE |

Note: Listings preceded by  are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|-----------------------|---------------------|--|--|---|
| ◆ Famotidine | Pepcid | H ₂ -receptor antagonist/ <i>reduces gastric acid production; used to treat or prevent gastric ulcer</i> | 10-mg tablet; 10 mg/mL injection | 0.5 mg/kg IM, SC, IV, or PO q12-24h WARNING: may cause intravascular hemolysis when given IV to cats |
| Felbamate | Felbatol | Dicarbamate anticonvulsant/ <i>management of seizures in dog only</i> | 400- and 600-mg tablets; 120 mg/mL oral flavored suspension | Dog: Start with 15 mg/kg PO q8h and increase gradually to maximum of 65 mg/kg q8h |
| Fenbendazole | Safe-Guard; Panacur | Anthelmintic/ <i>effective against a variety of internal parasites</i> | Panacur granules 22.2% (222 mg/kg); 100 mg/mL liquid | 25 to 50 mg/kg/day PO for 3 days (NOTE: for some parasites, recommended treatment duration may be longer) |
| ◆ Fentanyl | Sublimaze; generic | Analgesic (opiate)/ <i>parenteral pain control</i> | 250 mg/5 mL injection | 0.02-0.04 mg/kg IV, IM, SC q2h; or 0.01 mg/kg IV, IM, SC (with acetylpromazine or diazepam) <i>For analgesia:</i> 0.01 mg/kg IV, IM, SC q2h |
| Fentanyl transdermal | Duragesic | Analgesic (opiate)/ <i>transdermal pain control</i> | 25-, 50-, 75-, and 100- μ g/h patch | Dog: 10-20 kg, 50 μ g/h patch q72h Cat: 25 μ g/h patch every 3 days NOTE: when administering fentanyl by the transdermal route, dosing regimens can vary among patients; consult individual sources to match patient size with patch size and patch placement. Do not cut the patch to achieve lower doses. |
| Ferrous sulfate (OTC) | Generic | Oral iron supplement/ <i>iron deficiency anemia</i> | Many oral preparations available | Dog: 100-300 mg/dog PO q24h Cat: 50-100 mg/cat PO q24h |
| Finasteride | Proscar | 5- α -reductase inhibitor/ <i>benign prostatic hyperplasia in dogs</i> | 5-mg tablets | Dog: 0.1 mg/kg PO q24h or 5 mg/10-50 kg dog PO q24h |
| Fipronil | Frontline | GABA-regulated chloride channel inhibitor/ <i>topical control of ticks and fleas</i> | Topical solution only | Applied topically once each month as recommended by the manufacturer; approved for use in both dogs and cats |

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|-----------------------|--------------|--|---|--|
| Firocoxib | Previcox | NSAID/for management of inflammation and pain associated with osteoarthritis in dogs. | 57 mg and 227 mg chewable tablets | Dogs only: 5 mg/kg, PO, once daily. |
| Florfenicol | Nuflor | Antibacterial (primarily used in cattle) | 300 mg/mL (available only as a cattle preparation) | Dog: 25-50 mg/kg q8h SC or IM Cat: 25-50 mg/kg q12h SC or IM |
| Fluconazole | Diflucan | Antifungal/oral (dog and cat) or parenteral (dog only) treatment for systemic deep mycoses or nasal fungal infection | 50-, 100-, 150-, and 200-mg tablets; 10 or 40 mg/mL oral suspension; 2 mg/mL IV injection | Dog: 2.5-5.0 mg/kg once daily PO or IV Cat: 2.5-10 mg/cat PO q12h; or 25 mg/cat/day PO |
| Flucytosine | Ancobon | Antifungal/treatment of systemic mycoses | 250-mg capsule; 75 mg/mL oral suspension | 25-50 mg/kg PO q6-8h (up to a maximum dose of 100 mg/kg PO q12h) |
| Fludrocortisone | Florinef | Mineralocorticoid/treatment of hypoadrenocorticism | 100-µg (0.1-mg) tablet | Dog: 0.2-0.8 mg/dog or 0.02 mg/kg PO q24h (13-23 µg/kg) Cat: 0.1-0.2 mg/cat PO q24h |
| ⬠ Flumazenil | Romazicon | Benzodiazepine antagonist/antidote: reverse therapeutic effects or overdose | 100 µg/mL (0.1 mg/mL) injection | 0.01 -0.02 mg (total dose) IV as needed CAUTION: may cause significant hypotension |
| Flumethasone | Flucort | Oral glucocorticoid/antiinflammatory | 0.5 mg/mL injection | Dog: 0.0625-0.25 mg/day in divided doses IV, IM, SC Cat: 0.03-0.125 mg/day IV, IM, SC |
| Flunixin meglumine | Banamine | NSAID/pain management | 250-mg packet granules; 10 and 50 mg/mL injection | Intra-articular: 0.166 to 1.0 mg total dose mg/kg IV, IM, SC once or 1.1 mg/kg/day PO 3 days/wk Ophthalmic: 0.5 mg/kg IV once Dog: 150 mg/m ² IV once/week Cat: DO NOT USE |
| 5-Fluorouracil (5-FU) | Fluorouracil | Antineoplastic/used in treatment protocols for multiple tumor types | 50-mg/mL vial | |
| Fluoxetine | Prozac | Selective-serotonin reuptake inhibitor (SSRI)/treatment of behavior disorders | 10- and 20-mg capsules; 4 mg/mL oral solution | Dog: 0.5 mg/kg day initially PO; then increase to 1 mg/kg/day PO (10-20 mg/dog) Cat: 0.5-4 mg/cat PO q24h |

Note: Listings preceded by ⬠ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6-26 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---|-------------------|--|--|--|
| Fluvoxamine | Luvox | Selective serotonin reuptake inhibitor (SSRI)/ <i>treatment and diagnosis of behavior disorders</i> | 25-, 50-, and 100-mg tablets | Dog: 0.5-2.0 mg/kg, PO, bid Cat: 0.25-0.5 mg/kg PO once daily |
| ◆ Fomepizole (4-Methylpyrazole; 4-MP) | Antizol-Vet | Antidote/ <i>ethylene glycol poisoning</i> | 1.5-mL single-use vials; reconstitute in 30 mL of 0.9% NaCl for a 5% solution (50 mg/mL) | 20 mg/kg IV initially within 8 h of ingestion; then 15 mg/kg IV at 12- and 24-h intervals; then 5 mg/kg IV at 36 h |
| Furazolidone | Furoxone | Antibacterial and antiprotozoal/ <i>generally a second-choice drug</i> | 100-mg tablet | 4 mg/kg PO q12h for 7-10 days |
| Furosemide | Lasix, generic | Diuretic/ <i>multiple uses; commonly used to treat congestive heart failure and pulmonary edema</i> | 12.5-, 20-, and 50-mg tablets; 10 mg/mL oral solution; 50 mg/mL injection | Dog: 2-6 mg/kg IV, IM, SC, PO q8-12h (or as needed); 0.6-1.0 mg/kg/h IV Cat: 1-4 mg/kg IV, IM, SC, PO q8-24h |
| Gemfibrozil | Lopid | Antilipemic/ <i>treatment of hypertriglyceridemia in patients that do not respond to dietary fat restriction</i> | 300-mg capsules; 600-mg tablets | 7.5 mg/kg PO q12h |
| Gentamicin | Gentocin | Antibacterial (aminoglycoside) | 50 and 100 mg/mL solution for injection | Dog: 2-4 mg/kg q6-8h or 6-10 mg/kg IV, IM, SC q24h Cat: 3 mg/kg q8h or 9 mg/kg IV, IM, SC q24h WARNING: Do NOT administer to patients that are dehydrated or acidotic; can cause acute renal failure |
| Glipizide | Glucotrol | Oral hypoglycemic/ <i>variably effective control of type 2 diabetes in cats</i> | 5- and 10-mg tablets | 2.5-7.5 mg/cat PO q12h; usual dose is 2.5 mg/cat initially; then increase to 5 mg/cat q12h |

| | | | | |
|-------------------------------------|--|--|--|--|
| Glucosamine + chondroitin sulfate | Cosequin and other brands | Neuraceutical/adjunctive treatment of nonseptic arthritis; may be useful in treating cats with lower urinary tract disease (FLUTD) | Regular (RS) and double-strength (DS) capsules | Dog: 1-2 RS capsules per day (2-4 capsules of DS for large dogs) Cat: 1 RS capsule daily |
| Glyburide | Diabeta; Micronase; Glynase | Oral hypoglycemic/variably effective control of type 2 diabetes in cats | 1.25-, 2.5-, and 5-mg tablets | 0.625 mg per cat once daily (represents one half of 1.25-mg tablet) |
| Glycerin (OTC) | Generic | Oral osmotic/reduces intraocular (and CSF) pressure | Oral solution | 1-2 mL/kg PO q8h |
| Glycopyrrolate | Robinul-V | Antimuscarinic/multiple uses: pre-anesthetic medication, antidiote | 0.2 mg/mL injection | 0.005-0.011 mg/kg IV, IM, SC |
| Gold sodium thiomalate | Myochrysine | Gold salt/treatment of immune-mediated skin disorders | Injection | 1-5 mg IM 1st wk, then 2-10 mg IM 2nd wk, then 1 mg/kg IM once/wk maintenance |
| Gold therapy | See Aurothioglucoase | | | |
| GoLYTELY | See Polyethylene glycol electrolyte solution | | | |
| Gonadorelin | Factrel; GnRH; LHRH | Hormone/diagnosis and treatment of various reproductive disorders | 50-µg/mL injection | Therapeutic doses: Dog: 50-100 µg/dog IM q24-48h Cat: 25 µg/cat IM once |
| Gonadotropin, human chorionic (hCG) | Profasi; Pregnyl; APL; generic | Hormone/induce luteinization | 5000, 10,000 and 20,000 U injection | Dog: 22 U/kg IM q24-48h or 44 U IM once Cat: 250 U/cat IM once WARNING: Do NOT use in pregnant animals |
| Gonadotropin-releasing hormone | See Gonadorelin | | | |
| Granisetron | Kytril | Antiemetic/prevent emesis associated with chemotherapy | 1 mg/mL injection; 1-mg tablet | 0.01 mg/kg (10 µg/kg) IV |

Note: Listings preceded by  are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2.6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|-----------------------------------|--|---|--|---|
| Griseofulvin (microsize) | Fulvicin U/F | Antifungal (fungistatic antibiotic)/ <i>treatment of dermatophytes (especially M. canis)</i> | 125-, 250-, and 500-mg tablets; 25 mg/mL oral suspension; 125 mg/mL oral syrup | 50 mg/kg PO q24h (up to a maximum dose of 110-132 mg/kg/day in divided treatments) |
| Growth hormone (hGH) | Humatrope; Nutropin; Protropin; Somatotropin; Somatrem | Hormone/replacement hormone in <i>patients with confirmed deficiency.</i> | 5 and 10 mg/vial | 0.1 U/kg SC, IM three times per wk for 4-6 wk WARNING: Is diabetogenic |
| Halothane | Fluothane | Inhalation anesthetic | 250 mL liquid | <i>Induction:</i> 3% <i>Maintenance:</i> 0.5-1.5% |
| Hemoglobin glutamer | Oxyglobin | Blood substitute | 13 g/dL in 125 mg single-dose bags | 10-30 mL/kg, IV; or up to 10 mL/kg/hour. |
| ◆ Heparin sodium | Liquaemin | Anticoagulant/ <i>treat DIC and treatment and prevention of thromboembolic disease</i> | 1000 and 10,000 U/mL injection | 100-200 units/kg IV loading dose; then 100-300 units/kg SC q6-8h <i>Low-dose prophylaxis (dog and cat):</i> 70 U/kg SC q8-12h |
| ◆ Hydroxyethyl starch (HES) | Hetastarch | Volume expander/ <i>used when colloidal therapy is indicated</i> | Injection | 10-20 mL/kg IV to effect, 20-30 mL/kg/day |
| ◆ Hydralazine | Aprisoline | Vasodilator/ <i>hypertension and adjunctive treatment of heart failure</i> | 10-mg tablet; 20 mg/mL injection | Dog: 0.5 mg/kg (initial dose); titrate to 0.5-2 mg/kg PO q12h Cat: 2.5 mg/cat PO q12-24h |
| Hydrochlorothiazide | HydroDIURIL; generic | Diuretic/ <i>hypertension, congestive heart failure, and nephrogenic (ADH-resistant) diabetes insipidus</i> | 10 and 100 mg/mL oral solution; 25-, 50-, and 100-mg tablets | 2-4 mg/kg PO q12h |
| Hydrocodone bitartrate | Hycodan (contains atropine) | Analgesic (opiate)/ <i>pain management</i> | 5-mg tablet | Dog: 0.22 mg/kg PO q4-8h Cat: no dose available |
| Hydrocortisone | Cortef; generic | Glucocorticoid/ <i>antiinflammatory and replacement therapy in adrenal insufficient conditions</i> | 5-, 10-, and 20-mg tablets | <i>Replacement therapy:</i> 1-2 mg/kg PO q12h <i>Antiinflammatory:</i> 1.5-5 mg/kg PO q12h |
| ◆ Hydrocortisone sodium succinate | Solu-Cortef | Glucocorticoid/ <i>antiinflammatory and shock treatment</i> | Various size vials for injection | <i>Shock:</i> 50-150 mg/kg IV Antiinflammatory: 5 mg/kg IV q12h |

| | | Analgesic (opiate)/pain management and restraint | Tablets, oral solution, and injectable (IM) forms available | Dog: 0.22 mg/kg, IM, SC, q4-6h as needed for pain. Dog: 50 mg/kg PO once daily, 3 days/wk Cat: 25 mg/kg PO once daily, 3 days/wk Dog: 1-2 mg/kg q6-8h IM, PO Cat: DO NOT USE |
|---------------------------|-------------|--|---|--|
| ◆ Hydromorphone Dilaudid | | | | |
| Hydroxyurea | Hydrea | Antineoplastic/polycythemia vera, mastocytoma, leukemias | 500-mg capsule | |
| Hydroxyzine | Atarax | Antihistamine/antipruritic and sedative effects, especially in atopic patients | 10-, 25-, and 50-mg tablets; 2 mg/mL oral solution | |
| Ifosfamide | Ifex | Antineoplastic/lymphomas and other sarcomas | 1 gram powder for IV infusion in single-dose vials | Dogs and cats: Dose ranges from 300 to 500 mg/m ² IV CAUTION: Consult treatment protocol before administering |
| Imidacloprid | Advantage | Topical flea treatment for dogs and cats | Topical solution | Apply topically once monthly as directed by the manufacturer for the treatment of fleas |
| Imidacloprid + permethrin | K9 Advantix | Topical flea treatment and tick repellent for DOGS ONLY | Topical solution | Apply topically once monthly as directed by the manufacturer for the treatment of fleas |
| Imipenem + cilastin | Primaxin | Antibacterial | 250- or 500-mg vials for injection | Cat: DO NOT USE; contains permethrin administered to dogs at 10 mg/kg q8h SC |
| Imidocarb dipropionate | Imizol | Antiprotozoal/treatment of babesia, ehrlichiosis (not regarded as effective), Cytauxzoon felis, and related infections | Parenteral solution for IM or SC injection; 120 mg/mL in 10-mL multi-dose vials | Dog: 5 mg/kg IM or SC once; repeat in 2 wk For babesiosis: 6.6 mg/kg IM or SC once; repeat in 2 wk Cat: (cytauxzoonosis) 5 mg/kg IM q2wk as needed |
| Imipramine | Tofranil | Tricyclic antidepressant/treatment of behavior disorders | 10-, 25-, and 50-mg tablets | 2-4 mg/kg PO q12-24h |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---|-------------------------------------|--|--|---|
| Indomethacin | Indocin | | | Safe dose has not been established |
| Interferon (interferon alpha-2a, HuIFN-alpha) | Roferon | Cytokine/immunomodulation in cats with FeLV and/or FIV infection (clinical value of treatment is not established) | 3 million U/vial | Cat: 30 U/cat/day, PO; or 15-30 U/cat IM or SC once daily for 7 days and repeated every other wk |
| Ipecac syrup (OTC) | Ipecac | Oral emetic | | NO LONGER RECOMMENDED; can cause fatal arrhythmias |
| Ipodate | Bilivist; Oragrafin | Organic iodine/treatment of hyperthyroidism (especially in cats) | 500-mg capsules (should be formulated for cats as 50-mg ampules) | Dog: 15 mg/kg, PO, q12h Cat: 100-200 mg (total dose)/cat once daily; dose may be reduced if the 2-wk response is judged satisfactory |
| Iron | See Ferrous sulfate | | | |
| ◆ Isoflurane | Isoflurane; Forane; Aerrane; others | Inhalation anesthetic | 100-mL bottle | Induction: 5% Maintenance: 1.5-2.5% |
| ◆ Isoproterenol | Isuprel | Beta-agonist/uncommonly used to treat acute bronchoconstriction and certain cardiac arrhythmias | 0.2 mg/mL ampules for injection | 10 µg/kg IM, SC q6h; or dilute 1 mg in 500 mL of 5% dextrose or Ringer's solution and infuse IV 0.5-1 mL/min (1-2 µg/min) or to effect |
| ◆ Isosorbide dinitrate | Isordil; Isorbid; | Vasodilator/congestive heart failure | 2.5-, 5-, 10-, 20-, 30-, and 40-mg tablets; 40-mg capsules | 2.5-5 mg/animal PO q12h (or 0.22-1.1 mg/kg PO q12h) |
| ◆ Isosorbide mononitrate | Monoket | Vasodilator/congestive heart failure | 10- and 20-mg tablets | 5 mg/dog PO, two doses/day 7 h apart |
| Isotretinoin | Accutane | Synthetic retinoid/treatment of dermatologic diseases associated with epithelial cell proliferation (e.g., ichthyosis, cutaneous lymphoma) | 10-, 20-, and 40-mg capsules | 1-3 mg/kg/day (up to maximum recommended dose of 3-4 mg/kg/day PO) |
| Itraconazole | Sporanox | Antifungal/treatment of systemic mycoses | 100-mg capsules | Dog: 2.5 mg/kg PO q12h or 5 mg/kg PO q24h Cat: 1.5-3.0 mg/kg PO up to 5 mg/kg PO q24h |

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|------------------------------------|--------------------------------------|---|---|--|
| Ivermectin | Heartgard; Ivomec; Eqvalan liquid | Antiparasiticide/ <i>multiple applications</i> | 1% (10 mg/mL) injectable solution; 10 mg/mL oral solution; 18.7 mg/mL oral paste; 68-, 136-, and 272- μ g tablets | Heartworm preventative : Dog: 6 μ g/kg (range: 3 to 12 μ g/kg) PO q30 days Cat: 24 μ g/kg PO q30days <i>Microfilaricide</i> : 50 μ g/kg PO 2 wk after adulticide therapy <i>Ectoparasite therapy</i> (dog and cat): 200-300- μ g/kg IM, SC, PO <i>Endoparasites</i> (dog and cat): 200-400 μ g/kg SC, PO weekly <i>Demodex therapy</i> : 600 μ g/kg/day PO for 60-120 days |
| Kanamycin | Kantrim | Antibacterial | 200- and 500-mg/mL injection | 10 mg/kg IV, IM, SC q6-8h |
| Kaopectate (kaolin + pectin) (OTC) | Kaopectate | GI adsorbent/ <i>management of acute, simple diarrheal disorders, especially result of dietary indiscretion</i> | 12 oz oral suspension | 1-2 mL/kg PO q2-6h |
| ◆ Ketamine | Ketalar; Ketavet; Vetalar | Dissociative anesthetic | 100 mg/mL injection solution | Dog: 5.5-22 mg/kg IV, IM (recommend adjunctive sedative or tranquilizer treatment) Cat: 2-25 mg/kg IV, IM (recommend adjunctive sedative or tranquilizer treatment) |
| Ketoconazole | Nizoral | Antifungal/ <i>systemic mycoses, Malassezia canis infections; limited application in the treatment of canine hyperadrenocorticism</i> | 200-mg tablet; 100 mg/mL oral suspension (only available in Canada) | Dog: 10-15 mg/kg PO q8-12h <i>Malassezia canis</i> : 10 mg/kg PO q24h or 5 mg/kg PO q12h Cat: 5-10 mg/kg PO q8-12h <i>Hyperadrenocorticism</i> : Dog: 15 mg/kg PO q12h |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---------------------------------|----------------------------------|--|---|--|
| ◆ Ketoprofen | Orudis-KT (OTC); Ketofen | NSAID/pain management | 12.5-mg tablet (OTC); 100 mg/mL injection | Dog and cat: 1 mg/kg PO q24h for up to 5 days or 2.0 mg/kg IV, IM, SC for one dose |
| Ketorolac tromethamine | Toradol | NSAID/pain management | 10-mg tablet; 15 and 30 mg/mL injection in 10% alcohol | Dog: 0.5 mg/kg PO, IM, IV q12h for not more than two doses Cat: DO NOT USE |
| L-Dopa | See Levodopa | | | |
| ◆ Lactated Ringer's solution | Generic | Fluid replacement | 250-, 500-, and 1000-mL bags | Maintenance: 40-50 mL/kg/day IV Shock therapy: Dog: 90 mL/kg IV Cat: 60-70 mL/kg IV |
| Lactulose | Chonulac; generic | Disaccharide laxative/limit bowel absorption of protein and facilitate lowering of blood ammonia levels in patients with hepatic encephalopathy | 10 g/15 mL | Constipation: 1 mL/4.5 kg PO q8h (to effect) Hepatic encephalopathy: Dog: 0.5 mL/kg PO q8h Cat: 2.5-5 mL/cat PO q8h |
| ◆ Leucovorin (folic acid) | Wellcovorin; generic | Antidote/folic acid antagonism; application in dogs and cats is not established | 5-, 10-, 15-, and 25-mg tablets; 3 and 5 mg/mL injection | With methotrexate administration: 3 mg/m ² IV, IM, PO Antidote for pyrimethamine toxicosis: 1 mg/kg PO q24h |
| Levamisole | Levasole, Tramisol Injectable | Antiparasitic/treatment of nematode infections; also proposed to be a non-specific immunostimulant | 0.184-g bolus; 11.7-g/13-g packet; 50-mg tablet | Dog: Hookworms: 5-8 mg/kg PO once (up to 10 mg/kg PO for 2 days) Microfilaricide: 10 mg/kg PO q24h for 6-10 days Immunostimulant: 0.5-2 mg/kg PO 3 times/wk Cat: 4.4 mg/kg once PO (for lungworms); 20-40 mg/kg PO q48h for five treatments) |
| Levodopa | Larodopa; l-Dopa | Dopamine agonist/ hepatic encephalopathy | 100-, 250-, and 500-mg tablets or capsules | Hepatic encephalopathy: 6.8 mg/kg initially; then 1.4 mg/kg q6h |

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|--|--------------------------------|---|---|--|
| Levothyroxine sodium (T ₄) | Soloxine; Thyro-Tabs; Synthoid | Hormone/hypothyroidism | 0.1- to 0.8-mg tablets (in 0.1-mg increments) | Dog: 18-22 µg/kg, PO, q12h (adjust dose via monitoring T ₄ levels) Cat: 10-20 µg/kg/day, PO (adjust dose via monitoring T ₄ levels) |
| ◆ Lidocaine (without epinephrine) | Xylocaine; generic | Anesthetic and anti-arrhythmic/ventricular arrhythmias; also local and regional anesthetic; has been used systemically for pain | 5-, 10-, 15-, and 20-mg/mL injection | Dog (<i>antiarrhythmic</i>): 2-4 mg/kg IV (to a maximum dose of 8 mg/kg over 10-min period); 25-75 µg/kg/min IV infusion Cat (<i>antiarrhythmic</i>): 0.25-0.75 mg/kg IV slowly; for epidural (dog and cat): 4.4 mg/kg of 2% solution |
| Lincomycin | Lincocin | Antibacterial | 100-, 200-, and 500-mg tablets | 15-25 mg/kg PO q12h <i>For pyoderma</i> : Doses as low as 10 mg/kg q12h have been used |
| Liothyronine (T ₃) | Cytomel | Hormone (active form of T ₃)/replacement therapy in patients with hypothyroidism that fail to respond to T ₄ | 60-µg tablet | 4.4 µg/kg PO q8h <i>For T₃ suppression test (cats)</i> : Collect presample for T ₄ and T ₃ ; administer 25 µg q8h for 7 doses; then collect post samples for T ₃ and T ₄ after last dose |
| Lisinopril | Prinivil; Zestril | ACE inhibitor/vasodilator for treatment of hypertension or heart failure | 2.5-, 5-, 10-, 20-, and 40-mg tablets | Dog: 0.5 mg/kg PO q24h Cat: No dose established |
| Lithium carbonate | Lithotabs | Nonspecific immunostimulant/adjunctive treatment to increase neutrophil counts in patients with chemotherapy-induced neutropenia | 150-, 300-, and 600-mg capsules; 300-mg tablet; 300 mg/5 mL syrup | Dog: 10 mg/kg PO q12h Cat: Not recommended |
| Loperamide | Imodium; generic | Analgesic (opiate)/nonspecific management of diarrhea | 2-mg tablet; 0.2 mg/mL oral liquid | Dog: 0.1 mg/kg PO q8-12h Cat: 0.08-0.16 mg/kg PO q12h |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|------------------------------|--|--|---|--|
| Lufenuron | Program | Antiparasitic/flea control | 45-, 90-, 135-, 204.9- and 409.8-mg tablets; 135 and 270 mg suspension per unit pack | Dog: 10/mg/kg PO q30days Cat: 30 mg/kg PO q30days; 10 mg/kg SC q6mo |
| Lufenuron + milbemycin oxime | Sentinel tablets; Flavor Tabs | Antiparasitic/flea control plus heartworm preventative effective against certain intestinal parasites | Milbemycin/lufenuron ratio is as follows: 2.3/46-mg Sentinel tablets; 5.75/115-, 11.5/230-, and 23/460-mg Flavor Tabs | Dog: Administer 1 tablet q30days as recommended by manufacturer (each tablet formulated for size of dog) Cat: DO NOT USE |
| Luteinizing hormone | See Gonadorelin | | | |
| L-Lysine (OTC) | I-Lysine (multiple preparations) | Amino acid/prevention of feline herpesvirus-1 recrudescence | 250- 500-mg capsules | Cat (empiric dose): Mix 250 mg with food once daily NOTE: Efficacy studies have not been performed; no known effect on feline calicivirus carrier cats |
| ◆ Magnesium chloride | Generic | Elemental salt/ventricular dysrhythmias, refractory hypokalemia, and ventricular fibrillation | 200 mg/mL in 50-mL vials for injection | 0.15-0.3 mEq/kg IV over 2-10 min; or 0.75 mEq/kg/day IV by CRI |
| Magnesium citrate | Citroma; Citro-Nesia (Citro-Mag in Canada) | Laxative | Oral solution | 2-4 mL/kg PO |
| Magnesium hydroxide (OTC) | Milk of Magnesia | Laxative | Oral liquid | Antacid: 5-10 mL/kg PO q4-6h Cathartic: Dog: 15-50 PO mL/kg Cat: 2-6 mL/cat PO q24h |
| Magnesium sulfate (OTC) | Epsom salts | Laxative/also used for oral magnesium supplementation | Crystals; many generic preparations | Dog: 8-25 g/dog PO q24h Cat: 2-5 g/cat PO q24h |
| ◆ Mannitol | Osmitol | Diuretic (osmotic)/management of anuric and/or oliguric renal failure; applications in management of glaucoma and cerebral edema | 5-25% solution for injection | Diuretic: 1 g/kg 5-25% solution IV to maintain urine flow Glaucoma or CNS edema: 0.25-2 g/kg 15-25% solution IV over 30-60 min (repeat in 6 h if necessary) |

| | | | | |
|-----------------------------|---|--|---|---|
| Marbifloxacin | Zeniquin | Antibacterial | 25-, 50-, 100-, 200-mg tablets | Dog: 2.75-5.55 mg/kg PO q24h Cat: dose not established |
| MCT oil | MCT oil (many sources) | Medium-chain triglyceride/ lipid supplement used in patients with GI absorptive disorders | Oral liquid | 1-2 mL/kg/day in food |
| Mebendazole | Telmintic | Antiparasitic/multiple applications for treatment of endoparasites | 40 mg/powder | 22 mg/kg (with food) q24h for 3 days |
| ◆ Meclizine | Antivert; generic | Antihistamine/antiemetic, especially when nausea is associated with vertigo | 12.5-, 25-, and 50-mg tablets | Dog: 25 mg PO q24h (for motion sickness, administer 1 h before traveling) Cat: 12.5 mg PO q24h |
| Meclofenamate | Arquel; Meclomen | NSAID/pain management | 50- and 100-mg capsules | Dog: 1 mg/kg/day PO for up to 5 days |
| ◆ Medetomidine | Domitor | Analgesic/adjunct for anesthesia; restraint | 1.0 mg/mL injection | Cat: 12.5 mg PO q24h 750 µg/m ² IV or 1000 µg/m ² IM |
| Medium-chain triglycerides | See MCT oil | | | |
| Medroxyprogesterone acetate | Depo-Provera (injection); Provera (tablets) | Hormone/management of certain dermatologic and behavior disorders, including urine spraying in cats; benign prostatic hyperplasia; | 150 and 400 mg/mL suspension injection; 2.5-, 5-, and 10-mg tablets | 1.1-2.2 mg/kg IM q7days Behavior disorders: 10-20 mg/kg SC Prostatic hyperplasia: 3-5 mg/kg SC, IM |
| Megestrol acetate | Oxaban; Megace | Hormone/management of certain dermatologic and behavior disorders, including urine spraying in cats | 5-mg tablet | Dog: Proestrus: 2 mg/kg PO q24h for 8 days Anestrus: 0.5 mg/kg PO q24h for 30 days Behavior disorders: 2-4 mg/kg q24h for 8 days (reduce dose for maintenance) Cat (NOTE: Any use in cats is EXTRA-LABEL): Dermatologic therapy or urine spraying: 2.5-5 mg/cat PO q24h for 1 wk; then |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2.6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|------------------|-------------------|--|---|--|
| Melarsomine | Immiticide | Antiparasitic (arsenical)/ <i>treatment of canine heartworm disease</i> | 25 mg/mL injection; after reconstitution retains potency for 24 h | reduce to 5 mg once or twice/wk <i>Estrus suppression</i> : 5 mg/cat/day for 3 days; then 2.5-5 mg once/wk for 10 wk Administer via deep IM injection Class 1-2 dogs: 2.5 mg/kg/day for 2 consecutive days Class 3 dogs: 2.5 mg/kg once, then in 1 mo two additional doses 24 h apart Cat: DO NOT USE |
| ◆ Meloxicam | Metacam | NSAID/ <i>pain management</i> | 1.5 mg/mL oral solution | 0.2 mg/kg PO, initial loading dose; then 0.1 mg/kg PO q12h |
| Melphalan | Alkeran | Antineoplastic/used in <i>treatment protocols for multiple tumor types</i> | 2-mg tablet | 1.5 mg/m ² or 0.1-0.2 mg/kg PO q24h for 7-10 days; repeat every 3 wk |
| Meperidine | Demerol | Analgesic (opiate)/ <i>pain management</i> | 50- and 100-mg tablets; 10 mg/mL syrup; 25, 50, 75, and 100 mg/mL injection | Dog: 5-10 mg/kg IV, IM as often as q2-3h (or as needed) Cat: 3-5 mg/kg IV, IM q2-4h (or as needed) |
| Mepivacaine | Carbocaine-V | Local anesthetic | 2% (20 mg/mL) injection | Variable dose for local infiltration <i>For epidural</i> , 0.5 mg of 2% solution q30sec until reflexes are absent. |
| 6-Mercaptopurine | Purinethol | Antineoplastic/used in <i>treatment protocols for multiple tumor types</i> | 50-mg tablet | 50 mg/m ² PO q24h Caution: Consult treatment protocol before administering. |
| Meropenem | Merrem | Antibacterial/ <i>especially in treating resistant infections caused by Pseudomonas, E. coli, and Klebsiella</i> | 500 mg in 20-mL vial, or 1 g in 30-mL vial for injection | 20 mg/kg IV q8h <i>For meningitis</i> : 40 mg/kg IV q8h |

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|-------------------------|-----------------------------|---|---|---|
| Mesalamine | Asacol; Mesasal; Pentasa | Antidiarrheal/alternative use in patients unable to tolerate sulfasalazine in treatment of colitis | 400-mg tablet; 250-mg capsule | Veterinary dose has not been established. The usual human dose is 400-500 mg q6-8h (also see Sulfasalazine, Olsalazine) |
| Metaproterenol | Alupent; Metaprel | Beta-agonist/bronchodilator therapy | 10- and 20-mg tablets; 5 mg/mL syrup; inhalers | 0.325-0.65 mg/kg PO q4-6h |
| Metformin | Glucophage | Oral hypoglycemic/management of type 2 diabetes in cats | 500- and 800-mg tablets | Cats: 2 mg/kg PO q12h |
| Methazolamide | Neptazane | Carbonic anhydrase inhibitor/treatment of open-angle glaucoma | 25- and 50-mg tablets | 2-4 mg/kg (up to maximum dose of 4-6 mg/kg) PO q8-12h |
| Methenamine hippurate | Hiprex; Urex | Urinary antiseptic/questionable value | 1-g tablet | Dog: 500 mg/dog PO q12h Cat: 250 mg/cat PO q12h |
| Methenamine mandelate | Mandelamine; generic | Urinary antiseptic/questionable value | 1-g tablet; granules for oral solution; 50 and 100 mg/mL oral suspension | 10-20 mg/kg PO q8-12h |
| Methimazole | Tapazole | Antithyroidal/management of feline hyperthyroidism | 5- and 10-mg tablets | Cat: 2.5 mg/cat q12h PO for 7-14 days; then 5-10 mg/cat PO q12h and adjust by monitoring T ₄ |
| Methionine (DL) | Uroze; DL-methionine powder | Urinary acidifier | 500-mg tablets and powders added to animal's food; 75 mg/5 mL pediatric oral solution; 200-mg capsule | Dog: 150-300 mg/kg/day PO Cat: 1-1.5 g/cat PO (added to food each day) |
| Methionine (S-adenosyl) | See SAME | | | |
| ◆ Methocarbamol | Robaxin-V | Muscle relaxant/adjunctive therapy for trauma, acute inflammation of skeletal muscle and/or tremorogenic toxins | 500- and 750-mg tablets; 100 mg/mL injection | 44 mg/kg PO q8h on the first day; then 22-44 mg/kg PO q8h |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---|---|---|---|---|
| Methohexital | Brevital | Ultra-short-acting barbiturate/ <i>anesthetic induction</i> | 0.5-, 2.5-, and 5-gram vials for injection | 3-6 mg/kg IV (give slowly to effect) |
| Methotrexate | MTX; Mexate; Folex; Rheumatrex; generic | Antineoplastic/ <i>used in treatment protocols for multiple tumor types, especially lymphomas</i> | 2.5-mg tablet; 2.5 or 25 mg/mL injection | 2.5-5 mg/m ² PO q48h (dose depends on specific protocol) or: Dog: 0.3-0.5 mg/kg IV once/wk Cat: 0.8 mg/kg IV q2-3wk |
| ◆ Methoxamine | Vasoxyl | Vasopressor/ <i>used in critical care setting to increase blood pressure</i> | 20 mg/mL injection | 200-250 µg/kg IM or 40-80 µg/kg IV |
| Methoxyflurane | Metofane | Inhalation anesthetic/ <i>uncommonly used today</i> | 4-oz bottle for inhalation | <i>Induction:</i> 3% <i>Maintenance:</i> 0.5-1.5% |
| ◆ Methylene blue 0.1% | Generic; also called new methylene blue | Antidote/ <i>emergency treatment of methemoglobinemia</i> | 1% solution (10 mg/mL) | 1.5 mg/kg IV slowly; use once. |
| Methylprednisolone | Medrol | Glucocorticoid/ <i>antiinflammatory and immunosuppressive</i> | 1-, 2-, 4-, 8-, 18-, and 32-mg tablets | In cats, Use With Caution 0.22-0.44 mg/kg PO q12-24h NOTE: Methylprednisolone is 1.25 times more potent than prednisolone |
| Methylprednisolone acetate | Depo-Medrol | Repository glucocorticoid/ <i>antiinflammatory (extended duration of activity)</i> | 20 and 40 mg/mL suspension for injection | Dog: 1 mg/kg (or 20-40 mg/dog) IM q1-3wk Cat: 10-20 mg/cat IM q1-3wk NOTE: Actual dose may vary, depending on use and effect |
| ◆ Methylpredni- solone sodium succinate | Solu-Medrol | Glucocorticoid/ <i>adjunctive treatment for patients in shock or with spinal cord trauma/swelling</i> | 1- and 2-g and 125- and 500-mg vials for injection | <i>For emergency use:</i> 30 mg/kg IV; repeat at 15 mg/kg IV in 2-6 h For replacement therapy or antiinflam- matory therapy; see also Prednisolone |
| ◆ 4-Methylpyrazole (4-MP) | See Fomepizole | | | |

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|--------------------|-------------------------|--|---|--|
| Methyltestosterone | Android; generic | Hormone/replacement therapy; also an anabolic agent used to induce erythropoiesis | 10- and 25-mg tablets | Dog: 5-25 mg/dog PO q24-48h Cat: 2.5-5 mg/cat PO q24-48h |
| ◆ Metoclopramide | Reglan; Maxolon; others | Antiemetic/especially in patients with vomiting associated with gastroparesis | 5- and 10-mg tablets; 1 mg/mL oral solution; 5 mg/mL injection | 0.2-0.5 mg/kg IV, IM, PO q6-8h; or 1-2 mg/kg/day IV by CRI (approx 0.1-0.2 mg/kg/h) |
| Metoprolol | Lopressor | Beta blocker/management of tachycardia | 50- and 100-mg tablets; 1 mg/mL injection | Dog: 5-50 mg/dog (0.5-1.0 mg/kg) PO q8h Cat: 2-15 mg/cat PO q8h |
| ◆ Metronidazole | Flagyl; generic | Antiparasitic and antibacterial/effective against anaerobic bacteria; somewhat effective against Giardia (fenbendazole is preferred) | 250- and 500-mg tablets; 50 mg/mL suspension; 5 mg/mL injection | <i>Anaerobic infection:</i> Dog: 15 mg/kg PO q12h or 12 mg/kg q8h; Cat: 10-25 mg/kg PO q24h <i>Giardia:</i> Dog: 12-15 mg/kg PO q12h for 8 days; Cat: 17 mg/kg (1/3 tablet per cat) q24h for 8 days |
| ◆ Mexiletine | Mexitil | Antiarrhythmic/ventricular arrhythmias | 150-, 200-, and 250-mg capsules | Dog: 5-8 mg/kg PO q8-12h (USE CAUTIOUSLY) Cat: No dose established |
| Mibolerone | Cheque Drops | Hormone (androgenic)/suppression of estrus and treatment of false pregnancy (pseudocyesis) | 55 µg/mL oral solution | Dog: 0.45-11.3 kg, 30 µg; 11.8-22.7 kg, 60 µg; 23-43.3 kg, 120 µg; >45.8 kg, 180 µg; or approximately 2.6-5-µg/kg/day PO Cat: DO NOT USE WARNING: Multiple adverse effects are possible when used in prepubertal females |
| ◆ Midazolam | Versed | Benzodiazepine/pre-anesthetic medication | 5 mg/mL injection | 0.1-0.25 mg/kg IV, IM (or 0.1-0.3 mg/kg/h IV infusion) NOTE: May cause excitement in cats |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---------------------------|--|--|---|--|
| Milbemycin oxime | Interceptor; Interceptor Flavor Tabs | GABA inhibitor/prevention of canine heartworm disease, microfilaricide; also used to treat demodicosis | 23-, 11.5-, 5.75-, and 2.3-mg tablets | Dog: Microfilaricide: 0.5 mg/kg Demodex: 2 mg/kg PO q24h for 60-120 days Heartworm prevention: 0.5 mg/kg PO q30days |
| Milk of Magnesia (OTC) | See Magnesium hydroxide | | | |
| Mineral oil (OTC) | Generic | Laxative (lubricant) | Oral liquid | Dog: 10-50 mL/dog PO q12h Cat: 10-25 mL/cat PO q12h |
| Minocycline | Minocin | Antibacterial | 50- and 100-mg tablets; 10 mg/mL oral suspension | 5-12.5 mg/kg PO q12h |
| ◆ Misoprostol | Cytotec | Prostaglandin E ₁ analog/ treatment of gastric ulcers, especially those associated with NSAID use | 0.1-mg (100- μ g) and 0.2-mg (200- μ g) tablets | Dog: 2-5 μ g/kg PO q6-8h Cat: Dose not established |
| Mitolane (o,p'-DDD) | Lysodren | Cytotoxic agent/treatment of hyperadrenocorticism associated with adrenal hyperplasia; less effective if treating adrenal gland neoplasia | 500-mg tablet | Dog: Pituitary-dependent hyperadrenocorticism: 50 mg/kg/day (in divided doses) PO for 7-10 days; then 25 mg/kg/wk PO Adrenal neoplasia: 50-75 mg/kg/day for 10 days; then 75-100 mg/kg/wk PO |
| Mitoxantrone | Novantrone | Antineoplastic/used in treatment protocols for multiple tumor types | 2 mg/mL injection | Dog: 6 mg/m ² IV q21days Cat: 6.5 mg/m ² IV q21days |
| ◆ Morphine | Generic | Analgesic (opiate)/pain management | 1 and 15 mg/mL injection; 30- and 60-mg delayed-release tablets | Dog: 0.1-1 mg/kg IV, IM, SC (dose is escalated as needed for pain relief) q4-6h Epidural: 0.1 mg/kg Cat: 0.1 mg/kg q3-6h IM, SC (or as needed) 0.01-0.04 mg/kg IV, IM, SC as needed to reverse opiate |
| ◆ Naloxone | Narcan | Opiate antagonist/opiate reversal | 20 and 400 μ g/mL injection | |

| Naltrexone | Trexan | Opiate antagonist/management of certain behavioral disorders (e.g., tail chasing, self-mutilation) | 50-mg tablet | Dog: 2.2 mg/kg PO q12h |
|---|---|--|--|---|
| Nandrolone decanoate | Deca-Durabolin | Anabolic steroid/appetite stimulant; also used to stimulate erythropoiesis | 50, 100, and 200 mg/mL injection | Dog: 1-1.5 mg/kg/wk IM Cat: 1 mg/cat/wk IM |
| Naproxen | Naprosyn; Naxen; Aleve (naproxen sodium) | NSAID/pain management | 220-mg tablet (OTC); 25-mg/mL suspension liquid; 250-, 375-, and 500-mg tablets (Rx) | Dog: 5 mg initially, then 2 mg/kg q48h |
| Neomycin | Biosol | Antibacterial/management of hepatic encephalopathy (gut "sterilization") | 500-mg bolus; 200 mg/mL oral liquid | 10-20 mg/kg PO q6-12h |
| Neostigmine bromide and neostigmine methylsulfate | Prostigmin; Stiglyn | Anticholinesterase/diagnosis of myasthenia gravis; antidote for anticholinergic intoxication and massive ivermectin overdose in cats | 15-mg tablet (neostigmine bromide); 0.25 and 0.5 mg/mL injection (neostigmine methylsulfate) | 2 mg/kg/day PO (in divided doses, to effect) Injection: antimyasthenic: 10 µg/kg IM, SC, as needed; antidote for nondepolarizing neuromuscular block: 40µg/kg IM, SC; diagnostic aid for myasthenia gravis: 40 µg/kg IM or 20 µg/kg IV |
| Nitrofurantoin | Macrochantin; Furatoin; Furadantin; generic | Antibacterial/especially in susceptible urinary tract infections | Macrochantin and generic: 25-, 50-, and 100-mg capsules Furalan, Furatoin, and generic: 50- and 100-mg tablets Furadantin: 5 mg/mL oral suspension | 10 mg/kg/day divided into four daily treatments; then 1 mg/kg PO at night |

Note: Listings preceded by  are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|-------------------------------|--|---|--|---|
| ◆ Nitroglycerin ointment | Nitrol; Nitro-Bid; Nitrostat | Venodilator/management of congestive heart failure | 0.5, 0.8, 1, 5-, and 10 mg/mL injection; 2% ointment; transdermal (0.2 mg/h systems patch) | Dog: 4-12 mg (up to 15 mg) topically q12h Cat: 2-4 mg topically q12h (or 1/4 inch of ointment per cat) |
| ◆ Nitroprusside | Nitropress | Vascular and smooth muscle relaxant/acute hypertension; acute heart failure secondary to mitral regurgitation | 50-mg vial for injection | 1-5 mg, up to maximum of 10 µg/kg/min IV infusion |
| Nizatidine | Axid | H ₂ receptor antagonist/reduce gastric acid production and prevention of gastric ulcers | 150- and 300-mg capsules | 2.5-5.0 mg/kg, PO once daily |
| Norfloxacin | Noroxin | Antibacterial | 400-mg tablet | 22 mg/kg PO q12h |
| Olsalazine | Dipentum | Antidiarrheal/alternative drug to sulfasalazine for management of colitis in dogs (expensive) | 500-mg tablet | Dosage in animals is not established Dog: 5-10 mg/kg, PO q8h is recommended |
| Omeprazole | Prilosec (formerly Losec); Gastrogard (equine paste) | Proton pump inhibitor/gastric ulceration and erosion | 20-mg capsule | Dog: 20 mg/dog PO once daily (or 0.7 mg/kg q24h) Cat: DO NOT USE |
| ◆ Ondansetron | Zofran | 5-HT ₃ receptor antagonist/antiemetic for patients with severe vomiting NOTE: Is well tolerated in dogs | 4- and 8-mg tablets; 2 mg/mL injection | 0.1-1.0 mg/kg PO 30 min before cancer chemotherapy For intractable vomiting: 0.11 to 0.176 mg/kg, IV slow push 2.5 to 7.5 mg/kg PO once daily |
| Orbifloxacin | Orbax | Antibacterial | 5.7-, 22.7-, and 68-mg tablets | |
| Ormetoprim + Sulfadimethoxine | Primor | Antibacterial | Combination tablet: 120-, 250-, 600-, and 1200-mg tablets. | 27 mg/kg on 1st day followed by 13.5 mg/kg PO q24h |
| Oxacillin | Prostaphlin; generic | Antibacterial | 250- and 500-mg capsules; 50 mg/mL oral solution | 22-40 mg/kg PO q8h |
| Oxazepam | Serax | Benzodiazepine/appetite stimulant | 15-mg tablet | Cat: appetite stimulant: 2.5 mg/cat PO |

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|---------------------|---|--|---|--|
| Oxtriphylline | Choledyl-SA | Bronchodilator/ <i>chronic bronchitis (feline asthma?)</i> | 400- and 600-mg tablets (oral solutions and syrup available in Canada but not U.S.) | Dog: 47 mg/kg (equivalent to 30 mg/kg theophylline) PO q12h Cat: Dose Not Available |
| Oxybutynin | Ditropan | Urinary antispasmodic/ <i>adjuvant treatment of detrusor hyperreflexia (includes FeLV-positive cats)</i> | 5-mg tablet | Dog: 0.2 mg/kg PO q8-12h (or 1.25 to 3.75 mg/dog q12h) Cat: 0.5-1.0 mg/kg PO q8-12h |
| Oxymetholone | Anadrol | Hormone (anabolic steroid)/ <i>may stimulate erythropoiesis</i> | 50-mg tablet | 1-5 mg/kg/day PO |
| Oxymorphone | Nuomorph | Analgesic (opiate)/ <i>pain management</i> | 1.5 and 1 mg/mL injection | <i>Analgesia:</i> 0.1-0.2 mg/kg IV, SC, IM (as needed); redose with 0.05-0.1 mg/kg q1-2h. <i>Praeesthetic:</i> 0.025-0.05 mg/kg IM, SC |
| Oxytetracycline | Terramycin | Antibacterial | 250-mg tablets; 100 and 200 mg/mL injection | 7.5-10 mg/kg IV q12h; 20 mg/kg PO q12h |
| Oxytocin | Pitocin; Syntocinon (nasal solution); generic | Hormone/ <i>induction of labor or parturition</i> | 10 and 20 U/mL injection; 40 U/mL nasal solution | Dog: 5-20 U/dog SC, IM (repeat every 30 min for primary inertia) Cat: 3-5 U/cat SC, IM (repeat every 30 min) |
| 2-PAM | See Pralidoxime chloride | | | |
| Pancreatic enzyme | Viokase | Digestive enzymes/ <i>management of exocrine insufficiency</i> | 16,800 U lipase, 70,000 U protease, and 70,000 U amylase per 0.7 g; also capsules and tablets | Mix 2 tsp powder with food/20 kg; or 1-3 tsp/0.45 kg of food 20 min before feeding |
| Pancuronium bromide | Pavulon | Neuromuscular blocker/ <i>muscle relaxation as an adjunct to anesthesia</i> | 1 and 2 mg/mL injection | 0.1 mg/kg IV, or start with 0.01 mg/kg and additional doses of 0.01 mg/kg q30min |

Note: Listings preceded by  are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---|--------------------|---|--|--|
| Paregoric | Corrective mixture | Antidiarrheal/ <i>management of simple diarrhea</i> | 2 mg morphine per 5 mL of paregoric | 0.05-0.06 mg/kg PO q12h |
| Paromomycin | Humatin | Antiparasitic/ <i>cryptosporidiosis in cats</i> | 250-mg capsules | Cat: 125-165 mg/kg, PO, q12h for 7 days. WARNING: toxicity and renal damage have been reported at these doses |
| Paroxetine | Paxil | Selective serotonin reuptake inhibitor (SSRI)/ <i>management of behavior disorders</i> | 10-, 20-, 30-, and 40-mg tablets | Dog and Cat: 2.5-5.0 mg (total dose) PO once daily Cat (alternative): $\frac{1}{8}$ to $\frac{1}{4}$ of 10-mg tablet daily PO |
| D-Penicillamine | Cuprimine; Depen | Chelating agent/ <i>treatment of lead poisoning; also for cystine urolithiasis</i> | 125- and 250-mg capsules and 250-mg tablets | 10-15 mg/kg PO q12h |
| Penicillin G benzathine | Benza-Pen; others | Antibacterial | 150,000 U/mL, combined with 150,000 U/mL procaine penicillin G | 24,000 U/kg IM q48h |
| Penicillin G potassium; penicillin G sodium | Multiple | Antibacterial | 5 million- to 20 million-unit vials | 20,000-40,000 U/kg IV, IM q6-8h |
| Penicillin G procaine | Generic | Antibacterial | 300,000 U/mL suspension | 20,000-40,000 U/kg IV, IM q12-24h |
| Penicillin V | Pen-Vee | Antibacterial | 250- and 500-mg tablets | 10 mg/kg PO q8h |
| Pentazocine | Talwin-V | Analgesic (opiate)/ <i>pain management</i> | 30 mg/mL injection | Dog: 1.65-3.3 mg/kg IM q4h Cat: 2.2-3.3 mg/kg IV, IM, SC; 25-30 mg/kg IV for anesthesia |
| ◆ Pentobarbital | Nembutal; generic | Anesthetic/ <i>sedative or injectable anesthetic</i> | 50 mg/mL NOTE: This formulation is NOT to be used for euthanasia. | |
| Pentoxifylline | Trental | Antiinflammatory effects/ <i>has been used to treat immune-mediated skin disorders (e.g., associated with vasculitis) in dogs</i> | 400-mg tablet | Dog: For use in canine dermatology and for vasculitis, 10 mg/kg PO q12h |

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|----------------------|-----------------------------|---|--|--|
| ◆ Phenobarbital | Luminal; generic | Barbiturate/sedation and anticonvulsant | 15-, 30-, 60-, and 100-mg tablets; 30, 60, 65, and 130 mg/mL injection; 4 mg/mL oral elixir solution | Dog: 2-8 mg/kg PO q12h Cat: 2-4 mg/kg PO q12h Dog and cat: Adjust dose by monitoring plasma concentration <i>Status epilepticus:</i> Administer in increments of 10-20 mg/kg IV to effect |
| Phenoxybenzamine | Dibenzylamine | Alpha-adrenergic blocker/ <i>reduces internal urethral sphincter tone associated with detrusor areflexia; also hypertension associated with pheochromocytoma</i> | 10-mg capsule | Dog: <i>Urinary:</i> 0.25 mg/kg PO q8-12h or 0.5 mg/kg q24h <i>Hypertension:</i> 0.2-1.5 mg/kg PO bid for 10-14 days before surgery Cat: 2.5 mg/cat q8-12h or 0.5 mg/cat PO q12h NOTE: In cats, doses as high as 0.5 mg/kg IV have been used to relax urethral smooth muscle |
| Phentolamine | Regitine | Vasodilator/hypertension | 5-mg vial for injection | 0.02-0.1 mg/kg IV |
| Phenylbutazone | Butazolidin; generic | NSAID | 100-, 200-, 400-mg and 1-g tablets; 200 mg/mL injection | NOT recommended for use in dogs and cats (better drugs are available) |
| ◆ Phenylephrine | Neo-Synephrine | Alpha-adrenergic/treatment of hypotension in the critical care setting; also used topically intranasally prior to rhinoscopy | 10 mg/mL injection; 1% nasal solution | Dog and Cat: 1-3 µg/kg/min CRI in 0.9% saline or D5W; 0.1 mg/kg, IM, SC, q15min <i>Topical:</i> 3-5 drops intranasally to effect to induce local vasoconstriction |
| Phenylpropranolamine | Dexatrim; Propagest; others | Adrenergic agonist/urinary incontinence associated with urethral sphincter hypotonus | 15-, 25-, 30-, and 50-mg tablets | Dog: 12.5-50 mg (total) PO q8h or 1.5-2 mg/kg, PO, q12h Cat: 12.5 mg (total) PO q8h or 1.5 mg/kg, PO, q8h |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|------------------------------------|--|---|--|---|
| Phenytoin | Dilantin | Anticonvulsant/ <i>not generally recommended; limited application in digoxin-induced arrhythmias</i> | 30 and 1250 mg/mL oral suspension; 30- and 100-mg capsules; 50 mg/mL injection | <i>Antiepileptic</i> (dog): 20–34 mg/kg q8h <i>Digoxin-induced antiarrhythmic</i> : 30 mg/kg PO q8h or 10 mg/kg IV over 5 min |
| ◆ Phenytoin + Pentobarbital sodium | Beuthanasia-D Special; Euthasol | Euthanasia solution | 100-mL multiple dose vials | 1 mL/10 lb body weight IV. NOTE: Alternative routes (at the same dosage) can be used in profoundly debilitated patients (e.g., intraperitoneal, intracardiac) |
| Physostigmine | Antilirium | Cholinesterase inhibitor/ <i>limited application; may be of use in promoting micturition in patients with urinary retention (postoperatively)</i> | 1 mg/mL injection | 0.02 mg/kg IV q12h |
| ◆ Phytomenadione | See Vitamin K ₁ | | | |
| ◆ Phytomnadione | See Vitamin K ₁ | | | |
| Piperacillin | Pipracil | Antibacterial | 2-, 3-, 4-, and 40-g vials for injection | 40 mg/kg IV or IM q6h |
| Piperazine | Many | Antiparasitic/ <i>roundworms</i> | 860 mg powder; 140-mg capsule, 170, 340, and 800 mg/mL oral solution | 44–66 mg/kg PO administered once |
| Piroxicam | Feldene; generic | NSAID/ <i>has antitumor effects (indirect) in patients with transitional cell carcinoma (palliative treatment)</i> | 10-mg capsules | Dog: 0.3 mg/kg, PO, once daily Cat: 0.3 mg/kg PO, q24–72h (Administer with food) |
| Pitressin (ADH) | See Vasopressin and Desmopressin acetate | | | |
| Plicamycin (formerly mithramycin) | Mithracin | Antineoplastic/ <i>adjunctive treatment in carcinoma protocols; also used to</i> | 2.5 mg/mL injection | Dog: <i>Antineoplastic</i> : 25–30 µg/kg/day IV (slow infusion) for 8–10 days |

| | | <i>decrease calcium levels in hypercalcemic cancer patients</i> | | <i>Antihypercalcemic: 25 µg/kg/day IV (slow infusion) over 4 hours Cat: NOT recommended</i> | |
|--|---------------------------|---|--|--|--|
| Polyethylene glycol electrolyte solution | GoLYTELY | Laxative | Oral solution | 25 mg/kg PO; repeat in 2-4 hours PO | |
| Polysulfated glycosaminoglycan (PSGAG) | Adequan Canine | Antiarthritic/long-term management of osteoarthritis | 100 mg/mL injection in 5-mL vial (250 mg/mL vials for horses) | 4.4 mg/kg IM twice weekly for up to 4 weeks | |
| Potassium bromide (KB ^r) | No commercial formulation | Anticonvulsant/long-term antiepileptic therapy | Usually prepared as oral solution | Dog and Cat: 30-40 mg/kg PO q24h NOTE: If administered without phenobarbital, higher doses of up to 40-50 mg/kg may be needed; adjust doses by monitoring plasma concentrations; loading doses of 400 mg/kg divided over 3 days have been administered. | |
| ◆ Potassium chloride (KCl) | Generic | Potassium salt/replacement therapy | Various concentrations for injection (usually 2 mEq/mL); oral suspension and oral solution | 0.5 mEq potassium/kg/day; or supplement 10-40 mEq/500 mL of fluids, depending on serum potassium | |
| Potassium citrate | Urocit-K; generic | Potassium salt/replacement therapy | 5-mEq tablet; some forms are in combination with potassium chloride | 2.2 mEq/100 kcal of energy/day PO; or 40-75 mg/kg PO q12h | |
| Potassium gluconate | Kaon; Tumil-K; generic | Potassium source/replacement therapy | 2-mEq tablet; 500-mg tablet; Kaon elixir is 20 mg/15 mL elixir | Dog: 0.5 mEq/kg PO 12-24h Cat: 2-8 mEq/day PO divided twice daily | |
| ◆ Pralidoxime chloride (2-PAM) | 2-PAM; Protopam Chloride | Cholinesterase re-activator/adjunctive treatment in patients with organophosphate toxicosis | 50 mg/mL injection | 20 mg/kg q8-12h (initial dose) IV slowly or IM | |
| Praziquantel | Droncit | Antiparasitic/treatment of cestodes (tapeworms) | 23- and 34-mg tablets; 56.8 mg/mL injection | Dog: <6.8 kg, 7.5 mg/kg once; >6.8 kg, 5 mg/kg IM, SC once; <2.3 kg, 7.5 mg/kg | |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---------------------------------|--|--|---|---|
| ◆ Prazosin | Minipress | Alpha-1 blocker/ <i>adjunctive treatment of congestive heart failure; also hypertension and pulmonary hypertension (e.g., heartworm disease)</i> | 1-, 2-, and 5-mg capsules | PO once; 2.7–4.5 kg, 6.3 mg/kg PO once; >5 kg, 5 mg/kg PO once Cat: <1.8 kg, 6.3 mg/kg PO once; >1.8 kg, 5 mg/kg PO once. For <i>Paragonimus</i> : 25 mg/kg PO q8h for 2–3 days) 5 mg/kg IM, SC 0.5- and 2-mg/animal (1 mg/15 kg) PO q8–12h |
| ◆ Prednisolone | Delta-Cortef; many others | Glucocorticoid/ <i>antiinflammatory and immunosuppressive</i> | 5- and 20-mg tablets | Dog (cat often requires 2 × dog dose): <i>Antiinflammatory</i> : 0.5–1 mg/kg IV, IM, PO q12–24h initially; then taper to q48h <i>Immunosuppressive</i> : 2.2–6.6 mg/kg/day IV, IM, PO initially; then taper to 2–4 mg/kg q48h <i>Replacement therapy</i> : 0.2–0.3 mg/kg/day PO <i>Shock, spinal trauma</i> : See Prednisolone sodium succinate |
| ◆ Prednisolone sodium succinate | Solu-Delta-Cortef | Glucocorticoid/ <i>adjunctive therapy for endotoxic or septic shock</i> | 100- and 200-mg vials for injection (10 and 50 mg/mL) | <i>Shock</i> : 5.5–11 mg/kg IV (repeat in 1, 3, 6, or 10 h) <i>CNS trauma</i> : 15–30 mg/kg IV; then taper to 1–2 mg/kg q12h |
| ◆ Prednisone | Deltasone; generic; Meticorten for injection | Glucocorticoid/ <i>antiinflammatory and immunosuppressive</i> | 1-, 2.5-, 5-, 10-, 20-, 25-, and 50-mg tablets; 1 mg/mL syrup (Liquid-Pred in 5% alcohol); 1 mg/mL oral solution (in 5% alcohol); 10 and 40 mg/mL prednisone suspension for injection | Same as for prednisolone |

| | | | | |
|-------------------------|---------------------------------|---|---|---|
| Primidone | Mylepsin; Neurosyn | Anticonvulsant/ <i>idiopathic epilepsy (not generally recommended)</i> | 50- and 250-mg tablets | 8-10 mg/kg PO q8-12h as initial dose, and then adjust via monitoring to 10-15 mg/kg q8h WARNING: May cause irreversible liver disease with prolonged administration |
| Procainamide | Pronestyl; generic | Antiarrhythmic/ <i>ventricular premature contractions (e.g., ventricular tachycardia)</i> | 250, 375, 500 mg/mL injection | Dog: 10-30 mg/kg PO q6h (up to maximum dose of 40 mg/kg); 8-20 mg/kg IV, IM; 25-50 µg/kg/min IV infusion Cat: 3-8 mg/kg IM, PO q6-8h |
| Procarbazine | Matulane; Natulan; Natulanar | Antineoplastic/ <i>component drug used in lymphoma protocols</i> | 50-mg capsules | Used in combination with mechlorethamine and prednisolone; consult latest information on protocols for precise dose |
| Prochlorperazine | Compazine | Phenothiazine/ <i>antiemetic</i> | 5-, 10-, and 25-mg tablets (maleate); 5 mg/mL injection (edisyate) | 0.1-0.5 mg/kg IM, SC q6-8h |
| Progesterone, repositol | See Medroxyprogesterone acetate | | | |
| Promethazine | Phenergan | Phenothiazine/ <i>antiemetic</i> | 6.25 and 25 mg/5 mL syrup; 12.5-, 25-, and 50-mg tablets; 25 and 50 mg/mL injection | 0.2-0.4 mg/kg IV, IM, PO q6-8h (up to maximum dose of 1 mg/kg) |
| Propranolol | Pro-Banthaline | Antimuscarinic/ <i>antidiarrheal; also used to treat urge incontinence associated with detrusor hyperreflexia; oral antiemetic effect</i> | 7.5- and 15-mg tablets | Dog: <i>Urge incontinence:</i> 0.2 mg/kg PO q6-8h <i>Diarrhea:</i> 0.25 mg/kg PO three times daily for 2-3 days max Cat: <i>Urge incontinence:</i> 0.25-0.5 mg/kg PO once or twice daily <i>Chronic colitis:</i> 0.5 mg/kg PO two to three times daily |

Note: Listings preceded by  are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|--|-----------------------------|--|--|--|
| Propi-promazine | Tranvet; Largon | Antiemetic, tranquilizer/ sedation, parenteral antiemetic | 20 mg/mL injection | 1.1-4.4 mg/kg q12-24h |
| <i>Propionibacterium</i> <i>acnes</i> (injection) | Immunoregulin | Immunomodulator/nonspecific immunostimulant used as adjunctive therapy in dogs with pyoderma and in retrovirus-positive cats | 0.4 mg/mL in 5- and 50-mL vials | Dog: 0.03-0.07 mL/kg IV twice weekly for 10 wk (NOTE: dose is mL/kg) Cat: 0.5 mL IV twice weekly for 2 wk; then one injection weekly for 20 wk NOTE: Treatment is NOT expected to convert retrovirus-positive cats to a retrovirus-negative status. |
| ◆ Propofol | Rapinivet; PropoFlo | Short-acting injectable anesthetic (hypnotic)/ induction or restraint for short-term procedures | 1% (10 mg/mL) injection in 20-mL ampules | 6.6 mg/kg IV slowly over 60 sec (constant-rate IV infusions have been used at 2 mg/kg/h) |
| ◆ Propranolol | Inderal | Beta blocker/antiarrhythmic | 10-, 20-, 40-, 60-, 80-, and 90-mg tablets; 1 mg/mL injection; 4 and 8 mg/mL oral solution | Dog: 20-60 µg/kg over 5-10 min IV; 0.2-1 mg/kg PO q8h (titrate dose to effect) Cat: 0.4-1.2 mg/kg (2.5-5 mg/cat) PO q8h |
| Propylthiouracil (PTU) | Propyl-Thyracil; generic | Antithyroid/alternative drug used in the management of feline hyperthyroidism | 50- and 100-mg tablets | Cat: 11 mg/kg PO q12h |
| Prostaglandin F ₂ alpha | Lutalyse; Dinoprost | Prostaglandin/open pyometra; pregnancy termination in dogs | 5 mg/mL solution for injection | NOTE: Any use of this drug in dogs and cats is EXTRA-LABEL Open pyometra: Dog: 0.1-0.2 mg/kg SC once daily for 5 days; Cat: 0.1 mg/kg SC twice daily for 5 days |

| | | |
|---|---|---|
| <p>NOTE: Concurrent antibiotic therapy is recommended. SURGERY IS ALWAYS PREFERRED! <i>Abortion (within 30 days of the last unwanted breeding):</i> Dog: 0.1 mg/kg SC q8h for 2 days; then 0.2 mg/kg SC q8h until abortion is confirmed by ultrasound. 0.2-0.4 mg/kg (or 15-60 mg/dog) PO q8-12h</p> | | |
| Pseudoephedrine (OTC) | Sudafed; many others (some formulations have other ingredients) | Adrenergic agonist/urinary incontinence (generally only used when phenylpropanolamine is not available) 30- and 60-mg tablets; 120-mg capsule; 6 mg/mL syrup |
| Psyllium | Metamucil; others | Laxative, stool softener |
| Pyrantel pamoate and tartrate | Nemex; Strongid | Antiparasitic/treatment of ascarids and hookworms |
| Pyridostigmine bromide | Mestinon; Regonol | Cholinesterase inhibitor/management of myasthenia gravis |
| Pyrimethamine | Daraprim | Folic acid inhibitor/treatment of toxoplasmosis and neosporosis |
| Quinacrine | Limited availability in the U.S. | Antiprotozoal/may be useful in management (not curing) of Giardia infections, leishmaniasis, and coccidiosis |
| Quinidine gluconate | Quiniglute; Duraquin | Antiarrhythmic/ventricular arrhythmias |
| Quinidine sulfate | Cin-Quin; Quinora | Antiarrhythmic/ventricular arrhythmias |

Note: Listings preceded by  are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|------------------------------|---|---|---|--|
| Quinidine polygalacturonate | Cardioquin | Antiarrhythmic/ <i>ventricular arrhythmias</i> | 275-mg tablet | Dog: 6-20 mg/kg PO q6h (of quinidine base). NOTE: 275 mg quinidine polygalacturonate = 167 mg quinidine base Dog: 2 mg/kg IV, PO q8h Cat: 2.5 mg/kg IV q12h; 3.5 mg/kg PO q12h |
| ◆ Ranitidine | Zantac | H ₂ receptor antagonist/ <i>treatment and prevention of gastric and duodenal ulcers</i> | 75-, 150-, and 300-mg tablets; 150- and 300-mg capsules; 25 mg/mL injection | |
| Retinol | See Vitamin A | | | |
| Riboflavin | See Vitamin B ₂ | | | |
| Rifampin | Rifadin | Antibacterial (reported to have limited antifungal and antiviral activity) Fluid replacement | 150- and 300-mg capsules 250-, 500-, and 1000-mL bags for infusion | 10-20 mg/kg PO q24h 40-50 mg/kg/day IV, SC, IP |
| ◆ Ringer's solution | Generic | | | 20 mg/kg PO daily |
| SAME (S-adenosyl-methionine) | Denosyl-SD4 | Nucleotide-like molecule derived from the amino acid methionine/ <i>adjunctive therapy in patients with chronic liver disease</i> | Enteric coated tablets | |
| Salicylate | See Aspirin | | | |
| Selamectin | Revolution | Antiparasitic (ivermectin)/ <i>multiple applications in dogs and cats</i> | Various sizes of topical solutions available for dogs and cats | See manufacturer's dosing instructions for the specific condition being treated |
| Selegiline | Anipryl (also known as deprenyl and l-deprenyl) | MAO-B inhibitor/ <i>canine cognitive dysfunction; reported use in treatment of canine hyperadrenocorticism (use in canine Cushing's is currently NOT recommended)</i> | 2-, 5-, 10-, 15-, and 30-mg tablets | Dog: Begin with 1 mg/kg PO q24h; if there is no response within 2 mo, increase dose to maximum of 2 mg/kg PO q24h Cat: Dose not established |

| Senna | Senokot | Laxative | Granules in concentrate, or syrup | Cat: syrup: 5 mL/cat q24h; granules: 1/2 teaspoon/cat q24h (with food) |
|--|---------------------------------------|---|---|--|
| Sertraline | Zoloft; Altraline; Anilar; others | Selective serotonin reuptake inhibitor/management of certain behavior disorders in dogs | 25-, 50-, and 100-mg tablets; 20 mg/mL injectable in 60-mL vials | Dog: 0.5-4.0 mg/kg q24h Cat: 0.5-1.0 mg/kg q24h |
| ◆ Sodium bicarbonate (NaHCO ₃) (OTC) | Generic; e.g., baking soda, soda mint | Alkalinizing agent/management of acidosis and renal failure; also used to alkalinize urine when indicated | 325-, 520-, and 650-mg tablets; injection of various strengths (4.2% to 8.4%), and 1 mEq/mL | Acidosis: 0.5-1 mEq/kg IV Renal failure: 10 mg/kg PO q8-12h Alkalinization of urine: 50 mg/kg PO q8-12h (1 tsp is approximately 2 g) |
| ◆ Sodium chloride 0.9% | Generic | Fluid replacement (isotonic) | 500- and 1000-mL infusion | 40-50 mL/kg/day IV, SC, IP |
| ◆ Sodium chloride 7.2% | Generic (hypertonic) | Fluid replacement | Infusion | 2-8 mL/kg IV CAUTION: NOT a balanced electrolyte solution |
| Sodium iodide 20% | Iodopen; generic | Iodine replacement/replacement for confirmed deficiencies | 100 µg elemental iodide (118 µg sodium iodide)/mL injection | 20-40 mg/kg PO q8-12h |
| Sotalol | Betapace | Nonselective beta blocker (antiarrhythmic)/ventricular tachycardia | 80-, 160-, 240-mg tablets | Dog: 1-2 mg/kg PO q12h (start with 40 mg/dog q12h; then increase to 80 mg if no response) Cat: 1-2 mg/kg PO q12h |
| Spirolonactone | Aldactone | Aldosterone antagonist/K-sparing diuretic used in the treatment of congestive heart failure; generally used in patients that fail to respond to furosemide and ACE inhibitors | 25-, 50-, and 100-mg tablets | 2-4 mg/kg/day (or 1-2 mg/kg PO q12h) |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|--|---|---|--|---|
| Stanozolol | Winstrol-V | Anabolic steroid/ <i>adjunctive therapy for no one really knows what; has been used to treat anemia of chronic disease</i> | 50 mg/mL injection; 2-mg tablet | Dog: 2 mg/dog (or range of 1-4 mg/dog) PO q12h; 25-50 mg/dog/wk IM Cat: 1 mg/cat PO q12h; 25 mg/cat/wk IM CAUTION: Use in anorexic patients can cause weight loss (catabolic effect?) |
| Succimer | Chemet | Heavy metal chelator/ <i>treatment of lead poisoning</i> | 100-mg capsule | 10 mg/kg PO q8h for 5 days; then 10 mg/kg PO q12h for 2 more wk |
| ◆ Sucralfate | Carafate | Antulcer treatment/ <i>treatment of gastric and duodenal ulcers (may have preventive effect)</i> | 1-g tablet; 200 mg/mL oral suspension | Dog: 0.5-1 g/dog PO q8-12h Cat: 0.25 g/cat PO q8-12h |
| Sufentanil | Sufenta | Analgesic (potent opiate)/ <i>adjunct to anesthesia or epidural anesthesia</i> | 50 µg/mL injection | 2 µg/kg IV (maximum dose is 5 µg/kg IV) |
| Sulfadiazine | Generic combined with trimethoprim in Tribissen | Antibacterial | 500-mg tablet | 100 mg/kg IV PO (loading dose), followed by 50 mg/kg IV PO q12h (see also Trimethoprim) |
| Sulfadimethoxine | Albon; Bactrovet; generic | Antibacterial | 125-, 250-, and 500-mg tablets; 400 mg/mL injection; 50 mg/mL suspension | 55 mg/kg PO (loading dose), followed by 27.5 mg/kg PO q12h (see also Ormetoprim and Sulfadimethoxine) |
| Sulfamethazine | Many brand name products (e.g., Sulmet) | Antibacterial | 30-g bolus | 100 mg/kg PO (loading dose), followed by 50 mg/kg PO q12h |
| Sulfamethoxazole | Gantanol | Antibacterial | 50-mg tablet | 100 mg/kg PO (loading dose), followed by 50 mg/kg PO q12h (see also Bactrim, Septra) |
| Sulfasalazine (sulfapyridine + mesalamine) | Azulfidine (see also Mesalamine, Olsalazine) | Antibacterial and anti-inflammatory activity/ <i>ulcerative colitis and other forms of inflammatory bowel disease in dogs</i> | 500-mg tablets; pediatric suspension | Dog: 10-30 mg/kg PO q8-12h WARNING: Has been reported to cause keratoconjunctivitis sicca in dogs. |

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|-------------------------------|---|---|--|--|
| Sulfisoxazole | Gantrisin | Antibacterial | 500-mg tablet; 500 mg/5 mL syrup | 50 mg/kg PO q8h (<i>urinary tract infections</i>) |
| Taurine | Generic | Amino acid/ <i>taurine deficiency cardiomyopathies</i> | Available in powder | Dog: 5.0 mg PO q12h Cat: 2.50 mg/cat PO q12h |
| Tepoxalin | Zubrin | NSAID/ <i>management of pain associated with osteoarthritis in dogs</i> | 30-, 50-, 100- and 200-mg tablets | Dog: 10-20 mg/kg PO on the first day; then 10 mg/kg PO once daily; thereafter as needed |
| ◆ Terbutaline | Brethine; Bicanyl | Beta agonist/ <i>bronchodilator; use includes feline asthma</i> | 2.5- and 5-mg tablets; 1 mg/mL injection (equivalent to 0.82 mg/mL) | Dog: 1.25-5 mg/dog PO q8h Cat: 0.1-0.2 mg/kg PO q12h (or 0.625 mg/cat, 1/4 of 2.5-mg tablet) |
| Testosterone | Andro-Cyp; Andronate; Depo-Testosterone; others | Hormone/ <i>replacement therapy; most commonly used for testosterone-responsive urinary incontinence in neutered male dogs/cats</i> | 100 and 200 mg/mL injection | 1-2 mg/kg IM q2-4wk (see also methyltestosterone) |
| Testosterone propionate ester | Testex | Hormone/ <i>replacement therapy; most commonly used for testosterone-responsive urinary incontinence in neutered male dogs/cats</i> | 100 mg/mL injection | 0.5-1 mg/kg IM 2-3 times/wk |
| Tetracycline | Panmycin | Antibacterial | 250- and 500-mg capsules; 100 mg/mL suspension | 15-20 mg/kg PO q8h; or 4.4-11 mg/kg IV, IM q8h |
| Thienium cloylate | Canopar | Antiparasitic/ <i>hookworms</i> | 500-mg tablet | Dog: >4.5 kg, 500 mg PO once and repeat in 2-3 wk; 2.5-4.5 kg, 250 mg q12h for 1 day and repeat in 2-3 wks |
| Theophylline | Many brand name and generic products | Bronchodilator/ <i>chronic bronchitis and feline asthma</i> | 100-, 125-, 200-, 250-, and 300-mg tablets; 27 mg/5 mL oral solution or elixir; injection in 5% dextrose | Dog: 9 mg/kg PO q6-8h Cat: 4 mg/kg PO q8-12h (see also Aminophylline) |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2.6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---|---|---|---|---|
| Theophylline, sustained-release | Theo-Dur; Slo-bid; Gyrocaps | Bronchodilator/chronic bronchitis and feline asthma | 100-, 200-, 300-, and 450-mg tablets (Theo-Dur); 50- to 200-mg capsules (Slo-bid) | Dog: 20 mg/kg PO q12h (Theo-Dur); 30 mg/kg q12h (Slo-bid) Cat: 25 mg/kg PO q24h (at night) for Theo-Dur and Slo-bid |
| Thiabendazole | Omnizole; Equizole; Tresaderm (topical-otic) | Antiparasitic/multiple applications for parasitic infections | 2 or 4 g/oz (30 mL) suspension or liquid | Dog: 50 mg/kg q24h for 3 days and repeat in 1 mo; Respiratory parasites: 30-70 mg/kg PO q12h Cat: Strongyloides: 125 mg/kg q24h for 3 days |
| Thiacetarsamide sodium | Caparsolate | Arsenical/formerly used to treat canine heartworm disease | NOT commercially available | |
| Thiamine | See Vitamin B ₁ | | | |
| Thioquanine (6-TG) | Generic | Antineoplastic/lymphocytic or granulocytic leukemia | 40-mg tablet | Dog: 40 mg/m ² PO q24h Cat: 25 mg/m ² PO q24h for 1-5 days |
| Thiopental sodium | Pentothal | Short-acting injectable anesthetic/anesthesia induction or restraint for short procedures | Various size vials from 250 mg to 10 g (mix to desired concentration) | Dog: 10-25 mg/kg IV (to effect) Cat: 5-10 mg/kg IV (to effect) |
| Thiotepa | Generic | Antineoplastic/lymphocytic or granulocytic leukemia | 15-mg injection (usually in solution of 10 mg/mL) | 0.2-0.5 mg/m ² /wk, or daily for 5-10 days (IM, intra-cavitary, or intra-tumor) |
| Thyroid hormone | See Levothyroxine sodium (T ₄) and Liothyronine (T ₃) | | | |
| Thyrotropin (thyroid-stimulating hormone [TSH]) | Thytropar | Hormone/used to test for hypothyroidism (primarily in dogs) | 10-U vial | Dog: Collect baseline sample, followed by 0.1 U/kg IV maximum (dose is 5 U); collect post-TSH sample at 6 h Cat: Collect baseline sample, followed by 2.5 U/cat IM; collect a post-TSH sample 8-12 h later |

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|---------------------------|--|--|---|---|
| Ticarcillin | Ticar; Ticillin | Antibacterial | 6 g/50 mL vial; vials containing 1, 3, 6, 20, and 30 g | 33-50 mg/kg IV, IM q4-6h |
| Ticarcillin + clavulanate | Timentin | Antibacterial | 3-g vial for injection | 33-50 mg/kg IV, IM q4-6h |
| Tiletamine + zolazepam | Telazol; Zoletil | General anesthetic/indicated for restraint and minor procedures of short duration in healthy dogs and cats | Sterile vial to which 5 mL of sterile water is added; provides the equivalent of 50 mg of tiletamine/mL CAUTION: Limited shelf life following reconstitution | Dosage is based on combined mg of each drug: Dog: 6.6-10 mg/kg deep IM (<i>restraint</i>); 10-13 mg/kg deep IM (<i>minor surgical procedures</i>) Do NOT exceed 26.4 mg/kg TOTAL DOSE Cat: 9.7-12 mg/kg deep IM (<i>restraint</i>) 10.6-12.5 mg/kg, deep IM (minor surgical procedures) 14.3-15.8 mg/kg deep IM (<i>anesthesia</i>) DO NOT EXCEED 72 mg/kg TOTAL DOSE |
| Tobramycin | Nebcin | Antibacterial | 40 mg/mL injection | 2-4 mg/kg IV, IM, SC q8h |
| ⬥ Tocainide | Tonocard | Oral antiarrhythmic/used to manage patients with ventricular arrhythmias | 400- and 600-mg tablets | Dog: 15-20 mg/kg PO q8h Cat: Dose not established |
| Tolazoline | Tolazine | Alpha-adrenergic blocker/reversal agent for xylazine | 100 mg/mL in 100-mL multi-dose vials | 4 mg/kg by slow IV (approx 1 mL/sec) |
| Triamcinolone | Vetalog; Trimtabs; Aristocort; generic | Glucocorticoid/antiinflammatory (not generally used in the treatment of immune-mediated disease) | Veterinary (Vetalog): 0.5- and 1.5-mg tablets Human form: 1-, 2-, 4-, 8-, and 16-mg tablets; 10 mg/mL injection | Antiinflammatory: 0.5-1 mg/kg PO q12-24 h; then taper dose to 0.5-1 PO; taper dose to mg/kg q48h (however, manufacturer recommends doses of 0.11-0.22 mg/kg/day) |
| Triamcinolone acetoneide | Vetalog | Glucocorticoid/antiinflammatory (not generally used in the treatment of immune-mediated disease) | 2 and 6 mg/mL suspension injection; 0.5- and 1.5-mg tablets | 0.1-0.2 mg/kg IM, SC; repeat in 7-10 days Intralesional: 1.2-1.8 mg, or 1 mg for every cm diameter of tumor q2wk |

Note: Listings preceded by ⬥ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

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TABLE 6 - 2.6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---|-----------------------------------|--|---|---|
| Triamterene | Dyrenium | Diuretic/ <i>K</i> -sparing diuretic used as an alternative to <i>spironolactone</i> | 50- and 100-mg capsules | 1-2 mg/kg PO q12h |
| Trientine hydrochloride | Syprine | Oral copper chelating agent/ <i>copper-associated hepatopathy; indicated in dogs that cannot tolerate penicillamine</i> | 250-mg capsules | Dog: 10-15 mg/kg PO q12h |
| Trifluoperazine | Stelazine | Phenothiazine/ <i>antiemetic</i> | 10 mg/mL oral solution; also as 1-, 2-, 5-, and 10-mg tablets; 2.0 mg/mL injection | 0.03 mg/kg IM q12h |
| Triflupromazine | Vesprin | Phenothiazine/ <i>antiemetic</i> | 10 and 20 mg/mL injection | 0.1-0.3 mg/kg IM, PO q8-12h |
| Triiodothyronine | See Liothyronine | | | |
| Trimeprazine tartrate with prednisolone | Temaril-P | Phenothiazine antihistamine + glucocorticoid combination/ <i>antitussive and antipruritic. Not generally recommended today</i> | 5 mg trimeprazine + 2-mg prednisolone (combined) tablets | Dog: See manufacturer's recommendations regarding indications and dose |
| Trimethoprim + sulfonamide (sulfadiazine or sulfamethoxazole) | Tribrisen; others | Antibacterial | 30-, 120-, 240-, 480-, and 960-mg tablets | 15 mg/kg PO q12h; or 30 mg/kg PO q12-24h. <i>For toxoplasma</i> : 30 mg/kg PO q12h |
| TSH (thyroid-stimulating hormone) | See Thyrotropin | | | |
| Tylosin | Tylocine; Tylan; Tylosin tartrate | Antibacterial/ <i>has anti-inflammatory effects in the bowel and is sometimes used to treat inflammatory bowel disease and chronic colitis</i> | Available as soluble powder with 2.2 g tylosin per tsp (tablets available for dogs in Canada) | Dog and cat: 7-15 mg/kg PO q12-24h Dog (<i>for colitis</i>): 11 mg/kg q8h, with food |

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|---------------------------------|---|---|--|--|
| Ursodiol (ursodeoxycholic acid) | Actigall | Bile acid/adjunctive therapy in patients with chronic liver disease | 300-mg capsule | 10-15 mg/kg PO q24h |
| Valproic acid, divalproex | Depakene (valproic acid); Depakote (divalproex) | Anticonvulsant/uncommonly used alternative to conventional anticonvulsant therapy | Depakote: 125-, 250-, and 500-mg tablets Depakene: 250-mg capsule; 50 mg/mL syrup | Dog: 60-200 mg/kg PO q8h; or 25-105 mg/kg/day PO when administered with phenobarbital Cat: DO NOT USE |
| Vancomycin | Vancocin; Vancoled | Antibacterial | Vials for injection (0.5 to 10 g) | Dog: 15 mg/kg q6-8h IV by CRI Cat: 12-15 mg/kg q8h IV by CRI |
| Vasopressin (ADH) | Pitressin | Hormone/diagnostic test agent for diabetes insipidus (DI). NOT for therapeutic use (see Desmopressin) | 20 (pressor) units/mL in 0.5-, 1.0-, and 10-mL vials (aqueous only) and 1-mL ampules | Dog: Test protocol for DI: 2.5 mU/kg (aqueous vasopressin) IV over 1 h Cat: 0.5 U/kg, IM (test protocol in cats is different from that in dogs) NOTE: test protocol entails patient preparation in advance of administering vasopressin |
| ◆ Verapamil | Calan; Isoptin | Calcium channel blocker/supraventricular tachycardia and hypertension | 40-, 80-, and 120-mg tablets; 2.5 mg/mL injection | Dog: 0.05 mg/kg, IV slowly (can repeat every 5 min) to a maximum cumulative dose: 0.15-0.2 mg/kg For hypertension: 1-5 mg/kg PO q8h Cat: 0.025 mg/kg IV slowly (can repeat every 5 minutes) to a maximum cumulative dose of 0.15-0.2 mg/kg |
| Vinblastine | Valban | Vinca alkaloid/antineoplastic | 1 mg/mL injection | 2 mg/m ² IV (slow infusion) q7-14 days |
| ◆ Vincristine | Oncobin; Vincasar; generic | Vinca alkaloid/antineoplastic; also for the treatment of thrombocytopenia | 1 mg/mL injection | Antitumor: 0.5-0.75 mg/m ² IV q7-14 days (q7 days in cats, depending on protocol); for thrombocytopenia: 0.02 mg/kg IV, once weekly (alternatively, 0.5-0.7 mg/m ² as an infusion over 4-6 h) each week |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6 - 2 6 Common Drug Indications and Dosages¹—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|-------------------------------------|---|---|--|---|
| Viokase Vitamin A (retinoids) | See Pancreatic Enzymes AquaSol A | Vitamin/nutritional supplementation | Oral solution: 5000 U (1500 RE)/ 0.1-mL and 10,000-, 25,000-, and 50,000-U tablets | 625-800 U/kg PO q24h |
| Vitamin B ₁ | Thiamine | Vitamin/nutritional supplementation | 250 µg/5 mL elixir; tablets of various sizes from 5 mg to 500 mg; 100 and 500 mg/mL injection | Dog: 10-100 mg/dog/day PO Cat: 5-30 mg/cat/day PO (up to maximum dose of 50 mg/cat/day) |
| Vitamin B ₂ | Riboflavin | Vitamin/nutritional supplementation | Tablets of various sizes in increments of 10 to 250 mg | Dog: 10-20 mg/day PO Cat: 5-10 mg/day PO |
| Vitamin B ₁₂ | Cyanocobalamin | Vitamin/nutritional supplementation | 100 µg/mL injection | Dog: 100-200 µg/day PO Cat: 50-100 µg/day PO |
| Vitamin C | Ascorbic acid | | Tablets of various sizes and injection | 100-500 mg/day |
| Vitamin D analog | Dihydroxycholesterol (DHT); Hytakerol | Vitamin/management of hypocalcemia associated with hypoparathyroidism or parathyroid gland surgery | 0.125-mg tablet; 0.5 mg/mL oral liquid | 0.01 mg/kg/day PO <i>Acute treatment:</i> 0.02 mg/kg initially; then 0.01-0.03 mg/kg PO q24-48h thereafter |
| Vitamin D ₂ | Ergocalciferol; Calciferol; Drisdol | Vitamin/management of hypocalcemia associated with hypoparathyroidism or parathyroid gland surgery | 400-U tablet (OTC); 50,000-U tablet (1.25 mg); 500,000 U/mL (12.5 mg/mL) injection | 4000 to 6000 U/kg/day PO (<i>initial</i>); 1000 to 2000 U/kg/day PO (<i>maintenance</i>) |
| Vitamin D ₃ | 1-25, dihydroxy vitamin D ₃ | Vitamin also considered a hormone/management of hypocalcemia associated with hypoparathyroidism or parathyroid gland surgery; also used to supplement hypocalcemia of chronic renal failure | See Vitamin D analog (Dihydroxycholesterol [DHT]) | <i>Hypocalcemia:</i> 0.030-0.06 µg/kg PO once daily <i>Chronic renal failure:</i> 0.025 µg/kg, PO once daily |

| | | | | |
|--|---|---|--|---|
| Vitamin E (may be combined with selenium) | Alpha-tocopherol; Aquasol E; generic | Vitamin/nutritional supplementation and adjunctive therapy in patients with chronic liver disease; may be combined with selenium as adjunctive therapy for patients with immune-mediated skin disease in dogs; efficacy in management of arthritic dogs is questionable | Wide variety of capsules, tablets, oral solution available (e.g., 1,000 units per capsule) | See manufacturer's recommendations for treatment indications and dose |
| ◆ Vitamin K ₁ | Phytonadione; phytomenadione; Aqua-MEPHYTON (injection); Mephyton (tablets); Veta-K ₁ (capsules) | Antidote/anticoagulant rodenticide toxicosis and in any disorder impacting formation of vitamin K-dependent coagulation factors | 2 and 10 mg/mL injection; 5-mg tablet (Mephyton); 25-mg capsule (Veta-K ₁) | <i>Rodenticide toxicosis:</i> 2.5-5.0 mg/kg PO 3-4 weeks for diphacinone or chlorphacinone toxicosis <i>Acute intoxication:</i> 5 mg/kg SQ in multiple locations with 25-gauge needle |
| Warfarin | Coumadin; generic | Anticoagulant/adjunctive treatment for and prevention of thromboemboli | 1-, 2-, 2.5-, 4-, 5-, 7.5- and 10-mg tablets | Dog: 0.22 mg/kg PO q12h to prolong PT by 1.25 to 1.5 times normal <i>Pulmonary thromboemboli:</i> 0.2 mg/kg PO daily to prolong PT by 1.5 to 2.5 times normal Cat: <i>Chronic treatment:</i> 0.1-0.2 mg/kg PO once daily to prolong PT by 2 to 2.5 times normal <i>Aortic embolus:</i> 0.06-0.1 mg/kg PO once daily |

Note: Listings preceded by ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.

Continued

TABLE 6-26 Common Drug Indications and Dosages†—cont'd

| Drug | Proprietary names | Action/Use | Formulation | Recommended dosage |
|---------------------|--|--|--|---|
| ◆ Xylazine | Rompun; generic | Alpha-2 adrenergic agonist/ <i>sedative and analgesic</i> <i>(sometimes used as an emetic</i> <i>in cats)</i> | 20 and 100 mg/mL injection | Dog and cat: 1.1 mg/kg IV; or 1.1 to 2.2 mg/kg IM or SC Cat (<i>to induce emesis</i>): 0.4–0.5 mg/kg IV |
| ◆ Yohimbine | Yobine | Alpha-2 adrenergic antagonist/ <i>reverse xylazine (and possibly</i> <i>amitraz)</i> | 2 mg/mL injection in 20-mL vials | 0.11 mg/kg IV slowly |
| Zidovudine (AZT) | Retrovir | Antiretroviral agent/ <i>adjunctive</i> <i>treatment of FeLV/FIV-</i> <i>positive cats</i> | 300-mg tablets; 100-mg capsules; 10 mg/mL syrup 10 mg/mL injection | Cat: 5–15 mg/kg PO q12h; or 5 mg/kg PO q8h for 5 wk and then rest for 4 wk CAUTION: Significant bone marrow suppression (usually reversible with cessation of therapy) is expected; monitor CBC during therapy |
| Zolazepam | See Tiletamine- zolazepam combination | | | |

* **Listings preceded by an ◆ are for rapid reference and denote drug/dosage used in the emergency or critical care setting.**

†NOTE: Doses listed in this table are based on best available evidence at the time of table preparation; although considerable effort has been made to verify all dosages listed, it is prudent to verify treatment protocols and drug dosages whenever using a product for the first time. Adverse effects may be possible from virtually any of the drugs listed in this table. High-risk warnings and precautionary statements are listed. Veterinarians using this table are encouraged to check current literature, product label, and the manufacturer's disclosure for information regarding reported changes in efficacy or safety as well as any new treatment contraindications not identified at the time of preparation of these tables. When dosage listed does NOT stipulate Dog or Cat, drug may be administered to both dogs and cats at the dosage listed.

Abbreviations: ACE, angiotensin-converting enzyme; ADH, antidiuretic hormone; CMI, cell-mediated immunity; CNS, central nervous system; CRI, constant-rate infusion; DIC, disseminated intravascular coagulation; FeLV, feline leukemia virus; FIV, feline immunodeficiency virus; GI, gastrointestinal; h, hour(s); IM, intramuscular; IP, intraperitoneal; IV, intravenous; kg, kilograms of body weight; m², square meters of body surface area (commonly used in cancer chemotherapy protocols); MCY, mean corpuscular volume; mg, milligram(s); min, minute(s); mo, month(s); MOA-B, monoamine B; µg, microgram(s); NSAID, nonsteroidal antiinflammatory drug; OTC, over-the-counter (prescription not required); PO, per os (oral administration); PT, prothrombin time; q12h, interval between treatment (e.g., every 12 hours); SC, subcutaneous; U, units; wk, week(s).