



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

SECTION 6

Charts and Tables

- Emergency Hotlines, 635
- Dog Breeds Recognized by the American Kennel Club (AKC), 637
- Cat Breeds Recognized by the Cat Fanciers' Association (CFA), 639
- Useful Information for Rodents and Rabbits, 640
- Determination of the Sex of Mature and Immature Rodents and Rabbits, 642
- Blood Values and Serum Chemical Constituents for Rodents and Rabbits, 643
- Ferrets—Physiologic, Anatomic, and Reproductive Data, 644
- Hematologic Values for Normal Ferrets, 644
- Serum Chemistry Values for Normal Ferrets, 645
- Electrocardiographic Data for Normal Ferrets, 645
- Conversion of Body Weight in Kilograms to Body Surface Area in Square Meters for Dogs, 646
- Conversion of Body Weight in Kilograms to Body Surface Area in Square Meters for Cats, 646
- French Scale Conversion Table, 647
- International System of Units (SI) Conversion Guide 648
- Units of Length, Volume, and Mass in the Metric System 651
- Vaccines Licensed for Use in Dogs in the United States 652
- Vaccines Licensed for Use in Cats in the United States 654
- Canine Vaccination Recommendations—Initial Puppy Series 656
- Canine Vaccination Recommendations—Adult 657
- Feline Vaccination Recommendations—Initial Kitten Series 658
- Feline Vaccination Recommendations—Adult 659
- Compendium of Animal Rabies Prevention and Control, 2005, National Association of State Public Health Veterinarians, (NASPHV) 659
- Prescription Writing Reference: Do's and Don'ts 668
- Common Drug Indications and Dosages 669

TABLE 6 - 1 Emergency Hotlines

Need	Agency	Phone Number and Web Address
To obtain information regarding the treatment of a known or suspected poisoning or toxicosis case	American Society for the Prevention of Cruelty to Animals (ASPCA) Animal Poison Control Center. A \$65 fee for service may apply.	888-426-4435 www.aspca.org Search: <i>pet care; animal poison control</i>
To obtain information regarding the treatment of a known or suspected poisoning or toxicosis case	Pet Poison Helpline Available 24 hours; a \$35 fee is charged per case.	800-213-6680

Continued

TABLE 6 - 1 Emergency Hotlines—Cont'd

Need	Agency	Phone Number and Web Address
To report known or suspected adverse drug (not vaccine) reactions	Food and Drug Administration (FDA), Center for Veterinary Medicine (CVM)	888-332-8387 (voice messages accepted) www.fda.gov Search: <i>animal and veterinary</i>
To report shortages of medically necessary veterinary drugs	Food and Drug Administration (FDA), Center for Veterinary Medicine (CVM)	240-276-9239
To report known or suspected adverse vaccine reactions	U.S. Dept of Agriculture (USDA), Center for Veterinary Biologics It is recommended to contact the vaccine manufacturer directly before contacting the USDA. <i>Note:</i> This is for reporting purposes only.	800-752-6255 www.aphis.usda.gov Search: <i>vaccine adverse event</i>
For inquiries regarding transfusion medicine	Animal Blood Bank hotline (no charge to caller)	800-243-5759 (24-hour) www.animalbloodbank.com
For inquiries regarding transfusion medicine and purchase of blood and blood components	Eastern Veterinary Blood Bank	800-949-3822 (24-hour) www.evbb.com
For inquiries regarding transfusion medicine—a full-service, nonprofit blood bank and educational network for animal treatment	HEMOPET	714-891-2022 (24-hour) www.hemopet.org
Access to a commercial blood bank and purchase of blood and blood components	Veterinarians' Blood Bank	812-358-8500 www.vetbloodbank.com
For inquiries regarding pesticides, pesticide products, poisonings, and toxicities	National Pesticide Information Center	800-858-7378
For inquiries regarding pet shipping regulations and regulations for shipping pets on airlines	U.S. Dept of Agriculture (USDA) (voice response service)	800-545-8732 www.aphis.usda.gov Search: <i>pet travel</i>
To contact the Office of Diversion Control of the DEA	Drug Enforcement Administration (DEA)	800-882-9539 www.dea.gov

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 seven breed groups. The AKC maintains an excellent website that offers considerable information on individual breeds (www.akc.org/breeds/index.cfm).

SPORTING GROUP

American Water Spaniel
 Boykin Spaniel
 Brittany
 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 Red and White 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
 Bluetick Coonhound
 Borzoi
 Dachshund
 English Foxhound
 Greyhound
 Harrier
 Ibizan Hound
 Irish Wolfhound
 Norwegian Elkhound
 Otterhound
 Petit Basset Griffon Vendéen
 Pharaoh Hound
 Plott
 Redbone Coonhound

Rhodesian Ridgeback
 Saluki
 Scottish Deerhound
 Whippet

WORKING GROUP

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

TERRIER GROUP

Airedale Terrier
 American Staffordshire Terrier
 Australian Terrier
 Bedlington Terrier
 Border Terrier
 Bull Terrier
 Cairn Terrier
 Dandie Dinmont Terrier
 Glen of Imaal Terrier
 Irish Terrier
 Kerry Blue Terrier
 Lakeland Terrier
 Manchester Terrier
 Miniature Bull Terrier
 Miniature Schnauzer
 Norfolk Terrier

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

Norwich Terrier	Norwegian Lundehund
Parson Russell Terrier	Poodle
Scottish Terrier	Schipperke
Sealyham Terrier	Shiba Inu
Skye Terrier	Tibetan Spaniel
Smooth Fox Terrier	Tibetan Terrier
Soft Coated Wheaten Terrier	Xoloitzcuintli
Staffordshire Bull Terrier	HERDING GROUP
Welsh Terrier	Australian Cattle Dog
West Highland White Terrier	Australian Shepherd
Wire Fox Terrier	Bearded Collie
TOY GROUP	Beauceron
Affenpinscher	Belgian Malinois
Brussels Griffon	Belgian Sheepdog
Cavalier King Charles Spaniel	Belgian Tervuren
Chihuahua	Border Collie
Chinese Crested	Bouvier des Flandres
English Toy Spaniel	Briard
Havanese	Canaan Dog
Italian Greyhound	Cardigan Welsh Corgi
Japanese Chin	Collie
Maltese	Entlebucher Mountain Dog
Manchester Terrier (Toy)	German Shepherd Dog
Miniature Pinscher	Icelandic Sheepdog
Papillon	Norwegian Buhund
Pekingese	Old English Sheepdog
Pomeranian	Pembroke Welsh Corgi
Poodle	Polish Lowland
Pug	Puli
Shih Tzu	Pyrenean Shepherd
Silky Terrier	Shetland Sheepdog
Toy Fox Terrier	Swedish Vallhund
Yorkshire Terrier	MISCELLANEOUS CLASS
NON-SPORTING GROUP	American English Coonhound
American Eskimo Dog	Bergamasco
Bichon Frise	Boerboel
Boston Terrier	Cesky Terrier
Bulldog	Chinook
Chinese Shar-Pei	Dogo Argentino
Chow Chow	Finnish Lapphund
Dalmatian	Peruvian Inca
Finnish Spitz	Rat Terrier
French Bulldog	Russell Terrier
Keeshond	Sloughi
Lhasa Apso	Treeing Walker Coonhound
Löwchen	Wirehaired Vizsla

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

The Cat Fanciers' Association (CFA) presently recognizes 41 pedigreed breeds for showing in the Championship Class. For additional information on individual breeds, see the CFA website, www.cfa.org (Search: Breeds)

CHAMPIONSHIP CLASS

Abyssinian	LaPerm
American Bobtail	Maine Coon
American Curl	Manx
American Shorthair	Norwegian Forest Cat
American Wirehair	Ocicat
Balinese (including Javanese)	Oriental
Birman	Persian
Bombay	RagaMuffin
British Shorthair	Ragdoll
Burmese	Russian Blue
Chartreux	Scottish Fold
Chinese Li Hua	Selkirk Rex
Colorpoint Shorthair	Siamese
Cornish Rex	Siberian
Devon Rex	Singapura
Egyptian Mau	Somali
European Burmese	Sphynx
Exotic	Tonkinese
Havana Brown	Turkish Angora
Japanese Bobtail	Turkish Van
Korat	

TABLE 6-4 Useful Information for Rodents and Rabbits

	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 at 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 copulation	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 litter	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	Before 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 yr (maximum 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 with lowest fat content 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

From Schuchman SM: Individual care and treatment of rabbits, mice, rats, guinea pigs, hamsters, and gerbils. In Kirk RW, editor: *Current veterinary therapy X*, Philadelphia, 1989, WB Saunders.

*All species listed except rabbits are seasonally polyestrous.

[†]Better source of vitamin C than lettuce.

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

Male	Female
MATURE HAMSTERS, MICE, RATS, GUINEA PIGS, AND GERBILS	
<p>Anogenital distance longer in the male.</p> <p>Manipulate “genital papilla” (prepuce) to the protrude penis.</p> <p>Palpate for testicles either in a scrotal sac (if present) or subcutaneous in inguinal region.</p> <p>Males have only two external openings in the inguinal area:</p> <ol style="list-style-type: none"> Anus 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. 	<p>Anogenital distance shorter in the female.</p> <p>Look for the three external openings in inguinal area:</p> <ol style="list-style-type: none"> Anus (most caudal opening) Vaginal orifice (middle opening)—look carefully Urethral orifice at tip of urethral papilla (most anterior opening). In these animals the urethral papilla is located outside the vagina (unlike in dogs and cats). In very fat 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	
<p>Protrude penis by manipulating skin of prepuce.</p> <p>Palpate for testicles.</p> <p>Anogenital distance is longer in males.</p>	<p>There is a common orifice for both the vagina and urethra (as in dogs and cats).</p> <p>No structure like a “penis” can be protruded from the urogenital orifice.</p> <p>Anogenital distance is shorter in females.</p>

From Schuchman SM: Individual care and treatment of rabbits, mice, rats, guinea pigs, hamsters, and gerbils. In Kirk RW, editor: *Current veterinary therapy X*, Philadelphia, 1989, WB Saunders.

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

Modified from Schuchman SM: Individual care and treatment of rabbits, mice, rats, guinea pigs, hamsters, and gerbils. In Kirk RW, editor: *Current veterinary therapy X*, Philadelphia, 1989, WB Saunders.

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.

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 beats/min (average 240)
Water consumption	75-100 mL/day
Chromosome number	2n = 40
ANATOMIC 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 postcoitus

From Randolph RW: Medical and surgical care of the pet ferret. In Kirk RW, editor: *Current veterinary therapy X*, Philadelphia, 1989, WB Saunders.

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

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 PC, Wright PA, Sacra PJ, Goodier TE: The ferret, *Mustela putorius furo*, as a new species in toxicology, *Lab Anim* 13:119, 1979.

RBCs, Red blood cells; WBCs, white blood cells.

*Values are for both sexes.

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	International units/L	23	9-84
AST	International units/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

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 PC, Wright PA, Sacra PJ, Goodier TE: The ferret, *Mustela putorius furo*, as a new species in toxicology, *Lab Anim* 13:119, 1979.

AST, Aspartate aminotransferase; BUN, blood urea nitrogen.

*Values for both sexes.

TABLE 6 - 10 Electrocardiographic Data for Normal Ferrets*

Parameter	Mean	Range
Rate rhythm	224 ± 51	150-340 bpm
MEASUREMENTS		
P wave		
Width	0.03 ± 0.009	0.015-0.04 s
Height	0.106 ± 0.03	0.05-0.20 mV
PR 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
ST segment		
Width	0.030 ± 0.016	0.01-0.06 s
QT 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.

bpm, Beats per minute; s, seconds; mV, millivolts.

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

Kilograms	Square Meters	Kilograms	Square Meters
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 Square Meters for Cats

Kilograms	Square Meters
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 here.

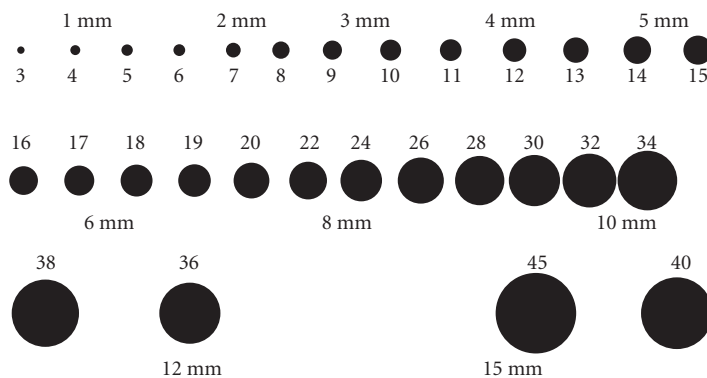


TABLE 6 - 1 4 International System of Units (SI) Conversion Guide*

Analyte	Fluid	Traditional Units	Conversion Factor		SI Units
			Multiply (×)→	Divide (÷)←	
ACTH (adrenocorticotropin; corticotropin)	Plasma	pg/mL	0.2202		pmol/L
ALT (alanine aminotransferase; SGPT)	Serum	mg/dL	1		units/L
Albumin	Serum	g/dL	10		g/L
Aldosterone	Serum	ng/dL	27.74		pmol/L
Ammonia (NH ³)	Plasma	mcg/dL	0.5872		μmol/L
Ammonium (NH ⁴⁺)	Plasma	mcg/dL	0.5543		μmol/L
Amylase	Serum	units/L	1		units/L
Antibodies	Serum	Highest possible dilution	1		Highest possible dilution
AST (aspartate aminotransferase; SGOT)	Serum	units/L	1		units/L
Bile acids (total)	Serum	mcg/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		

*Presented in alphabetical order.

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

Analyte	Fluid	Traditional Units	Conversion Factor	
			← Divide (÷)	→ Multiply (×)
			SI Units	
Lead	Plasma	mcg/dL	0.04826	μmol/L
		mg/dL	48.26	μmol/L
Lipase	Serum	units/L	1	units/L
		mg/dL	0.4114	mmol/L
Magnesium	Serum	mEq/L	0.500	mmol/L
		mg/dL	0.3229	mmol/L
Phosphorus	Serum	mg/dL	0.01	as a fraction of 1
Plasminogen	Plasma	%	10	g/L
Protein (total)	Serum	g/dL	0.01	g/L
Protein (spinal fluid)	Cerebrospinal fluid (CSF)	mg/dL		
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	mcg/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

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 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 nanogram = 10^{-9} gram	1 nanogram = 1 ng
	1 microgram = 10^{-6} gram	1 microgram = 1 mcg or 1 μ g
	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

*1 cc (or cubic centimeter) = 1 cm^3 = 1 mL.

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

Vaccine Type	Core versus Noncore	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	5+ years
Measles virus: modified live (parenteral)	Noncore	Not indicated	Not applicable
Available only in combination with modified live distemper + adenovirus-2 + parainfluenza vaccine			
Parvovirus: modified live (parenteral)	Core	3 years	7+ years
Coronavirus: modified live (parenteral)	NR	NR	Cannot be determined
Coronavirus: killed (parenteral)	NR	NR	Cannot be determined
Canine adenovirus-2: modified live (parenteral)	Core	3 years	7+ years
Canine adenovirus-2: modified live (intranasal)	Core	3 years	3+ years
			<i>Note:</i> the intranasal vaccine is not intended for the prevention of canine hepatitis virus infection.
Canine adenovirus-2: killed (parenteral)	Noncore	Annual	Unknown
Parainfluenza virus: modified live (parenteral)	Noncore	3 years	3+ years
Parainfluenza virus: modified live (intranasal)	Noncore	3 years	3+ years (preferred)
<i>Bordetella bronchiseptica</i> : avirulent live (intranasal)	Noncore	Annual	12 months
<i>B. bronchiseptica</i> : antigen extract (parenteral)	Noncore	Annual	Not established
Canine influenza virus: killed (parenteral)	Noncore	Annual	Not established

Leptospira var canicola	Non-core	Annual	12 months
Leptospira var icterhemorrhagiae	Non-core	Annual	
Leptospira var pomona	Non-core	Annual	
Leptospira var grippityphosa	Non-core	Annual	
Recombinant Lyme (parenteral)	Noncore	Annual	1 year
Lyme: killed (parenteral)	Noncore	Annual	1 year
<i>Crotalus atrox</i> (rattlesnake vaccine)	Noncore	Annual or seasonally as recommended by manufacturer	Unknown (license is conditional at this writing—challenge studies in dogs have not been performed)
Rabies, 1-year: killed (parenteral)	Core	As defined by local and state law	3+ years
Rabies, 3-year: killed (parenteral)	Core	As defined by local and state law	3+ years

NR, Not generally recommended.

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

Vaccine Type	Adjuvanted versus Nonadjuvanted	Core versus Noncore	Recommended Vaccination Interval for Administration of Booster Inoculations	Minimum Duration of Immunity
Panleukopenia: modified live (parenteral)	Nonadjuvanted	Core	3 years	7 + years
Panleukopenia: killed (parenteral)	Adjuvanted	Noncore	Annual	5 + years
Panleukopenia: modified live (intranasal)	Nonadjuvanted	Noncore	3 years	Not established
Herpesvirus-calicivirus: modified live (parenteral)	Nonadjuvanted	Core	3 years (annual vaccination may be recommended in high-risk settings)	5 + years
Herpesvirus-calicivirus: killed (parenteral)	Adjuvanted	Noncore	Annual	5 + years
Herpesvirus-calicivirus: modified live (intranasal)	Nonadjuvanted	Noncore	Annual	Not established
<i>Chlamydomphilia felis</i> : killed	Adjuvanted	Noncore	Annual	1 year (maximum)
<i>C. felis</i> : live, avirulent	Nonadjuvanted	Noncore	Annual	
Recombinant feline leukemia virus (transdermal in the United States; parenteral in Canada, the United Kingdom, and Europe)	Nonadjuvanted	Noncore*	Annual where risk is sustained	1 year
Feline leukemia virus: killed (parenteral)	Adjuvanted	Noncore*	Annual where risk is sustained	1 year
Feline immunodeficiency virus: killed (parenteral)	Adjuvanted	Non-core†	Annual	1 year
Feline infectious peritonitis: modified live (intranasal)	Nonadjuvanted	NR	NR	Not established
<i>Bordetella bronchiseptica</i> : modified live (intranasal)	Nonadjuvanted	Noncore	Annual	1 year

Virulent systemic feline calicivirus: killed (parenteral)	Adjuvanted	Noncore	Annual	1 year
Recombinant rabies (parenteral)	Nonadjuvanted	Core	Annual	1+ years (must be administered in accordance with state and local requirements)
Rabies, 1-year: killed (parenteral)	Adjuvanted	Core	Annual	3+ years (must be administered in accordance with state and local requirements)
Rabies, 3-year: killed (parenteral)	Adjuvanted	Core	3 years (as required by law)	3+ years (must be administered in accordance with state and local requirements)

NR, Not generally recommended.

*Because of the high susceptibility of kittens to infection, current guidelines state that feline leukemia virus (FeLV) vaccination is “highly recommended” for all kittens and cats. Consequently, FeLV vaccination becomes noncore thereafter.

TABLE 6 - 18 Canine Vaccination Recommendations—Initial Puppy Series

	Administration	Booster
CORE VACCINES		
MLV or rDistemper + MLV Parvovirus + MLV Adenovirus-2	8 wk, 12 wk, and 16 wk of age	Not later than 1 year after the last dose in the initial series
Option: Parainfluenza virus is often administered in combination with the above vaccines.		When parainfluenza virus vaccine is indicated, intranasal vaccination (which is combined with <i>Bordetella bronchiseptica</i>) is recommended.
Rabies, 1-year (killed)	Single dose usually given at 12 or 16 wk (local or state statutes apply)	Single dose of a rabies 3-year vaccine
NONCORE VACCINES		
<i>B. bronchiseptica</i> + parainfluenza virus (intranasal)	Single dose (intranasal) at 12 or 16 wk of age. (Optional: some authors recommend 2 doses at 12 and 16 wk of age.)	When risk of exposure exists, administer a single dose 1 year after the last dose administered.
<i>Leptospira</i> (killed) four-serovar [two-way <i>Leptospira</i> vaccines are no longer recommended]	Two initial doses, 2 to 4 wk apart <i>Note:</i> Do not administer the first dose before 12 wk of age. <i>Also:</i> In small-breed dogs, delay initial administration until 2 to 4 wk after completion of the initial core series.	When risk of exposure exists, administer a single dose 1 year after the last dose administered.
Lyme disease (recombinant or killed)	Two initial doses, 2 to 4 wk apart <i>Note:</i> Do not administer the first dose before 12 wk of age. <i>Also:</i> In small-breed dogs, delay initial administration until 2 to 4 wk after completion of the initial core series.	When risk of exposure exists, administer a single dose 1 year after the last dose administered.
Canine influenza virus (killed)	Two initial doses, 2 to 4 wk apart <i>Note:</i> Do not administer the first dose before 12 wk of age. <i>Also:</i> In small-breed dogs, delay initial administration until after completion of the initial core series.	Indication for vaccination depends on individual patient exposure risk. Duration of immunity has not been established at this writing. Manufacturer recommends annual revaccination when risk of exposure exists.
<i>Crotalus atrox</i>	The decision to use this vaccine is dependent on individual patient risk for exposure to the Western Diamondback Rattlesnake. Administration recommendations may vary depending on the level of risk and patient size.	

MLV, Modified live virus.

TABLE 6 - 19 Canine Vaccination Recommendations—Adult**CANINE CORE VACCINES**

- A single booster dose of combination distemper + parvovirus + adenovirus-2 vaccine is recommended every 3 years.
- Rabies vaccine is administered in accordance with state or local requirements. All states currently recognize the 3-year rabies vaccine for dogs. Some municipalities or counties may require rabies vaccine to be administered more frequently than every 3 years. Some States allow discretionary use of a labeled 3-year rabies in place of a labeled 1-year rabies vaccine.

CANINE NON-CORE VACCINES

- Administer a single dose annually to patients with sustained exposure risk.
- Patients that have not been vaccinated within the past 2 years should receive two doses of a noncore vaccine, 2 to 6 weeks apart. The exception is the intranasal *Bordetella bronchiseptica* + parainfluenza virus (+ adenovirus-2) vaccines, in which a single dose is considered sufficient to induce a protective immune response regardless of the time since administration of the last vaccine.

TABLE 6 - 20 Feline Vaccination Recommendations—Initial Kitten Series

	Administration	Booster
CORE VACCINES		
MLV panleukopenia + MLV herpesvirus + MLV calicivirus When feasible, avoid the use of killed (adjuvanted) vaccines in cats.	Single dose at 8 wk, 12 wk, and 16 wk of age	Not later than 1 year after the last dose in the initial series.
Rabies (recombinant [the only nonadjuvanted rabies vaccine]) Alternative: rabies (killed-adjuvanted)	Single dose usually given at 12 or 16 wk of age (state or local law applies)	Administer a single dose of rabies vaccine within 1 year after administration of the initial dose.
NONCORE VACCINES		
Feline leukemia virus (FeLV) Recombinant-nonadjuvanted (also available as killed-adjuvanted)	Highly recommended for all kittens: one dose at 12 and 16 wk of age	When risk of exposure exists, administer a single dose 1 year after the last dose administered.
Feline immunodeficiency virus (FIV) Killed-adjuvanted	Three initial doses 2 to 4 weeks apart, if indicated	<i>Note:</i> Initial vaccination will cause cats to have a false-positive FIV test result on <i>all</i> commercial FIV tests for at least 1 year. Kittens having nursed from a vaccinated cat may also have a false-positive test result.
Feline <i>Bordetella bronchiseptica</i> Attenuated live intranasal	A single dose, administered intranasally as early as 4 weeks of age, if indicated	When risk of exposure exists, administer a single dose 1 year after the last dose administered.
Feline <i>Chlamydomphila felis</i> (formerly <i>Chlamydia psittaci</i>)	Two initial doses 3 to 4 weeks apart, if indicated	Booster annually if risk of exposure is clear (exposure risk among household cats is very low).
Virulent systemic (VS) calicivirus Killed-adjuvanted	Two initial doses 2 to 4 weeks apart, if indicated	Disease prevalence is considered low and limited to cluster environments (especially shelters).

MLV, Modified live virus.

Note: The Feline Infectious Peritonitis (FIP) vaccine is deemed “not generally recommended” by the AAFP Vaccine Advisory Panel.

TABLE 6-21 Feline Vaccination Recommendations—Adult

Vaccine	Administration
CORE VACCINES	
MLV panleukopenia + MLV herpesvirus + MLV calicivirus When feasible, avoid the use killed (adjuvanted) vaccines in cats.	Administer a single dose every 3 years after completion of the initial kitten series and the first booster.
Rabies (recombinant [the only nonadjuvanted rabies vaccine]) <i>or</i> Rabies (killed-adjuvanted)	Administer a single dose annually in accordance with State or local law.
NONCORE VACCINES*	
Feline leukemia virus (FeLV) Recombinant-nonadjuvanted (also available as killed-adjuvanted)	FeLV vaccination recommended annually <i>only</i> if risk is sustained (e.g., outdoor cats with reasonable risk of encounter with other cats). The recombinant FeLV vaccine (administered transdermally) is not adjuvanted; all other FeLV vaccines contain adjuvant.

MLV, Modified live virus.

*Other noncore vaccines are seldom administered and should be considered only after assessing and defining a clear risk of exposure. All other noncore vaccines are recommended for annual administration as long as the risk of exposure persists.

TABLE 6-22 Compendium of Animal Rabies Prevention and Control, 2005,* National Association of State Public Health Veterinarians (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 U.S. 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, into 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.

Continued

TABLE 6 - 22 Compendium of Animal Rabies Prevention and Control, 2005,* National Association of State Public Health Veterinarians (NASPHV)[†]—Cont'd

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 (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. Prevention and Control Methods Related to 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.
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 (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

Continued

TABLE 6-22 Compendium of Animal Rabies Prevention and Control, 2005,* National Association of State Public Health Veterinarians (NASPHV)[†]—Cont'd

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 before 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 after 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
 - 2) Maintained in exhibits and in zoologic 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 preexposure 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.

Continued

TABLE 6 - 22 Compendium of Animal Rabies Prevention and Control, 2005,* National Association of State Public Health Veterinarians (NASPHV)[†]—Cont'd

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] [www.cdc.gov/ncidod/dq/animal.htm]) and complete CDC form 75.37 (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 (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 that 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.
 - 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.

Continued

TABLE 6-22 Compendium of Animal Rabies Prevention and Control, 2005,* National Association of State Public Health Veterinarians (NASPHV)[†]—Cont'd

Rabies vaccine should be administered on entry into isolation or 1 month before 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 zoologic 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 before illness or death.^{19,20,21} 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.

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.

TABLE 6 - 22 Compendium of Animal Rabies Prevention and Control, 2005,* National Association of State Public Health Veterinarians (NASPHV)[†]—Cont'd

- 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 of 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 ACIP³). 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.
- 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

TABLE 6 - 22 Compendium of Animal Rabies Prevention and Control, 2005,* National Association of State Public Health Veterinarians (NASPHV)[†]—Cont'd

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 (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 (www.nasphv.org). It is also available from CDC (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 Etestad, 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.

References

1. Rabies. In Chin J, editor: *Control of communicable diseases manual*, ed 17, Washington, DC, 2000, American Public Health Association, pp 411–419.
2. CDC: Human rabies prevention—United States, 1999. Recommendations of the Advisory Committee on Immunization Practices (ACIP), *MMWR* 48(No. RR-1), 1999.
3. Krebs JW, Mandel EJ, Swerdlow DL, et al: Rabies surveillance in the United States during 2003, *J Am Vet Med Assoc* 225:1837–1849, 2004.
4. McQuiston J, Yager PA, Smith JS, et al: Epidemiologic characteristics of rabies virus variants in dogs and cats in the United States, 1999, *J Am Vet Med Assoc* 218:1939–1942, 2001.
5. Hanlon CA, Childs JE, Nettles VF, et al: Recommendations of the Working Group on Rabies. Article III: Rabies in wildlife, *J Am Vet Med Assoc* 215:1612–1618, 1999.
6. Hanlon CA, Smith JS, Anderson GR, et al: Recommendations of the Working Group on Rabies. Article II: Laboratory diagnosis of rabies, *J Am Vet Med Assoc* 215:1444–1446, 1999.
7. American Veterinary Medical Association: 2000 Report of the AVMA Panel on Euthanasia, *J Am Vet Med Assoc* 218:669–696, 2001.
8. Tizard I, Ni Y: Use of serologic testing to assess immune status of companion animals, *J Am Vet Med Assoc* 213:54–60, 1998.
9. National Association of State Public Health Veterinarians: *Compendium of measures to prevent disease and injury associated with animals in public settings*. Available at www.nasphv.org/83416/84501.html.
10. Bender J, Schulman S: Reports of zoonotic disease outbreaks associated with animal exhibits and availability of recommendations for preventing zoonotic disease transmission from animals to people in such settings, *J Am Vet Med Assoc* 224:1105–1109, 2004.
11. Wild animals as pets. In *Directory and resource manual*, Schaumburg, IL, 2002, American Veterinary Medical Association, p 126.
12. Position on canine hybrids. In *Directory and resource manual*, Schaumburg, IL, 2002, American Veterinary Medical Association, pp 88–89.
13. Siino BS: Crossing the line, *American Society for the Prevention of Cruelty to Animals, Animal Watch* Winter: 22–29, 2000.
14. Jay MT, Reilly KE, DeBess EE, et al: Rabies in a vaccinated wolf-dog hybrid, *J Am Vet Med Assoc* 205:1729–1732, 1994.
15. CDC: An imported case of rabies in an immunized dog, *MMWR* 36:946, 101, 1987.
16. CDC: Imported dog and cat rabies—New Hampshire, California, *MMWR* 37:59–60, 1988.
17. Hanlon CA, Niezgoda MN, Rupprecht CE: Postexposure prophylaxis for prevention of rabies in dogs, *Am J Vet Res* 63:1096–1100, 2002.
18. CDC: Mass treatment of humans who drank unpasteurized milk from rabid cows—Massachusetts, 1996–1998, *MMWR* 48:228–229, 1999.
19. Vaughn JB, Gerhardt P, Paterson J: Excretion of street rabies virus in saliva of cats, *J Am Med Assoc* 184:705, 1963.
20. Vaughn JB, Gerhardt P, Newell KW: Excretion of street rabies virus in saliva of dogs, *J Am Med Assoc* 193:363–368, 1965.
21. Niezgoda M, Briggs DJ, Shaddock J, et al: Viral excretion in domestic ferrets (*Mustela putorius furo*) inoculated with a raccoon rabies isolate, *Am J Vet Res* 59:1629–1632, 1998.
22. Tepsumethanon V, Lumlerdacha B, Mitmoonpitak C, et al: Survival of naturally infected rabid dogs and cats, *Clin Infect Dis* 39:278–280, 2004.
23. Jenkins SR, Perry BD, Winkler WG: Ecology and epidemiology of raccoon rabies, *Rev Infect Dis* 10(Suppl 4):S620–S625, 1988.
24. CDC: Translocation of coyote rabies—Florida, 1994, *MMWR* 44:580–587, 1995.
25. Messenger SL, Smith JS, Rupprecht CE: Emerging epidemiology of bat-associated cryptic cases of rabies in humans in the United States, *Clin Infect Dis* 35:738–747, 2002.
26. CDC: Human rabies—California, 2002, *MMWR* 51:686–688, 2002.
27. CDC: Human rabies—Tennessee, 2002, *MMWR* 51:828–829, 2002.
28. CDC: Human rabies—Iowa, 2002, *MMWR* 52:47–48, 2003.
29. CDC: Human death associated with bat rabies—California, 2003, *MMWR* 53:33–35, 2003.
30. Frantz SC, Trimarchi CV: Bats in human dwellings: health concerns and management. In Decker DF, editor: *Proceedings of the first eastern wildlife damage control conference*, Ithaca, NY, 1983, Cornell University Press, pp 299–308.
31. Greenhall AM: *House bat management*. US Fish and Wildlife Service, Resource Publication 143, 1982.

32. Model rabies control ordinance. In *Directory and resource manual*, Schaumburg, IL, 2002, American Veterinary Medical Association, pp 114–116.
33. Bunn TO: Canine and feline vaccines, past and present. In Baer GM, editor: *The natural history of rabies*, ed 2, Boca Raton, FL, 1991, CRC Press, pp 415–425.
34. Gobar GM, Kass PH: World wide web-based survey of vaccination practices, postvaccinal reactions, and vaccine site-associated sarcomas in cats, *J Am Vet Med Assoc* 220:1477–1482, 2002.
35. Macy DW, Hendrick MJ: The potential role of inflammation in the development of postvaccinal sarcomas in cats, *Vet Clin North Am Small Anim Pract* 26:103–109, 1996.
36. Rupprecht CE, Blass L, Smith K, et al: Human infection due to recombinant vaccinia-rabies glycoprotein virus, *N Engl J Med* 345:582–586, 2001.

TABLE 6-23 Prescription Writing Reference: Do's and Don'ts

Veterinarian Information	Owner Information
ALWAYS INCLUDE:	
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
PRESCRIPTION	
<ul style="list-style-type: none"> • Drug name: Print <i>full</i> brand name or generic name; <i>never</i> abbreviate • Dosage form: Specify tablet, capsule, suspension, other • Strength (e.g., mg, g, mcg) or concentration (mg/mL); use metric units • Total quantity (# 10 [for 10 tablets]; 60 mL) • Sig: Include the following: dose (individual); route; frequency; duration; indication or use • Number of refills: Define the number permitted • Designate whether or not generic substitution is permissible • Signature 	
COMMON PRESCRIPTION WRITING ERRORS	
<ul style="list-style-type: none"> • Always use metric units: for example, g (gram) for solids; mL (milliliter) for liquids. • Use <i>per</i> instead of a slash (/), which can be interpreted as the number 1. • Use <i>units</i> instead of the abbreviation <i>u</i>, which can be interpreted as 0 or 4 or μ. • Use <i>once daily</i> instead of <i>sid</i>, which has been interpreted as 5/d, or 5 per day! (<i>Note</i>: "sid" is not a conventional prescription abbreviation.) • Use <i>three times daily</i> instead of <i>tid</i>, and <i>four times daily</i> instead of <i>qid</i>. • Use <i>every other day</i> instead of <i>qod</i>. • <i>Remember</i>: Abbreviations such as <i>qd</i>, <i>qid</i>, and <i>qod</i> are easily confused with one another. • When writing numbers: • Use a leading zero with decimals: for example, use 0.5 mL rather than .5 mL. • Avoid using a trailing zero: for example, use 3 rather than 3.0. • And <i>finally</i>—When in doubt, spell it out. 	

TABLE 6 - 2 4 Common Drug Indications and Dosages*

Drug	Proprietary Names	Action and 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, SQ, IV; 0.56-2.25 mg/kg PO q6-8h Cat: 1.13-2.25 mg/kg IM, SQ, IV
Acetaminophen	Tylenol and other generic brands	NSAID; analgesia	120-, 160-, 325-, and 500-mg tablets	Dog: 15 mg/kg PO q8h Cat: <i>Do not use</i>
Acetaminophen with codeine	Tylenol with codeine, other generic products	NSAID + opioid; analgesia	Oral solution and tablets Many forms (e-g, 300 mg acetaminophen plus 15, 30, or 60 mg codeine)	Follow dosing recommendations for codeine Dog: (analgesia) 0.5-1 mg/kg PO q6-8h Cat: <i>Do not use</i>
Acetazolamide	Diamox	Diuretic; management of glaucoma	125- and 250-mg tablets	Glaucoma: 5-10 mg/kg PO q8-12h Diuretic: 4-8 mg/kg PO q8-12h
§ Acetylcysteine	Mucomyst	Antidote; acetaminophen toxicosis in cats	20% solution (200 mg/mL)	Cat (acetaminophen toxicosis): 140 mg/kg (initial loading dose); then 70 mg/kg PO or IV q4h for five doses
ACTH gel	See <i>Corticotropin</i>			
Activated charcoal	ActaChar, Charcodote, ToxiBan, and generic	GI adsorbent	Oral suspension	1-4 g/kg PO (granules) 6-12 mL/kg (suspension)
Albendazole	Valbazen	Antiparasitic, especially respiratory parasites and <i>Giardia</i> species	113.6-mg/mL suspension and 300-mg/mL paste	General antiparasitic: 25-50 mg/kg PO q12h for 3-5 days Respiratory parasites: 50 mg/kg, q24h PO for 10-14 days <i>Giardia</i> : 25 mg/kg q12h for 2-5 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 at 90 mcg/dose)	20-50 mcg/kg four times per day; up to maximum of 100 mcg/kg four times per day

*Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Allopurinol	Lopurin, Zyloprim	Antiinflammatory; adjunct therapy for leishmaniasis; urolith 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	Basaljel	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	Amphojel	Antacid, GI phosphate binder (uncommonly used today)	64 mg/mL oral suspension; 600-mg tablet	10-90 mg/kg PO q8h (with meals)
Amikacin	Amiglyde-V (veterinary), Amikin (human)	Antibacterial	50- and 250-mg/mL injection	Dog: 15-30 mg/kg, IV, IM, SQ, q24h Cat: 10-14 mg/kg, IV, IM, SQ, q24h
Aminophylline	Many generic brands	Bronchodilator; chronic bronchitis and asthma	100- and 200-mg tablets; 25 mg/mL injection	Dog: 5-11 mg/kg PO, IM, IV q8-12h Cat: 6.6 mg/kg PO q12h
§ Amiodarone	Cordarone	Antiarrhythmic; life-threatening arrhythmias	200-mg tablet and 50 mg/mL injection	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
Amitraz	Mitaban	Antiparasitic, especially ectoparasites: <i>Demodex</i> and <i>Sarcoptes</i>	10.6 mL concentrated dip (19.9%)	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 used have included 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.

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: 0.5-2 mg/kg q12-24h or approximately 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 0.1-0.4 mg/kg PO q12-24h 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; acidifies urine and treats metabolic alkalosis	Available as crystals	Dog: 200 mg/kg/day divided TID-QID Cat: 800 mg/cat (approximately 1/4 to 1/2 tsp) mixed with food daily
Amoxicillin trihydrate	Amoxi-Tabs, 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 and leishmaniasis	50-mg injectable vial	3-5 mg/kg/day IV administered over 60-120 minutes for 3 days per week (cumulative dose = 24-27 mg/kg)
	Fungizone (traditional formulation)	Antifungal; deep systemic fungal infection and leishmaniasis	50-mg injectable vial	0.5 mg/kg IV (slow infusion) q48h; cumulative dose is 4-8 mg/kg <i>Caution:</i> Monitor renal function.
Ampicillin	Omnipen, Principen, others	Broad-spectrum antibacterial	250- and 500-mg capsules; 125-, 250-, and 500-mg vials of ampicillin sodium	10-20 mg/kg IV, IM, SQ q6-8h (ampicillin sodium); 20-40 mg/kg PO q8h

*Listings preceded by \$ are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
§ Ampicillin + sulbactam	Unasyn	Broad-spectrum antibacterial	1.5- and 3-g vials in 2:1 combination for injection	20-50 mg/kg (total combined) IV, IM q8h
Ampicillin trihydrate	Polyflex	Broad-spectrum antibacterial	10- and 25-mg vials for injection	6.5-22 mg/kg IM, SQ q12h
Amprolium	Amprol, Corid	Thiamine analogue; treatment for coccidia	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, concentrated serum globulin from horses immunized with multiple types of venom	10-mL vials	Dose varies from 10 to 50 mL (1 to 5 vials) initially; additional doses may be administered q2h after initial treatment
§ Apomorphine	Generic	Emetic (potent)	6-mg tablets	0.02-0.04 mg/kg IV, IM, 0.1 mg/kg SQ, 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, lymphoid malignancies	10,000 units per vial for injection	Dog: 10,000 to 20,000 international units/m ² IV once weekly Cat: 400 units/kg SQ or IM (as part of a protocol) Pretreatment with antihistamine (diphenhydramine), 2 mg/kg (dog) and 1 mg/kg (cat) 30 minutes earlier is recommended

Aspirin	Many generic and brand name products (e.g., Bufferin, Ascriptin)	NSAID; anticoagulant	81- and 325-mg tablets	Dog: Mild analgesia: 10-25 mg/kg q8-12h Antiinflammatory: 20-25 mg/kg q8-12h Antiplatelet: 5-10 mg/kg q24-48h To prevent thromboembolism (IMHA): 0.5 mg/kg/day Cat: 10-20 mg/kg q48h Antiplatelet: 80 mg q48h
Atenolol	Tenormin	β-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 (approximately 3 mg/kg)
§ Atipamezole	Antisedan	Treatment of amitraz toxicity	5.0 mg/mL, injection only	50 mcg/kg IM
Atracurium	Tractrium	Neuromuscular blocking agent; adjunct to general anesthesia for muscle relaxation	10-mg/mL injection	0.2 mg/kg IV initially; then 0.15 mg/kg q30min (or intravenous infusion at 3-8 mcg/kg/min)
§ Atropine	Many generic products	Antimuscarinic-anticholinergic; preanesthetic agent; treatment of some bradyarrhythmias	400-, 500-, and 540 mcg/mL injection; 15 mg/mL injection	0.02-0.04 mg/kg IV, IM, SQ q6-8h or 0.2-0.5 mg/kg (as needed) for organophosphate and carbamate toxicosis
Auranofin (triethylphosphine gold)	Ridaura	Gold compound; immune-mediated skin disease	3-mg capsule	0.1-0.2 mg/kg PO q12h

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Aurothioglucose	Solganal	Gold compound; immune-mediated skin disease	50 mg/mL injection	Dog <10 kg: 1 mg IM 1st wk, 2 mg IM 2nd wk, 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; immunosuppressive agent	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 Monitoring patient CBC is indicated during therapy.
Azithromycin	Zithromax	Antibacterial, broad-spectrum activity with extended half-life in tissue	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 or 5 mg/kg PO once daily for 2 days, then every 3-5 days for a total of 5 doses Cat: 5-10 mg/kg PO daily for 3-5 days
BAL	See <i>Dimercaprol</i>			
Benazepril	Lotensin	ACE inhibitor; chronic heart failure, hypertension, first choice in treating protein-losing nephropathies	5-, 10-, 20-, and 40-mg tablets	Dog: Heart failure: 0.25-0.5 mg/kg PO q24h Hypertension: 0.25 mg/kg PO q12h Cat: Heart failure: 0.25-0.5 mg/kg PO once or twice daily Hypertension: 0.25-1.0 mg/kg PO once or twice daily
Betamethasone	Celestone	Potent glucocorticoid and antiinflammatory; immune-mediated disease	600-mcg (0.6-mg) tablet; 3 mg/mL sodium phosphate injection	Dog and cat: Antiinflammatory: 0.1-0.2 mg/kg PO q12-24h Immunosuppressive: 0.2-0.5 mg/kg once or twice daily

Bethanechol	Urecholine	Muscarinic-cholinergic; enhances urinary bladder contraction	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; treatment of simple (uncomplicated) diarrhea	Oral suspension; 262 mg/15 mL or 525 mg/mL in extra-strength formulation; 262-mg tablet	0.25 mL/kg PO q4-6h up to 2 mL/kg q6-8h
Bleomycin	Blenoxane	Antineoplastic; used in multiple cancer protocols	15-unit vials for injection	Dog: 10 units/m ² IV or SQ once daily for 3 days; then 10 units/m ² weekly (maximum cumulative dose 200 units/m ²)
Bromide	See <i>Potassium bromide</i>			
Bromocriptine mesylate	Parlodel	Dopamine agonist and prolactin inhibitor; pregnancy termination or pseudopregnancy (pseudocycesis) in dogs	2.5-mg tablet and 5.0-mg capsule	Pseudocycesis: 10-100 mcg/kg PO once daily for 10 days, or 30 mcg/kg PO once daily for 16 days Pregnancy termination: 50-100 mcg/kg PO twice daily for 4-7 days; begin treatment from day 35-45 after LH surge <i>Caution:</i> Vomiting is a common side effect.
Bunamidine	Scolaban	Antiparasitic; tape worms	400-mg tablet	20-50 mg/kg PO per treatment
Bupivacaine	Marcaine and generic (parenteral)	Local anesthetic	2.5- and 5-mg/mL solution for injection	1 mL of 0.5% solution/10 cm for an epidural
Buprenorphine	Buprenex	Partial opiate agonist analgesic	0.3 mg/mL solution	Dog: 0.005-0.02 mg/kg IV, IM, SQ q6-12h Cat: 0.005-0.01 mg/kg IV, IM q6-12h Buccal administration is well tolerated in cats, and effect lasts approximately 6 hours. Dog: 1 mg/kg PO q8-12h (useful in social and panic disorders)
Buspirone	Buspar	Nonbenzodiazepine anxiolytic; control of urine spraying	5- and 10-mg tablets	Cat: 2.5-5 mg/cat PO daily (may be increased to twice daily for some cats)

Listings preceded by \$ are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Busulfan	Myleran	Oral antineoplastic; chronic granulocytic leukemia	2-mg tablet	3–4 mg/m ² PO q24h
Butorphanol	Torbutorol, Torbugesic	Opioid analgesic; perioperative analgesia	1-, 5-, and 10-mg tablets; 0.5 or 10 mg/mL injection	Dog: Antitussive: 0.055 mg/kg SQ SQ q6–12h or 0.55 mg/kg PO Prenesthetic: 0.2–0.4 mg/kg IV, IM, SQ (with acepromazine) Analgesic: 0.2–0.4 mg/kg IV, IM, SQ q2–4h or 0.55–1.1 mg/kg PO q6–12h Cat: Analgesic: 0.2–0.8 mg/kg IV, SQ q2–6h or 1.5 mg/kg PO q4–8h
Calcitriol	Rocaltrol, Calcijex	Calcium supplement; increases calcium absorption in the GI tract; used in management of hypoparathyroidism	Available as injection (Calcijex) and capsules (Rocaltrol): 0.25- and 0.5-mcg capsules; 1- or 2-mcg/mL injection	Dog: 2.5–3.5 mg/kg PO once daily Cat: 1.65–3.63 mg/kg PO daily
Calcium carbonate	Generic and many brand name products (e.g., Tums)	Calcium supplement	Many tablets or oral suspension (e.g., 650-mg tablet contains 260 mg calcium ion)	70–185 mg/kg/day PO in divided doses For phosphate binder: 60–100 mg/kg/day PO in divided doses
§ Calcium chloride	Generic	Calcium supplement (IV)	10% (100 mg/mL) solution	0.1–0.3 mL/kg IV (slowly)
Calcium citrate (OTC)	Citracal	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	Calcimate and generic	Calcium supplement (IV)	10% (100 mg/mL) injection	0.5–1.5 mL/kg IV (slowly)
Calcium lactate (OTC)	Generic	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)

Captopril	Capoten	ACE inhibitor (vasodilator); hypertension and congestive heart failure	25-mg tablet	Dog: 0.5-2 mg/kg PO q8-12h Cat: 3.12-6.25 mg/cat PO q8h
Carbenicillin	Geopen, Pyopen	Antibacterial	1-, 2-, 5-, 10-, and 30-g vials for injection	No longer available in the US
Carbencillin indanyl sodium	Geocillin	Antibacterial	500-mg tablet	22-33 mg/kg PO q8h for 7-10 days
Carboplatin	Paraplatin	Antineoplastic; multiple tumor types	50- and 150-mg vials for injection	Dog: 300 mg/m ² IV q3-4 wk Cat: 200 mg/m ² IV q4wk
§ Carprofen	Rimadyl	NSAID	25-, 75-, and 100-mg tablets 50 mg/mL in 20-mL vials for injection	Dog: 2.2 mg/kg PO or SQ q12h; or 4.4 mg/kg PO or SQ once daily Cat: Not approved for use in cats
Cascara sagrada (OTC)	Many brand name products	Laxative	100- and 325-mg tablets	Dog: 1-5 mg/kg/day PO Cat: 1-2 mg/cat/day
Castor oil (OTC)	Generic	Laxative	Oral liquid (100%)	Dog: 8-30 mL/day PO Cat: 4-10 mL/day PO
Cefaclor	Ceclor	Antibacterial	250- and 500-mg capsules and 25 mg/mL oral suspension	7-13 mg/kg PO q8h for 14-21 days
§ Cefadroxil	Cefa-Tabs, Cefa-Drops	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
Cefepime	Maxipime	Antibacterial	500-mg, 1-g, and 2-g vials for injection	40 mg/kg IV q6h
Cefixime	Suprax	Antibacterial	20 mg/mL oral suspension; 200- and 400-mg tablets	10 mg/kg PO q12h For cystitis: 5 mg/kg PO q12-24h
Cefotaxime	Claforan	Antibacterial	500-mg and 1-, 2-, and 10-g vials for injection	Dog: 50 mg/kg IV, IM, SQ q12h Cat: 20-80 mg/kg IV, IM q6h
Cefotetan	Cefotan	Antibacterial	1-, 2-, and 10-g vials for injection	30 mg/kg IV, SQ q8h
§ Cefoxitin	Mefoxin	Antibacterial	1-, 2-, and 10-g vials for injection	30 mg/kg IV q6-8h

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
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 1.2 mg/kg; then 1.56 mg/kg/hr with IV fluids
Ceftiofur	Naxcel (ceftiofur sodium), Excenel (ceftiofur hydrochloride)	Antibacterial	50 mg/mL injection	Dog: 30 mg/kg; SQ, q4-6h 2.2-4.4 mg/kg SQ q24h (for urinary tract infections)
§ Cephalixin	Keflex and 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 Pyoderma: 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	Acta-Char, Charcodote, Toxiban, and 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 and generic	Antibacterial	30 mg/mL oral suspension (palmitate); 250-mg capsule; and 100-, 250-, and 500-mg tablets	Dog: 45-60 mg/kg PO q8h Cat: 25-50 mg/kg PO q12h

Chloramphenicol sodium succinate	Chloromycetin and 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
Chlorpheniramine maleate (OTC)	Chlor-Trimeton, Phenetron, others	Antihistamine (H ₁ -blocker), weak antipruritic agent in allergic animals	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, antiemetic	25-mg/mL injection solution	0.5 mg/kg IM, SQ q6-8h Before cancer chemotherapy: 2 mg/kg SQ q3h 25 mg/kg PO q6-8h
Chlortetracycline Chorticon gonadotropin	Generic See <i>Gonadotropin</i>	Antibacterial	Powdered feed additive	
Cimetidine	Tagamet (available OTC and prescription)	Antihistamine (H ₂ blocker); treatment and prevention of gastric ulcer	100-, 150-, 200-, and 300-mg tablets; 60 mg/mL injection	10 mg/kg IV, IM, PO q6-8h In renal failure: 2.5-5 mg/kg IV, PO q12h
Ciprofloxacin	Cipro (generic also available)	Antibacterial	250-, 500-, and 750-mg tablets, 2 mg/mL injection	5-15 mg/kg PO, IV q12h
Cisapride	Propulsid	Prokinetic; stimulates GI tract motility	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)

Listings preceded by \$ are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Cisplatin	Platinol	Antineoplastic; multiple tumor types	1-mg/mL injection; 50-mg vial	Dog: 60-70 mg/m ² IV over 20 minutes after a 4-hour IV saline diuresis, continue diuresis after cisplatin infusion for 2 more hours (repeat every 3-4 weeks) Cat: <i>Do not use</i>
Clemastine	Tavist, Contac 12 Hour, and generic	Antihistamine (H ₁ -blocker), antipruritic in allergic dogs	1.34-mg tablet (OTC); 2.64-mg tablet (prescription); 0.134 mg/mL syrup	Dog: 0.05-0.1 mg/kg PO q12h
§ Clindamycin	Antirobe, Cleocin	Antibacterial, especially gram-positive infections; recommended for toxoplasmosis (controversial)	25 mg/mL oral liquid; 25-, 75-, and 150-mg capsules; 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 Toxoplasmosis: 12.5 mg/kg PO q12h for 4 wk Cat: 1 mg/kg PO up to maximum of 4 mg/kg/day
Clofazimine	Lamprene	Antibacterial	50- and 100-mg capsules	Dog: 2-4 mg/kg PO once daily or divided twice daily
Clomipramine	Anafranil (human); Clomicalm (veterinary)	Tricyclic antidepressant; behavior modification	10-, 25-, and 50-mg tablets (human); 5-, 20-, and 80-mg tablets (veterinary)	Cat: 0.5-1 mg/kg PO once daily
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	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. <i>Note:</i> Patient preparation is required.

Cloxacillin	Cloxacipen, 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: 0.5-2 mg/kg PO q6-8h Antitussive: 0.1-0.3 mg/kg PO q6-8h
Colchicine	Generic	Antiinflammatory; hepatic failure	500- and 600-mcg tablets; 500 mcg/mL ampule injection	0.01-0.03 mg/kg PO q24h
Colony-stimulating factor	Filgrastim	Hormone; stimulates granulocyte production in bone marrow	300 mcg/mL injection	5 mcg/kg SQ q24h for 5 days at a time (pulse therapy)
§ Corticotropin (ACTH gel)	H.P. Acthar Gel (expensive)	Hormone; diagnostic test drug for the diagnosis of hyperadrenocorticism and hypoadrenocorticism	5 mL (multiple dose) 80 USP units/mL	Response test: Collect pre-ACTH sample and inject 2.2 international units/kg IM; Dog: Collect post-ACTH sample in 2 hr Cat: Collect post-ACTH samples at 1 and 2 hr
§ Cosyntropin	Cortrosyn	Hormone; diagnostic test drug for the diagnosis of hyperadrenocorticism and hypoadrenocorticism	250 mcg per vial (can be stored in freezer for 6 months)	Response test: Dog: Collect presample and inject 5 mcg/kg IV Cat: Collect presample and inject 0.125 mg IV Dog and cat: Collect postsample 1 hr postadministration
Cyanocobalamin	See <i>Vitamin B₁₂</i>			
Cyclophosphamide	Cytoxan, Neosar	Antineoplastic; multiple tumor types, and adjunctive in immune-mediated disorders	25 mg/mL injection; 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 Immunosuppressive therapy: 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

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Cyclosporine (cyclosporin A)	Neoral, Sandimmune, Optimmune (ophthalmic)	Immunosuppressant (CMI); multiple uses ranging from atopic dermatitis to hemolytic anemia to perianal fistulas. Consult additional references before prescribing	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) Hemolytic anemia: 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 <i>not</i> 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, SQ 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 q3wk; or 800-1000 mg/m ² IV q3wk
§ Dalteparin	Fragmin	Low-molecular-weight heparin; management of thromboembolic disease	Multiple injectable preparations	Prophylaxis: 70 units/kg SQ q24h Treatment: Dog: 100-150 units/kg SQ q24h Cat: 180 units/kg SQ q24h
Danazol	Danocrine	Anabolic steroid; adjunctive therapy for immune-mediated disease	50-, 100-, and 200-mg capsules	5-10 mg/kg PO q12h
Dantrolene	Dantrium	Muscle relaxant; urethral obstruction, and prevention of malignant hyperthermia	100-mg capsules; 0.33 mg/mL injection	Malignant hyperthermia: 2-3 mg/kg IV Muscle relaxation: Dog: 1-5 mg/kg PO q8h Cat: 0.5-2 mg/kg PO q12h

Dapsone	Generic	Antibacterial; <i>Mycobacterium</i> species	25- and 100-mg tablets	1.1 mg/kg PO q8-12h
§ Deferoxamine	Desferal	Antidote, iron toxicosis	500-mg vial for injection	10 mg/kg IV, IM q2h for two doses; then 10 mg/kg q8h for 24 hr
Deprenyl (L-deprenyl)	See <i>Selegiline</i>			
§ Desmopressin acetate	DDAVP	Hormone; used in the clinical management of patients with DI and patients with von Willebrand disease	100 mcg/mL injection and desmopressin acetate nasal solution (0.01% metered spray); 0.1- and 0.2-mg tablets	DI: 1-4 drops q12-24h in the conjunctival sac or 2-5 mcg SQ q12-24h, 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 von Willebrand disease; 1 mcg/kg SQ, IV diluted in 20 mL saline administered over 10 min
Desoxycorticosterone pivalate	Percorten-V, DOCP, DOCA pivalate	Mineralocorticoid; hypoadrenocorticism	25 mg/mL suspension for injection	1.5-2.2 mg/kg IM q25days
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; multiple uses as antiinflammatory and immunosuppressive agent; also used in the diagnosis of hyperadrenocorticism	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: Dog: 0.5-1 mg IV or IM q24h for 3-5 days or 0.25-1.25 mg PO q24h Cat: 0.125-0.5 mg IV or IM for 3-5 days or 0.125-0.5 mg PO q24h For shock, spinal injury: 2.2-4.4 mg/kg IV (of sodium phosphate form) For diagnostic testing: See Dexamethasone Suppression Test in Section 5
Dextromethorphan	Benlyn 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

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
§ Diazepam	Valium and generic	Anticonvulsant; multiple neurotropic effects ranging from behavior disorders to seizure control	2- and 5-mg tablets; 5 mg/mL solution for injection	Prenesthetic: 0.1 mg/kg IV slowly Status epilepticus: 0.5 mg/kg IV, 1.0 mg/kg rectal; repeat if necessary Appetite stimulant (cat): 0.05-0.4 mg/kg IV, IM or PO
§ 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 PO 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	Heartworm prophylaxis: 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; induces abortion in dogs	Tablets (prepared through compounding pharmacies)	Dog: 0.1-1.0 mg/dog PO q24h for 5 days, then 1 mg PO once weekly Cat: 0.1-1 mg/cat PO q24h for 5 days, then 1 mg PO once weekly
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

Digoxin	Lanoxin, Cardoxin	Cardiac inotropic; 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: 0.008-0.01 mg/kg PO q48h (approximately ¼ of a 0.125-mg tablet/cat)
Dihydrochysterol (DHT)	See <i>Vitamin D analogue</i>			
§ 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 Dilacor XR or Cardizem CD, 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; binds heavy metals (lead, mercury) and arsenicals	100 mg/mL injection	2.5-5 mg/kg IM q4h for 2 days, then q8h for 1 day, then q12h for next 10 days
Dinoprost tromethamine diethyl calcium sulfosuccinate	See <i>Prostaglandin F2-alpha</i> See <i>Docusate calcium</i>			
Dioctyl sodium sulfosuccinate	See <i>Docusate sodium</i>			

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
§ 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)
Diphenoxylate	Lomotil	Meperidine congener; treatment of diarrhea	2.5-mg tablet	Dog: 0.1-0.2 mg/kg PO q8-12h
Diphenylhydantoin	See <i>Phenytoin</i>			
Diphosphonate disodium etidronate	See <i>Etidronate disodium</i>			
Dipyridamole	Persantine	Anticoagulant; prevention of thromboembolism	25-, 50-, 75-mg tablets; 5 mg/mL injection	4-10 mg/kg PO q24h
Disopyramide	Norpace	Antiarrhythmic in dogs; oral treatment or prevention of ventricular arrhythmias (dog only)	100- and 150-mg capsules	Dog: 11-22 mg/kg, PO, q8h
Divalproex sodium	See <i>Valproic acid</i>			
§ Dobutamine	Dobutrex	Rapid acting cardiac inotrope (β -agonist); short-term treatment of heart failure	250 mg/20 mL vial for injection (12.5 mg/mL)	Dog: 5-20 mcg/kg/min intravenous infusion Cat: 0.5-2 mcg/kg/min intravenous infusion <i>Warning:</i> 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, antiemetic	50- and 100-mg tablets; 20 mg/mL injection	Prevention: 0.6 mg/kg PO or IV q24h Treatment: 1 mg/kg PO or IV q24h

I-Dopa	See <i>Levodopa</i>			
§ Dopamine	Intropin	Cardiac inotrope (β-agonist); vasodilation (lower doses); adjunctive treatment of acute heart failure and oliguric renal failure	40-, 80-, or 160-mg/mL injection	2-10 mcg/kg/min by intravenous infusion; treatment limited to the critical care setting
§ Doxapram	Dopram	CNS stimulant; stimulates respiration, especially in neonates	20-mg/mL injection	5-10 mg/kg IV Neonate: 1-5 mg SQ, sublingually, or via umbilical vein
Doxepin	Sinequan	Tricyclic antidepressant; psychogenic dermatoses	Various capsules; 10 mg/mL oral solution	Dog: 3-5 mg/kg PO q12h (especially lick granuloma) Cat: 0.5-1 mg/kg PO q12h
Doxorubicin	Adriamycin	Antineoplastic (antibiotic); used in treatment protocols for multiple tumor types	2 mg/mL injection	30 mg/m ² IV q21days; or >20 kg, 30 mg/m ² ; <20 kg, 1 mg/kg Cat: 1 mg/kg IV q3wk
Doxycycline	Vibramycin and 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 For <i>Rickettsia</i> in dogs: 5 mg/kg q12h
Edrophonium	Tensilon, others	Short-acting cholinergic; administered as a test agent for myasthenia gravis	10 mg/mL injection	Dog: 0.11-0.22 mg/kg IV Cat: 0.25-0.5 mg/cat IV
§ EDTA (edetate calcium disodium)	Calcium disodium versenate	Chelates heavy metals; treatment of lead or zinc toxicosis	20 mg/mL injection	25 mg/kg SQ, IM, IV q6h for 2-5 days

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Enalapril	Enacard	ACE inhibitor; vasodilator 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	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	Induction: 2%-3% Maintenance: 1.5%-3%
Emiconazole	Imaverol, Clinafarm-EC	Antifungal (topical only); infusion for treatment of nasal aspergillosis and topical uses in certain dermatophytoses	10% or 13.8% emulsifiable concentrate	Nasal aspergillosis: 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! <i>Note:</i> Generally replaced by clotrimazole soak (see <i>Clotrimazole</i>) Dermatophytes: 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; thromboembolic disease	Multiple preparations	Dog: 0.8 mg/kg SQ q12h Cat: 0.5-1 mg/kg SQ q6h

§ 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	Dog: 5-20 mg/kg PO or IM once daily or divided twice daily Cat: 2.5-5 mg/kg PO, SQ, IM once to twice daily Parenteral solution for intramuscular use has been administered by the intravenous 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	Ephedrine sulfate	Sympathomimetic; primarily for urinary incontinence <i>Emergency use:</i> Hypotension associated with anesthesia	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 Hypotension: 0.03-0.1 mg/kg intravenous 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.
§ Epinephrine	Adrenalin and generic products (adrenaline)	α- and β-Adrenergic agonist; anaphylaxis and cardiac arrest	1 mg/mL (1:1,000) injection solution	Cardiac arrest: 10-20 mcg/kg IV or 200 mcg/kg intratracheal (may be diluted in saline) Anaphylaxis: 2.5-5 mcg/kg IV or 50 mcg/kg intratracheal (may be diluted in saline)
Epsiprantel	Cestex	Oral cesticide; tapeworms	Coated tablet	Dog: 5.5 mg/kg PO given once Cat: 2.75 mg/kg PO given once

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Ergocalciferol Erythromycin	See <i>Vitamin D₂</i> Many brand name and generic products	Antibacterial; also used as a prokinetic (increases gastric emptying in dogs and cats)	250-mg capsule or tablet	Antibacterial dose: 10-20 mg/kg PO q8-12h Prokinetic dose: 0.5-1.0 mg/kg PO q8h
Erythropoietin, human recombinant (rHuEPO); also, EPO	Epogen, Eprex, Procrit	Hormone; induction of erythropoiesis in anemia associated with chronic renal failure	Various preparation as units per milliliter in single-dose and multidose vials for injection	Doses range from 35 or 50 units/kg three times per week to 400 units/kg/wk IV, SQ (adjust dose to hematocrit of 0.30-0.34)
§ Esmolol	Brevibloc	Ultra-short-acting β_1 blocker; short-term treatment of cardiac arrhythmias, especially supraventricular tachycardia	10 mg/mL injection	500 mcg/kg IV, which may be given as 0.05-0.1 mg/kg slowly every 5 minutes or 50-200 mcg/kg/min infusion
Estradiol cypionate (ECP)	DEPO-Estradiol, generic	Hormone; previously used to prevent pregnancy after an unplanned breeding <i>Warning: Not recommended for use as an abortifacient in dogs or cats</i>	2 mg/mL injection	Pregnancy avoidance: Dog: 22-44 mcg/kg IM (total dose not to exceed 1.0 mg) Cat: 250 mcg/cat IM between 40 hr and 5 days of mating <i>Warning: May cause bone marrow suppression; in some cases, may cause aplastic anemia</i>
Ethidronate	Didronel	Bisphosphonate; reduced calcium resorption from bone in hypercalcemic patients	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; pain management in dogs	150- and 300-mg tablets	Dog: 10-15 mg/kg PO once daily Cat: <i>Do not use</i>
§ Famotidine	Pepcid	H ₂ -receptor antagonist; reduces gastric acid production, used to treat or prevent gastric ulcer	10-mg tablet; 10 mg/mL injection	0.5 mg/kg IM, SQ, IV, or PO q12-24h <i>Warning:</i> May cause intravascular hemolysis when given IV to cats
Felbamate	Felbatol	Dicarbamate anticonvulsant; management of seizures in dog only	400- and 600-mg tablets; 120 mg/mL flavored oral suspension	Dog: Start with 15 mg/kg PO q8h and increase gradually to maximum of 65 mg/kg q8h
Fenbendazole	Safe-Guard, Panacur	Anthelmintic; effective against a variety of internal parasites	Panacur granules 22.2% (222 mg/kg); 100 mg/mL liquid	25 to 50 mg/kg/day PO for 3 days (<i>Note:</i> For some parasites, recommended treatment duration may be longer.)
Fentanyl	Sublimaze, generic	Analgesic (opiate); parenteral pain control	250 mg/5 mL injection	0.02-0.04 mg/kg IV, IM, SQ q2h; or 0.01 mg/kg IV, IM, SQ (with acetylpromazine or diazepam) For analgesia: 0.01 mg/kg IV, IM, SQ q2h
Fentanyl transdermal	Duragesic	Analgesic (opiate); transdermal pain control	25-, 50-, 75-, and 100-mcg/hr patches	Dog: 10-20 kg, 50 mcg/hr patch q72h Cat: 25 mcg/hr patch every 3 days <i>Note:</i> When fentanyl is administered by the transdermal route, dosage 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; iron deficiency anemia	Many oral preparations available	Dog: 100-300 mg/dog PO q24h Cat: 50-100 mg/cat PO q24h
Finasteride	Proscar	5α-reductase inhibitor; benign prostatic hyperplasia in dogs	5-mg tablet	Dog: 0.1 mg/kg PO q24h or 5 mg/10- to 50-kg dog PO q24h

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Fipronil	Frontline	GABA-regulated chloride channel inhibitor; topical control of ticks and fleas	Topical solution only	Applied topically once each month as recommended by the manufacturer; approved for use in both dogs and cats
Firocoxib	Previcox	NSAID; management of inflammation and pain associated with osteoarthritis in dogs	57-mg and 227-mg chewable tablets	Dogs: 5 mg/kg, PO, once daily Cats: 1.5 mg/kg administered as a single dose Long-term safety has not been established in cats.
Florfenicol	Nuflor	Antibacterial (primarily used in cattle)	300 mg/mL (available only as a cattle preparation)	Dog: 25-50 mg/kg q8h SQ or IM Cat: 25-50 mg/kg q12h SQ 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 intravenous 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-mcg (0.1-mg) tablet	Dog: 0.2-0.8 mg/dog or 0.02 mg/kg PO q24h (13-23 mcg/kg) Cat: 0.1-0.2 mg/cat PO q24h
§ Flumazenil	Romazicon	Benzodiazepine antagonist; antidote to reverse therapeutic effects or overdose	100 mcg/mL (0.1 mg/mL) injection	0.01-0.02 mg (total dose) IV as needed <i>Caution:</i> 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, SQ Cat: 0.03-0.125 mg/day IV, IM, SQ

Flunixin meglumine	Banamine	NSAID; pain management	250-mg packet granules; 10 and 50 mg/mL injection	PO 3 days/wk Ophthalmic: 0.5 mg/kg IV once Dog: 150 mg/m ² IV once/week Cat: <i>Do not use</i>
5-Fluorouracil (5-FU)	Fluorouracil	Antineoplastic; used in treatment protocols for multiple tumor types	50-mg/mL vial	
Fluoxetine	Prozac	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
Fluvoxamine	Luvox	SSRI; treatment and diagnosis of behavior disorders	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; ethylene glycol poisoning	1.5-mL single-use vial; reconstitute in 30 mL of 0.9% NaCl for a 5% solution (50 mg/mL)	20 mg/kg IV initially within 8 hr of ingestion; then 15 mg/kg IV at 12- and 24-hr intervals; then 5 mg/kg IV at 36 hr <i>Note:</i> Cats require 7 × the dose used in dogs; agent is effective only if administered within 3 hr after ingestion of ethylene glycol.
Furazolidone	Furoxone	Antibacterial and antiprotozoal; generally a second-choice drug	100-mg tablet	4 mg/kg PO q12h for 7-10 days
§ Furosemide	Lasix, generic	Diuretic; multiple uses; commonly used to treat congestive heart failure and pulmonary edema	12.5-, 20-, and 50-mg tablets; 10 mg/mL oral solution; 50 mg/mL injection	Dog: 2-6 mg/kg IV, IM, SQ, PO q8-12h (or as needed); 0.6-1.0 mg/kg/h IV Cat: 1-4 mg/kg IV, IM, SQ, PO q8-24h

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Gemfibrozil	Lopid	Antilipemic; treatment of hypertriglyceridemia in patients that do not respond to dietary fat restriction	300-mg capsule; 600-mg tablet	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, SQ q24h Cat: 3 mg/kg q8h or 9 mg/kg IV, IM, SQ q24h <i>Warning:</i> Do <i>not</i> administer to patients that are dehydrated or acidotic; can cause acute renal failure.
Glipizide	Glucotrol	Oral hypoglycemic; variably effective control of type 2 diabetes in cats	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
§ Glucagon	Glucagon Emergency Kit (Lilly), GlucaGen (products are rDNA origin)	Parenteral hyperglycemic; treatment of acute hypoglycemia and/or insulin overdose	1 mg (1.0 unit) per vial	Dilute 1 mg glucagon in 1 L of 0.9% sterile saline. Resulting concentration: 1000 mg/mL Administer 50 mg/kg (or 0.05 mL/kg of diluted solution) by intravenous bolus, then 10 to 15 mg/kg/min IV by CRI as needed to correct hypoglycemia.
Glucosamine + chondroitin sulfate	Cosequin and other brands	Neutraceutical; adjunctive treatment of nonseptic arthritis; may be useful in treating cats with lower urinary tract disease (FLUTD)	Regular-strength (RS) and double-strength (DS) capsules	Dog: 1 or 2 RS capsules per day (2-4 capsules of DS for large dogs) Cat: 1 RS capsule daily

Glyburide	Diabeta, Micronase, Glyname	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—preanesthetic medication, antidote	0.2 mg/mL injection	0.005-0.011 mg/kg IV, IM, SQ
Gold sodium thiomalate	Myochrysin	Gold salt; treatment of immune-mediated skin disorders	Injection	1-5 mg IM first wk, then 2-10 mg IM second wk, then 1 mg/kg IM once/wk maintenance
Gold therapy	See <i>Aurothioglucose</i>			
GoLYTELY	See <i>Polyethylene glycol electrolyte solution</i>			
Gonadorelin (GnRH, LHRH)	Factrel	Hormone; diagnosis and treatment of various reproductive disorders	50 mcg/mL injection	Therapeutic doses: Dog: 50-100 mcg/dog SQ, IV, IM q24-48h × 2 doses Cat: 25 mcg/cat IM once
Gonadotropin, human chorionic (hCG)	Profasi, Pregnyl, APL, and generic	Hormone; induces luteinization	5000-, 10,000-, and 20,000-unit injection	Dog: 22 units/kg IM q24-48h or 44 units IM once Cat: 250 units/cat IM once <i>Warning: Do not use in pregnant animals.</i>
Gonadotropin-releasing hormone	See <i>Gonadorelin</i>			
Granisetron	Kytril	Antiemetic; prevents emesis associated with chemotherapy	1 mg/mL injection; 1-mg tablet	0.01 mg/kg (10 mcg/kg) IV

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Griseofulvin (microsize)	Fulvicin U/F	Antifungal (fungistatic antibiotic); treatment of dermatophytes (especially <i>Microsporum 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 patients with confirmed deficiency	5- and 10-mg vials	0.1 unit/kg SQ, IM three times per week for 4-6 wk Warning: Is diabetogenic
Halothane	Fluothane	Inhalation anesthetic	250-mL liquid	Induction: 3% Maintenance: 0.5%-1.5%
§ Heparin sodium	Liquaemin	Anticoagulant; treatment of DIC, treatment and prevention of thromboembolic disease	1000 and 10,000 units/mL injection	100-200 units/kg IV loading dose, then 100-300 units/kg SQ q6-8h Low-dose prophylaxis (dog and cat): 70 units/kg SQ q8-12h
§ Hydralazine	Apresoline	Vasodilator; hypertension and adjunctive treatment of heart failure	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; hypertension, congestive heart failure, and nephrogenic (ADH-resistant) DI	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); pain management	5-mg tablet	Dog: 0.22 mg/kg PO q4-8h Cat: no dose available

Hydrocortisone	Cortef and generic	Glucocorticoid; antiinflammatory and replacement therapy in adrenal insufficient conditions	5-, 10-, and 20-mg tablets	Replacement therapy: 0.2-0.5 mg/kg PO q24h Antiinflammatory: 1.5-5 mg/kg PO q12h
§ Hydrocortisone sodium succinate	Solu-Cortef and shock treatment	Glucocorticoid; antiinflammatory injection	Various size vials for antiinflammatory: 5 mg/kg IV q12h	Shock: 50-150 mg/kg IV
§ Hydromorphone	Dilaudid	Analgesic (opiate); pain management and restraint	Tablets, oral solution, and injectable forms available	Dog: 0.22 mg/kg, IM, SQ, q4-6h as needed for pain
§ Hetastarch, Hydroxyethyl starch (HES)	Hespan, Hextend	Volume expander; used when colloidal therapy is indicated	Injection	10-20 mL/kg IV to effect, 20-30 mL/kg/day
Hydroxyurea	Hydrea	Antineoplastic; polycythemia vera, mastocytoma, leukemias	500-mg capsule	Dog: 50 mg/kg PO once daily, 3 days/wk Cat: 25 mg/kg PO once daily, 3 days/wk
Hydroxyzine	Atarax	Antihistamine; antipruritic and sedative effects, especially in atopic patients	10-, 25-, and 50-mg tablets; 2 mg/mL oral solution	Dog: 1-2 mg/kg q6-8h IM, PO Cat: 5-10 mg/cat PO q8-12h
Ifosfamide	Ifex	Antineoplastic; lymphomas and other sarcomas	1 g powder for intravenous infusion in single-dose vials	Dogs and cats: Dose ranges from 300 to 500 mg/m ² IV <i>Caution:</i> 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. Cat: <i>Do not use</i> ; contains permethrin.

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Imidocarb diprionate	Imizol	Antiprotozoal; treatment of babesiosis, ehrlichiosis (not regarded as effective), <i>Cytauxzoon felis</i> , and related infections	Parenteral solution for injection IM or SQ; 120 mg/mL in 10-mL multidose vial	Dog: 5 mg/kg IM or SQ once; repeat in 2 wk For babesiosis: 6.6 mg/kg IM or SQ once; repeat in 2 wk Cat: (cytauxzoonosis) 5 mg/kg IM q2wk as needed
Imipenem + ciprofloxacin	Primaxin	Antibacterial	250- and 500-mg vials for injection	5-10 mg/kg IV, IM q6-8h; has been administered to dogs at 10 mg/kg q8h SQ
Imipramine	Tofranil	Tricyclic antidepressant; treatment of behavior disorders	10-, 25-, and 50-mg tablets	2-4 mg/kg PO q12-24h
Indomethacin	Indocin			Safe dose has not been established.
Interferon (interferon alfa-2a, HuIFN-alpha)	Roferon	Cytokine; immunomodulation in cats with FeLV and/or FIV infection (clinical value of treatment is not established)	3 million-unit pre-filled syringe	Cat: 30 units/cat/day PO or high dose: 10,000-1,000,000 units/cat SQ q24h IM or SQ once daily for 7 days and repeated every other wk
Ipecac syrup (OTC)	Ipecac	Oral emetic		<i>No longer recommended</i> : can cause fatal arrhythmias
Ipratropium bromide	Bilivast, Oraqrafin	Organic iodine; treatment of hyperthyroidism (especially in cats)	500-mg capsule (should be formulated for cats as 50-mg ampule)	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 <i>Ferrous sulfate</i>			
§ Isoflurane	Isoflurane, Forane, Aerrane, others	Inhalation anesthetic	100-mL bottle	Induction: 5% Maintenance: 1.5%-2.5%

§ Isoproterenol	Isuprel	β-Agonist; uncommonly used to treat acute bronchoconstriction and certain cardiac arrhythmias	0.2 mg/mL ampule for injection	10 mcg/kg IM, SQ, 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 mcg/min) or to effect
§ Isosorbide dinitrate	Isordil, Isorbid, Sorbitrate	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 hr 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 capsule	Dog: 2.5 mg/kg PO q12h or 5 mg/kg PO q24h Cat: 1.5-3.0 mg/kg PO up to 10 mg/kg PO q24h
Ivermectin	Heartgard, Ivomec, Eqvalan liquid	Antiparasiticide; multiple applications	1% (10 mg/mL) injectable solution; 10 mg/mL oral solution; 18.7 mg/mL oral paste; 68-, 136-, and 272-mcg tablets	Heartworm preventative : Dog: 6 mcg/kg (range: 3 to 12 mcg/kg) PO q30days Cat: 24 mcg/kg PO q30days Microfilaricide: 50 mcg/kg PO 2 wk after adulticide therapy Ectoparasite therapy (dog and cat): 200-300 mcg/kg IM, SQ, PO Endoparasites (dog and cat): 200-400 mcg/kg SQ, PO weekly <i>Demodex</i> therapy: start at 100 mcg/kg/day PO q24h, increase by 100 mcg/kg increments weekly to biweekly until target of 600 mcg/kg is reached

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Kanamycin § Kaopectate (kaolin + pectin) (OTC)	Kantrim	Antibacterial	200 and 500mg/mL injection	10 mg/kg IV, IM, SQ q6-8h
	Kaopectate	GI adsorbent; management of acute, simple diarrheal disorders, especially result of dietary indiscretion	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; systemic mycoses, <i>Malassezia</i> <i>canis</i> infection; limited application in the treatment of canine hyperadrenocorticism	200-mg tablet; 100 mg/mL oral suspension (available only 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 Hyperadrenocorticism: Dog: 15 mg/kg PO q12h
		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, SQ for one dose
§ Ketoprofen	Orudis KT (OTC), Ketofen	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
§ Lactated Ringer's solution	Generic	Fluid replacement	250-, 500-, and 1000-mL bags	Cat: 0.25 mg/kg IM q8-12h for 1-2 doses Maintenance: 40-50 mL/kg/day IV Shock therapy: Dog: 90 mL/kg IV Cat: 60-70 mL/kg IV

§ Lactulose	Chronulac, generic	Disaccharide laxative; limits bowel absorption of protein and facilitates 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/kg PO q8h
§ Leucovorin (folinic acid)	Wellcovorin, generic	Antidote; folic acid antagonist; 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 infection; also proposed to be a nonspecific 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) Microflaricide: 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)
Levetiracetam	Keppra	Oral anticonvulsant	250-, 500-, and 750-mg tablets	Dog: initially 20 mg/kg PO q8h, then gradually increase as needed to control seizures Cat: 30 mg/kg PO q12h (look for an underlying cause of seizure activity)
L-dopa, Levodopa	Larodopa, (multiple products available)	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
Levothyroxine sodium (T ₄)	Soloxine, Thyro-Tab, Synthoid	Hormone; hypothyroidism	0.1- to 0.8-mg tablets (in 0.1-mg increments)	Dog: 18-22 mcg/kg PO q12h (adjust dose via monitoring T ₄ levels) Cat: 10-20 mcg/kg/day, PO (adjust dose via monitoring T ₄ levels)

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
§ Lidocaine (without epinephrine)	Xylocaine, generic	Anesthetic and antiarrhythmic; also local and regional anesthetic; has been used systemically for pain	5, 10, 15, and 20 mg/mL injection	Dog (antiarrhythmic): 2-4 mg/kg IV (to a maximum dose of 8 mg/kg over 10-min infusion) 25-75 mcg/kg/min intravenous infusion Cat (antiarrhythmic): 0.25-0.75 mg/kg IV slowly For epidural (dog and cat): 4.4 mg of 2% solution per kilogram
Lincomycin	Lincocin	Antibacterial	100-, 200-, and 500-mg tablets	15-25 mg/kg PO q12h For pyoderma: 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-mcg tablet	4.4 mcg/kg PO q8h For T ₃ suppression test (cats): Collect presample for T ₄ and T ₃ ; administer 25 mcg q8h for 7 doses; then collect postsamples 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: 0.25-0.5 mg/kg PO q24h
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	Analgesc (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
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 SQ 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: <i>Do not use</i>
Luteinizing hormone	See <i>Gonadorelin</i>			
L-Lysine (OTC)	Multiple preparations	Amino acid; prevention of feline herpesvirus-1 recrudescence	250- 500-mg capsules	Cat (empiric dose): Mix 250 to 500 mg with food once daily. Kittens receive approximately 250 mg daily, with food. <i>Note:</i> Efficacy studies have not been performed; agent has 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)	Multiple products available	Laxative	Oral liquid	Antacid: 5- 10 mL/kg PO q4-6h Cathartic: Dog: 15-50 mL/kg PO Cat: 2-6 mL/cat PO q24h

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Magnesium sulfate (OTC)	Multiple products available	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 (repeat in 6 hr if necessary) 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
Marbofloxacin	Zeniquin	Antibacterial	25-, 50-, 100-, 200-mg tablets	Dog: 2.75-5.55 mg/kg PO q24h Cat: Dose not established
Maropitant	Cerenia	Antiemetic (parenteral and oral); oral administration to prevent motion sickness in dogs	10 mg/mL solution for injection; 16-, 24-, 60-, and 160-mg tablets	Dog: 1 mg/kg SQ once daily for up to 5 days; 2 mg/kg PO once daily for up to 5 days For motion sickness: 8 mg/kg PO once daily for up to 2 days Cat: Dose not established
MCT (medium chain triglyceride) oil	Multiple OTC products available	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 hr before traveling) Cat: 12.5 mg PO q24h
Meclufenamate	Arquel, Meclomen	NSAID; pain management	50- and 100-mg capsules	Dog: 1 mg/kg/day PO for up to 5 days
§ Medetomidine	Domitor	Analgesic (parenteral); adjunct for anesthesia, restraint	1.0 mg/mL injection	750 mcg/m ² IV or 1000 mcg/m ² IM
Medium-chain triglycerides	See <i>MCT oil</i>			
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 SQ or IM q3 months (dogs and cats) Prostatic hyperplasia: 3-5 mg/kg SQ, IM
Megestrol acetate	Ovaban, 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 (<i>Note</i> : Any use in cats is <i>extra-label</i>): Dermatologic therapy or urine spraying: 2.5-5 mg/cat PO q24h for 1 wk, then reduce to 5 mg once or twice per week Estrus suppression: 5 mg/cat/day for 3 days, then 2.5-5 mg once/wk for 10 wk

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Melarsomine	Immiticide	Antiparasitic (arsenical); treatment of canine heartworm disease	25 mg/mL injection; after reconstitution, retains potency for 24 hr	Administer via deep intramuscular 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 hr apart Cat: <i>Do not use</i>
§ Meloxicam	Metacam	NSAID; pain management	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 treatment protocols for multiple tumor types	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); pain management	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 For epidural, 0.5 mg of 2% solution q30sec until reflexes are absent
6-Mercaptopurine	Purinethol	Antineoplastic; used in treatment protocols for multiple tumor types	50-mg tablet	50 mg/m ² PO q24h Caution: Consult treatment protocol before administering.
Meropenem	Merrem	Antibacterial; especially in treating resistant infections caused by <i>Pseudomonas</i> , <i>Escherichia coli</i> , and <i>Klebsiella</i>	500 mg in 20-mL vial, or 1 g in 30-mL vial for injection	20 mg/kg IV q8h For meningitis: 40 mg/kg IV q8h

Metaproterenol	Alupent, Metaprel	β -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 (of questionable value)	1-g tablet	Dog: 500 mg/dog PO q12h Cat: 250 mg/cat PO q12h
Methenamine mandelate	Mandelamine, generic	Urinary antiseptic (of 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 <i>SAMe</i>			
§ Methocarbamol	Robaxin-V	Muscle relaxant; adjunctive therapy for trauma, acute inflammation of skeletal muscle, and/or tremorgenic 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
Methohexital	Brevital	Ultra-short-acting barbiturate; anesthetic induction	0.5-, 2.5-, and 5-g vials for injection	3-6 mg/kg IV (give slowly to effect)

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Methotrexate	MTX, Mexate, Folex, Rheumatrex, generic	Antineoplastic; used in treatment protocols for multiple tumor types, especially lymphomas	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; used in critical care setting to increase blood pressure	20 mg/mL injection	200-250 mcg/kg IM or 40-80 mcg/kg IV
§ Methylene blue 0.1%	Generic; also called <i>new methylene blue</i>	Antidote; emergency treatment of methemoglobinemia	1% solution (10 mg/mL)	1.5 mg/kg IV slowly; use once
Methylprednisolone	Medrol	Glucocorticoid; antiinflammatory and immunosuppressive	1-, 2-, 4-, 8-, 18-, and 32-mg tablets	In cats, <i>use with caution</i> : 0.22-0.44 mg/kg PO q12-24h <i>Note</i> : Methylprednisolone is 1.25 times more potent than prednisolone.
Methylprednisolone acetate	Depo-Medrol	Repository glucocorticoid; antiinflammatory (extended duration of activity)	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 <i>Note</i> : Actual dose may vary, depending on use and effect.
§ Methylprednisolone sodium succinate	Solu-Medrol	Glucocorticoid; adjunctive treatment for patients in shock or with spinal cord trauma or swelling	1- and 2-g and 125- and 500-mg vials for injection	For emergency use: 30 mg/kg IV; repeat at 15 mg/kg IV in 2-6 hr For replacement therapy or antiinflammatory therapy; see also <i>Prednisolone</i>

§ 4-Methylpyrazole (4-MP) See *Fomepizole*

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 (approximately 0.01-0.02 mg/kg/hr)
Metoprolol	Lopressor	β-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 <i>Giardia</i> (fenbendazole is preferred)	250- and 500-mg tablets; 50 mg/mL suspension; 5 mg/mL injection	Anaerobic infection: Dog: 15 mg/kg PO q12h or 12 mg/kg q8h Cat: 10-25 mg/kg PO q12h <i>Giardia</i> : Dog: 12-15 mg/kg PO q12h for 8 days Cat: 25 mg/kg q12h for 8 days
§ Mexiletine	Mexitil	Antiarrhythmic; ventricular arrhythmias	150-, 200-, and 250-mg capsules	Dog: 5-8 mg/kg PO q8-12h (<i>Use cautiously.</i>) Cat: No dose established
Mibolerone	Cheque Drops	Hormone (androgenic); suppression of estrus and treatment of false pregnancy (pseudocyesis)	55 mcg/mL oral solution	Dog: 0.45-11.3 kg, 30 mcg; 11.8-22.7 kg, 60 mcg; 23-43.3 kg, 120 mcg; >45.8 kg, 180 mcg; or approximately 2.6-5 mcg/kg/day PO Cat: <i>Do not use</i> <i>Warning</i> : Multiple adverse effects are possible when used in prepubertal females.
§ Midazolam	Versed	Benzodiazepine; preanesthetic medication	5 mg/mL injection	0.1-0.25 mg/kg IV, IM (or 0.1-0.3 mg/kg/hr intravenous infusion) <i>Note</i> : May cause excitement in cats

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and 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: 0.5-0.99 mg/kg PO q30 days
Milk of magnesia (OTC)	See <i>Magnesium hydroxide</i>			
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 analogue; treatment of gastric ulcers, especially those associated with NSAID use	0.1-mg (100-mcg) and 0.2-mg (200-mcg) tablets	Dog: 2-5 mcg/kg PO q6-8h Cat: Dose not established
Mitotane (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 PO q12h for 10 days, then 75-100 mg/kg PO divided doses q12h
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, SQ (dose is escalated as needed for pain relief) q4-6h Epidural: 0.1 mg/kg Cat: 0.1 mg/kg q3-6h IM, SQ (or as needed)
§ Naloxone	Narcan	Opiate antagonist; opiate reversal	20 and 400 mcg/mL injection	0.01-0.04 mg/kg IV, IM, SQ as needed to reverse opiate
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: 10-20 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 (prescription)	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)	Injection: antimusclerogenic: 4 mcg/kg IM, SQ as needed; antidote for nondepolarizing neuromuscular block: 10 mcg/kg IM, SQ; diagnostic aid for myasthenia gravis: 40 mcg/kg IM or 20 mcg/kg IV

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Nitrofurantoin	Macrochantin, Furalan, Furatoin, Furadantin, and 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	Susceptible UTI = 4 mg/kg PO every 6 hours Prophylactic dose = 3-4 mg/kg PO q24 hours (at night immediately before bedtime)
§ Nitroprusside	Nitropress	Vascular and smooth muscle relaxant; acute hypertension, acute heart failure secondary to mitral regurgitation	50-mg vial for injection	Hypertensive crisis: initiate dose at 1-2 mcg/kg/min IV, increase dose incrementally every 3-5-min until target BP is attained Adjunctive rx for heart failure: 0.5-10 mcg/kg/min IV at a low fluid rate (< 2mL/kg/hr)
Nizatidine	Axid	H ₂ -receptor antagonist; reduction of 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 PO once daily (if <20 kg use 0.7 mg/kg q24h) Cat: 0.7 mg/kg PO once daily
§ Ondansetron	Zofran	5-HT ₃ receptor antagonist; antiemetic for patients with severe vomiting <i>Note:</i> 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

Orbifloxacin	Orbax	Antibacterial	5.7-, 22.7-, and 68-mg tablets	2.5 to 7.5 mg/kg PO once daily
Ormetoprim + sulfadimethoxine	Primor	Antibacterial	Combination tablet: 120-, 250-, 600-, and 1200-mg tablets	Initially 55 mg/kg (combined drug) PO on the first day of therapy, then 27.5 mg/kg PO once daily for at least 2 days after remission of clinical signs (not approved for treatment >21 days)
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
Oxtriphylline	Choledyl SA	Bronchodilator; chronic bronchitis (feline asthma?)	400- and 600-mg tablets (oral solutions and syrup available in Canada but not United States)	Dog: 47 mg/kg (equivalent to 30 mg of theophylline per kilogram) PO q12h Cat: Dose not available
Oxybutynin	Ditropan	Urinary antispasmodic; adjunctive treatment of detrusor hyperreflexia (includes FELV-positive cats)	5-mg tablet	Dog: 0.2 mg/kg PO q8-12h (or 1.25-3.75 mg/dog q12h) Cat: 0.5-1.0 mg/kg (total dose) PO q8-12h
Oxymetholone	Anadrol	Hormone (anabolic steroid); may stimulate erythropoiesis	50-mg tablet	1-5 mg/kg/day PO
Oxymorphone	Numorphan	Analgesic (opiate); pain management	1.5 and 1 mg/mL injection	Analgesia: 0.1-0.2 mg/kg IV, SQ, IM (as needed); re-treat with 0.05-0.1 mg/kg q1-2h. Preanesthetic: 0.025-0.05 mg/kg IM, SQ
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; induction of labor or parturition	10 and 20 units/mL injection; 40 units/mL nasal solution	Dog: 5-20 units/dog SQ, IM (repeat every 30 min for primary inertia) Cat: 0.25-1 units SC or IM every 30-60 min

Listings preceded by \$ are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
2-PAM	See <i>Pralidoxime chloride</i>			
Pancreatic enzymes	Viokase	Digestive enzymes; management of exocrine insufficiency	16,800 units lipase, 70,000 units protease, and 70,000 units amylase per 0.7 g; also capsules and tablets	Mix 2 tsp powder with food per 20 kg; body weight or 1-3 tsp/0.45 kg of food 20 min before feeding
Pancuronium bromide	Pavulon	Neuromuscular blocker; muscle relaxation as an adjunct to anesthesia	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
Paregoric	Corrective mixture	Antidiarrheal; management of simple diarrhea	2 mg morphine per 5 mL paregoric	0.05-0.06 mg/kg PO q12h
Paromomycin	Humatin	Antiparasitic; cryptosporidiosis in cats	250-mg capsule	Cat: 125-165 mg/kg PO q12h for 7 days. <i>Warning:</i> Toxicity and renal damage have been reported at these doses.
Paroxetine	Paxil	SSRI; management of behavior disorders	10-, 20-, 30-, and 40-mg tablets	Dog: 1 mg/kg up to 3 mg/kg PO once daily Cat: 2.5-5 mg total dose PO once daily
D-Penicillamine	Cuprimine, Depen	Chelating agent; treatment of lead poisoning; also for cystine urolithiasis	125- and 250-mg capsules and 250-mg tablet	10-15 mg/kg PO q12h Note: Take on an empty stomach and without other medicines
Penicillin G benzathine	Benza-Pen, others	Antibacterial	150,000 units/mL, combined with 150,000 units/mL procaine, penicillin G	40,000 IU/kg IM q5 days
Penicillin G potassium; penicillin G sodium	Multiple	Antibacterial	5 million- to 20 million-unit vials	20,000-40,000 units/kg IV, IM q6-8h

Penicillin G procaine	Generic	Antibacterial	300,000 units/mL suspension	20,000–40,000 units/kg SC, IM q12–24h
Penicillin V	Pen-Vee	Antibacterial	250- and 500-mg tablets	10 mg/kg PO q8h
Pentazocine	Talwin-V	Analgesic (opiate); pain management	30 mg/mL injection	Dog: 1.65–3.3 mg/kg IM q4h Cat: 2.2–3.3 mg/kg IV, IM, SQ q4h (due to dysphoria, pentazocine is not recommended in cats)
§ Pentobarbital	Nembutal, generic	Anesthetic; sedative or injectable anesthetic	50 mg/mL <i>Note:</i> This formulation is <i>not</i> to be used for euthanasia.	Anesthesia: 10–30 mg/kg IV to effect
Pentoxifylline	Trental	Antiinflammatory effects; has been used to treat immune-mediated skin disorders (e.g., associated with vasculitis) in dogs	400-mg tablet	Dog: For use in canine dermatology and for systemic or regional vasculitis, 10 mg/kg PO q12h
§ Phenobarbital	Luminal and 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 Status epilepticus: administer in increments of 10–20 mg/kg IV to effect
Phenoxybenzamine	Dibenzyline	α-Adrenergic blocker; reduces internal urethral sphincter tone associated with detrusor areflexia; also hypertension associated with pheochromocytoma	10-mg capsule	Dog: Urinary: 0.25 mg/kg PO 12–24h or 0.5 mg/kg q24h Hypertension: 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 <i>Note:</i> 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

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
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	α-Adrenergic; treatment of hypotension in the critical care setting; also used topically intranasally before rhinoscopy	10 mg/mL injection; 1% nasal solution	Dog and cat: 1-3 mcg/kg/min CRI in 0.9% saline or D5W; 0.1 mg/kg IM, SQ q15min Topical: 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
Phenytoin	Dilantin	Anticonvulsant; not generally recommended; limited application in digoxin-induced arrhythmias	30 and 1250 mg/mL oral suspension; 30- and 100-mg capsules; 50 mg/mL injection	Antiepileptic (dog): 20-34 mg/kg q8h Digoxin-induced antiarrhythmia: 30 mg/kg PO q8h or 10 mg/kg IV over 5 min
§ Phenytoin + pentobarbital	Beuthanasia-D Special, Euthasol	Euthanasia solution	100-mL multiple-dose vials	1 mL/10 lb body weight IV. <i>Note:</i> Alternative routes (at the same dosage) for sodium administration can be used in profoundly debilitated patients (e.g., intraperitoneal, intracardiac).
Physostigmine	Antilirium	Cholinesterase inhibitor/limited application; may be of use in promoting micturition in patients with urinary retention (postoperatively)	1 mg/mL injection	0.02 mg/kg IV q12h

§ Phytomenadione	See <i>Vitamin K₁</i>			
§ Phyttonadione	See <i>Vitamin K₁</i>			
Piperacillin	Pipracil	Antibacterial	2-, 3-, 4-, and 40-g vials for injection	40 mg/kg IV or IM q6h
Piperazine	Many	Antiparasitic; roundworms	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; has antitumor effects (indirect) in patients with transitional cell carcinoma (palliative treatment)	10-mg capsule	Dog: 0.3 mg/kg PO once daily Cat: 0.3 mg/kg PO q24-72h (Administer with food)
Pitressin (ADH)	See <i>Vasopressin</i> and <i>Desmopressin acetate</i>			
Plicamycin (formerly mithramycin)	Mithracin	Antineoplastic; adjunctive treatment in carcinoma protocols; also used to decrease calcium levels in hypercalcemic cancer patients	2.5 mg/mL injection	Dog: Antineoplastic: 25-30 mcg/kg/day IV (slow infusion) for 8-10 days Antihypercalcemic: 25 mcg/kg/day IV (slow infusion) over 4 hr Cat: Not recommended
Polyethylene glycol electrolyte solution	GoLYTELY	Laxative	Oral solution	25 mL/kg PO; repeat in 2-4 hr
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 wk

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Potassium bromide (KBr)	No commercial formulation	Anticonvulsant; long-term antiepileptic therapy	Usually prepared as oral solution	Dog and Cat: 30-40 mg/kg PO q2-4h 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 and 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 0.5 mEq/kg per day PO
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)	Protopam Chloride	Cholinesterase reactivator; 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 IM/SC dosing: ≤5 lbs, 17 mg IM/SC; 6-10 lbs, 28.4 mg IM/SC; 11-25 lbs, 56.8 mg IM/SC Dog PO dosing: ≤5 lbs, 17 mg PO; 6-10 lbs, 34 mg PO; 11-15 lbs, 51 mg PO; 16-30 lbs, 68 mg PO; 31-45 lbs, 102 mg PO; 46-60 lbs, 136 mg PO; ≥60 lbs, 170 mg Cats IM/SC dosing: ≤5 lbs, 11.4 mg IM/SC; 5-10 lbs, 22.7 mg IM/SC; ≥11 lbs, 34.1 mg IM/SC Cats PO dosing: ≤4 lbs, 11.5 mg PO; 5-11 lbs, 23 mg PO; ≥11 lbs, 34.5 mg PO for Paragonimus: 23-25 mg/kg PO q8h for 3 days

§ Prazosin	Minipress	α_1 -Blocker; adjunctive treatment of congestive heart failure; also hypertension and pulmonary hypertension (e.g., heartworm disease)	1-, 2-, and 5-mg capsules	0.5- and 2-mg/animal (1 mg/15 kg) PO q8-12h
§ Prednisolone	Delta-Cortef; many others	Glucocorticoid; antiinflammatory and immunosuppressive	5- and 20-mg tablets	Dog (cat often requires 2 × dog dose): Antiinflammatory: 0.5-1 mg/kg IV, IM, PO q12-24h initially; then taper to q48h Immunosuppressive: 2.2-6.6 mg/kg/day IV, IM, PO initially, then taper to 2-4 mg/kg q48h Replacement therapy: 0.2-0.3 mg/kg/day PO Shock, spinal trauma: See <i>Prednisolone sodium succinate</i>
§ Prednisolone sodium succinate	Solu-Delta-Cortef	Glucocorticoid; adjunctive therapy for endotoxic or septic shock	100- and 200-mg vials for injection (10 and 50 mg/mL)	Shock: 5.5-11 mg/kg IV (repeat in 1, 3, 6, or 10 hr) CNS trauma: 15-30 mg/kg IV, then taper to 1-2 mg/kg q12h
§ Prednisone	Deliasone and generic; Meticorten for injection	Glucocorticoid; antiinflammatory and immunosuppressive	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

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Primidone	Mylepsin; Neurosyn	Anticonvulsant; idiopathic epilepsy (not generally recommended)	50- and 250-mg tablets	8-10 mg/kg PO q8-12h as initial dose, then adjust via monitoring to 10-15 mg/kg q8h <i>Warning:</i> May cause irreversible liver disease with prolonged administration
§ Procainamide	Pronestyl and generic	Antiarrhythmic; ventricular premature contractions (e.g., ventricular tachycardia)	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 mcg/kg/min IV infusion Cat: 3-8 mg/kg IM, PO q6-8h
Procarbazine	Matulane, Natulan, Natulanar	Antineoplastic; component drug used in lymphoma protocols	50-mg capsule	Used in combination with mechlorethamine and prednisolone; consult latest information on protocols for precise dose
Prochlorperazine	Compazine	Phenothiazine; antiemetic	5-, 10-, and 25-mg tablets (maleate); 5 mg/mL injection (edisylyate)	0.1-0.5 mg/kg IM, SQ q6-8h
Progesterone, repositol	See <i>Medroxyprogesterone acetate</i>			
Promethazine	Phenergan	Phenothiazine; antiemetic	6.25 and 25 mg/5 mL syrup; 12.5-, 25-, and 50-mg tablets; 25 and 50 mg/mL injection	Antiemetic: 2 mg/kg IM/PO once daily Antihistamine: 0.2-0.4 mg/kg IV/IM/PO q6-8h (up to max dose of 1 mg/kg)

Propranolol	Pro-Banthine	Antimuscarinic, antidiarrheal; also used to treat urge incontinence associated with detrusor hyperreflexia; oral antiemetic effect	7.5- and 15-mg tablets	Dog: Urge incontinence: 0.2 mg/kg PO q6-8h Diarrhea: 0.25 mg/kg PO three times daily for 2-3 days max Cat: Urge incontinence: 0.25-0.5 mg/kg PO once or twice daily Chronic colitis: 0.5 mg/kg PO two to three times daily
<i>Propionibacterium acnes</i> (injection)	ImmunoRegulin	Nonspecific immunostimulant used as adjunctive therapy in dogs with pyoderma	5 mL vial	Dog: Manufacturer's dosing recommendations: - up to 15 pounds; 0.25 mL IV. 16-45 pounds: 0.50 mL IV. 46-75 pounds: 1.0 mL IV. over 75 pounds: 2.0 mL IV. Product is not approved for use in cats.
Propiopromazine	Tranvet, Largon	Antiemetic, tranquilizer; sedation, parenteral antiemetic	20 mg/mL injection	1.1-4.4 mg/kg q12-24h PO or 0.1-1.1 mg/kg IV or IM (range depends on sedation needed)
§ Propofol	Rapinovet, 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 (CRIs have been used at 2 mg/kg/hr)
§ Propranolol	Inderal (other products are available)	β-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 mcg/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

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Prostaglandin F ₂ -alpha (dinoprost)	Lutalyse	Prostaglandin; open pyometra; pregnancy termination in dogs	5 mg/mL solution for injection	<i>Note:</i> Any use of this drug in dogs and cats is <i>extra-label</i> . Open pyometra: Dog: 0.1-0.2 mg/kg SQ once daily for 5 days Cat: 0.1-0.25 mg/kg SQ twice daily for 5 days <i>Note:</i> Concurrent antibiotic therapy is recommended. <i>Surgery is always preferred!</i> Abortion (within 30 days of the last unwanted breeding): Dog: 0.1 mg/kg SQ q8h for 2 days, then 0.2 mg/kg SQ q8h until abortion is confirmed by ultrasound
Pseudoephedrine	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	0.2-0.4 mg/kg (or 15-60 mg/dog) PO (OTC) q8-12h
Psyllium	Metamucil, others	Laxative, stool softener	Available as powder	1 tsp/5-10 kg (added to each meal)
Pyrantel pamoate and tartrate	Nemex, Strongid	Antiparasitic; treatment of ascarids and hookworms	180 mg/mL paste and 50 mg/mL suspension	Dog: 5 mg/kg PO once; repeat in 7-10 days Cat: 20 mg/kg PO once
Pyridostigmine bromide	Mestinon, Regonol	Cholinesterase inhibitor; management of myasthenia gravis	12 mg/mL oral syrup; 60-mg tablet; 5 mg/mL injection	Antimyasthenic: 0.02-0.04 mg/kg IV q2h, or 0.5-3 mg/kg PO q8-12h Antidote (nondepolarizing muscle relaxant): 0.15-0.3 mg/kg IM, IV

Pyrimethamine	Daraprim	Folic acid inhibitor; treatment of toxoplasmosis and neosporosis	25-mg tablet	Dog: 1 mg/kg PO q24h for 14-21 days (5 days for <i>Neospora caninum</i>) Cat: 0.5-1 mg/kg PO q24h for 14-28 days
Quinacrine	Limited availability in the United States	Antiprotozoal; may be useful in management (not cure) of <i>Giardia</i> infections, leishmaniasis, and coccidiosis	100-mg tablet	Dog: 6.6 mg/kg PO q12h for 5 days Cat: 11 mg/kg PO q24h for 5 days
Quinidine gluconate	Quiniglut, Duraquin	Antiarrhythmic; ventricular arrhythmias	324-mg tablets; 80 mg/mL injection	Dog: 6-20 mg/kg IM q6h; 6-20 mg/kg PO q6-8h (of base)
Quinidine polygalacturonate	Cardioquin	Antiarrhythmic; ventricular arrhythmias	275-mg tablet	Dog: 6-20 mg/kg PO q6h (of quinidine base) Note: 275 mg quinidine polygalacturonate = 167 mg quinidine base.
Quinidine sulfate	Cin-Quin, Quinora	Antiarrhythmic; ventricular arrhythmias	100-, 200-, and 300-mg tablets; 200- and 300-mg capsules; 20 mg/mL injection	Dog: 6-20 mg/kg PO q6-8h (of base); 5-10 mg/kg IV
§ Ranitidine	Zantac	H ₂ -receptor antagonist; treatment and prevention of gastric and duodenal ulcers	75-, 150-, and 300-mg tablets; 150- and 300-mg capsules; 25 mg/mL injection	Dog: 2 mg/kg IV, PO q8h Cat: 2.5 mg/kg IV q12h; 3.5 mg/kg PO q12h
Retinol	See <i>Vitamin A</i>			
Riboflavin	See <i>Vitamin B₂</i>			
Rifampin	Rifadin	Antibacterial (reported to have limited antifungal and antiviral activity)	150- and 300-mg capsules	10-20 mg/kg PO q8-12h
§ Ringer's solution	Generic	Fluid replacement	250-, 500-, and 1000-mL bags for infusion	55-65 mL/kg/day (2.5 mL/kg/hr IV, SQ, IP maintenance) 15-30 mL/kg/hr IV for moderate dehydration 50 mL/kg/hr IV for severe dehydration
Salicylate	See <i>Aspirin</i>			

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
SAMe (S-adenosyl- methionine)	Denosyl-SD4	Nucleotide-like molecule derived from the amino acid methionine; adjunctive therapy in patients with chronic liver disease	Enteric-coated tablets	20 mg/kg PO daily
Selamectin	Revolution	Antiparasitic (ivermectin); multiple applications in dogs and cats	Various sizes of topical solutions available for dogs and cats	See manufacturer's dosage instructions for the specific condition being treated
Selegiline	Anipryl (also known as deprenyl and L-deprenyl)	MAO-B inhibitor; canine cognitive dysfunction; reported use in treatment of canine hyperadrenocorticism (use in canine Cushing is currently <i>not</i> recommended)	2-, 5-, 10-, 15-, and 30-mg tablets	Dog: Begin with 1 mg/kg PO q24h; if no response within 2 mo, increase dose to maximum of 2 mg/kg PO q24h Cat: Dose not established.
Senna	Senokot	Laxative; feline constipation	Granules in concentrate, or syrup	Cat: syrup: 5 mL/cat q24h; granules ½ teaspoon/cat q24h (with food)
Sertraline	Zoloft, Altraline, Anilar, others	SSRI; 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	Moderate dehydration: 15-30 mL/kg/hr IV, severe dehydration 50 mL/kg/hr IV
§ Sodium chloride 7.2%	Generic (hypertonic)	Fluid replacement	Infusion	2-8 mL/kg IV <i>Caution:</i> Not a balanced electrolyte solution
Sodium iodide 20%	Iodopen, generic	Iodine replacement; replacement for confirmed deficiencies	100 mcg elemental iodide (118 mcg sodium iodide) per milliliter injection	20-40 mg/kg PO q8-12h
Sotalol	Betapace	Nonselective β -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
Spironolactone	Aldactone	Aldosterone antagonist; K-sparing diuretic used in the treatment of congestive heart failure; generally used in patients that do not respond to furosemide and ACE inhibitors	25-, 50-, and 100-mg tablets	2-4 mg/kg/day (or 1-2 mg/kg PO q12h)
Stanozolol	Winstrol-V	Anabolic steroid; adjunctive therapy for no one really knows what; has been used to treat anemia of chronic disease	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 <i>Caution:</i> Use in anorexic patients can cause weight loss (catabolic effect?).
Succimer	Chemet	Heavy metal chelator; treatment of lead poisoning	100-mg capsule	10 mg/kg PO q8h for 5 days, then 10 mg/kg PO q12h for 2 more wk

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
§ Sucralfate	Carafate	Antiulcer treatment; treatment of gastric and duodenal ulcers (may have preventive effect)	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); adjunct to anesthesia or epidural anesthesia	50 mcg/mL injection	Dogs: 3 mcg/kg IV (maximum dose is 5 mcg/kg IV) Cat: 0.1-0.5 mcg/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 <i>Trimethoprim + sulfonamide</i>)
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 once daily (see <i>Ormetoprim + sulfadimethoxine</i>)
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
Sulfasalazine (sulfapyridine + mesalamine)	Azulfidine	Antibacterial and antiinflammatory activity; ulcerative colitis and other forms of inflammatory bowel disease in dogs	500-mg tablets; pediatric suspension	Dog: 10-30 mg/kg PO q8-12h <i>Warning:</i> Has been reported to cause keratoconjunctivitis sicca in dogs
Sulfisoxazole Taurine	Gantrisin Generic	Antibacterial Amino acid; taurine deficiency cardiomyopathies	500-mg tablet; 500 mg/5 mL syrup Available in powder	50 mg/kg PO q8h (urinary tract infections) Dog: 500 mg PO q12h Cat: 250 mg/cat PO q12-24h

Topoxalin	Zubrin	NSAID; management of pain associated with osteoarthritis in dogs	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, Bricanyl	β-agonist; bronchodilator; use includes feline asthma	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, ¼ of 2.5-mg tablet)
Testosterone cypionate ester	Andro-Cyp, Andronate, Depo-Testosterone, others	Hormone; replacement therapy; most commonly used for testosterone-responsive urinary incontinence in neutered male dogs and cats	100 and 200 mg/mL injection	1-2 mg/kg IM q2-4 wk (see also <i>Methyltestosterone</i>)
Testosterone propionate ester	Testex	Hormone; replacement therapy; most commonly used for testosterone-responsive urinary incontinence in neutered male dogs and cats	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 closylate	Canopar	Antiparasitic; hookworms	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 wk
Theophylline	Many brand name and generic products	Bronchodilator; chronic bronchitis and feline asthma	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 <i>Aminophylline</i>)

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and 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: 10 mg/kg PO q12h, if adequate but no side effects increase to 15 mg/kg PO q12h Cat: 20 mg/kg PO q24h (at night) for theo-pur and 25 mg/kg PO q24h for 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: <i>Strongyloides</i> : 125 mg/kg q24h for 3 days
Thiacetarsamide sodium	Caparsolate	Arsenical; formerly used to treat canine heartworm disease	Not commercially available	
Thiamine	See <i>Vitamin B₁</i>			
Thioguanine (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, intracavitary, or intratumor)
Thyroid hormone	See <i>Levothyroxine sodium (T₄)</i> and <i>Liothyronine (T₃)</i>			

Thyrotropin (thyroid-stimulating hormone [TSH])	Thytropar	Hormone; used to test for hypothyroidism (primarily in dogs)	10-unit vial	Dog: Collect baseline sample, followed by 0.1 unit/kg IV (maximum dose is 5 U); collect post-TSH sample at 6 hr Cat: Collect baseline sample, followed by 2.5 units/cat IM; collect a post-TSH sample 6 hr later
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 per milliliter <i>Caution:</i> Limited shelf life after reconstitution	Dosage is based on combined milligrams of each drug. Administer by <i>deep</i> intramuscular injection. Dog: 6.6-10 mg/kg IM (restraint); 10-13 mg/kg IM deep (minor surgical procedures) Do <i>not</i> exceed 26.4 mg/kg IM <i>total dose</i> . Cat: 9.7-11.9 mg/kg IM (restraint), 10.6-12.5 mg/kg IM (minor surgical procedures), 14.3-15.8 mg/kg IM (anesthesia) Do <i>not</i> exceed 72 mg/kg IM <i>total dose</i> .
Tobramycin	Nebcin	Antibacterial	40 mg/mL injection	2-4 mg/kg IV, IM, SQ 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	α-Adrenergic blocker; reversal agent for xylazine	100 mg/mL in 100-mL multi-dose vials	4 mg/kg slowly 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: 0.05-0.11 mg/kg two to three times daily, within 2 weeks reduce dose to 0.028-0.055 mg/kg/day (however, manufacturer recommends doses of 0.11-0.22 mg/kg/day)

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6 - 2.4 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
Triamcinolone acetonide	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, SQ; repeat in 7-10 days Intralesional: 1.2-1.8 mg, or 1 mg for every cm diameter of tumor q2wk
Triamterene	Dyrenium	Diuretic; K-sparing diuretic used as an alternative to spironolactone	50- and 100-mg capsules	1-2 mg/kg PO q12h
Trientine hydrochloride	Syprine	Oral copper chelating agent; copper-associated hepatopathy; indicated in dogs that cannot tolerate penicillamine	250-mg capsules	Dog: 10-15 mg/kg PO q12h
Trifluoperazine	Stelazine	Phenothiazine; antiemetic	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; antiemetic	10 and 20 mg/mL injection	0.1-0.3 mg/kg IM, PO q8-12h
Triiodothyronine	See <i>Liothyronine (T₃)</i>			
Trilostane	Vetoryl	Oral treatment of canine hyperadrenocorticism (pituitary-dependent and adrenal tumor)	10-, 30-, 60-mg capsules (available in the United States)	3.9 to 9.2 mg/kg/day PO Commonly used dose in dogs is 6.1 mg/kg/day PO Dose adjustments are made on the basis of routine cortisol testing.

Trimeprazine tartrate with prednisolone	Temaril-P	Phenothiazine antihistamine + glucocorticoid combination; antitussive and antipruritic; not generally recommended today	5 mg trimeprazine + 2-mg prednisolone (combined) tablet	Dog: See manufacturer's recommendations regarding indications and dose.
Trimethoprim + sulfonamide (sulfadiazine or sulfamethoxazole)	Tribrisson, others	Antibacterial	30-, 120-, 240-, 480-, and 960-mg tablets	15 mg/kg PO q12h, or 30 mg/kg PO q12-24h For <i>Toxoplasma</i> : 30 mg/kg PO q12h
TSH (thyroid-stimulating hormone)	See <i>Thyrotropin</i>			
Tylosin tartrate	Tylocine, Tylan	Antibacterial; has antiinflammatory effects in the bowel and is sometimes used to treat inflammatory bowel disease and chronic colitis	Available as soluble powder with 2.2 g tylosin per teaspoon (tablets available for dogs in Canada)	Dog and cat: 7-15 mg/kg PO q12-24h Dog (for colitis): 11 mg/kg q8h with food
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	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 divalproex 25-105 mg/kg/day PO when administered with phenobarbital Cat: <i>Do not use</i>

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
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 to distinguish central diabetes insipidus from nephrogenic diabetes insipidus (not routinely recommended); see also <i>Desmopressin acetate</i> for treatment of diabetes insipidus.	20 (pressor) units/mL in 0.5-, 1.0-, and 10-mL vials (aqueous only) and 1-mL ampules	For diagnostic purposes: Dog: Test protocol: administer 2 mcg IM to dogs < 15 kg body weight; administer 4 mcg IM to dogs > 15 kg Note: Diabetes insipidus test protocol entails patient preparation in advance of administration of 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 of 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	Velban	Vinca alkaloid, antineoplastic	1 mg/mL injection	2 mg/m ² IV (slow infusion) q7-14 days
§ Vincristine	Oncovin, 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 (q7days 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 hr) each week
Viokase	See <i>Pancreatic Enzymes</i>			
Vitamin A (retinoids)	Aquasol A	Vitamin; nutritional supplementation	Oral solution: 5000 units per 0.1 mL and 10,000-, 25,000-, and 50,000-unit tablets	625-800 units/kg PO q24h

Vitamin B ₁	Thiamine	Vitamin; nutritional supplementation	250 mcg/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; 100 mcg/mL injection	Dog: 10-20 mg/day PO Cat: 5-10 mg/day PO
Vitamin B ₁₂	Cyanocobalamin	Vitamin; nutritional supplementation	100 mcg/mL injection	Dog: 100-200 mcg/day PO Cat: 50-100 mcg/day PO
Vitamin C	Ascorbic acid		Tablets of various sizes and injection	100-500 mg/day
Vitamin D analogue	Dihydrotachysterol (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 Acute treatment: 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-unit tablet (OTC); 50,000-unit tablet (1.25 mg); 500,000 units/mL (12.5 mg/mL) injection	4000 to 6000 units/kg/day PO (initial); 1000 to 2000 units/kg/day PO (maintenance)
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 <i>Vitamin D analogue</i>	Hypocalcemia: 0.030-0.06 mcg/kg PO once daily Chronic renal failure: 0.025 mcg/kg PO once daily

Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.

Continued

TABLE 6-24 Common Drug Indications and Dosages—Cont'd

Drug	Proprietary Names	Action and Use	Formulation	Recommended Dosage
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 immune-mediated skin disease in dogs; efficacy in management of arthritic dogs is questionable	Wide variety of capsules, tablets, oral solution available (e.g., 1000 units per capsule)	See manufacturer's recommendations for treatment indications and dose
§ Vitamin K ₁	Phytonadione, phytomenadione, Aqua-MEPHYTON (injection), Mephyton (tablets), Veta-K1 (capsules)	Antidote; anticoagulant rodenticide toxicosis and in any disorder affecting formation of vitamin K-dependent coagulation factors	2 and 10 mg/mL injection; 5-mg tablet (Mephyton); 25-mg capsule (Veta-K1)	Rodenticide toxicosis: 2.5-5.0 mg/kg/day PO (preferred) for up to 6 weeks depending on the agent ingested. Acute intoxication: 5 mg/kg SQ in multiple locations with 25-gauge needle
Warfarin	Coumadin and 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 Pulmonary thromboemboli: 0.2 mg/kg PO daily to prolong PT by 1.5 to 2.5 times normal Cat: Chronic treatment: 0.1-0.2 mg/kg PO once daily to prolong PT by 2 to 2.5 times normal Aortic embolus: 0.06-0.1 mg/kg PO once daily

Xylazine	Rompun and generic	α_2 -Adrenergic agonist; sedative and analgesic (sometimes used as an emetic in cats)	20 and 100 mg/mL injection	Dog and cat: 1.1 mg/kg IV; or 1.1 to 2.2 mg/kg IM or SQ Cat (to induce emesis): 0.4-0.5 mg/kg IV
Yohimbine	Yobine	α_2 -Adrenergic antagonist; reverses xylazine (and possibly amitraz)	2 mg/mL injection in 20-mL vials	0.11 mg/kg IV slowly
Zidovudine (AZT)	Retrovir	Antiretroviral agent; adjunctive treatment of FeLV- and FIV-positive cats	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 <i>Caution:</i> Significant bone marrow suppression (usually reversible with cessation of therapy) is expected; monitor CBC during therapy.
Zolazepam	See <i>Tiletamine+zolazepam</i>			

ACE, Angiotensin-converting enzyme; *ACTH*, adrenocorticotrophic hormone; *ADH*, antidiuretic hormone; *CBC*, complete blood count; *CMV*, cell-mediated immunity; *CNS*, central nervous system; *CRF*, constant-rate infusion; *CSE*, cerebrospinal fluid; *D5W*, dextrose 5% in water; *DI*, diabetes insipidus; *DIC*, disseminated intravascular coagulation; *FeLV*, feline leukemia virus; *FIV*, feline immunodeficiency virus; *GABA*, γ -aminobutyric acid; *GI*, gastrointestinal; *GnRH*, gonadotropin-releasing hormone; *H₂*, histamine; *IM*, intramuscularly; *IMHA*, immune-mediated hemolytic anemia; *IP*, intraperitoneally; *IV*, intravenously; *LH*, luteinizing hormone; *LHRH*, luteinizing-hormone-releasing hormone; *MOA*, monoamine oxidase; *NSAID*, nonsteroidal antiinflammatory drug; *OTC*, over the counter (prescription not required); *PO*, orally; *PT*, prothrombin time; *SQ*, subcutaneously; *SSRI*, selective serotonin reuptake inhibitor; *USP*, United States Pharmacopoeia.

*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 doses 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 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 dose listed does *not* stipulate dog or cat, drug may be administered to both dogs and cats at the dose listed. Listings preceded by § are for rapid reference and denote drug or dose used in the emergency or critical care setting.