Index

Note: Page numbers in *italics* refer to figures; those in **bold** refer to tables.

Abdominal: BPD ratio, 71–72
Abortion, in chinchillas, 296
Acariasis (skin mites), 280, 291
Acid-base balance, 78–79, 107
Acquired congenital defects, 169–174, **171–174**, **174**
Adenovirus, canine, 135
Agalactia. See also lactation
  in cats, 52
  in chinchillas, 298
  in dogs, 35–36
  in guinea pigs, 246–247
  in hedgehogs, 275
  in rabbits, 221–222
  in small rodents, 263
  in sugar gliders, 285
Aglepristone, use in dogs, 35, 36
Ambient temperature requirements
  for cats, 16, 81, 83–84, 146, 147–148, 208–209
  for chinchillas, 301
  for dogs, 4, 81, 81, 83–84, 97, 208–209
  for guinea pigs, 242, 250
  for hedgehogs, 277, 280–281
  for rabbits, 218–219, 225, 266
  for small rodents, 266
  for sugar gliders, 288, 292
Amikacin, use in dog neonates, 114
Aminoglycosides, use in dog neonates, 111, 114
Analgesics
  and congenital defects, **173**
  use in chinchillas, 297
  use in guinea pigs, 245
  use in rabbits, 220–221
  use in small rodents, 262
Anemia, suckling, 149
Anesthesia
  use in cats, 51
  use in chinchillas, 297
  use in dogs, 34–35, 109, 114
  use in guinea pigs, 245
  use in rabbits, 220, 220
  use in small rodents, 261–262
  use in sugar gliders, 292
Antibiotics
  and congenital defects, **171**
  use in chinchillas, 298, 303
  use in dogs, 38, **38, 99**, 99, 113–114, 131
  use in guinea pigs, 246
  use in rabbits, 221, 230
  use in small rodents, 262–263
Anticonvulsant drugs, and congenital defects, **173**
Antifungal drugs, and congenital defects, 172

Anti-inflammatory drugs
  use in dogs, 35, 38–39, 99
  use in guinea pigs, 245, 252–253
  use in rabbits, 221, 230

Antimicrobials, use in dog neonates, 99–100, 100, 103, 113–114

Antineoplastic drugs, and congenital defects, 172

Antiparasitic drugs, and congenital defects, 172

Arachidonic acid requirement, in cats, 18, 20

Atropine, use in dogs, 34

Autosomal dominant inheritance, 175–176, 179–181

Autosomal recessive inheritance, 175–176, 176–177, 179–181

Bacterial enteritis, 229–231, 253

Bacterial pneumonia, 231, 253

Baylisascaris procyonis (raccoon ascarids), 305

BD. See body diameter

Bedding
  for cats, 16, 17, 146, 208, 208
  for chinchillas, 300
  for dogs, 5, 208, 208
  for guinea pigs, 249
  for hedgehogs, 277
  for rabbits, 224, 225, 226
  for small rodents, 265
  softwoods, 225, 249, 265, 277, 289, 300
  for sugar gliders, 289

Biochemical genetic testing, 189

Biparietal diameter (BPD)
  abdominal : BPD ratio, 71–72
  in cats, 68–69, 71
  in dogs, 62, 64, 64–65, 65

Birthing area
  for cats, 16, 17, 146
  for chinchillas, 301
  for dogs, 4–5
  for guinea pigs, 250
  for hedgehogs, 277
  for rabbits, 225–226, 226
  for small rodents, 266
  for sugar gliders, 288–289

Biting, in cat neonates, 156

Blood pressure, in dog neonates, 101

Body condition
  in cats, 18, 19, 20
  in dogs, 6, 7, 11

Body diameter
  in cats, 68–69, 71
  in dogs, 62–66, 64, 65

Body temperature
  in cats, 46, 83, 85, 146, 147–148, 148, 211, 214
  in dogs, 29, 40, 81, 83, 85, 95, 96–97, 110, 211, 214
  in guinea pigs, 250
  in hedgehogs, 281
  in rabbits, 225, 230
  in sugar gliders, 290, 292

Bordetella bronchiseptica (kennel cough), 132–133, 136, 160–161

Bottle feeding
  for cat neonates, 155, 209, 211, 213–214, 214
  for dog neonates, 209, 211, 213–214, 214

BPD. See biparietal diameter

Bradycardia, 83

Breeding dates, 25, 57, 59–60. See also gestational age, assessment of

Breeding programs
  for chinchillas, 295–296
  for guinea pigs, 240–242
  for hedgehogs, 274
  for rabbits, 218
  for small rodents, 260

Breeds, dog
  and behavior, 120–122
  and weight, 94

Calcium. See also eclampsia
  in cats, 21, 50, 53
  in chinchillas, 297, 299–300
  in dogs, 8–11, 32–33, 33, 39–40
  in guinea pigs, 245, 248
  in hedgehogs, 276
  in rabbits, 220–221
  in small rodents, 261–262
  in sugar gliders, 286–288

Calcium : phosphorus ratio
  for cats, 211
  for chinchillas, 305
  for dogs, 9, 211
  for hedgehogs, 276
  for sugar gliders, 286–288

Calicivirus, 162, 232

Calico cats, 169, 170

Caloric requirements
  for dogs, 8, 9–10, 85–86, 108, 210
  for cats, 18, 20, 85–86, 145, 154–155, 210
Canine adenovirus, 135
Canine coronavirus, 135
Canine distemper, 134
Canine herpesvirus, 135–136
Canine influenza, 136
Canine parainfluenza, 136
Canine parvovirus (CPV), 133–134
Cardiovascular drugs
and congenital defects, 173
use in dog neonates, 114
Cardiovascular system
in cat neonates, 147
in dog neonates, 96–97, 100–101, 107
genetic diseases of, 195–197, 203
Cats
ambient temperature requirements for, 16, 81, 83–84, 146–148, 208–209
body condition in, 18, 19, 20
body temperature in, 46, 83, 85, 146–148, 148, 211, 214
cattery management, 15–17, 17
disorders of. See names of specific disorders
genetic diseases of, 145, 188, 201–204
husbandry practices, 15–17, 17, 146, 156, 208, 208
laboratory profiles of neonates, 149–150, 149, 159
lactation in, 20, 21–22, 45, 145–146, 211–212
nursing in, 47, 48, 52, 84–85
nutrition for, 15–18, 17, 19, 20–23, 20–21, 85–86, 145–146, 152–156, 210
parturition in, 45–46, 47–48, 48
physical development of neonates, 81–82, 82, 146–149, 147, 148–150, 149, 151–152, 151, 152, 153, 159
pregnancy in, 41–45, 45, 60
reproductive physiology of, 43–44, 45, 57, 59–60
sex determination in, 147, 147
socialization of neonates, 156–157
vital signs in neonates, 146–147, 148
weight of, 20, 20, 21, 22, 52, 84, 87, 145–148, 153, 209–210
Cattery management, 15–17, 17
Cavies. See guinea pigs
Cesarean section
in cats, 51–52, 56
in chinchillas, 297
in dogs, 33–35, 56, 77, 79, 79
in guinea pigs, 245
in rabbits, 220–221, 220
in small rodents, 261–262
Cestodes, 234, 305
Cheyletiellosis (walking dandruff), 138, 165, 235, 235–236
Chinchillas, 295, 297, 297
ambient temperature requirements for, 301
breeding programs for, 295–296
disorders of. See names of specific disorders
husbandry practices, 296–297, 300–301
lactation in, 296, 298, 300–302
nursing in, 296, 301–302
nutrition for, 299–300, 305
parturition in, 296, 298
physical development of neonates, 302
pregnancy diagnosis in, 296
reproductive physiology of, 295, 296, 296, 298, 300, 300
sex determination in, 295
socialization of neonates, 302
vital signs in neonates, 301
weight of, 296
Chlamydia felis, in cat neonates, 160
Chromosomal anomalies, 169, 170
Cleft palate, 8, 83, 94, 174
Clostridial enterotoxemia, 252–253, 303
Coagulopathies, and genetic diseases, 197, 203
Coccidiosis, 137, 164, 223, 233–234, 248, 255, 280
Cognitive abilities, in dogs, 121
Colibacillosis, 253
Colony breeding arrangements, 218, 240–241, 260, 295
Colostrum
and cats, 22, 48, 84–85, 209–211
and dogs, 10, 84, 103, 106–107, 209–211
Complete blood counts
in cat neonates, 149, 159
in dog neonates, 105, 107
Complex modes of inheritance, 178–179, 178, 181
Conditional carnivores, 17
Congenital defects, 82, 83, 169
chromosomal anomalies, 169, 170
inherited, 174–179, 175–178
and medications, 170, 171–173, 174
Coprophagy, 228, 236, 251
Copulatory plug, 240, 242, 242, 261, 296
Coronaviral diarrhea, 254
Coronavirus
  canine, 135
  feline, 162
  in guinea pig neonates, 254
  in rabbit neonates, 231–232
Cortisol, in dogs, 28
Courtship, in hedgehogs, 274
CPV (canine parvovirus), 133–134
CRL. See crown-rump length
Crown-rump length
  in cats, 61, 61, 68
  in dogs, 62, 64, 64, 65, 66
Cryptosporidiosis, 137–138, 233, 255, 291
C-section. See cesarean section
Days before parturition (DBP), 63, 65, 71
DBP (days before parturition), 63, 65, 71
Decosohexanoic acid (DHA) requirements. See fatty acid requirements
Deep portion of diencephalo-telencephalic vesicle (DPTV)
  in cats, 68, 69, 71
  in dogs, 65, 65, 66
Defecation, stimulation of, 87, 115, 155, 215, 229, 252, 266–267, 278, 290
Dehydration
  in cat neonates, 87–89, 88
  in dog neonates, 87–89, 88, 109–110
Demodicosis, 138, 140, 264
Dentition
  in cat neonates, 152, 153
  in dog neonates, 104, 104
Dermatophytosis (ringworm)
  in cat neonates, 163–164
  in chinchilla neonates, 304
  in dog neonates, 136–137
  in guinea pig neonates, 254–255
  in hedgehog neonates, 279–280
  in rabbit neonates, 233, 233
  in small rodent neonates, 270
  in sugar glider neonates, 291
Detergents used in cattery, 17
Diet changes
  in cats, 18
  in dogs, 5, 9
Digestive system, genetic diseases of, 197–198, 203–204
Disinfectants used in cattery, 17
Distemper
  canine, 134
  feline (feline panleukopenia), 161–162
DNA-based tests for genetic diseases, 182–187, 189
Deworming. See also internal parasites
  in cats, 165
  in chinchillas, 300
  in dogs, 140
  in guinea pigs, 248–249
  in hedgehogs, 277
  in rabbits, 223–224
  in small rodents, 264–265
  in sugar gliders, 288, 291
Dextrose, use in treating hypoglycemia, 90, 129–130
DHA (decosohexanoic acid) requirements. See fatty acid requirements
Diarrhea
  in cat neonates, 23, 87, 165
  in dog neonates, 11–12, 87, 101, 131–133, 132, 140
  in hamster neonates, 268–269
  in rabbit neonates, 230
Diet changes
  in cats, 18
  in dogs, 5, 9
Dogs
  ambient temperature requirements for, 4, 81, 81, 83–84, 97, 208–209
  behavior in, 114–115, 116, 117–124
  body condition in, 6, 7, 11
  body temperature in, 29, 40, 81, 83, 85, 95, 96–97, 110, 211, 214
  disorders of. See names of specific disorders
  genetic diseases of, 188, 190–201
  gestational age, assessment of, 55–59, 57–59, 60–68, 60, 62–64, 63, 65, 66–70
  husbandry practices, 1–2, 3, 4–5, 4, 5, 208
  kennel management, 1–2, 2–3, 3–4, 4–5, 5
  laboratory profiles of neonates, 104, 105–106, 106–107
  lactation in, 9, 9–10, 10, 112, 211–212
  nursing in, 38, 40, 84–85, 93, 95
  nutrition for, 5–6, 7, 8–12, 8–10, 85–86, 108, 210
  parturition in, 30–35, 31, 33, 36, 57
  reproductive physiology of, 6, 8, 25–26, 26, 28–29, 29, 31, 57–59, 57–59, 60, 65–66, 120
  socialization of neonates, 115, 116, 117–120
Index 313

weight of, 5–6, 7, 8, 9, 11, 84, 87, 93–94, 94, 95, 130, 209, 210
Dominance hierarchy, in dogs, 117–118
Dosing adjustments, 100, 111, 113
DPTV. See deep portion of diencephalotelencephalic vesicle
Drug therapy
  and congenital defects, 170, 171–173, 174
dosing adjustments, 100, 111, 113
drug transfer, 111–112
toxicity, 99, 99–100, 111–114
Drug transfer, 111–112
Due date, 25, 55–59, 66, 69. See also gestational age, assessment of
Dysbiosis, 303
Dystocia
  in cats, 48–52, 49, 78
  in chinchillas, 296–297
  in dogs, 30–35, 31, 33, 77–78, 107
  in guinea pigs, 242, 244–245, 244
  in hedgehogs, 273–275
  in rabbits, 219–221, 220
  in small rodents, 261–262
  in sugar gliders, 285

Ear mites, 164–165, 235, 235
Ears
  in cat neonates, 149, 151
  in dog neonates, 96, 102
  genetic diseases of, 190–191, 201
Ecobic agents, use in metritis, 39
Eclampsia, 9–10, 21, 31, 39–40, 53
Ectopic pregnancy, in chinchillas, 296
Eimeria, 233–234, 255
Elisa (enzyme-linked immunosorbent assay) tests, 59, 161
Embryos
  in cats, 44, 45, 69
  in dogs, 26, 63, 67, 67
Emotional reactivity, in dogs, 120–121
Emotional state in dogs, and behavior of offspring, 115
Endocrine drugs, and congenital defects, 173
Endocrine system, genetic diseases of, 199, 204
Endometritis, 222
Enrofloxacin, 253
Enteritis, 135, 229–231, 253, 303
Enterococcus faecium, in gastrointestinal tract, 11–12, 23
Enterotoxemia, 229–231, 252–253, 303

Environmental influences on fertility/pregnancy
  in guinea pigs, 242
  in rabbits, 218–219
  in small rodents, 260–261
Enzyme-linked immunosorbent assay (ELISA) tests, 59, 161
Estradiol-17β, in cats, 43, 46
Estrogen, in dogs, 25–28, 57
Estrus
  in cats, 43
  in chinchillas, 295, 296
  in dogs, 25–26, 25–26, 57–58, 57–58, 120
  in guinea pigs, 239–240, 240
  in hedgehogs, 273–274, 274
  in rabbits, 217–218, 218
  in small rodents, 259–260, 260
  in sugar gliders, 283–284, 284
European brown hare syndrome (rabbit calicivirus), 232
Exercise pens, use with dog neonates, 5
External parasites
  in cat neonates, 139, 164–165
  in chinchilla neonates, 305
  in dog neonates, 138, 139, 140
  in guinea pig neonates, 248–249
  in hedgehog neonates, 280
  in rabbit neonates, 224, 235–236, 235
  in small rodent neonates, 270
  in sugar glider neonates, 291
Eyes
  in cat neonates, 148, 148–149, 149, 151–152
  in dog neonates, 96, 102, 103
  genetic diseases of, 192, 201–202
“Fading kitten syndrome,” 159
“Fading puppy syndrome,” 129
Fatty acid requirements
  in cats, 18, 20, 23
  in dogs, 6, 8–9, 11
“Feathering,” 32, 33
Feline coronavirus, 162
Feline distemper (feline panleukopenia), 161–162
Feline herpesvirus (FHV), 163
Feline immunodeficiency virus, 161
Feline infectious peritonitis (FIP), 162
Feline leukemia, 161
Feline panleukopenia, 161–162
Feline viral rhinotracheitis, 163
Fetal death, and radiography, 61–62, 62
Fetal fluids, and assessment of fetal stress, 71–72, 72
Fetal heart rate, 49, 49, 62, 71, 72
Fetal hormones, in cats, 44
Fetal maturation, in assessing gestational age, 63, 66–68, 67–70, 69–71, 71
Fetal measurement, in assessing gestational age, 62–66, 63, 65, 68–69, 70–71
Fetal membranes, 33, 35, 38–39, 46, 51–53, 79
Fetal resorption, in chinchillas, 296
Fetal stress, assessment of, 71–72, 72–73, 74
Fetal well-being, assessment of, 49, 49, 55, 71–72, 72–73, 74
FHV (feline herpesvirus), 163
Fiber requirements
  for guinea pigs, 248
  for rabbits, 223
FIP (feline infectious peritonitis), 162
Fleas, 138, 139, 164, 236, 255, 270, 305
Fluid requirements
  in cats, 210
  in dogs, 10, 108–110, 108, 210
  in small rodents, 267
Fluid therapy
  in cats, 85, 87–89, 88
  in dogs, 34, 85, 87–89, 88, 108–110, 131
Follicle-stimulating hormone, 25, 27
Fontanelles, in dogs, 96
Fostering neonates. See also orphaned animals
  chinchillas, 298, 300, 302
  dogs, 207–211, 208, 211–213, 213–215, 214
  guinea pigs, 249
  hamsters, 262
  hedgehogs, 275
  rabbits, 218, 224, 227
  small rodents, 265
FSH (follicle-stimulating hormone), 25, 27
Functional dystocia, 49
Fur mites, 235, 235–236
GA. See gestational age, assessment of
Galactostasis, 36, 52
Gastric diameter (GD), in cats, 71
Gastrointestinal system
  in cats, 23
  in dogs, 11–12, 101–102
GD (gastric diameter), in cats, 71
Gender determination. See sex determination
Genetic counseling, 179–182, 180, 182–188, 187, 189–190
Genetic diseases
  of cats, 145, 188, 201–204
  of dogs, 188, 190–201
  testing centers for, 188
Genetic diversity, 180
Genetic screening programs, 187
Genetic tests, 181–182, 182–188, 187, 189–190
Gerbils, 259
  ambient temperature requirements for, 266
  breeding programs for, 260
  disorders of. See names of specific disorders
  husbandry practices, 261, 265–266
  lactation in, 267
  nursing in, 267
  nutrition for, 264, 271
  parturition in, 261–262
  physical development of neonates, 266–267, 267
  pregnancy diagnosis in, 261
  reproductive physiology of, 259–260, 260, 263, 265
  sex determination in, 259
  socialization of neonates, 268
  vital signs in neonates, 266
  weight of, 261, 267
Gestation, length of
  for cats, 60
  for chinchillas, 296, 296
  for dogs, 31, 57, 66
  for guinea pigs, 239, 240
  for hedgehogs, 274
  for rabbits, 218, 218
  for small rodents, 260, 260
  for sugar gliders, 284
Gestational age, assessment of, 55–57
  by breeding dates, 57, 59–60
  by crown-rump length, 61, 61
  by fetal maturation, 63, 66–71, 67–70, 71
  by fetal measurement, 62–66, 63, 63, 65, 68–69, 70–71
  by luteinizing hormone concentrations, 58–59, 59
  by mineralization of fetal structures, 60–61, 60–61
  by ovulation timing, 57–59, 57–59
  by progesterone concentrations, 58–59, 59
  by radiography, 60–62, 60–61, 62
  by receptive behavior, 57, 60
  by ultrasonography, 62
by vaginal cytology, 57–58, 57–58, 60
by vaginal speculum examination, 58

Gestational diabetes, in dogs, 56
Gestational sacs, measurement of, 62–63, 68–69
Giardiasis, 137, 291, 304–305
Glycosuria, 87, 99, 106, 159
Growth hormone synthesis, in dogs, 28

Growth rates
for cat neonates, 22, 154
for dog neonates, 10–11
for hedgehog neonates, 278

Gruel, 10, 22, 153, 153, 215

Guinea pigs (cavies), 239
ambient temperature requirements for, 242, 250
body temperature in, 250
breeding programs for, 240–242
disorders of. See names of specific disorders
husbandry practices, 242, 249–250
lactation in, 246–247, 249, 251
nursing in, 251
nutrition for, 247–248, 257
parturition in, 243, 243, 245
physical development of neonates, 250–251
pregnancy diagnosis in, 242–243
reproductive physiology of, 239–242, 240, 240–242, 249
sex determination in, 239, 241
socialization of neonates, 252
vital signs in neonates, 250, 250
weight of, 248–249, 250, 251
“Gut-loading” diets for insect prey, 276, 286

Haemobartonella felis (Mycoplasma felis), in cat neonates, 160

Hamsters, 259
ambient temperature requirements for, 266
breeding programs for, 260
disorders of. See names of specific disorders
husbandry practices, 261, 265–266
lactation in, 267
nursing in, 267
nutrition for, 264, 271
parturition in, 261–262
physical development of neonates, 266–267, 267
pregnancy diagnosis in, 261
reproductive physiology of, 259–260, 260, 263, 265
sex determination in, 259
socialization of neonates, 268

vital signs in neonates, 267
weight of, 261, 267

Handling neonates
cats, 156
chinchillas, 302
dogs, 115, 116
guinea pigs, 252
hedgehogs, 279
rabbits, 224, 229
small rodents, 265, 268
sugar gliders, 290

Harem breeding arrangements. See polygamous breeding arrangements

Hay, 223, 248, 299–300, 303, 305

Heart rate
in cats, 147, 148
in dogs, 82, 82, 95, 96–97, 100–101

Heartbeats, in dog fetus, 62, 63, 67

Heat. See estrus

Heating lamps/pads, 4, 16, 97, 146, 208

Hedgehogs, 273
ambient temperature requirements for, 277, 280–281
body temperature in, 281
breeding programs for, 274
disorders of. See names of specific disorders
husbandry practices, 274, 277
lactation in, 278
nutrition for, 273, 276–277, 280
parturition in, 274, 275
physical development of neonates, 278, 278
pregnancy diagnosis in, 274
reproductive physiology of, 273–274, 274
sex determination in, 273
socialization of neonates, 278–279
vital signs in neonates, 277–278
weight of, 274, 278, 278

Helminthiasis, 255, 305

Hepatobiliary function, in dog neonates, 99, 99–100, 111

Hernias, and genetic diseases, 199, 204

Herpesvirus
canine, 135–136
in chinchillas, 304
feline, 163
in guinea pigs, 254

High-risk pregnancies, 56

Hip dysplasia, 181

Homemade diets, 8–9
Hookworms, 140
Hormone levels
  in cats, 43–46
  in dogs, 26–28
Hot water bottles, 4, 97, 208
Humidity requirements
  for cats, 146, 208
  for chinchillas, 301
  for dogs, 97, 208
  for guinea pigs, 250
  for rabbits, 225
  for small rodents, 266
  for sugar gliders, 292
Hunting behavior, in cats, 15
Husbandry practices
  for cats, 15–17, 17, 146, 156, 208, 208
  for chinchillas, 296–297, 300–301
  for dogs, 1–2, 3, 4–5, 4, 5, 208, 208
  for guinea pigs, 242, 249–250
  for hedgehogs, 274, 277
  for rabbits, 218–219, 224–226, 224, 226, 231, 237
  for small rodents, 261, 26–266
  for sugar gliders, 288–289, 292
Hydrops allantois/amnion, 72
Hyperglycemia, 90
Hypocalcemia. See eclampsia
Hypogalactia. See also lactation
  in cats, 52
  in chinchillas, 298
  in dogs, 35–36
  in guinea pigs, 246–247
  in hedgehogs, 275
  in rabbits, 221–222
  in small rodents, 263
  in sugar gliders, 285
Hypoglycemia
  in cats, 89–90
  in dogs, 31, 89–90, 100, 129–130
Hypoluteoidism, 56
Hypothermia
  in cat neonates, 81, 83–84, 147–148
  in chinchilla neonates, 297, 301, 305
  in dog neonates, 81, 83–84, 110
  in hedgehog neonates, 280–281
  in rabbit neonates, 237
  in small rodent neonates, 271
  in sugar glider neonates, 292
Hypovitaminosis, 257
Hypoxia, 101, 130, 160
ICC (inner chorionic cavity), 62, 63, 64, 68
Identification of individual animals, 208
Idiopathic chronic diarrhea, 165
Inbreeding, and inherited congenital defects, 177–179
Incubators, 80
Induction of parturition
  in chinchillas, 298
  in dogs, 34–35, 36
  in guinea pigs, 245
  in hedgehogs, 275
  in rabbits, 222
  in small rodents, 262
  in sugar gliders, 285
Infection
  minimizing, 207–208
  transmission of, 4, 16–17
Infectious diseases. See names of specific diseases
Influenza, canine, 136
Inherited congenital defects, 174, 175
  autosomal dominant inheritance, 175, 175–176, 179, 181
  autosomal recessive inheritance, 175–176, 176–177, 179–181
  complex modes of inheritance, 178–179, 178, 179, 181
  and inbreeding, 177–179
  mode of inheritance, determining, 179–180
  mutations, 179–180, 180
  sex-limited inheritance, 177
  X-chromosomal recessive inheritance, 176–177, 177–178
  X-linked autosomal recessive inheritance, 179
  X-linked dominant inheritance, 177–178
Inner chorionic cavity, 62, 63, 64, 68
Integument, genetic diseases of, 198–199, 204
Internal parasites
  in cat neonates, 165
  in chinchilla neonates, 300, 304
  in dog neonates, 140
  in guinea pig neonates, 248, 255
  in hedgehog neonates, 277, 280
  in rabbit neonates, 223–224, 233–235
  in small rodent neonates, 264
  in sugar glider neonates, 288, 291
Intestinal disorders, in guinea pig neonates, 257
Intestinal intussusception, in dog neonates, 132, 132
Intestinal parasites. See internal parasites
Intestinal torsion, in dog neonates, 132, 132
Intubation, 80, 220, 245

Jen chung acupuncture point, use as respiratory stimulant, 80
Juvenile cellulitis (puppy strangles), 140, 141

Kennel cough (Bordetella bronchiseptica), 132–133, 136, 160–161
Kennel management, 1–2, 2–3, 3–4, 4–5, 5
Kennel/run surfaces, 2
Klebsiella pneumoniae, 303–304

Lactation. See also agalactia; hypogalactia; mastitis; nursing; weaning
in cats, 20, 21–22, 45, 145–146, 212–212
in chinchillas, 296, 298, 300–302
in dogs, 9–10, 9–10, 112, 211–212
in guinea pigs, 246–247, 249, 251
in hedgehogs, 278
in rabbits, 221–223, 227
in small rodents, 267
in sugar gliders, 289–290
Lactational tetany. See eclampsia
LCMV (lymphocytic choriomeningitis virus), 254
Leukemia, feline, 161
LH. See luteinizing hormone
Lice, 236, 256, 264, 270, 305
Linked marker genetic tests, 189–190
Listeriosis, 303
Litter boxes/pans, for cats, 15–17, 17, 156
Litter size
in cats, 45
in chinchillas, 296, 296, 298, 300, 300
in dogs, 6, 8, 60, 65, 66
in guinea pigs, 240, 249
in hedgehogs, 274
in rabbits, 218, 219, 224, 224
in small rodents, 260, 263, 265
in sugar gliders, 283, 284
Luteinizing hormone, 25–27, 43, 57–60, 59, 59–60
Lymphocytic choriomeningitis virus (LCMV), 254

Malnutrition, 280, 292
Mastitis
in cats, 52
in chinchillas, 298
in dogs, 36–38, 37, 38
in guinea pigs, 246, 246
in hedgehogs, 275
in rabbits, 221
in small rodents, 262
in sugar gliders, 285
Medications, and congenital defects, 170, 171–173, 174
Metabolic system, genetic diseases of, 200
Metritis
in cats, 52–53
in chinchillas, 298–299
in dogs, 38–39
in guinea pigs, 247, 247
in hedgehogs, 275–276
in rabbits, 222
in small rodents, 263, 263
in sugar gliders, 286
Mice, 259
ambient temperature requirements for, 266
breeding programs for, 260
disorders of. See names of specific disorders
husbandry practices, 261, 265–266
lactation in, 267
nursing in, 267
nutrition for, 264, 271
parturition in, 261–262
physical development of neonates, 266–267, 267
pregnancy diagnosis in, 261
reproductive physiology of, 259–260, 260, 263, 265
sex determination in, 259
socialization of neonates, 268
vital signs in neonates, 266
weight of, 261, 267
Milk replacers
for chinchilla neonates, 302
for guinea pig neonates, 251
for hedgehog neonates, 278
homemade, 154, 210–211, 213
for rabbit neonates, 228–229
for small rodent neonates, 267–268
for sugar glider neonates, 289–290
Mineral requirements, for dogs, 8–9, 11
Mineralization of fetal structures
in cats, 60–61, 61
in dogs, 60–61, 60
Mites
  in cat neonates, 164–165
  in chinchilla neonates, 305
  in dog neonates, 138, 140
  in guinea pig neonates, 255, 256
  in hedgehog neonates, 280
  in rabbit neonates, 224, 235–236, 235
  in small rodent neonates, 264, 270
  in sugar glider neonates, 291

Modified Apgar evaluation, 82, 82

Monogamous pair mating arrangements, 218, 240, 260, 274, 295, 301

Mortality, neonatal
  in cats, 52, 77, 78, 84–85, 159
  in dogs, 5, 5, 77–78, 84–85, 93, 129

Motor skills, in dogs, 102

Musculo-skeletal system, genetic diseases of, 192–194, 202

Mutation-based genetic tests, 189–190

Mutations, 179–180, 180

Mucous membrane color, assessment of, 82, 82

Murmurs, in dog neonates, 107

Muscular coordination
  in cat neonates, 151, 151
  in dog neonates, 102

Musculoskeletal system, genetic diseases of, 192–194, 202

Naloxone, use as respiratory stimulant, 80

Necropsy, 131, 131, 135, 140–142

Nematodes, 234, 255, 264, 270, 280

Neonatal isoerythrolysis, 165

Neonatal mortality. See mortality, neonatal

Neonatal resuscitation. See resuscitation, neonatal

Neoplasia, and genetic diseases, 200–201

Neospora caninum, 138

Neurological system
  in cat neonates, 151–152, 152
  in dog neonates, 102–103, 103

Nervous system, genetic diseases of, 190–191, 201–202

Nesting boxes
  for chinchillas, 296, 300–301
  for guinea pigs, 250
  for hedgehogs, 277
  for rabbits, 224–225, 226, 237
  for small rodents, 261, 265–266
  for sugar gliders, 288–289

Nonsteroidal anti-inflammatory drugs
  use in dogs, 35, 38–39, 99
  use in guinea pigs, 245
  use in rabbits, 221, 230

NSAIDS. See nonsteroidal anti-inflammatory drugs

Nursing. See also lactation
  in cats, 47, 48, 52, 84–85
  in chinchillas, 296, 301–302
  in dogs, 38, 40, 84–85, 93, 95
  in guinea pigs, 251
  in rabbits, 222
  in small rodents, 267
  in sugar gliders, 289

Nutrition
  for chinchillas, 299–300, 305
  for dogs, 5–6, 7, 8–12, 8–10, 85–86, 108, 210
  for guinea pigs, 247–248, 257
  for hedgehogs, 273, 276–277, 280
  homemade diets, 8–9
  for rabbits, 218, 223, 230, 236
  raw diets, 8–9, 21, 215
  for small rodents, 264, 271
  for sugar gliders, 283, 286–288, 292

Nutritional supplements, 8, 20–21. See also milk replacers

Obligate carnivores, 17

Obstructive dystocia, 31, 49–50

OHE (ovariohysterectomy), in cats, 52–53

Olfaction

Opportunistic infections
  in chinchillas, 299
  in guinea pigs, 247, 253
  in rabbits, 231
  in small rodents, 263–264, 269

Organ development
  in cats, 45, 55–56, 69–71, 71
  in dogs, 45, 55–56, 63, 66–68, 67–70
Orphaned animals. See also fostering neonates
dogs, 207–211, 208, 211–213, 213–215, 214
guinea pigs, 250–252
hedgehogs, 277–278
rabbits, 224–225, 227–229
small rodents, 262, 266–267
sugar gliders, 289–290, 292
Osteodystrophy, in guinea pigs, 257
OUD (outer uterine diameter), 62, 63, 64, 68
Outer uterine diameter, 62, 63, 64, 68
Ovarian hormones, 28, 43–44, 46
Ovulation
in cats, 43–44, 57, 59–60
in chinchillas, 295
in dogs, 25–26, 57–59, 57–59
in guinea pigs, 239–240
in hedgehogs, 273
in rabbits, 217–218, 218
in small rodents, 259
Oxygen therapy, 78–80, 88, 130–131, 160
Oxytocin
use in cats, 50, 52–53
use in chinchillas, 297–298
use in dogs, 33, 35, 36, 39, 78
use in guinea pigs, 245–246
use in hedgehogs, 275
use in rabbits, 220–221
use in small rodents, 261–263
use in sugar gliders, 285
Palatability of food, and cats, 22
Palpation
and dystocia, 219, 245, 261, 297
and pregnancy, 29, 44, 219, 242, 261, 274, 296
and pyometra, 222
Panleukopenia, feline, 161–162
Papillomavirus, 232
Parainfluenza, canine, 136
Parentage testing centers, 188
Parturition
in cats, 45–46, 47–48, 48
in chinchillas, 296, 298
in dogs, 30–35, 31, 33, 36, 57
in guinea pigs, 243, 243, 245
in hedgehogs, 274–275
in rabbits, 219, 221–222
in small rodents, 261–262
stress of, and neonatal health, 77
in sugar gliders, 284–285
Parvovirus, canine (CPV), 133–134
PAT (Puppy Aptitude Test), 123–124
PCR (polymerase chain reaction) tests, 134, 161
Peritonitis, feline infectious, 162
Phenotypic genetic testing, 189
Physical development
of cat neonates, 81–82, 82, 146–149, 147, 148–150, 149, 151–152, 151, 152, 153, 159
of chinchilla neonates, 302
of guinea pig neonates, 250–251
of hedgehog neonates, 278, 278
of rabbit neonates, 227, 227–228
of small rodent neonates, 266–267, 267
of sugar glider neonates, 289, 290
Pinworms, 234, 264–265, 270
Pituitary hormones, 27–28, 43, 45–46
Placental disease, 72, 73, 74
Placental hormones, 27–28, 44
Placental separation, 72, 73, 74
Placentation, 29, 29, 44
Plane of nutrition, planning, 5–6, 18, 20
Play, as factor in socialization in dog, 117
Pleural effusion disease, 232
PLRS (pupillary light reflexes), 96, 102, 103, 152
Polygamous breeding arrangements, 218, 240, 260, 284, 295–296, 301
Polymerase chain reaction tests, 134, 161
Postpartum estrus, 218, 240, 242, 259–260, 284, 295
Postpartum hypocalcemia. See eclampsia
Pouch eviction, in sugar gliders, 292
Pouch infections, in sugar gliders, 291
Prebirthing environment
for chinchillas, 300–301
for guinea pigs, 249
for hedgehogs, 277
for rabbits, 224–225, 224
for small rodents, 265
for sugar gliders, 288
Pregnancy
in cats, 41–42, 43, 44–45, 45, 60
in chinchillas, 296
in dogs, 25–30, 27, 29–30
in guinea pigs, 242–243
in hedgehogs, 274
in rabbits, 219
Pregnancy (cont’d)
in small rodents, 261
in sugar gliders, 284
Pregnancy-associated anemia, in dogs, 29
Premature cat/dog neonates, 55–56
Preterm labor, 56–57
Primary uterine inertia, 30, 49–50
Probiotics, 11–12, 23, 230, 303
Progesterone
  antagonists, use in dogs, 35, 36
  in assessing gestational age, 58–59, 59
  in cats, 43–44, 46
  in dogs, 25–29
Progesterone-induced uterine hyperplasia, 45
Prolactin
  in cats, 43, 45–46
  in dogs, 27–28
Prolonged gestation, 56
Propofol, use in dogs, 34
Prostaglandins
  in cats, 53
  in dogs, 28, 29, 35, 39
Protein requirements
  for cats, 18, 20–21, 23, 146
  for dogs, 6, 9, 11
  for rabbits, 223
  for sugar gliders, 288
Proteinuria, 87, 99, 106–107, 159
Puerperal septicemia, in chinchillas, 299
Puerperal tetany. See eclampsia
Pulmonary trophoblastic emboli, 296
Pupillary light reflexes, 96, 102, 103, 152
Puppy aptitude test, 123–124
Puppy personality profile, 123
Puppy strangles (juvenile cellulitis), 140, 141
Pyometra, 222, 247

Queening area, 16, 17, 146

Rabbit calicivirus, 232
Rabbit hemorrhagic disease virus, 232
Rabbits, 217
  ambient temperature requirements for, 218–219, 225, 266
  body temperature in, 225, 230
  breeding programs for, 218
  disorders of. See names of specific disorders
  husbandry practices, 218–219, 224–226, 224, 226, 231, 237

lactation in, 221–223, 227
nursing in, 222
nutrition for, 218, 223, 230, 236
parturition in, 219, 221–222
physical development of neonates, 227, 227–228
pregnancy diagnosis in, 219
reproductive physiology of, 217–219, 218, 218, 224, 224
sex determination in, 217
socialization of neonates, 229
vital signs in neonates, 226–227, 227
weight of, 222, 227
Rabbit syphilis, 222–223, 222
Rabies, 136, 163
Reovirus type 3, 269
Radiography
  and dystocia, 32, 49, 261, 297
  and examination of neonates, 110
  and gestational age, 60–62, 60–61, 62
  and pregnancy, 29, 29–30, 45, 219, 242, 242, 296
Rats, 259
  ambient temperature requirements for, 266
  breeding programs for, 260
  disorders of. See names of specific disorders
  husbandry practices, 218, 261, 265–266
  lactation in, 267
  nursing in, 267
  nutrition for, 264, 271
  parturition in, 261–262
  physical development of neonates, 266–267, 267
  pregnancy diagnosis in, 261
  reproductive physiology of, 259–260, 260, 263, 265
  sex determination in, 259
  socialization of neonates, 268
  vital signs in neonates, 266
  weight of, 261, 267
Raw diets, 8–9, 21, 215
RCV (rabbit calicivirus), 232
Receptive behavior, in assessing gestational age, 57, 60
Reflexes
  in cat neonates, 16, 148, 151, 152, 152
  in dog neonates, 4, 95, 97, 102, 103
  Reflex irritability, 82, 82
  Relaxin, 27–28, 30, 44–45
  Reovirus type 3, 269
Reproductive physiology
  of cats, 43–45, 57, 59–60
  of chinchillas, 295–296, 296, 298, 300, 300
in guinea pigs, 239–242, 240–242, 249
in hedgehogs, 273–274, 274
in rabbits, 217–219, 218, 224, 224
of small rodents, 259–260, 260, 263, 265
in sugar gliders, 283–284, 284
Respiration, and neonatal resuscitation, 78–80, 79–80
Respiratory effort, 82, 82
Respiratory system, of dogs
  genetic diseases of, 199
  in neonates, 101
Resuscitation, neonatal
  in cats, 77–90, 85, 88
  in dogs, 77–90, 79–81, 82, 83, 85–88, 85
  in guinea pigs, 245
  in rabbits, 221
Retained placenta, in cats, 53
Retrieving ability, in dogs, 121, 123
RHDV (rabbit hemorrhagic disease virus), 232
Rhinotracheitis, feline viral, 163
Ringworm. See dermatophytosis
Rotavirus, 232, 269–270
Roundworms, 140, 165
Run surfaces, 2
Salmonellosis, 253, 279, 303
Sample acquisition, in dog neonates, 107
Sanitation practices
  for cats, 16–17, 17
  for chinchillas, 301
  for dogs, 1–2, 3, 4–5, 4, 5
  for guinea pigs, 249, 250
  for hedgehogs, 277
  for rabbits, 225, 226
  for small rodents, 265–266
  for sugar gliders, 288–289
Scurvy, 257
Secondary uterine inertia, 31, 50
Sedatives, in dog neonates, 114
Sepsis, as cause of hyperglycemia, 90
Septicemia, 130–131, 159–160, 299
Serum chemistry values
  in cat neonates, 149, 150
  in dog neonates, 104, 106, 107
Sex determination
  in cats, 147, 147
  in chinchillas, 295
  in guinea pigs, 239, 241
in hedgehogs, 273
in rabbits, 217
in small rodents, 259
in sugar gliders, 283–284
Sex-limited inheritance, 177
Shiver reflex, 4, 16, 97
Sight sensitivity, in dogs, 123
Skin mites (acariasis), 280, 291
Small rodents. See gerbils; hamsters; mice; rats
Socialization
  of cat neonates, 156–157
  of chinchilla neonates, 302
  classes, 119, 157
  of dog neonates, 115, 116, 117–120
  of guinea pig neonates, 252
  of hedgehog neonates, 278–279
  of rabbit neonates, 229
  of small rodent neonates, 268
  of sugar glider neonates, 290
Softwood bedding, 225, 249, 265, 277, 289, 300
Sound sensitivity, in dogs, 123
Spotting gene, in guinea pigs, 257
Spraying, in cats, 15–16
Stability, in dogs, 123
Stillbirth, 78
Stomach worms, 234
Storage diseases, 200, 204
Structural soundness, in dogs, 123
Suckling reflex, 93, 94, 102, 151–152
Suckling anemia, 149
Sugar gliders, 283
  ambient temperature requirements for, 288, 292
  body temperature in, 290, 292
  disorders of. See names of specific disorders
  husbandry practices, 288–289, 292
  lactation in, 289–290
  nursing in, 289
  nutrition for, 283, 285–288, 292
  parturition in, 284–285
  physical development of neonates, 289, 290
  pregnancy diagnosis, 284
  reproductive physiology of, 283–284, 284
  sex determination in, 283–284
  socialization of neonates, 290
  vital signs in neonates, 289
  weight of, 284, 284, 289, 290, 290
Supplemental feeding, for neonates
  cats, 152–153
  chinchillas, 298, 300, 302
  guinea pigs, 251–252
Supplemental feeding, for neonates (cont’d)
  hedgehogs, 275, 278
  rabbits, 227–229, 228
  small rodents, 267–268
  sugar gliders, 289–290
Symphysis separation, in guinea pigs, 243–244, 244

Tapeworms, 140, 165
Taurine requirement, for cats, 18
Temperament tests, for dogs, 122–124
Temperature. See ambient temperature
  requirements; body temperature
Test mating, 189
Thermoregulation, and neonatal resuscitation, 81, 81
Ticks, 236
Tissue hypoxia, 160
Tomcats, housing, 16
Touch sensitivity, in dogs, 123
Toxicity of drugs, 99, 99–100, 111–114
Toxoplasmosis, 138, 164
Trainability, in dogs, 121
Transfaunation, 230, 253
Trauma
  in chinchilla neonates, 305
  in guinea pig neonates, 256–257
  in hedgehog neonates, 280
  in rabbit neonates, 236, 236
  in small rodent neonates, 270–271
  in sugar glider neonates, 292
Trematodes, 234–235, 255
Treponema cuniculi, 222, 222
Tritrichomonas fetus, 164
Trixacarus caviae, 255–256, 256
Tube feeding
  in cat neonates, 85–87, 85, 85, 155–156, 208–211,
    208, 211–212, 213–215, 214
  in dog neonates, 85–87, 85, 85, 86–87, 208–211,
    208, 211–212, 213–215, 214
  in rabbit neonates, 228, 228–229
Tyzzer’s disease, 229, 252, 268, 291

Ultrasonography
  and dystocia, 32, 49, 49, 261, 274–275, 285,
    297
  and examination of neonates, 110–111
  and fetal stress, 71, 72–73, 74
  and gestational age, 62–64, 67–68, 67–68
  and pregnancy, 30, 44–45, 45, 219, 242, 261, 274,
    284, 296
  and pyometra, 222
Umbilical cord, 79, 81–82, 93, 95–96, 148, 148
Urination, stimulation of, 87, 108, 115, 155, 215,
  229, 252, 266–267, 278, 290
Urogenital system, genetic diseases of, 195, 203
Uterine fatigue (secondary uterine inertia), 31, 50
Uterine hormones, in dogs, 28
Uterine inertia, 30–31, 49–50
Uterine prolapse, in guinea pigs, 247, 247
Uterine rupture/torsion, in dogs, 30

Vaccination
  for canine distemper, 134
  for canine influenza, 136
  in cats, 146
  for feline panleukopenia, 162
  for giardiasis, 137
  for rabies, 136

Vaginal cytology, in assessing gestational age,
  57–58, 57–58
Vaginal speculum examination, in assessing
  gestational age, 58
Vent disease (rabbit syphilis), 222–223, 222
Viral pneumonia, 254

Vital signs, in neonates
  cats, 146–147, 148
  chinchillas, 301
  guinea pigs, 250, 250
  hedgehogs, 277–278
  rabbits, 226–227, 227
  small rodents, 266
  sugar gliders, 289

Water requirements
  for cats, 22
  for dogs, 10, 87

Weaning
  in cats, 21–22, 153, 153–154, 215
  in chinchillas, 296, 302

Walking dandruff (cheyletiellosis), 138, 165, 235,
  235–236

Ultrasonography and dystocia, 32, 49, 49, 261, 274–275, 285, 297
and examination of neonates, 110–111
and fetal stress, 71, 72–73, 74
and gestational age, 62–64, 67–68, 67–68
and pregnancy, 30, 44–45, 45, 219, 242, 261, 274, 284, 296
and pyometra, 222
Umbilical cord, 79, 81–82, 93, 95–96, 148, 148
Urogenital system, genetic diseases of, 195, 203
Uterine fatigue (secondary uterine inertia), 31, 50
Uterine hormones, in dogs, 28
Uterine inertia, 30–31, 49–50
Uterine prolapse, in guinea pigs, 247, 247
Uterine rupture/torsion, in dogs, 30

Vaccination
  for canine distemper, 134
  for canine influenza, 136
  in cats, 146
  for feline panleukopenia, 162
  for giardiasis, 137
  for rabies, 136

Vaginal cytology, in assessing gestational age,
  57–58, 57–58
Vaginal speculum examination, in assessing
  gestational age, 58
Vent disease (rabbit syphilis), 222–223, 222
Viral pneumonia, 254

Vital signs, in neonates
  cats, 146–147, 148
  chinchillas, 301
  guinea pigs, 250, 250
  hedgehogs, 277–278
  rabbits, 226–227, 227
  small rodents, 266
  sugar gliders, 289

Vitamin requirements
  for cats, 18
  for dogs, 8–9
  for guinea pigs, 248, 251, 257

Walking dandruff (cheyletiellosis), 138, 165, 235,
  235–236

Water requirements
  for cats, 22
  for dogs, 10

Weaning
  in cats, 21–22, 153, 153–154, 215
  in chinchillas, 296, 302
in dogs, 10, 10, 93, 215
in guinea pigs, 250, 251
in hedgehogs, 278
in rabbits, 227, 227, 228
in small rodents, 267
in sugar gliders, 289, 290, 290

Weight
of cats, 20, 20, 21, 22, 52, 84, 87, 145–146, 147, 148, 153, 209, 210
of chinchillas, 296
of dogs, 5, 6, 7, 8, 9, 11, 84, 87, 93–94, 94, 95, 130, 209, 210
of guinea pigs, 248, 249, 250, 251
of hedgehogs, 274, 278, 278

of rabbits, 222, 227
of small rodents, 261, 267
of sugar gliders, 284, 284, 289, 290, 290

Whelping area, 4–5
Whipworms, 140

X-chromosomal recessive inheritance, 176–177, 177–178
X-linked autosomal recessive inheritance, 179, 181
X-linked dominant inheritance, 177–178

Yersiniosis, 302–303
Yogurt, use in dog neonates, 11–12, 132