Index

Note: Page numbers of article titles are in **boldface** type.

**A**

Abrasion(s)
- care of, 129–132

Activities of daily living
- canine
  - rehabilitation and physical therapy effects on, 5–6

Antebrachial orthoses
- for companion animals, 171–172

Aquatic exercises
- in canine rehabilitation, 10–11
- in feline rehabilitation, 196–198
- for small animals, 85–88

Arthroplasty
- total joint
  - physical rehabilitation after, **145–165**. See also Total joint arthroplasty (TJA), physical rehabilitation after

Articular fractures
- feline
  - rehabilitation for, 199–200
  - rehabilitation and physical therapy for, 91–92

**B**

Ball playing
- controlled
  - for small animals, 89

Bicipital tenosynovitis
- rehabilitation and physical therapy for, 98–99

Bladder management, 132

Body condition
- canine
  - rehabilitation and physical therapy effects on, 9

Bone
- disuse and remobilization of
  - responses to, 2–3

**C**

Calcaneal tendon
- rehabilitation of, 111–112

Carpal orthoses
- for companion animals, 171–172
Cartilage
  disuse and remobilization of responses to, 2

Cat(s)
  rehabilitation in, 185–201. See also Rehabilitation, feline
  TJA in physical rehabilitation after, 162

Cavaletti rail walking
  for small animals, 78–80

Circles
  for small animals, 84–85

Cold. See Cryotherapy

Controlled ball playing
  for small animals, 89

Core strengthening
  for small animals, 77–78

Cranial cruciate ligament rupture
  canine rehabilitation of, 17–19

Cruciate ligament injury
  feline rehabilitation for, 200

Cryotherapy
  in canine rehabilitation, 11–12
  in feline rehabilitation, 191
  in physical therapy and rehabilitation of small animals, 30–32
    application guidelines, 31–32
    contraindications and precautions for, 31
    indications for, 30–31
    properties of, 30

D

Decubitus ulcers
  care of, 129–132

Distal femoral fractures
  rehabilitation and physical therapy for, 93–95

Distal limb orthoses
  for companion animals, 173

Dog(s)
  rehabilitation and physical therapy in, 1–27. See also Physical therapy, canine; Rehabilitation, canine

E

Elbow orthoses
  for companion animals, 169–171

Electrical stimulation
  in canine rehabilitation, 12–13
  in physical therapy and rehabilitation of small animals, 37–41
    basic concepts of, 37
    contraindications and precautions, 37
for muscle strengthening, 40
for pain control, 38–39
preparation and electrode placement, 37–38
reaction to/safety of, 40
stimulator styles, 41
TENS, 39–40
in physiotherapy plan, 139–140
Electrophysical modalities
in physiotherapy plan, 137–140
Electrotherapy
in feline rehabilitation, 191–192
ESWT. See Extracorporeal shockwave therapy (ESWT)
Exercise(s). See also specific types
aquatic. See Aquatic exercises
stretching
in companion animals, 57–72. See also Stretching exercises, in companion animals
therapeutic. See Therapeutic exercises
Exoprosthesis(es)
for companion animals, 174–183
contraindications to, 176
decision making in, 174–176
fabrication, 177–178
fitting, 178–179
indications for, 174–175
introduction, 167–168
maintenance and repair, 179–182
prosthetic design, 176–177
training, 179
Extracorporeal shockwave therapy (ESWT)
canine, 14–16
in osteoarthritis management, 117
in tendon and ligament healing, 114

F
Femoral fractures
distal
rehabilitation and physical therapy for, 93–95
feline
rehabilitation for, 198–199
proximal
rehabilitation and physical therapy for, 95
TJA and, 149
Femoral head and neck excision
feline
rehabilitation for, 199
Fibrotic contracture of infraspinatus muscle
rehabilitation and physical therapy for, 101
Fibrotic myopathy
rehabilitation of, 104–105
Figure-of-eight walking
  for small animals, 84–85
Fixation failure
  TJA and, 150
Fracture(s)
  femoral
    TJA and, 149
    rehabilitation and physical therapy for
      articular fractures, 91–92
      feline, 199–200
      distal femoral fractures, 93–95
      femoral fractures
        feline, 198–199
      humeral condylar fractures, 95–97
      periarticular fractures, 91–98
      physeal fractures, 92–93
      proximal femoral fractures, 95
      scapular fractures, 103
Functional scales
  canine
    rehabilitation and physical therapy effects on, 10
G
Gait analysis
  canine
    rehabilitation and physical therapy effects on, 6–7
H
Healing
  laser therapy in, 47
Heat
  in physical therapy and rehabilitation of small animals, 32–37
    contraindications and precautions, 34
    coupling agents with, 35
    feline, 189–190
    frequency of, 34
    indications for, 34
    intensity of, 34–35
    mode of, 35
    properties of, 33–34
    research on ultrasound and tissue healing, 36
    treatment time, 35
    treatment variables, 33–34
Hip orthoses
  for companion animals, 172
Hock orthoses
  for companion animals, 173
Humeral condylar fractures
  rehabilitation and physical therapy for, 95–97
Humeral head
  osteochondritis dissecans of
    rehabilitation and physical therapy for, 103

I
  Iliopsoas muscle conditions
    rehabilitation of, 105–107
  Incline exercise
    for small animals, 80–81
  Infection(s)
    TJA and, 149–150
  Inflammation
    reducing of
      laser therapy in, 47
  Infraspinatus muscle
    fibrotic contracture of
      rehabilitation and physical therapy for, 101
  Intracranial disease
    physiotherapy of, 127

J
  Joint motion
    canine
      rehabilitation and physical therapy effects on, 7–8
    in companion animals
      assessment of, 57–59
      pathophysiology of, 63–67

L
  Laceration(s)
    of tendon
      rehabilitation of, 108–111
  Land treadmill
    for small animals, 76–77
  Laser therapy, 45–56
    applications for, 49–50
    basics of, 46
    client consults related to, 52
    described, 45–46
    dosages of, 47–49
    in healing, 47
    for inflammation reduction, 47
    low-level
      in physiotherapy plan, 137–138
      in osteoarthritis management, 116
      for pain reduction, 46
      practice integration, 51–52
    precautions with, 52–53
    in rehabilitation, 49
Laser (continued)
  techniques, 50–51
  in tendon and ligament healing, 112–113

Leg weights
  for small animals, 88–89

Ligament(s)
  disuse and remobilization of
    responses to, 4–5

Ligament conditions
  rehabilitation of, 107–114
    biology of, 107–108
    modalities in, 112–114

Limber tail
  rehabilitation of, 107

Limbo dance
  for small animals, 83–84

Low-level laser therapy
  in physiotherapy plan, 137–138

M

Massage
  in feline rehabilitation, 187–189

Medial shoulder instability
  rehabilitation and physical therapy for, 101–103

Muscle(s)
  disuse and remobilization of
    responses to, 3–4
  strengthening of
    in small animals
    electrical stimulation for, 40

Muscle conditions
  rehabilitation of, 103–107

Muscle mass
  canine
    rehabilitation and physical therapy effects on, 8–9

Musculoskeletal tissues
  disuse and remobilization of
    responses to, 2–5
    bone, 2–3
    cartilage, 2
    muscle, 3–4
    tendons and ligaments, 4–5

Myopathy(ies)
  fibrotic
    rehabilitation of, 104–105

N

Neurapraxia
  sciatic
    TJA and, 149
Neurologic conditions
rehabilitation and physical therapy for, **123–143**
canine, 20
home therapy
  client education and support during, 140–141
introduction, 123
patient assessment prior to, 124–125
physiotherapy for spinal cord disease, 125–126
physiotherapy plan in, 133–140
supportive care, 127–132
  bedding and harnesses in, 127–129
  bladder management, 132
  for pressure sores, abrasions, and decubitus ulcers, 129–132

O
Orthopedic conditions
canine
  rehabilitation of, 17–20
rehabilitation and physical therapy for, **91–121**. See also specific conditions
Orthosis(es)
  for companion animals, **167–174**. See also specific types, e.g.,
    Shoulder orthoses
    antebrahial and carpal orthoses, 171–172
    distal limb orthoses, 173
    elbow orthoses, 169–171
    hip orthoses, 172
    hock orthoses, 173
    introduction, 167–168
    maintenance and repair of, 179–182
    shoulder orthoses, 168–169
    spinal orthoses, 173–174
    stifle orthoses, 172–173
Osteoarthritis
canine
  rehabilitation of, 19–20
rehabilitation and physical therapy for, **114–118**
  ESWT in, 117
  laser therapy in, 116
  TENS in, 115–116
  therapeutic exercises in, 115
  therapeutic ultrasound in, 116
  thermal modalities in, 115
Osteochondritis dissecans
  of humeral head
    rehabilitation and physical therapy for, 103

P
Pain
  reducing of
    laser therapy in, 46
Pain (continued)
in small animals
electrical stimulation in management of, 38–39

Pain assessment
canine
rehabilitation and physical therapy effects on, 9–10

PAMs. See Physical agent modalities (PAMs)

Passive manual therapy
in physiotherapy plan, 133–135

PEMF. See Pulsed electromagnetic fields (PEMF)

Periarticular fractures
rehabilitation and physical therapy for, 91–98

Peripheral neuromuscular system
diseases of
physiotherapy for, 126–127

Physemal fractures
rehabilitation and physical therapy for, 92–93

Physical agent modalities (PAMs)
in physical therapy and rehabilitation of small animals, 29–44.
See also Heat; specific types, e.g., Cryotherapy
cryotherapy, 30–32
electrical stimulation, 37–41
heat, 32–37
introduction, 29–30

Physical therapy. See also specific indications
after TJA in companion animals, 145–165. See also Total joint
arthroplasty (TJA), physical rehabilitation after
canine, 1–27
cryotherapy in, 11–12
electrical stimulation in, 12–13
ESWT in, 14–16
introduction, 1–2
outcome assessment, 5–10
activities of daily living and return to function, 5–6
body condition, 9
functional scales, 10
gait analysis, 6–7
joint motion, 7–8
muscle mass, 8–9
pain-related, 9–10
PEMF in, 16–17
therapeutic and aquatic exercises in, 10–11
therapeutic ultrasonography in, 13–14
thermotherapy in, 12
for neurologic disorders, 123–143
for orthopedic conditions, 91–121
for osteoarthritis, 114–118
for shoulder disorders, 98–103
of small animals
PAMs in, 29–44. See also Physical agent modalities (PAMs)
Physiotherapy
  for diseases of peripheral neuromuscular system, 126–127
  for intracranial disease, 127
  for spinal cord disease, 125–126
Physiotherapy plan
  neurologic conditions–related, 133–140
    electrophysical modalities in, 137–140
    passive manual therapy in, 133–135
    therapeutic exercises, 135–137
Play tunnels
  for small animals, 83–84
Pressure sores
  care of, 129–132
Prosthetic joints
  luxation of
    TJA and, 148–149
Proximal femoral fractures
  for orthopedic conditions, 95
Pulsed electromagnetic fields (PEMF)
  canine, 16–17

R
Range of motion
  in companion animals, 57–72
    assessment of, 57–59
    clinical applications of, 67–70
    general principles, 59–63
    introduction, 57
    pathophysiology of, 63–67
Rehabilitation. See also specific indications
  after TJA in companion animals, 145–165. See also Total joint
    arthroplasty (TJA), physical rehabilitation after
    of articular and periarticular fractures, 91–98
    canine, 1–27
    cryotherapy in, 11–12
    electrical stimulation in, 12–13
    ESWT in, 14–16
    intensive
      contraindications to, 20
    introduction, 1–2
    of neurologic conditions, 20
    of orthopedic conditions, 17–20
    outcome assessment, 5–10
    activities of daily living and return to function, 5–6
    body condition, 9
    functional scales, 10
    gait analysis, 6–7
    joint motion, 7–8
    muscle mass, 8–9
    pain-related, 9–10
Rehabilitation (continued)

PEMF in, 16–17
therapeutic and aquatic exercises in, 10–11
therapeutic ultrasonography in, 13–14
thermotherapy in, 12

therapeutic and aquatic exercises in, 10–11
therapeutic ultrasonography in, 13–14
thermotherapy in, 12

feline, 185–201
aquatic exercises in, 196–198
for articular fractures, 199–200
for cruciate ligament injury, 200
cryotherapy in, 191
electrotherapy in, 191–192
for femoral fractures, 198–199
for femoral head and neck excision, 199
heat in, 189–190
indications for, 198–200
introduction, 185–187
massage in, 187–189
for spinal cord trauma, 200
therapeutic exercises in, 192–196
therapeutic ultrasound in, 190
for traumatic stifle luxation, 198

laser therapy in, 49
of muscle conditions, 103–107
for neurologic disorders, 123–143
for orthopedic conditions, 91–121
for osteoarthritis, 114–118
for shoulder disorders, 98–103
of small animals
PAMs in, 29–44. See also Physical agent modalities (PAMs)
of tendon and ligament conditions, 107–114

Resistance bands
for small animals, 88–89

Return to function
canine
rehabilitation and physical therapy effects on, 5–6

Rhythmic stabilization
for small animals, 78

S
Scapular fractures
rehabilitation and physical therapy for, 103
Sciatic neurapraxia
TJA and, 149
Shoulder disorders
rehabilitation and physical therapy for, 98–103. See also specific disorders
Shoulder instability
medial
rehabilitation and physical therapy for, 101–103
Shoulder orthoses
for companion animals, 168–169
Sit-to-stand exercises for small animals, 82–83
Socket prosthesis(es)
  for companion animals, 174–183. See also Exoprosthesis(es), for companion animals
Spinal cord disease
  physiotherapy for, 125–126
Spinal cord trauma
  feline
    rehabilitation for, 200
Spinal orthoses
  for companion animals, 173–174
Sprain(s)
  rehabilitation of, 108
Stair climbing
  for small animals, 81
Stifle orthoses
  for companion animals, 172–173
Strain(s)
  rehabilitation of, 108
Strengthening
  core
    for small animals, 77–78
Stretching exercises
  in companion animals, 57–72
    clinical applications of, 67–70
    general principles, 59–63
    introduction, 57
Supraspinatus muscle conditions
  rehabilitation and physical therapy for, 100
Swimming
  in feline rehabilitation, 197–198

T
Tendon(s)
  calcaneal
    rehabilitation of, 111–112
  disuse and remobilization of
    responses to, 4–5
  lacerations of
    rehabilitation of, 108–111
Tendon conditions
  rehabilitation of, 107–114
  biology of, 107–108
  modalities in, 112–114
Tenosynovitis
  bicipital
    rehabilitation and physical therapy for, 98–99
TENS. See Transcutaneous electrical nerve stimulation (TENS)
TER. See Total elbow replacement (TER)
Therapeutic exercises
in feline rehabilitation, 192–196
in osteoarthritis management, 115
in physiotherapy plan, 135–137
for small animals, 73–90. See also specific exercises,
e.g., Land treadmill
aquatic exercises, 85–88
Cavaletti rail walking, 78–80
circles, figure-of-eight walking, and vertical weave poles, 84–85
controlled ball playing, 89
core strengthening, 77–78
incline exercise, 80–81
introduction, 73–74
land treadmill, 76–77
leg weights and resistance bands, 88–89
limbo dance, 83–84
play tunnels, 83–84
practical exercises, 76–89
rhythmic stabilization, 78
sit-to-stand exercises, 82–83
special considerations during, 75–76
stair climbing, 81
types of, 74–89
in tendon and ligament healing, 114
Therapeutic ultrasonography
in canine rehabilitation, 13–14
in feline rehabilitation, 190
in osteoarthritis management, 116
in physiotherapy plan, 138–139
Thermotherapy
canine, 12
in osteoarthritis management, 115
THR. See Total hip replacement (THR)
Tissue healing
in small animals
research on, 36–37
Tissue heating
in small animals
research on, 36
TJA. See Total joint arthroplasty (TJA)
TKR. See Total knee replacement (TKR)
Total elbow replacement (TER)
complications of, 150
physical rehabilitation after, 161–162
Total hip replacement (THR)
physical rehabilitation after, 155–158
Total joint arthroplasty (TJA)
physical rehabilitation after, 145–165
assessment of patient progress and outcomes, 162–163
in cats, 162
Index

complications of, 148–150
goals of, 146–148
hospitalization and aftercare, 150–152
introduction, 145–146
methods, 153–154
  for TER, 161–162
  for THR, 155–158
  for TKR, 158–160
wound management, 153
Total knee replacement (TKR)
  complications of, 150
  physical rehabilitation after, 158–160
Transcutaneous electrical nerve stimulation (TENS)
  in osteoarthritis management, 115–116
  in physical therapy and rehabilitation of small animals, 39–40
Traumatic stifle luxation
  feline
    rehabilitation for, 198
Treadmill
  land
    for small animals, 76–77
Tunnel(s)
  play
    for small animals, 83–84

U
Ulcer(s)
  decubitus
    care of, 129–132
Ultrasonography
  in osteoarthritis management, 116
  in physical therapy and rehabilitation of small animals
    research on, 36–37
  in tendon and ligament healing, 113–114
  therapeutic. See Therapeutic ultrasonography
Underwater treadmill training
  in feline rehabilitation, 197

V
Vertical weave poles
  for small animals, 84–85

W
Weight(s)
  leg
    for small animals, 88–89
Wound healing
  after TJA, 153