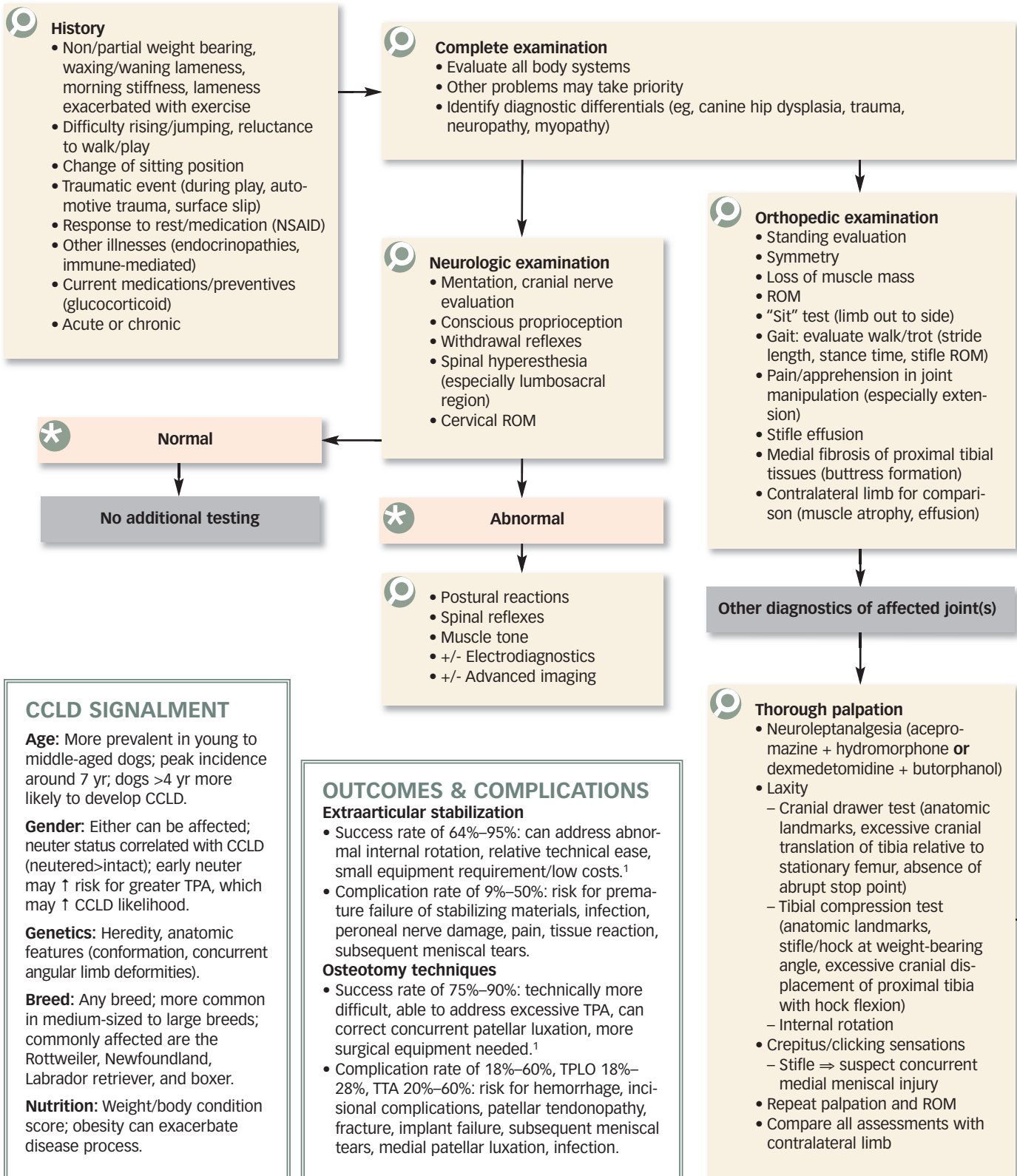


Cranial Cruciate Ligament Disease



History

- Non/partial weight bearing, waxing/waning lameness, morning stiffness, lameness exacerbated with exercise
- Difficulty rising/jumping, reluctance to walk/play
- Change of sitting position
- Traumatic event (during play, automotive trauma, surface slip)
- Response to rest/medication (NSAID)
- Other illnesses (endocrinopathies, immune-mediated)
- Current medications/preventives (glucocorticoid)
- Acute or chronic

Complete examination

- Evaluate all body systems
- Other problems may take priority
- Identify diagnostic differentials (eg, canine hip dysplasia, trauma, neuropathy, myopathy)

Neurologic examination

- Mentation, cranial nerve evaluation
- Conscious proprioception
- Withdrawal reflexes
- Spinal hyperesthesia (especially lumbosacral region)
- Cervical ROM

Orthopedic examination

- Standing evaluation
- Symmetry
- Loss of muscle mass
- ROM
- "Sit" test (limb out to side)
- Gait: evaluate walk/trot (stride length, stance time, stifle ROM)
- Pain/apprehension in joint manipulation (especially extension)
- Stifle effusion
- Medial fibrosis of proximal tibial tissues (buttress formation)
- Contralateral limb for comparison (muscle atrophy, effusion)

Normal

No additional testing

Abnormal

- Postural reactions
- Spinal reflexes
- Muscle tone
- +/- Electrodiagnostics
- +/- Advanced imaging

Other diagnostics of affected joint(s)

Thorough palpation

- Neuroleptanalgesia (acepromazine + hydromorphone **or** dexmedetomidine + butorphanol)
- Laxity
 - Cranial drawer test (anatomic landmarks, excessive cranial translation of tibia relative to stationary femur, absence of abrupt stop point)
 - Tibial compression test (anatomic landmarks, stifle/hock at weight-bearing angle, excessive cranial displacement of proximal tibia with hock flexion)
 - Internal rotation
- Crepitus/clicking sensations
 - Stifle ⇒ suspect concurrent medial meniscal injury
- Repeat palpation and ROM
- Compare all assessments with contralateral limb

CCLD SIGNALMENT

Age: More prevalent in young to middle-aged dogs; peak incidence around 7 yr; dogs >4 yr more likely to develop CCLD.

Gender: Either can be affected; neuter status correlated with CCLD (neutered>intact); early neuter may ↑ risk for greater TPA, which may ↑ CCLD likelihood.

Genetics: Heredity, anatomic features (conformation, concurrent angular limb deformities).

Breed: Any breed; more common in medium-sized to large breeds; commonly affected are the Rottweiler, Newfoundland, Labrador retriever, and boxer.

Nutrition: Weight/body condition score; obesity can exacerbate disease process.

OUTCOMES & COMPLICATIONS

Extraarticular stabilization

- Success rate of 64%–95%: can address abnormal internal rotation, relative technical ease, small equipment requirement/low costs.¹
- Complication rate of 9%–50%: risk for premature failure of stabilizing materials, infection, peroneal nerve damage, pain, tissue reaction, subsequent meniscal tears.

Osteotomy techniques

- Success rate of 75%–90%: technically more difficult, able to address excessive TPA, can correct concurrent patellar luxation, more surgical equipment needed.¹
- Complication rate of 18%–60%, TPLO 18%–28%, TTA 20%–60%: risk for hemorrhage, incisional complications, patellar tendonopathy, fracture, implant failure, subsequent meniscal tears, medial patellar luxation, infection.

