Physical examination:
Proceed with orthopedic and neurological examination in a routine and methodical way, just as you would with your general physical examination. It does not have to be in the order presented here, but it should be the same every time so you do not forget to evaluate an area.

One recommended physical examination:
Walking examination - monitor the patient for scuffing, circling, turning, head tilt, head turn, bumping into objects, lack of awareness of objects in peripheral vision or direct vision, wide-based stance, ataxia, head bob, hip hike, lameness, off-weighting, or other abnormalities.

Limited head neurologic examination (i.e. a surgeon’s cranial nerve exam):
Watch the patient interact with you as you enter the room. If the patient’s eyes are central with symmetric pupils, the patient has a menace response bilaterally, the patient responds to your voice, the patient responds to palpebral stimulation and lip stimulation, and the owners report no gagging, food prehension issues, or excessive drooling then you have somewhat effectively evaluated cranial nerves II, III, IV, V, VI, VII, VIII, IX, XII. (Don't tell the ophthalmologists, neurologists, or internists!)

Run your hands over the patients head and neck symmetrically to monitor for muscular asymmetry. Palpate the neck lateral and feel the wings of atlas and push on the dorsal spinous process of the axis. Run your hands medial to the point of the shoulders and push up on the ventral processes of C6. This torques the cervical spine and is relatively sensitive for testing for cervical pain.

Extend the head so that the patient looks at the ceiling, ventroflex head and neck so that muzzle touches sternum, lateralize the neck so that muzzle touches each flank. This is also sensitive for cervical pain.

Push down on the dorsal spinous processes of the thoracolumbar spine. Perform a tail hike holding the tail at its base and dorsoflexing the tail. This places torque on the pelvis and on the L7-S1 disk space. This is relatively sensitive for detecting lumbosacral pain and is much better than trying to push up on L7-S1 during a rectal examination. Most patients are too large to allow for effective transrectal direct evaluation of the L7-
S1 disk space. Push down on the lumbosacral space while off-weighting the hips. The easiest way to do this is to lift the patient off the table if small, or place your knee under the pubis from behind the patient so they are not standing on their hindlimbs and then push down on the lumbosacral space. This isolates the lumbosacral space from the hips as a source of pain.

Evaluate the perineal reflex bilaterally and perform a rectal examination.

Perform conscious proprioceptive evaluation on all four limbs. Hold the patient's foot for 1-2 seconds prior to placing the dorsum of the paw on the floor to help prevent reaction to manipulation. Grade the reaction out of 4 with 2 being normal. 0 is absent, 1 is decreased, 2 is normal, 3 is mildly hyperreflexive, 4 hyperreflexive.

Perform lateral hopping of the forelimbs and hindlimbs. Standing behind the patient place one hand on the patient's left elbow and lift the left limb off the ground, push the patient to the right. Perform the same for left forelimb hopping by placing your right hand on the right elbow of the patient and picking up the right forelimb while pushing the patient to the left. Wheelbarrow the patient forward, and lift their forelimbs to walk them back on their hindlimbs. Grade the reaction out of 4 with 2 being normal. 0 is absent, 1 is decreased, 2 is normal, 3 is mildly hyperreflexive, 4 hyperreflexive.

Run your hands down the forelimbs starting from the scapula assessing for muscle atrophy, masses, or swelling. Push on the biceps tendons directly just medial to the point of the shoulder. Palpate the elbow joints and carpi for effusion. Run your hands down the hindlimbs starting from the gluteals assessing for muscle atrophy, masses, or swelling. Palpate the stifles and tarsi for effusion. Extend the patient's hip to parallel to the spine. Pain on extension is the most sensitive indicator of hip pain.

Lie the patient in lateral recumbency. Perform a thorough limb evaluation on each limb starting from distal and moving proximally. Manipulate each digit and joint of the foot separately. Thoroughly inspect the interdigital space and pads for foreign material, inflammation, or trauma. Fully flex and extend the metacarpals/metatarsals.

Forelimb: Fully flex the carpus. Check for carpal effusion. Push on the radius and ulna separately along their entire length to test for pain. Manipulate the elbow through a full range of motion. Push on the medial coronoid region directly. Assess the elbow for effusion by running your fingers over the region between the anconeal process and the lateral epicondyle. Fully extend the shoulder. Fully flex the entire limb; with full range of motion all joints should be able to be maximally flexed and the carpi, antebrachium, and humerus should be almost parallel to one another.
Hindlimb: Fully extend the tarsus and test for medial/lateral laxity. Push on the fibula and tibia separately throughout their length. Check for cranial drawer in extension and in flexion. Check for tibial thrust with the stifle in normal standing angle (135 degrees). Hyperextend the stifle to check for pain. Check the patella for luxation in extension and flexion and if luxated attempt reduction in extension. Push on the femur along its entire length. Check for Ortolani sign or Barlow's sign. Perform a thumb test on the greater trochanter. Check the greater trochanter position relative to the ilial crest and ischial tuberosity as they should make a triangle. Fully flex and extend the hip assessing for limited range of motion, crepitus, or pain.

Check peripheral reflexes in all limbs.

In the hindlimbs perform a patellar reflex, cranial tibial reflex, gastrocnemius reflex, and withdrawal reflex. Check for an exaggerated kickback reaction, clonus, and a crossed extensor reflex. Grade the reactions out of 4 with 2 being normal. 0 is absent, 1 is decreased, 2 is normal, 3 is mildly hyperreflexive, 4 hyperreflexive. In the forelimbs perform an extensor carpi radialis reflex, triceps tendon reflex, biceps brachii tendon reflex, withdrawal reflex. Check for an exaggerated kickback reaction, clonus, and a crossed extensor reflex.

Grade the reactions out of 4 with 2 being normal. 0 is absent, 1 is decreased, 2 is normal, 3 is mildly hyperreflexive, 4 hyperreflexive.

Identify abnormalities:

Is there orthopedic pain, swelling, or lameness? If so, where specifically and is it repeatable. Go back and try to attempt pain or recreate lameness again.

Is there neurologic disease? If so, try to neurolocalize the disease.

Neurolocalizations:

Brain - mental change or dullness, CP deficits, circling towards lesion, head tilt, nystagmus with fast phase away from lesion

C1-C5 - neck pain, forelimb and hindlimb reflex changes (normal to increased)

C6-T2 - neck pain, forelimb decreased to absent reflexes, hindlimb normal to increased reflexes

T3-L3 - normal forelimbs (except for Schiff-Sherrington syndrome - uncommon), hindlimbs normal to increased reflexes, bladder UMN (large, difficult to express), normal anal tone and perineal reflex, decreased panniculus reflex
L4-S1 - normal forelimbs, hindlimbs decreased to absent reflexes, bladder LMN (soft, easy to express), decreased anal tone and perineal reflex
S1-tail - normal forelimbs, normal hindlimbs, potential fecal or urinary incontinence

REFERENCES:
* Neurologic Examination for the Busy Practitioner - highly recommended
* Tobias KA, Johnston S. Veterinary Surgery Small Animal