**Palpation and Manipulation**

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| **STRUCTURE** | **EXAMINATION** |
| **Hoof**  | * Note the size and shape of the hoof and compare the normal with the abnormal.
* Observe for any abnormal hoof wear, ring formation, heel bulb contraction, hoof wall cracks and swellings, and any other asymmetries.
* Palpate the coronary band for heat, swelling and pain on pressure and have use hoof pick, a hoof knife and hoof testers.
* Always clean out the sole of the foot and search for any abnormalities, including frog atrophy, flat -footedness, or puncture wounds.
* Use hoof testers on the entire sole and frog region of the hoof and try to localize any hoof sensitivity or signs of laminitis.
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| **Pastern**  | * Palpate the pastern for heat and or enlargement and compare any abnormalities with the opposite pastern.
* Check for any thickening of the tendons and rotate the joint to test for pain in the collateral ligaments.
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| **Fetlock**  | * Palpate both the dorsal and palmar region of the fetlock for any thickening and swelling of the joint capsule.
* Palpate the superficial and deep digital flexors for heat, pain or swelling.
* Palpate the sesamoid bones and the associated ligaments, rotate and flex the fetlock to check the collateral ligaments and range of motion.
* While having the fetlock flexed and raised, check the suspensory ligaments and compare them to the opposite side.
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| **Metacarpus and Metatarsus** | * Palpate the tendons on both the dorsal and palmar surfaces for any swelling, pain or heat.
* Palpate the length of metacarpus 3, metatarsus 3 and the splint bones observing for abnormalities.
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| **Carpus**  | * Palpate for swelling on the dorsal and palmar surfaces and also any swelling with a particular joint space.
* observe whether the swelling is diffused or localized.
* Palpate all the regions individually while the carpus is flexed for more effectiveness.
* Note the degree of flexion and any associated pain and evaluate the individual carpal bones and accessory carpal bone with thumb pressure.
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| **Tarsus**  | * Evaluate the tibiotarsal joint for any distension, thickening of the joint capsule, bone proliferation of the distal tarsal joints, distension of the tarsal sheath, inflammation or luxation of any ligaments, or any other abnormalities.
* Observe the distal intertarsal and tarsometatarsal joints.
* Perform a hock flexion test (spavin test) where the metatarsus becomes approximately parallel to the ground. (A change in degree of lameness or gluteal rise would indicate a positive result)
* Observe the tibia for any swelling or pain.
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| **Elbow**  | * Palpate the soft tissues of the elbow joint, using a stethoscope to auscultate for any crepitation.
* Abduct the elbow and carpus to place stress on the medial support structures and observe for pain.
* Flex and extend the elbow and palpate the olecranon, collateral ligaments, and distal humerus.
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| **Shoulder**  | * Palpate all the soft tissue of the scapulohumeral joint and look for atrophy or swelling.
* Palpate the bicipital bursa region.
* Flex, extend, abduct, and adduct the shoulder observing for abnormalities.
* Observe for any atrophy in the region of the scapula.
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| **Stifle**  | * Observe for any changes in the femoropatellar joint or distension of the joint.
* Observe the associated muscles for atrophy or swelling and palpate the patellar ligaments.
* Due to the location of the patella, observe for any luxation.
* Manipulate the stifle with a patellar displacement test (pushing the patella upwards and outwards in an attempt to engage the medial patellar ligament over the medial trochlea), a cruciate test (evaluating any abnormal cranial or caudal movement of the tibia), and an evaluation of the medial collateral ligament by trying to abduct the limb.
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| **Femur and Hip**  | * Examine the muscles of the region for inflammation and/or atrophy.
* Check the femoral artery for the quality of pulsation.
* Apply pressure on the greater trochanter to check the trochanteric bursa for inflammation.
* Palpate the femur looking for fractures and examine the hip for asymmetry and muscle atrophy.
* Measure the distance from the tuber ischiadicum to the greater trochanter, and the tuber sacral to the greater trochanter.
* Flex and auscultate for crepitation.
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