

Musculoskeletal Exam

Year 1	Year 2	Clinical Years
<p><u>Do</u></p> <p>1. Inspect- in a head to toe evaluation looking for asymmetry, deformity, redness, swelling, atrophy, skin changes</p> <ul style="list-style-type: none"> <input type="checkbox"/> Head (scalp, TMJ, neck) <input type="checkbox"/> Upper Extremity (shoulder, arms, elbows, wrists, hands, fingers) <input type="checkbox"/> Spine (cervical, thoracic, lumbar, sacral, coccyxgeal) <input type="checkbox"/> Lower Extremity (hip, legs, knees, lower legs, ankles, feet, toes) <p>2. Palpate- feeling for tenderness, crepitus, warmth or effusions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Temporomandibular joint <input type="checkbox"/> Shoulder (sternoclavicular, acromioclavicular, long head of biceps tendon) <input type="checkbox"/> Elbows (olecranon bursa) <input type="checkbox"/> Hands (MCPs) <input type="checkbox"/> Fingers (PIPs,DIPs) <input type="checkbox"/> Spine (spinous process alignment and symmetry of spine) <input type="checkbox"/> Knees (tibial plateau) <input type="checkbox"/> Ankles (medial, lateral malleoli, achilles) <input type="checkbox"/> Feet (plantar tendon) <input type="checkbox"/> Toes <p>3. Range of Motion (refer to Bates)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Neck –Flexion (F) (45); Extension (E) (55); R&L Lateral Bending (40); R&L Rotation (70) <input type="checkbox"/> Shoulders - Forward F (180); E (50); Internal Rotation (IR) (90); External Rotation (ER) (90); Abduction (Abd) (180), Adduction 	<p><u>Do:</u></p> <p>Special maneuvers to perform related to patient chief complaint:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Neck pain – rotation of neck for SCM strain, ear to shoulder lateral flexion for muscle strain with contralateral pain, c-spine impingement with ipsilateral pain. Spurling’s maneuver (extend, rotate, bend neck laterally) with reproducible radicular pain on affected side in cervical disc compression <input type="checkbox"/> Shoulder pain – Rotator cuff evaluation: “empty can sign” & drop arm test (supraspinatus), external rotation of shoulder & elbows flexed to 90 degrees (infraspinatus and teres minor), liftoff test (subscapularis); cross-arm test (AC joint arthritis), apprehension test (glenohumeral dislocation or anterior glenohumeral instability). <input type="checkbox"/> Elbow pain – lateral epicondylitis (tennis elbow) with palpation of lateral epicondyle or with extension at wrist; medial epicondylitis (golfer’s elbow) with palpation of medial epicondyle <input type="checkbox"/> Hand/Wrist pain – anatomical snuff box tenderness in scaphoid fx; Tinel’s & Phalen’s tests in carpal tunnel syndrome <input type="checkbox"/> Spine – Point tenderness of spine = possible infection, fracture; paraspinal tenderness to palpation = muscular; Flexion: increased pain consistent with mechanical pain (disc, muscle, ligament), Extension: increased pain consistent with spinal stenosis and relief with slight flexion in “shopping cart sign”, perform the Straight Leg Raise and Crossed Straight Leg Raise Test and interpret findings. 	

<p>(Add) (50)</p> <ul style="list-style-type: none"> □ Elbows - F (160); E (180); Pronation and Supination with elbows flexed at 90 degrees (90) □ Wrists - F (90); E (30); Radial deviation (20); Ulnar deviation (55) □ Fingers - Flexion (F); Extension (E), Abduction (Abd), Adduction (Add), thumb opposition □ Back – F (75); E (30); R&L Lateral Bending (35); R&L Rotation (30) □ Hips - Flexion with a straight leg (90); Extension with a straight leg (30); Abd (45); Add (30); IR (40); ER (45) □ Knees - flexion (130); extension (15) □ Ankles - Dorsiflexion (20); Plantar flexion (45); Inversion, Add (20); Abd (10) □ Toes – F, E (30); <p><u>Know</u></p> <ul style="list-style-type: none"> □ Rotator cuff muscles (supraspinatus, infraspinatus, teres minor, and subscapularis=SITS); ligaments of knee (ACL, PCL, MCL, LCL) □ Identification of bony landmarks of shoulder (AC, subacromial bursa, intertubercular groove of humerus) and hip (iliotibial band tract, spinous processes, ischial tuberosity, greater trochanter of femur) □ How to assess for scoliosis with flexion of spine □ Signs of knee effusion- ballotment, bulge sign 	<ul style="list-style-type: none"> □ Knee pain – iliotibial band syndrome, prepatellar bursa swelling, pain with valgus stress in MCL injury and varus stress in LCL injury; anterior drawer sign with ACL injury, and posterior drawer sign with PCL injury; McMurray sign with locking indicate meniscal tear □ Ankle – absence of plantar flexion with squeezing calf, bruising of heel or calf indicates Achilles tendon rupture □ Foot pain – plantar fasciitis with pain on palpation of plantar fascia or foot dorsiflexion <p><u>Know</u></p> <ul style="list-style-type: none"> □ Signs of inflammatory joint pain: <ul style="list-style-type: none"> -morning stiffness -soft tissue swelling, warmth, redness □ Classic pathological findings of palpation: <ul style="list-style-type: none"> -Fracture - point tenderness, deformity, step-off or crepitus -Joint Swelling – osteophytes (hard) vs. synovial swelling -Tenderness – normal joints are not tender or painful when palpated -Warmth – normal joints are cooler than surrounding areas -Crepitus – grinding sensation during joint movement may be normal or indicate abnormalities of cartilage, bone or tendon □ Pattern of joint involvement in osteoarthritis vs. rheumatoid arthritis □ Locking, popping and giving way of knee may indicate meniscal injury □ Ottawa Ankle Rules for determining need for ankle radiography 	
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