

Musculoskeletal Lower Extremity Examination Checklist

Instructions: *Italicized information indicates what the student should be verbalizing.*

<i>*These skills are performed bilaterally.</i>		
	Performed	Verbalized
<i>Washes hands FIRST and dons appropriate personal protective equipment.</i>	Y / N	
<i>Introduces self to patient using first and last name, including role.</i>	Y / N	
Notes general appearance and vital signs.		Y / N
Inspection		
Observe the gait <i>Look for width of the base, the shift of pelvis, and flexion of knee.</i>	Y / N	Y / N
Inspect the lower extremities for symmetry, swelling, or deformity Hip: muscle atrophy or bruising anteriorly or posteriorly Knee: alignment and contours, atrophy of quadriceps, or swelling in or around the joint Ankle and foot: deformities, nodules, swelling, calluses or corns	Y / N	Y / N
Palpation (sensation and circulation are also assessed)		
Palpate bony landmarks, muscles, tendons, and ligaments for swelling, tenderness, bogginess or bony enlargement		
Hip: iliac crest, anterior-superior iliac spine (ASIS), greater trochanter, posterior-superior iliac spine (PSIS) just below the dimples <i>Note: Sacroiliac joint inferior to PSIS is not always palpable but check for tenderness. Palpate trochanteric bursa if the patient has hip pain.</i>	Y / N	Y / N
Knee: patient sitting on exam table with knees in flexion <i>With thumbs on either side of patellar tendon, palpate medially and laterally along the groove of the tibiofemoral joint for bony irregularities. Palpate in the same area for the medial and lateral menisci checking for tenderness. Move thumbs upward to palpate medial and lateral femoral condyles, then downward to palpate medial and lateral tibial plateaus. Palpate the medial and lateral collateral ligaments. Trace the patella and palpate the patellar tendon to its insertion at the tibial tuberosity. Palpate the suprapatellar and prepatellar bursae.</i>	Y / N	Y / N
Ankle and foot <i>Use thumbs to palpate along the anterior joint space for bogginess, swelling or tenderness. Palpate the Achilles tendon for nodules or tenderness. Palpate the posterior and inferior calcaneus and plantar fascia for tenderness. Palpate medial and lateral malleoli, metatarsophalangeal joints, and the grooves between the heads of the metatarsals. Compress the forefoot between the thumb and fingers.</i>	Y / N	Y / N
Range of Motion		
Hip <i>Can also do with patient standing.</i>		

<p>Flexion <i>With patient supine, place hand under lumbar spine and ask patient to bend each knee to chest and pull it firmly against abdomen.</i></p>	Y / N	Y / N
<p>Extension <i>With patient prone, knee bent, lift the leg toward the ceiling; can also be done in the supine position.</i></p>	Y / N	Y / N
<p>Adduction <i>With patient supine, stabilize the contralateral ASIS with one hand, move lower leg toward midline.</i></p>	Y / N	Y / N
<p>Abduction <i>With patient supine, stabilize the contralateral ASIS with one hand, move lower leg away from midline.</i></p>	Y / N	Y / N
<p>Internal and external rotation <i>With patient supine, flex leg to 90° at knee and hip, stabilize thigh with one hand, and grasp ankle; swing lower leg medially for external rotation and laterally for internal rotation.</i></p>	Y / N	Y / N
Knee		
<p>Flexion <i>With patient sitting on very edge of table or prone on table, bend knee.</i></p>	Y / N	Y / N
<p>Extension <i>From the fully flexed position, straighten the knee--having the patient squat then stand assesses both.</i></p>	Y / N	Y / N
<p>Internal and external rotation <i>With patient sitting on exam table, place hand on thigh to stabilize femur, grasp the heel and rotate tibia medially and laterally.</i></p>	Y / N	Y / N
Special Techniques		
Knee		
<p>Tests for effusion Bulge sign for minor effusion: <i>Place hand on suprapatellar pouch and milk fluid downward, tap just behind the margin of the patella</i></p>	Y / N	Y / N
<p>Balloon sign for major effusion: <i>Compress the suprapatellar pouch against the femur, feel for fluid entering the spaces next to the patella.</i></p>	Y / N	Y / N
<p>Test for meniscus injury McMurray test: <i>With patient supine, flex the knee, grasp the heel with one hand, and cup the knee joint with the other touching both the medial and lateral joint lines, rotate the tibia internally and externally, then apply valgus stress while externally rotating and slowly extend the knee. An audible or palpable click is a positive test.</i></p>	Y / N	Y / N
<p>Tests for ligamentous injury Valgus/varus stress: <i>Position knee just shy of full extension, secure ankle and place other hand at knee, apply valgus stress [push medially] on knee to assess medial collateral ligament, apply varus stress [push laterally] to assess lateral collateral ligament.</i></p>	Y / N	Y / N
<p>Anterior/posterior drawer: <i>With patient supine, hips and knees flexed, feet flat on table, examiner sits on feet. Cup hands around knee joint with fingers behind and thumbs</i></p>	Y / N	Y / N

<i>anteriorly over medial and lateral joint lines. Draw tibia toward you (anterior drawer) or away from you (posterior drawer) to assess cruciate ligaments.</i>		
Lachman test: <i>With patient supine, knee flexed 20°–30°, one hand on thigh and the other hand is on lower leg with thumb on the tibial tuberosity, pull anteriorly on tibia.</i>	Y / N	Y / N
Ankle		
Active ROM <i>Can be assessed by having the patient walk on toes, walk on heels, walk on lateral then medial borders of the feet.</i>	Y / N	Y / N
Dorsiflexion and plantar flexion <i>Grasp hindfoot with one hand, and forefoot with the other, move the foot into dorsiflexion [up] and plantar flexion [down].</i>	Y / N	Y / N
Inversion and eversion <i>Stabilize the ankle with one hand just at or above the malleoli, grasp the heel with the other hand and invert and evert the foot.</i>	Y / N	Y / N
Special Techniques		
Ankle		
Test for ligamentous injury (Anterior talofibular ligament) Anterior drawer: <i>Patient sitting, knee flexed, and foot slightly in plantar flexion, grasp heel and pull forward while exerting posterior force on anterior distal tibia with opposite hand.</i>	Y / N	Y / N
Foot and Toe		
Forefoot abduction and adduction <i>Stabilize the heel and move the forefoot medially and laterally.</i>	Y / N	Y / N
Toe flexion and extension <i>Stabilize the patient's foot and move toes through flexion and extension.</i>	Y / N	Y / N

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