

## HEAD TO TOE OSCE GRADE SHEET DETAILS

1. WASH HANDS.
2. Describe general appearance of patient. Possible aspects to comment on include:
  - a. Sex
  - b. State of development in relationship to chronological age
  - c. Apparent state of health, e.g., healthy, acutely ill, etc.
  - d. Race/ethnicity, if relevant
  - e. Body build, e.g., cachetic, physically fit, morbidly obese, emaciated, thin, underweight, etc.
  - f. Obvious deformities or distinguishing characteristics
  - g. Apparent state of comfort or distress, e.g., a fussy or crying baby, irritable, writhing or moaning in pain, etc.
  - h. Apparent state of dress/hygiene, e.g., disheveled, poor hygiene, etc.
  - i. Respiratory distress, if relevant, e.g., cyanotic, labored breathing, etc.
  - j. General mental status, e.g., alert, stuporous, somnolent, oriented, disoriented, lethargic, comatose, etc.
  - k. Level of psychomotor activity, e.g., withdrawn, catatonic, hyperactive, cooperative, anxious
  - l. Additional (patient intubated, prosthetics, etc.)

## PATIENT SITTING, FACING THE EXAMINER

In the Clinical Skills Center have the patient sit in a chair near the sphygmomanometer for taking pulses and blood pressure so that the patient may have their feet flat on the floor.

3. Palpate radial pulses. Palpate both radial pulses simultaneously, noting rhythm, character, and amplitude of pulses.
4. Check blood pressure in both arms.
  - a. Use both palpatory and auscultatory methods (to avoid being misled by an auscultatory gap).
5. Check blood pressure in both arms.
  - a. Record systolic and diastolic blood pressures on both arms, using appropriately sized cuff.
6. Inspect and palpate fingers (nails and joints), hands (palms), wrists, elbows, and arms (muscles, joints, as well as skin and surrounding tissues). Inspect for joint symmetry, alignment, and bony deformities. Assess for signs of inflammation or arthritis such as swelling, increased warmth, tenderness, and redness.
  - a. Nails
    - i. Inspect for color, e.g., normal, cyanotic, pale.

- ii. Inspect for clubbing, hemorrhages, infection, abnormal flattening, concavity and ridging.
  - b. Fingers
    - i. Inspect for symmetry, alignment, deformities of DIP and PIP joints.
    - ii. Palpate the medial and lateral aspects of each DIP and PIP joints for abnormalities such as Heberden's and Bouchard's nodes
  - c. Palms
    - i. Inspect for normal or abnormal pigmentation or color.
    - ii. Inspect for normal or abnormal temperature, moisture, and texture.
    - iii. Palpate for abnormalities such as thickening of the flexor tendons or flexion contractures in the fingers (Dupuytren's contracture).
  - d. Hands
    - i. Inspect for abnormal movement or atrophy of thenar and hypothenar eminences.
    - ii. Inspect for joint symmetry, alignment, and bony deformities.
    - iii. Compress the MCP joints by squeezing the hand from each side between your thumb and fingers. Palpate the eight carpal bones and the groove of each wrist joint with your thumbs on the dorsum of the wrist, your fingers beneath it.
  - e. Arms
    - i. Inspect forearms, elbows, and upper arms for size, shape, and symmetry. Note any obvious muscle atrophy or fasciculation, involuntary movements, or abnormalities of position.
    - ii. Inspect skin of the upper extremities for turgor, texture, pigmentation, and skin lesions. Describe all skin lesions (macule, papule, vesicle, pustule, nodule). Note any subcutaneous lesions (rheumatoid nodule, ganglion cyst, lipoma).
    - iii. Palpate elbows for pain, tenderness, or swelling at the medial and lateral epicondyles and olecranon process.
    - iv. Palpate for epitrochlear nodes (proximal to the elbow, in the groove between the biceps and triceps muscles medially, about 3 cm proximal to the elbow.). If present, note size, consistency, mobility, and presence or absence of tenderness.
- 7. Test passive ROM in fingers, hands, wrists, and elbows and test strength in hands, wrists, forearms, and arms.
  - a. Joint ROM (While checking passive ROM of these joints, note muscle tone, e.g., normal tone, hypertonicity (spasticity or rigidity), or hypotonicity).
    - i. Fingers
      - 1. Flexion and extension: ask the patient to make a tight fist with each hand, and then to extend the fingers.

2. Abduction and adduction: ask the patient to spread the fingers apart (abduction and then bring them back together again (adduction)
  - ii. Wrists
    1. Flexion - 90°
    2. Extension - 70°
    3. Radial deviation - 20°
    4. Ulnar deviation - 55°
  - iii. Elbows
    1. Flexion - 160°
    2. Extension – 0°
  - iv. Forearms with elbows flexed to 90° and arms at patient's side:
    1. Pronation (turn palms down)
    2. Supination (turn palms up)
8. Test active ROM in fingers, hands, wrists, and elbows and test strength in hands, wrists, forearms, and arms. Reference number 7.
9. Muscle strength against resistance
- a. Check elbow flexion (biceps muscle C5 and C6 – musculocutaneous nerve).
  - b. Check elbow extension (triceps muscle C7 and C8 – radial nerve).
  - c. Check wrist extension (C7 and C8 - radial nerve).
  - d. Check wrist flexion (C6, C7, and C8 - median and ulnar nerve).
  - e. Check hand grip (finger flexion – C7, C8, T1 – median and ulnar nerves) Patient is asked to squeeze the extended index and middle fingers of examiner. Examiner normally has difficulty removing his/her fingers from patient's grip.
  - f. Check finger abduction (lumbrical muscles and ulnar nerve).

Always grade muscle strength on a scale 0 to 5.

0— No muscular contraction detected

1— A barely detectable flicker or trace of contraction

2— Active movement of the body part with gravity eliminated

3— Active movement against gravity

4— Active movement against gravity and some resistance

5— Active movement against full resistance without evident fatigue. This is normal muscle strength.

10. Inspect head and neck.

- a. Inspect for abnormality of shape, size, and symmetry of bones and for lesions of skin and scalp.
- b. Palpate for any abnormalities or lesions, i.e., bumps, depressions, etc.
- c. Note hair texture and alopecia, if present.

11. Inspect eyelids, conjunctivae and sclerae. Note the translucency and vascular pattern of both the scleral and palpebral conjunctivae and the color of the sclerae (pigmented or icteric). Note exophthalmos, ptosis, entropion, ectropion.
12. Test visual acuity with pocket screener (CN II), one eye at a time. Have patient cover other eye with their palm. The patient should wear their glasses or contacts.
13. Test visual fields using confrontation method (CN II), with both eyes open.
14. Check extraocular muscles. Check all size cardinal fields of gaze (CN III, IV, VI); also observe for nystagmus.
15. Check for accommodation (pupil convergence and constriction).
16. Test pupillary reaction to light
  - a. Initially note size and shape of pupils.
  - b. Using a light, check both direct and consensual reaction to light (CN II, III, and mid-brain connections).
17. Perform fundoscopic examination. Have patient remove glasses. Hold the ophthalmoscope in your right hand, and use your right eye when examining the patients right eye; and hold the ophthalmoscope in your left hand and use your left eye when examining the patients left eye.
  - a. With the ophthalmoscope 12-15 inches from the patient's eye, check for the red reflex and for opacities in lens or aqueous.
  - b. Slowly approach the patient more closely and systematically inspect for:
    - i. Disc, color shape, margins, and cup-to-disc ratio
    - ii. Vessels, obstruction, caliber, and arterial/venous ratio. Note presence or absence of arterial/venous nicking and arterial light reflex.
    - iii. Background, inspect for pigmentation, hemorrhages, and hard or soft exudates.
    - iv. Macula, attempt to identify.
18. Test light touch of face. With light touch of finger or cotton, check ability of patient to detect light touch in all three divisions of the fifth cranial nerve (CN V) bilaterally.
19. Ask patient to wrinkle forehead and show teeth (smile).
  - a. In upper motor neuron lesion, the upper half of the face is spared.
  - b. Observe for facial symmetry, e.g., loss of nasal labial fold (CN VII).
20. Test hearing. In a quiet room, patient should be able to hear physician's fingers rubbed lightly together 2-3 inches from patient's ear (acoustic division CN VIII) Check one ear at a time with eyes closed.

21. Inspect mouth. (Use a light source and a tongue blade. Ask for dentures to be removed.)
  - a. Inspect
    - i. Lips, note any lesions
    - ii. Teeth, number and condition
    - iii. Tongue (all surfaces), color, lesions, papillae
    - iv. Gums and mucosa, swelling, bleeding, infection, inflammation, tumors, hypertrophy, discoloration
    - v. Tonsillar fossa and pharynx
  - b. Identify openings of Stensen's duct (drains the parotid gland) near upper second molar and Wharton's duct (drains the submandibular gland) at base of understructure of tongue.
  
22. Ask patient to say "aah" and observe for symmetrical movement of the uvula (CN X).  
Ask patient to cough and judge force of sound made by air moving past approximating vocal cords (CN X).
  
23. Ask patient to protrude tongue, noting midline protrusion (CN XII).
  
24. Ask patient to shrug shoulders against pressure and check trapezius muscles (CN XI).  
Ask patient to turn his/her head to the right and left (lateral rotation) against resistance and check sternocleidomastoid muscles (CN XI).
  
25. Inspect external ear. Inspect and palpate noting the auricle and its surrounding tissue for deformities, tenderness, lumps, or skin lesions.
  
26. Perform otoscopic examination.  
*Note that the external acoustic meatus extends somewhat anteriorly and superiorly; therefore, the otoscope examination is best facilitated by gently pulling the auricle upward, backward, and outward. Use the largest speculum the canal will accommodate.*
  - a. Observe for blood, inflammation, swelling, cerumen, foreign bodies, or purulent secretion in the auditory canal.
  - b. Identify the normal anatomy of the eardrum, including the pars tensa with its cone of light and the handle and short process of the malleus.
  - c. Identify abnormal coloring, bulging/retraction, perforation, scattered light reflex, or presence of fluid or air-fluid level.
  
27. Inspect nose and nasal cavities (use large otoscope speculum).
  - a. Inspect color of nasal mucosa and note any secretions.
  - b. Inspect the septum for deviation, perforation, or lesions.
  - c. Inspect the inferior and middle turbinates, note any discharge.
  
28. Inspect, palpate and test shoulder ROM  
*Observe the shoulder and shoulder girdle anteriorly, and inspect the scapulae*

*and related muscles posteriorly. Note any swelling, deformity, or muscle atrophy or fasciculations. Palpate and identify the bony landmarks of the shoulder including acromion process, acromioclavicular joint, scapula and clavicle. Note any pain, swelling, or deformity.*

Active ROM Testing:

- a. Abduction – with arms at patient’s sides, have patient raise arms to shoulder level (90°) with palms facing down, then raise arms to a vertical position above head with palms facing each other.
- b. Place both hands behind the neck with elbows out laterally to both sides (external rotation and abduction)
- c. Place both hands behind the small of the back (internal rotation and adduction)

29. Check full range of motion (ROM) of Neck.

- a. Active flexion/extension
- b. Lateral rotation (turn chin towards each shoulder)
- c. Head tilt (tilt head sideways towards each shoulder)

### **MOVE BEHIND THE PATIENT**

30. Palpate the salivary glands and lymph nodes.

- a. Palpate the parotid and submandibular salivary glands.
- b. Palpate for the Lymph Nodes.
  - i. Submental
  - ii. Submandibular
  - iii. Pre and post auricular
  - iv. Superficial cervical chains (superficial to SCM)
  - v. Supraclavicular
  - vi. Posterior cervical chain (along anterior edge of trapezius muscles)
  - vii. Occipital

If enlarged, note size, consistency, mobility, and presence or absence of tenderness.

31. Palpate the trachea in the sternal notch. Note its position (should be midline) and mobility.

32. Palpate the thyroid while the patient swallows - a glass of water may facilitate this procedure - palpate with index and middle fingers.

- a. Note size and consistency of right and left lobes and of isthmus.
- b. Note any nodules as to size, shape, consistency, mobility, and tenderness.

33. Inspect the chest wall and skin. While the patient takes a deep breath, observe the chest posteriorly for symmetry and the presence of intercostal retraction. Then place your hands over the patient’s lower thorax, and ask the patient to take a breath to assess respiratory excursion.

34. Inspect the spine for curvature and signs of overlying infection. Percuss the spine and costovertebral angles and note tenderness and paravertebral muscle spasm.

35. Percuss and palpate the posterior lung fields. With patient's arms folded across chest, percuss the posterior lung fields. Begin at the apices and compare the right to the left side at each level.
  - a. Note areas of dullness or hyperresonance. Note asymmetry.
  - b. Measure diaphragmatic excursion noting the distance between levels of dullness in full expiration and full inspiration.
36. Palpate for tactile fremitus in upper, mid, and lower lung fields (ask patient to say "99").
37. Auscultate the lungs. While patient breathes deeply with mouth open, auscultate the lungs.
  - a. Begin by auscultating the apices, then auscultate the middle and lower lung fields posteriorly and middle lobe lung fields laterally and anteriorly.
  - b. Begin at the apices and compare the right to the left side at each level. Listen for normal vesicular breath sounds in the periphery.

**STAND ON PATIENT'S RIGHT SIDE**

38. Palpate axillary nodes. With patient relaxed and with arms at sides, systematically palpate the axillae and note size, consistency, mobility, and tenderness of any possible nodes.
  - a. Against the chest for the central axillary nodes
  - b. Inside anterior and posterior axillary folds for pectoral and subscapular nodes respectively

**RECLINE PATIENT TO 30° ELEVATION**

39. Inspect neck veins
  - a. In a normal euhydrated individual, the neck veins (internal and external jugular) may be distended to the angle of the jaw with the patient lying flat. Attempt to identify the internal and external jugular veins.
  - b. Raise the head and trunk of the patient to an approximate angle of 30°. If internal jugular neck vein distention is present, attempt to estimate the central venous pressure by noting the distance in centimeters between the highest point of oscillation and the sternal angle. This distance plus 5-7 cm (the distance between the sternal angle and right atrium) is a good estimation of the central venous pressure. Also attempt to identify the "a" and "v" waves with timing, facilitated either by palpation of the opposite carotid artery or by auscultation of the heart sounds. If internal jugular neck vein distention is not visible with patient at 45°, it can be assumed that central venous pressure is not abnormally elevated.
40. Palpate carotid arteries medial to the sternocleidomastoid muscle (SCM) one at a time, noting the rate, rhythm, amplitude, and contour of the pulse.
41. Auscultate carotid arteries with the bell of the stethoscope.
  - a. Identify bruits or transmitted murmurs.

- b. Patient may have to hold breath to eliminate respiratory noise.
42. Palpate the suprasternal notch for abnormal pulsations or thrills.
43. Inspect the precordium for parasternal or apical impulses. Note any skin abnormalities on the chest wall.
44. Palpate the precordium.
- a. Using the palmar surface of the hand at the base of the fingers, systematically palpate the apical, parasternal, epigastric, pulmonic, and aortic areas for pulsation, thrills or lifts (heaves).
  - b. Identify the apical impulse (point of maximum impulse, PMI) and note its size. If the PMI cannot be identified, attempt to estimate heart size by percussing for cardiac dullness in the left fourth and fifth intercostal spaces.
45. Auscultate the heart in five locations in a systematic way.

*(Using the Diaphragm)*

- a. Include the apex, lower left sternal border, epigastrium, and the second right (aortic) and the left (pulmonic) intercostal spaces.
- b. Give special attention to the intensity of S1 at the apex and to the intensity of P2 and splitting of S2 in the left second intercostal space.
- c. Identify any extra sounds and murmurs in systole or diastole. Note location, timing (systole or diastole), pitch, quality, radiation or transmission, and intensity (grade).

*Murmurs should be graded as follows:*

**Grade Description**

- 1. Very faint, heard only after listener has “tuned in”; may not be heard in all positions
- 2. Quiet, but heard immediately after placing the stethoscope on the chest
- 3. Moderately loud
- 4. Loud
- 5. Very loud. May be heard when the stethoscope is partly off the chest
- 6. May be heard when stethoscope entirely off the chest

**Thrills are associated with murmurs graded IV-VI.**

46. Auscultate the heart in five locations in a systematic way.

*Using the Bell)*

- a. Include the apex, lower left sternal border, epigastrium, and the second right (aortic) and the left (pulmonic) intercostal spaces.
- b. Give special attention to the intensity of S1 at the apex and to the intensity of P2 and splitting of S2 in the left second intercostal space.
- c. Identify any extra sounds and murmurs in systole or diastole. Note location, timing (systole or diastole), pitch, quality, radiation or

transmission, and intensity (grade).

*Murmurs should be graded as follows:*

**Grade Description**

7. Very faint, heard only after listener has “tuned in”; may not be heard in all positions
8. Quiet, but heard immediately after placing the stethoscope on the chest
9. Moderately loud
10. Loud
11. Very loud. May be heard when the stethoscope is partly off the chest
12. May be heard when stethoscope entirely off the chest

**Thrills are associated with murmurs graded IV-VI.**

**PLACE PATIENT IN SUPINE POSITION**

**(Pull out exam table shelf for patient’ legs. Drape sheet across patient’s lower abdomen.)**

47. Inspect the abdomen. Patient should be lying flat with arms at sides and relaxed.
  - a. Note contour of abdomen, e.g., scaphoid, flat, rounded, protuberant.
  - b. Note any scars, striae, dilated veins, rashes, or skin lesions.
  - c. Note the umbilicus, contour, location, signs of hernia.
  - d. Observe for rising pulsations or peristalsis.
48. Auscultate the abdomen in all four quadrants. Note presence or absence of normal bowel sounds and vascular bruits.
49. Palpate abdomen superficially. In systematic manner, lightly palpate all four quadrants, noting presence or absence of tenderness, rigidity, guarding, or masses.
50. Palpate abdomen deeply. The two-handed method may be used. Note any masses as to location, size, shape, consistency, tenderness, pulsation (transmitted, non-transmitted), and mobility.
51. Palpate for liver
  - a. Place right hand on patient's abdomen below the level of the umbilicus and lateral and parallel to the rectus muscle. While gently pressing in and up, ask the patient to take a deep breath. If you don’t palpate the liver edge as it comes downward to meet your fingertips at the level of the umbilicus, reposition your right hand closer to the rib cage and ask the patient to take another deep breath. You may need to repeat this maneuver several times until your hand is at the margin of the rib cage in order to feel the liver edge descend. When you palpate the liver edge,

note its location, surface (nodular, smooth), consistency, and the presence or absence of tenderness. (A liver edge might not be palpable in a normal patient.)

52. Palpate for spleen

- a. Place your left hand over and behind the patient's left lower left rib cage and pull upward and toward you. Then place your right hand below the level of the umbilicus and lateral and parallel to the rectus muscle. Again, ask the patient to take a deep breath. Try to palpate the tip of the spleen as it comes down to meet your fingertips. (Just as in palpating for the liver edge, you may need to reposition your right hand several times and ask the patient to take a deep breath as you move closer to the margin of the rib cage.) If the spleen tip is palpable, it probably is enlarged.

53. Percuss liver span.

- a. Identify liver size by percussion. In the right midclavicular line, starting at a level below the umbilicus, lightly percuss upward toward the liver.
- b. Identify the lower border of liver dullness.
- c. Identify the upper border of liver dullness in the midclavicular line by lightly percussing from lung resonance down toward liver dullness.

The normal liver span along the right midclavicular line is 6-12 cm.

54. Palpate for kidneys. Normally in an adult, the kidneys are not palpable (except occasionally for the inferior pole of the right kidney), and an easily palpable or tender kidney is abnormal.

- a. Right kidney: Place your left hand behind patient between the rib cage and iliac crest and lift upward; then place your right hand in the right upper quadrant, parallel and lateral to the rectus muscle. Ask the patient to take a deep breath and pressing hands firmly together, try to palpate or capture the lower pole of the right kidney between your hands.
- b. Left kidney: Repeat the same maneuver as for the right kidney. The left kidney is rarely palpable.

55. Palpate spleen in the right lateral decubitus position. If the spleen tip was not palpable in Step 44, the patient is put in the right lateral decubitus position with the legs somewhat flexed at the hips and knees. Use two-handed technique as in Step 50.

**RETURN PATIENT TO SUPINE POSITION**  
**ADJUST DRAPING SHEET TO EXPOSE INGUINAL REGION**  
**(Do not reach down from abdomen under the draping sheet. Stand next to patient's legs when examining this region.)**

56. Palpate for superficial inguinal lymph nodes, horizontal and vertical groups. If enlarged, note size, consistency, mobility, and tenderness.
57. Palpate femoral pulses. Note amplitude and contour.
58. Auscultate femoral arteries. Note presence or absence of bruits.
59. Inspect, palpate, and examine lower extremities (muscles, joints, and skin)
- a. Skin - Special attention is given to signs of chronic arterial or venous insufficiency.
  - b. Inspect for size, length, shape, symmetry of the legs and joints. Note any abnormalities of position, swelling, or redness.
    - i. Nails – inspect for infection, color.
    - ii. Feet/Legs
      1. Inspect skin for signs of chronic arterial or venous insufficiency.
      2. Inspect for abnormalities of position, varus or valgus angulation, symmetry of legs and joints.
      3. Note any muscle atrophy, fasciculations, or involuntary movements.
  - c. Palpate for bony or muscle abnormalities.
    - i. Knee – patella tendon, patella, medial and lateral femoral epicondyles
    - ii. Hip – palpate area of greater trochanter, note any pain
  - d. Test ROM of each joint. Note muscle tone (as with upper extremities) during ROM.
    - i. Ankle
      1. Dorsiflexion (20°)
      2. Plantarflexion (45°)
      3. Eversion (20°)
      4. Inversion (30°)
    - ii. Knee
      1. Flexion (130°)
      2. Extension (0°)
    - iii. Hip
      1. Flexion (120°)
      2. Rotation. Flex the leg to 90° at both the hip and knee. Stabilize the patient's thigh with one hand, and grasp the patient's ankle with the other, to hold these angles steady. Then, swing the lower leg medially for 45° for external rotation of the hip and laterally for 40° for internal

rotation of the hip. (Note that the direction of hip rotation is described by the position of the femur and knee, i.e. when the femur and knee are medial (“in”) you are testing internal rotation. When the knee and the femur are rolled “out” laterally away from the body’s midline, you are testing external hip rotation.

60. Inspect, palpate, and test active ROM in lower extremities – muscles, joints, and skin including feet, ankles, knees and hips. (Reference number 59)
61. Grade the following muscle strength in each leg.
  - a. Hip flexion (iliopsoas muscle – L2, L3, L4 – femoral nerve)
  - b. Knee flexion (hamstrings – L5, S1, S2 – sciatic nerve)
  - c. Knee extension (quadriceps – L2, L3, L4 – femoral nerve)
  - d. Ankle dorsiflexion (L4, L5 – peroneal nerve)
  - e. Ankle plantar flexion (S1, S2 – tibial nerve)
62. Check for edema. Identify edema by noting persistent indentation after mild pressure on the dorsum of foot and distal shin.
63. Palpate dorsalis pedis and posterior tibial pulses.
  - a. Palpate each pulse in the right and left foot simultaneously, noting symmetry, amplitude, and character.
  - b. If pulses in the feet are not palpable, an attempt should be made to palpate the popliteal pulse.

**ASK PATIENT TO STAND**

**(Patient gown should be tied before patient walks across room.)**

64. Spine ROM (stand behind patient)
  - a. Flexion. Ask the patient to bend forward and touch their toes. As flexion proceeds, the lumbar concavity should flatten out. Look for scoliosis.
  - b. Extension. Ask the patient to bend backwards, as far as possible, with their hands on their posterior superior iliac spine, with their fingers pointed towards the midline.
  - c. Lateral bending. Ask the patient to lean to both sides as far as possible.
65. WASH HANDS.