

BASIC SCREENING PHYSICAL EXAMINATION - OBJECTIVES

1. WASH HANDS.

PATIENT SITTING, FACING THE EXAMINER

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 - k. Level of psychomotor activity, e.g., withdrawn, catatonic, hyperactive, cooperative, anxious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.)

3. 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. **At the same time**, 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.
4. Test 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)
 - b. Muscle strength against resistance:
 - i. Check elbow flexion (biceps muscle C5 and C6 – musculocutaneous nerve).
 - ii. Check elbow extension (triceps muscle C7 and C8 – radial nerve).
 - iii. Check wrist extension (C7 and C8 - radial nerve).
 - iv. Check wrist flexion (C6, C7, and C8 - median and ulnar nerve).
 - v. 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.
 - vi. Check finger abduction (lumbrical muscles and ulnar nerve).

Always grade muscle strength on a scale of 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.

5. Palpate both radial pulses simultaneously, noting rhythm, character, and amplitude of pulses.
6. Check blood pressure in both arms.
 - a. Use both palpatory and auscultatory methods (to avoid being misled by an auscultatory gap).
 - b. Record systolic and diastolic blood pressures on both arms, using appropriately sized cuff.
7. 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.
8. 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.
9. Test visual acuity and visual fields.
 - a. 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.
 - b. Visual Fields – screen visual fields, using confrontation method (CN II), with both eyes open
10. 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).
11. Check extraocular muscles. Check all size cardinal fields of gaze (CN III, IV, VI); also observe for nystagmus.
12. 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.
13. 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).
14. 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.
15. 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.
 - c. Ask patient to say "aah" and observe for symmetrical movement of the uvula (CN X).
 - d. Ask patient to cough and judge force of sound made by air moving past approximating vocal cords (CN X).
 - e. Ask patient to protrude tongue, noting midline protrusion (CN XII).
16. 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).
17. Perform funduscopic examination. Have patient remove glasses.
- 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. Inspect external ear. Inspect and palpate noting the auricle and its surrounding tissue for deformities, tenderness, lumps, or skin lesions.
19. 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.
20. 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.
21. 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.

ROM

- 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)
22. 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 PATIENT

23. 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.

24. Palpate the trachea in the sternal notch. Note its position (should be midline) and mobility.
25. 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.
26. 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.
27. Inspect the spine for curvature and signs of overlying infection. Percuss the spine and costovertebral angles and note tenderness and paravertebral muscle spasm.
28. Palpate and percuss 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.

- c. Palpate for tactile fremitus in upper, mid, and lower lung fields (ask patient to say “99”).
29. Auscultate the lungs. While patient breathes normally 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.

MOVE TO FRONT OF PATIENT

30. (Female patients) Inspect the breast. Ask patient to drop her gown to the waist and to rest her arms at sides.
- a. Inspect for size and symmetry, noting contour with special reference to masses, dimpling, or retraction, rash edema..
 - b. Note nipples, size, shape, the direction in which they point (simple inversion of long standing is common and usually normal), discharge, or ulceration or rash.
 - c. To carefully inspect the breasts for skin changes (dimpling, retraction), symmetry, and contours in four views. Ask patient to:
 - i. Place arms relaxed at her side
 - ii. Raise arms over head
 - iii. Press hands against hips
 - iv. Lean forward while pressing hands against hips
31. 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

ASK PATIENT TO LIE FLAT AND STAND AT PATIENT'S RIGHT SIDE

32. Palpate breasts and areolae
Palpate breasts in all four quadrants, noting especially any tenderness or masses. If masses are present, note location, size shape, consistency, mobility, and tenderness.

RAISE PATIENT TO 30°

33. 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.

LAY PATIENT FLAT

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

34. Palpate carotid arteries medial to SCM one at a time, noting the rate, rhythm, amplitude, and contour of the pulse.
35. Inspect the precordium for parasternal or apical impulses. Note any skin abnormalities on the chest wall.
36. 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
37. Palpate the suprasternal notch for abnormal pulsations or thrills
38. 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.
39. Auscultate the heart in five locations in a systematic way
 - a. Include the apex, lower left sternal border, epigastrium, and the second right (aortic) and the left (pulmonic) intercostal spaces.
 - b. Auscultate all 5 locations with the diaphragm (which best facilitates hearing high-pitched sounds, including S1 and S2) and then repeat with the bell (which best facilitates hearing low-pitched sounds, including S3 and S4).
 - c. 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.
 - d. 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
I	Very faint, heard only after listener has "tuned in"; may not be heard in all positions
II	Quiet, but heard immediately after placing the stethoscope on the chest
III	Moderately loud
IV	Loud
V	Very loud. May be heard when the stethoscope is partly off the chest
VI	May be heard when stethoscope entirely off the chest

Thrills are associated with murmurs graded IV-VI.
40. 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
41. Auscultate the abdomen. Note presence or absence of normal bowel sounds and vascular bruits.
 42. Palpate abdomen superficially. In systematic manner, lightly palpate all four quadrants, noting presence or absence of tenderness, rigidity, guarding, or masses.
 43. 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.
 44. Palpate for liver edge and spleen tip.
 - a. Liver. 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.)
 - b. Spleen. 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.
 45. 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. Identify the lower border of liver dullness
 - b. 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
 46. 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
 47. 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 44.

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.)

48. Palpate femoral pulses. Note amplitude and contour.
49. Palpate for superficial inguinal lymph nodes, horizontal and vertical groups. If enlarged, note size, consistency, mobility, and tenderness.
50. Auscultate femoral arteries. Note presence or absence of bruits.

PATIENT IS LAYING DOWN

POSITION DRAPING SHEET BETWEEN PATIENT'S LEGS

51. 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 knee to 90° at the hip and knee, stabilize the patient's thigh with one hand, and grasp the patient's ankle with the other, then swing the lower leg medially for 45° of external rotation and laterally for 40° of internal rotation. (Note that rotation is at the femur at the hip joint.)
 - (a) Internal rotation (40°). When the lower leg swing laterally, the femur rotates internally at the hip joint
 - (b) External rotation (45°). When the lower leg swings medially, the femur rotates externally at the hip joint.

- e. Grade the following muscle strength in each leg (see Step 4).
 - i. Hip flexion (iliopsoas muscle – L2, L3, L4 – femoral nerve)
 - ii. Knee flexion (hamstrings – L5, S1, S2 – sciatic nerve)
 - iii. Knee extension (quadriceps – L2, L3, L4 – femoral nerve)
 - iv. Ankle dorsiflexion (L4, L5 – peroneal nerve)
 - v. Ankle plantar flexion (S1, S2 – tibial nerve)

- 52. Check for edema. Identify edema by noting persistent indentation after mild pressure on the dorsum of foot and distal shin.

- 53. 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.

- 54. Perform sensory exam in all 4 extremities. Light touch, sharp/pain, vibration, and position sense are tested by:
 - a. Applying a wisp of cotton or tissue paper to several areas over the patient's legs and arms comparing patient's ability to detect light touch in all extremities. (Begin testing at patient's toe and proceed proximally to knees.) Test 3 areas on each extremity.
 - b. Apply the sharp edge of a broken cotton swab to several areas over the patient's legs and arms comparing patient's ability to detect pain/sharp in both legs and arms. Test 3 areas on each extremity.
 - c. Place a vibrating tuning fork over each ankle and a knuckle on each arm and ask the patient to report when the vibration sense is lost.
 - d. Hold the medial and lateral aspects of the patient's great toe and move the great toe up and down. Ask the patient to identify which way it is being moved. Repeat on the other leg. Then check in a finger on each hand

- 55. Elicit and grade deep tendon reflexes.
 - a. Biceps (C5, 6)
 - b. Triceps (C7, C8)
 - c. Brachioradialis (C5, 6)
 - d. Knee (L2, 3, 4)
 - e. Ankle (S1).

Grade reflexes 0-4

0 = no reflex

1 = somewhat diminished

2 = average; normal

3 = brisker than average; possibly but not necessarily indicative of disease

4 = hyperactive with clonus

An attempt should be made to elicit ankle clonus in each leg.

56. Test for the plantar response on each foot. With an object such as the wooden end of a cotton swab, stroke the lateral side of the sole, beginning at the heel and moving to the ball of the foot, curving medially across the ball of the foot. Make sure not to damage the integrity of the skin. Describe the response of the big toe as flexor (normal), neutral, or extensor (a Babinski response, often accompanied by fanning of the other toes).
57. Examine the patient for coordination
 - a. Check finger-to-nose coordination. Ask patient to extend arms and hold one arm steady. With the other hand, ask patient to touch your hand and then touch his/her nose. Move your hand to several locations and repeat this step. Observe the active arm for smoothness of motion and past pointing. This is a good screening test for pyramidal and extra-pyramidal integrity of the upper limbs.
 - b. Ask the patient to rapidly tap their index fingers against their corresponding thumbs.
 - c. Examine for the heel to shin maneuver. Ask the patient to place his/her heel on the opposite knee, and then run that heel down his/her shin to his/her foot. Repeat on the other leg.

ASK PATIENT TO STAND

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

58. Observe the patient's gait and tandem walking. Perform Romberg test.
 - a. Initially ask the patient to walk back and forth across the room. Observe equality of arm swing and rapidity and ease of turning. Normally there are 2 to 4 inches from heel to heel. A wide-based gait is abnormal.
 - b. Ask patient to tandem walk. This is a good screen for cerebellar function and posterior column integrity.
 - c. To perform the Romberg test, instruct the patient to stand with their feet together and their arms at their sides. Then ask the patient to close their eyes and to stand still for 20 seconds. Stand close enough to catch patient if the patient loses their balance during this test. A positive Romberg sign = the patient can stand still with eyes open but loses balance with eyes closed.
59. Spine ROM
 - a. Flexion. Ask the patient to bend forward and touch their toes. As flexion proceeds, the lumbar concavity should flatten out.
 - 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.

MALE PATIENT - WHILE STANDING

60. Inspect the penis and perineum.
61. Palpate the penis: meatus, glans, and shaft. Palpate between thumb and first two fingers.
62. Inspect the scrotum (including underside).
63. Palpate the scrotum and contents
 - a. Palpate each testis and epididymis between thumb and first two fingers. Note especially size, shape, consistency, and presence or absence of abnormal masses or tenderness. Any scrotal

mass should be illuminated and should be documented as transilluminating or non-transilluminating.

- b. Palpate each spermatic cord along its course to the superficial inguinal ring.
64. Check for inguinal hernias
- a. With index finger, the loose scrotal skin is invaginated along the spermatic cord to the external inguinal ring.
 - b. Ask patient to bear down or cough to note presence or absence of a hernia against examining finger.

If patient is ambulatory, ask him to bend at the hips over the exam table with upper body resting across the table or (especially if patient is not mobile) ask patient to lie on left side with left leg extended and right leg flexed.

65. Inspect anus. Inspect the sacral, coccygeal, and perineal regions for irritation, ulcers, tears, or masses.
66. Perform digital rectal exam.
- a. Place a small amount of lubricant on gloved index finger.
 - b. Place finger at anus and wait for reflex sphincter relaxation. Gently insert the finger and examine as much of the rectal wall as possible.
 - c. Sequentially examine the right lateral, posterior, and left lateral surfaces. Note the palpation of masses or soft tissue swelling.
 - d. Examine the surface of the prostate. Note the lateral lobes and the sulcus. Note size, shape, consistency of lobes as well as any nodules or tenderness.
67. Retain stool sample. Withdraw the finger and test any retained stool fecal matter for occult blood
68. WASH HANDS.

**FEMALE PATIENT – PULL THE FOOT RESTS OUT OF THE EXAM TABLE
ASK PATIENT TO ASSUME LITHOTOMY POSITION
PATIENT’S BUTTOCKS SHOULD BE AT THE EDGE OF THE EXAM TABLE
PULL DRAPING SHEET ACROSS THE ABDOMEN AND PELVIS
UNTIL YOU ARE READY TO BEGIN**

60. Inspect external genitalia and perineum.
- a. To prepare for an adequate examination, the patient should be given an opportunity to empty her bladder and should be draped appropriately. Additionally the examiner should use warm gloved hands and warm speculum. Each step of the examination should be explained in advance to the patient. A female chaperon/assistant should always attend male examiners; however, it is recommended that all students have a chaperon/assistant for all genital exams.
 - b. Initially inspect the external genitalia noting the mons pubis, labia majora, and the perineum.
 - c. Next, carefully separate the labia majora; and inspect the labia minora, clitoris, urethral orifice, and introitus. Note any inflammation, ulceration, discharge, swelling, or nodules. If possible, identify the opening of the periurethral (Skene's) and Bartholin's gland. Check for enlargement or tenderness of Bartholin's gland by palpating with the index finger in the vagina near the posterior end of the introitus and the thumb outside the posterior part of the

- labia majora. Note any swelling, tenderness, or discharge (discharge should be cultured).
- d. Finally, assess the support of the vaginal outlet by asking the patient to strain down and noting abnormal bulging of the anterior (cystocele) or posterior (rectocele) vaginal wall.
61. Insert speculum and inspect cervix. Select speculum of appropriate size and warm with warm water. (Lubricant should not be used prior to Pap smear since it will interfere with the cytology.) Place two fingers just inside or at the introitus and gently press down on the perineal body. With your other hand, introduce the closed speculum past your fingers at a 45° angle downward. The blades should be held up obliquely and the pressure exerted toward the posterior vaginal wall in order to avoid the more sensitive anterior wall and urethra. After the speculum has entered the vagina, remove your fingers from the introitus. Rotate the blades of the speculum into a horizontal position. Open the blades after full insertion and maneuver the speculum gently so that the cervix comes into full view. Inspect the cervix and its os.
Note the color of the cervix, its position, any ulceration, nodules, masses, bleeding, or discharge.
62. Perform Pap smear. Secure the speculum with the blades open. If using a metal speculum, tighten the thumbscrew. If using a plastic speculum, press down on the lever until it securely clicks open. Take three specimens
- a. Endocervical swab. Insert endocervical brush or cotton applicator stick into the os of the cervix, roll the stick/brush gently between the thumb and index finger remove and smear a labeled glass slide. If using thin prep brush, insert into the cervix and rotate 360° only, and then remove.
 - b. Cervical scrape. Place the longer end of a cervical spatula into the os of the cervix. Press gently, turn, and scrape. Smear a second labeled glass slide. Any bleeding of the cervix during this procedure should be noted
 - c. Posterior fornix. Roll a cotton applicator stick on the floor of the vagina posterior to the cervix. Smear a third labeled glass slide

Note: A fixative must be immediately applied to each slide. If using the “thin prep” method, swirl the brush and spatula one at a time in the “thin prep” solution for 15 seconds each.

63. Withdrawing speculum, inspect mucosa. Withdraw the speculum slowly while observing the vagina. As the speculum clears the cervix, release the thumbscrew and maintain the speculum in the open position with your thumb. Close the blades as the speculum emerges from the introitus. During withdrawal, inspect the vaginal mucosa, noting its color, inflammation, ulcers, discharge, or masses.
64. Perform bimanual exam of cervix, Uterus, and Adnexa
- a. From a standing position, introduce the middle and index fingers of your gloved and lubricated hand into the vagina. The thumb should be abducted and the ring and little fingers flexed into the palm. Identify the cervix, noting its position, shape, consistency, regularity, mobility, and tenderness. Place your abdominal hand midway between the umbilicus and the symphysis pubica and press downward toward the pelvic hand. Using palmar surface of the fingers, palpate for the uterine fundus while gently pushing the cervix anteriorly with the pelvic hand
 - b. During this examination of the uterus, note the following:
 - i. Size. If enlarged, the uterus is described in relation to size of pregnancy, i.e., 6-week, 8-

week, 12-week, etc.

- ii. Position. The normal uterus is anteverted and anteflexed. Retroversion or retroflexion should be noted.
- iii. Consistency. The uterus should be noted as firm, soft, boggy, smooth, nodular, globular, round.
- iv. Mobility. The normal uterine fundus should be freely movable. A fixed uterine fundus should be so noted.
- v. Tenderness. Under normal circumstances, the uterus should not be tender. Any elicited tenderness should be noted.

Note: the size, shape, consistency, mobility, and tenderness of any palpable masses.

- c. Attempt to identify the adnexa. Gently slide the vaginal fingers into the lateral vaginal fornix while pushing inferiorly with the abdominal hand. An attempt should be made to entrap the adnexa between the abdominal and vaginal hand. Enlargement of the adnexa should be noted as well as adnexal masses. Under normal conditions, the adnexa should be slightly tender to palpation. Extreme tenderness should be noted.

65. Perform rectovaginal exam

- a. Gently remove the vaginal hand and relubricate your glove if necessary. Slowly reintroduce the index finger into the vagina and the middle finger into the rectum. Examine the rectum for masses, polypoid lesions, and hemorrhoids. Examine the rectal vaginal septum for thickening, nodularity, or tenderness. While gently pressing your fingers as superiorly as possible, examine the rectouterine pouch. During this procedure, palpate laterally, identifying the right and left uterosacral ligaments and noting any masses or abnormal tenderness.
- b. Reexamine both the right and left adnexa with the rectovaginal technique. Occasionally ovarian tumors or cysts may be palpated using this technique but missed during the bimanual exam.

66. Inspect anus.

67. Retain stool sample for occult blood.

68. WASH HANDS.