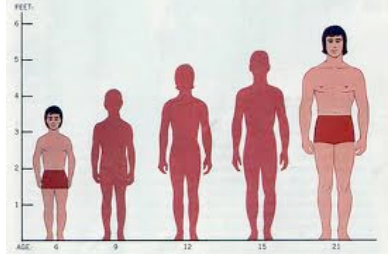


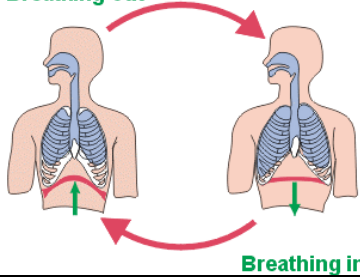
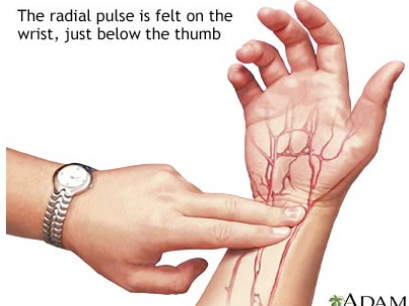


VITAL SIGNS	INSTRUCTIONS	FINDINGS/INDICATIONS
<p>Height</p>	<p>- Human height is measured the distance from the bottom of the feet to the top of the head in a human standing erect</p> 	<p>Average heights for men and women 25+ in Canada: - Men: 5 ft. 8.5 in. - Women: 5 ft. 3 in.</p>
<p>Weight</p>	<p>- Body weight of a person is theoretically the weight of the person without any items on; However, it can be measured with clothes on but without shoes and heavy accessories such as mobile phones and wallets</p> 	<p>- Average or "ideal" body weight is dependent upon a number of factors in combination with each other, including gender, age, height, and nationality</p> <p>- Body Mass Index (BMI): An individual's body weight divided by the square of his or her height; Purpose of BMI is to assess how much an individual's body weight departs from what is normal or desirable for a person of his or her height; See a BMI chart for figures; BMI values are only valid as statistical categories when applied to adults, and do not predict health</p>
<p>Temperature</p>	<p>- The most common sites of the body used for temperature measurement include the anus (rectal temp. – internal measurement), the mouth (oral temp), under the arm (axillary temp.), and in the ear (tympanic temp.) – for some locations of the body where temperature is measured, there are different thermometers used</p> 	<p>- Normal = 37C degrees/98.6F - Hypothermia = <35C degrees/95F - Fever = >37.5C degrees/100 F</p> <p>- "Normal" body temperature depends upon the place in the body at which the measurement is made, and the time of day and level of activity of the person; These factors should therefore be taken into account when measuring body temperature; The commonly accepted "average" or "normal" core body temperature is taken internally</p>
<p>Respiration</p>	<p>- Dr places one hand on Pt's shoulder to feel respiration, while other hand pretends to still be feeling the Pt's pulse so that Pt is not breathing consciously; Count number of inhalations for 15 sec. and multiply by 4</p> <p>Breathing out</p>  <p>Breathing in</p>	<p>- Normal = 14-20 BPM - Bradypnea = < 14 BPM - Tachypnea = > 20 BPM</p>
<p>Pulse</p>	<p>- Use wrist watch: Count pulse rhythm for 15 sec. and multiply by 4 - Count for a full minute if pulse is irregular</p> <p>The radial pulse is felt on the wrist, just below the thumb</p> 	<p>- Normal (adult) = 60-100 BPM - Bradycardia = < 60 BPM - Tachycardia = > 100 BPM</p> <p>- Regular = Evenly spaced beats - Regularly Irregular = Regular pattern overall with skipped beats - Irregularly Irregular = Chaotic; No distinct pattern</p>

Blood Pressure

- Blood Pressure should be taken on both arms at first visit with Pt and use the higher reading that is measured; After, it should always be taken on the left arm
 - Check blood pressure at the end of a visit too, as well as following unexpected or seemingly irregular readings

Every health care visit should include a blood pressure reading



ADAM

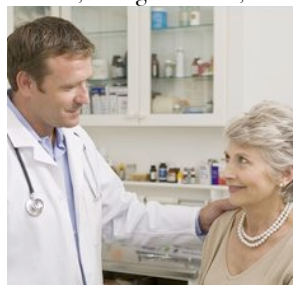
- Instructions: Center the inflatable sphygmomanometer so the arrow or cords are pointing to the area medial to the biceps brachii tendon; The brachial artery pulse should be palpable in this location; The lower border of the cuff should be about 2.5 cm above the anticubital fold; Secure the cuff snugly; Position Pt's arm so it is slight flexed at the elbow and held at the same level as their heart; When inflating the cuff, palpate the radial artery until it disappears and add 30mm Hg; Place the bell of the stethoscope (low-pitch sounds) lightly over the brachial artery; Slowly deflate the cuff at a rate of about 2-3mm Hg; *Systolic Pressure* = the level at which at least two consecutive beats are heard; Continue to lower the pressure slowly until the sounds become muffled and then disappear = this is the *Diastolic Pressure*; Deflate the cuff rapidly to zero

- Normal = < 120 / < 80
- Pre-Hypertension = 120-139/80-89
- Hypertension (Stage 1) = 140-159/90-99
- Hypertension (Stage 2) = 160/100

MENTAL STATUS EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
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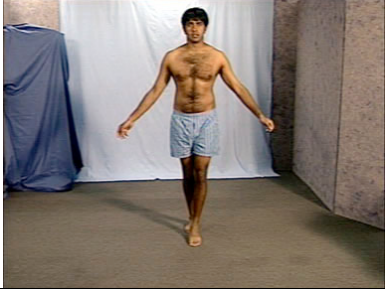


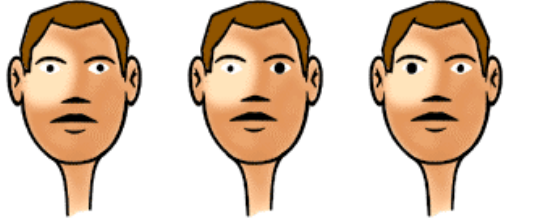
- 1. Appearance and Behavior**
- 2. Speech and Language**
- 3. Mood**
- 4. Thoughts and Perceptions**
- 5. Cognitive Function**
- 6. Higher Cognitive Function**

1. Appearance and Behavior: Observe Pt's overall appearance and grooming and assess the following: Level of Consciousness, Facial Expression, Mood, Affect (an observable tone of feeling expressed by Pt), Posture, Motor Behavior
2. Speech and Language: Observe Pt's speech and language, paying attention to the following qualities: Volume, Quantity, Rate, Articulation, Fluency
3. Mood: Assess Pt's general feelings about the world. Any abnormal mood warrants further probing into the Nature, Duration, and Stability of the feelings. Assess for *suicide risks* if necessary.
4. Thoughts and Perceptions: Assess the following about the Pt: their Thought Process, Thought Content, Perception, Insight and Judgment



5. Cognitive Function:
 - Orientation: Ask Pt questions regarding Who they are? Where they are? How they arrived to your clinic? and What time or day it is?
 - Attention: Ask Pt to Spell words backwards, Count down from 100 in multiples of 7, or Recite digits beginning with a set of 2 numbers and moving on to 3 digits, 4 digits, etc.
 - Remote Memory: Ask Pt about events relevant to their past such as birthdays, previous jobs, schools attended. Only ask facts that can be verified.
 - Recent Memory: Ask Pt about events of the day including time of appointments, the weather, location of clinic, etc. Only ask facts that can be verified.
 - New Learning Ability: Provide three words and ask Pt to repeat and remember them. After 3-4 min. have Pt recite words back.
6. Higher Cognitive Function
 - Information and Vocabulary: Have Pt Spell words and Provide facts such as listing the largest cities in the country.
 - Calculating Ability: Begin with Addition/Subtraction, followed by Multiplication/Division. This should be assessed in the context of Pt's educational background.
 - Abstract Thinking: Proverbs – have Pt interpret Proverbs i.e. "Don't count your chickens before they're hatched"; Similarities – ask Pt how two items are similar i.e. Orange and Apple, Cat and Dog, Guitar and Piano
 - Constructional Ability: Have Pt Copy certain figures such as Geometric shapes on a blank paper

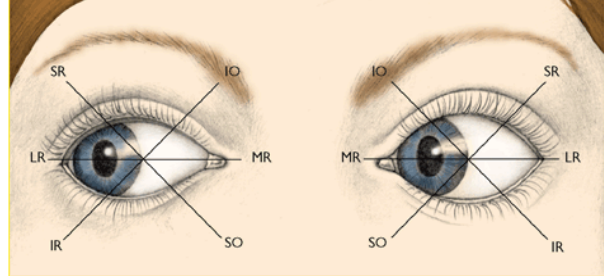
- Abnormal exam results may indicate varying degrees of Neurologic Imbalances including Brain Lesions and Psychiatric Problems, as well as Narcotic Abuse (including drugs and/or alcohol). In these cases, further testing and evaluation may be necessary.

CEREBELLAR/SOBRITY EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
Finger-to-Nose Test	<ul style="list-style-type: none"> - Pt in front of Dr; Standing or sitting - Dr performs test and asks Pt to do the same with their eyes closed - Pt's left index finger touches tip of their nose; Pt's right index finger touches tip of their nose: Repeat if necessary 	<ul style="list-style-type: none"> - Pt is unable to touch the tip of their nose, but rather touches elsewhere (i.e. their face, the air, etc.) OR performs task in a sloppy manner = Cerebella lesion OR Intoxication (alcohol and/or drugs)
Tandem Gait	<ul style="list-style-type: none"> - Dr asks Pt to walk forward in a straight line, arms slightly abducted, with one foot placed directly in front of the other when walking 	<ul style="list-style-type: none"> - Pt is unable to walk in a straight line OR does so in a sloppy manner = Cerebella lesion OR Intoxication (alcohol and/or drugs)
CRANIAL NERVE EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
CN 1: Smell Test “CN1: Olfactory”	<ul style="list-style-type: none"> - Place fragrant-soaked cotton ball (rubbing alcohol, essential oil, etc.) under Pt's nostrils; Perform bilateral with Pt covering one nostril at a time 	<ul style="list-style-type: none"> - Pt cannot smell = CN 1 lesion
Confrontation Test “CN 2: Optic”	<ul style="list-style-type: none"> - Pt and Dr cup eye and Pt follows Dr's finger horizontally and indicates when it disappears from their field of vision; Perform bilateral 	<ul style="list-style-type: none"> - Blind spot OR Decreased peripheral vision = CN 2 lesion OR Retinal problem
Pupillary Reflex Test “CN2: Optic” “CN3: Oculomotor”	<ul style="list-style-type: none"> - Dr shines light in Pt's eyes, Pt looks straight ahead and doesn't move eyes; Perform bilateral - Light in R. pupil (R. direct reflex) - Light in R. pupil (L. consensual reflex) - Light in L. pupil (L. direct reflex) - Light in L. pupil (R. consensual reflex)  <p style="text-align: center;"> normal - both pupils constrict CN III lesion - loss of consensual pupillary light reflex CN II lesion - loss of direct pupillary light reflex </p>	<ul style="list-style-type: none"> - Pupil with direct light does not constrict = CN 2 lesion - OR Pupil of consensual reflex does not constrict = CN 3 lesion - OR Muscle problem

Cardinal Fields of Gaze & Accommodation Test

“CN3: Oculomotor”
 “CN4: Trochlear”
 “CN6: Abducens”

- Pt’s head still and follows finger with eyes only, Dr approx 12-18” away
 - Cover 6 cardinal fields, move slow (CN 3= SR, IO, MR, IR; CN 4 = SO; CN 6 = LR); Record any directions of abnormality
 - Accommodation = Finger toward nose, Pt’s eyes follow

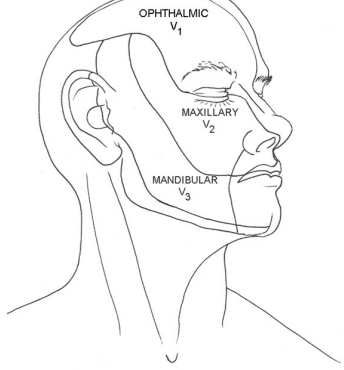


- Strabismus (abnormal alignment of eyes, squint) AND/OR Pupil does not constrict = CN 3, 4, or 6 lesion OR Problem with one or more eyes muscles

CN 5: Sensory of the Face Test

“CN5: Trigeminal”

- Pt’s eyes closed; Test on sternum with cotton ball
 - Touch Pt in all six CN 5 quadrants on face (V1, V2, V3 x Bilateral)



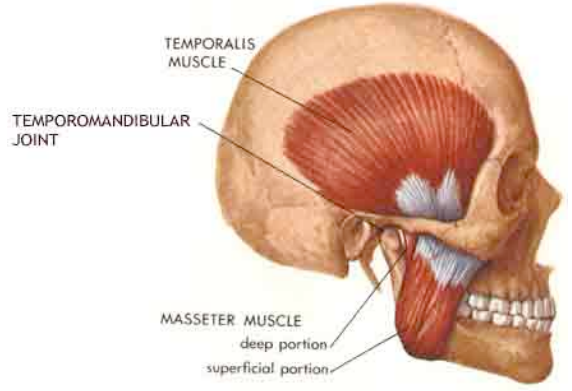
- Anesthesia (no sensation), Hypoesthesia (reduced sensation) OR Hyperesthesia (excessive sensation) = CN 5 lesion

Palpation – Tissue Tenderness Pain Scale
 0 = No tenderness
 +1 TTP = Tenderness to palpation WITHOUT grimace/flinch
 +2 TTP = Tenderness to palpation WITH grimace/flinch
 +3 TTP = Tenderness with WITHDRAWAL
 +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)

CN 5: Motor Test

“CN5: Trigeminal”

- Test muscles of face; Pt informs re: pain
 - Open and close mouth & observe for any deviation of jaw
 - Pt bites on tongue blade and Dr palpates temporalis and masseter for motor function; Perform bilateral
 - Pt bites on tongue blade and Dr tries to depress mandible against resistance for 3-5 sec.
 - Pt moves jaw to ones side and Dr applies resistance for 3-5 sec.; Perform bilateral



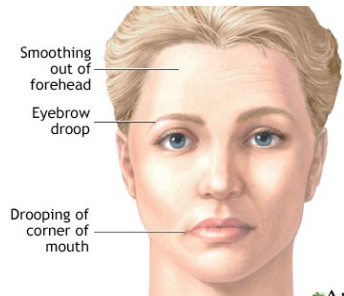
Muscle grading:
5 – Complete range of motion against gravity with full resistance
 4 – Complete range of motion against gravity with some resistance
 3 – Complete range of motion against gravity
 2 – Complete range of motion with gravity eliminated
 1 – Evidence of slight contractility; No joint motion
 0 – No evidence of contractility

- Asymmetry OR Muscle grading <5 = CN 5 lesion

Facial Expression Evaluation




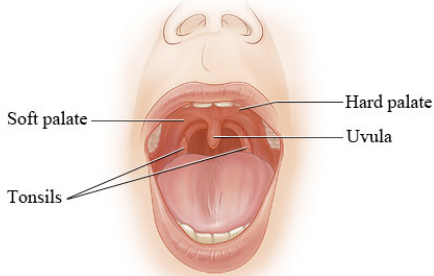

“CN7: Facial”


- Dr instructs Pt to mimic the following faces: Dr performs: smile, pucker, blow cheeks, frown, wrinkle forehead, grimace (active platysma)
 - Pt closes eye and holds it closed
 - Dr contacts upper eyelid and tries to lift eyelid (3-5 sec. resistance); Perform bilateral




Muscle grading:
5 – Complete range of motion against gravity with full resistance
 4 – Complete range of motion against gravity with some resistance
 3 – Complete range of motion against gravity
 2 – Complete range of motion with gravity eliminated
 1 – Evidence of slight contractility; No joint motion
 0 – No evidence of contractility


- Asymmetry OR Muscle grading <5 = CN 7 lesion

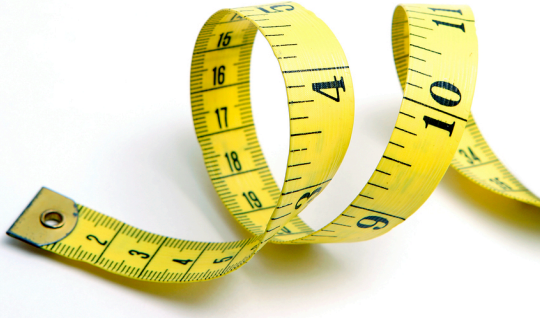
<p>Tongue Taste Test</p> <p>“CN7: Facial” “CN9: Glossopharyngeal”</p>	<ul style="list-style-type: none"> - Drop taste solutions on Pt’s tongue - Pt identifies taste nonverbally (pointing at different illustrations of tastes) and without retracting tongue - Use a minimum of 3 tastes - Place 1 solution on anterolateral or posterolateral portion of tongue - Place 2 solutions on opposite side of tongue 	<p>- Dysgeusia (distortion of taste) OR Aguesia (complete lack of taste) = CN 7 or 9 lesion</p>
<p>Gross Hearing Test</p> <p>“CN8: Vestibulocochlear/ Acoustic”</p>	<ul style="list-style-type: none"> - Pt closes eyes and tells Dr when sound starts and stops - Make noise with hands (clapping, rubbing, etc.); Start about 2 feet away from Pt and slowly advance closer 	<p>- Pt unable to hear sound from 2 feet away = Hearing loss (CN 8 lesion)</p>
<p>Balance Test</p> <p>“CN8: Vestibulocochlear/ Acoustic”</p>	<ul style="list-style-type: none"> - Stand next to Pt and have them walk several steps forward - Check for overall balance of Pt - If they have any imbalance, have them place hands over ears, perform test, and see if balance changes 	<p>- If balance changes when Pt covers ears = CN 8 - vestibular branch lesion</p>
<p>Vernet Rideau & Gag Reflex Tests</p> <p>“CN9: Glossopharyngeal” “CN10: Vagus”</p>	<ul style="list-style-type: none"> - Pt opens mouth and Dr observes with penlight - Pt says “ah”; Watch for symmetrical rising of the palate  <p>© Healthwise, Incorporated</p> <ul style="list-style-type: none"> - Using a light and clean tongue blade, compress the right and then left side of Pt’s soft palate; Observe for gag response 	<p>- Asymmetrical elevation of the palate (i.e. uvula deviates) = CN 9 OR 10 lesion</p> <p>- No gag response elicited = CN 9 OR 10 lesion</p>

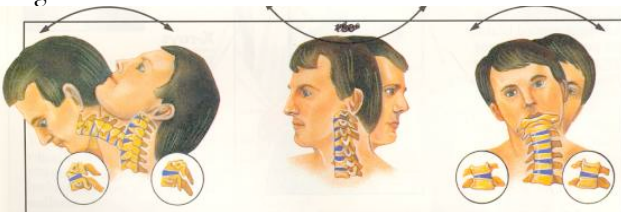
<p>Spinal Accessory Test “CN11: Spinal Accessory”</p>	<ul style="list-style-type: none"> - Inform Pt of muscle testing; Pt informs if painful - Pt elevates both shoulders and holds them up; Dr contacts both shoulders and tries to depress them (3-5 sec. resistance) - Dr assists Pt in rotating and laterally flexing head to side and holds position; Dr applies resistance (3-5 sec.); Perform bilateral 	<p>Muscle grading:</p> <p>5 – Complete range of motion against gravity with full resistance</p> <p>4 – Complete range of motion against gravity with some resistance</p> <p>3 – Complete range of motion against gravity</p> <p>2 – Complete range of motion with gravity eliminated</p> <p>1 – Evidence of slight contractility; No joint motion</p> <p>0 – No evidence of contractility</p> <p>- Muscle grading <5 OR Pain elicited = CN 11 - corticobulbar lesion OR Muscle myotome injury</p>
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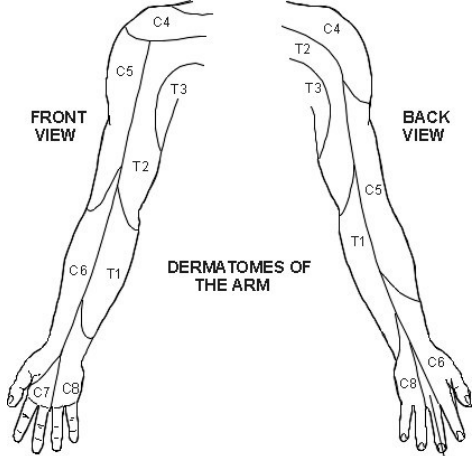
<p>CN 12: Motor Test for Tongue “CN12: Hypoglossal”</p>	<ul style="list-style-type: none"> - Pt sticks out tongue; Dr inspects for abnormalities in tongue location - Pt’s mouth closed and pushes tongue against cheek; Dr applies resistance to tongue on Pt cheek for 3-5 sec. using flat hand contact 	<p>Muscle grading:</p> <p>5 – Complete range of motion against gravity with full resistance</p> <p>4 – Complete range of motion against gravity with some resistance</p> <p>3 – Complete range of motion against gravity</p> <p>2 – Complete range of motion with gravity eliminated</p> <p>1 – Evidence of slight contractility; No joint motion</p> <p>0 – No evidence of contractility</p> <p>- Tongue deviation from midline, atrophy, fasciculations OR Muscle grading <5 = CN 12 lesion</p>
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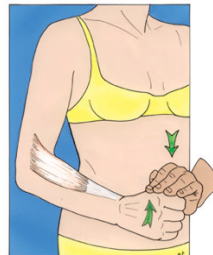

MUSCLE EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
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<p>Muscle Palpation</p> <ul style="list-style-type: none"> - Pt is in appropriate position – most likely either supine, prone, or side-lying; It is best if Pt’s skin is exposed to give Dr access to Pt’s muscles - Palpate Pt’s affected muscles; Perform bilateral to assess differences on either side 	<ul style="list-style-type: none"> - Pain = Muscle Strain - Differences in Size, Shape, Symmetry, Tone = Possible muscle abnormality including Muscular Atrophy OR Hypertrophy <p>Palpation – Tissue Tenderness Pain Scale</p> <p>0 = No tenderness</p> <p>+1 TTP = Tenderness to palpation WITHOUT grimace/flinch</p> <p>+2 TTP = Tenderness to palpation WITH grimace/flinch</p> <p>+3 TTP = Tenderness with WITHDRAWAL</p> <p>+4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)</p>
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<p>Muscle Mensuration</p> <ul style="list-style-type: none"> - This test involves measuring the Pt’s muscle bulk at the extremities - Areas measured include the Arm and Forearm of the Upper Extremity and the Thigh and Calf of the Lower Extremity - With a measuring tape, Dr measures the muscle bulk at each location of the extremities; Perform bilateral to assess differences on either side - Mensuration should be performed on multiple Pt visits to monitor progress or deterioration of muscle bulk of the limbs 	<ul style="list-style-type: none"> - A difference of 2.5 cm/1 inch is significant - Decrease in size = Muscle Atrophy - Increase in size = Muscle Hypertrophy OR Edema (look for increased size with decreased strength)
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CERVICAL ROM EXAM	INSTRUCTIONS	FINDINGS/INDICATIONS
Cervical Ranges of Motion	<ul style="list-style-type: none"> - Pt performs Cervical ROM tests; instruct Pt to move slowly and inform if any pain is produced: - Flexion & Extension - Right & Left Lateral Rotation - Right & Left Lateral Flexion 	<p>Normal:</p> <ul style="list-style-type: none"> - Flexion = 50 degrees - Extension = 60 degrees - R. & L. Lateral Rotation = 80 degrees - R. & L. Lateral Flexion = 45 degrees <ul style="list-style-type: none"> - Below Normal = Hypo- - Beyond Normal = Hyper-

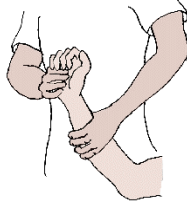
CERVICAL NEURO EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
Cervical Dermatomes: Sensory Exam	<ul style="list-style-type: none"> - Test sensation of cervical dermatomes using opposite end of reflex hammer - Ask Pt to remove any clothing or jewelry in the way of the shoulders and arms (tank top is best to wear); Perform bilateral with Pt's arms abducted 90 degrees and palms facing Dr, Pt's eyes closed; Test first on Pt's sternum; Ask Pt to compare/contrast sensations of both arms; Map affected areas - C5: Lateral arm (LU & LI channels) - C6: Lateral forearm, thumb & index finger (LU & LI channels) - C7: Middle finger (PC & SJ channels) - C8: Medial forearm, 4th & 5th fingers (HT & SI channels) - T1: Medial arm (HT and SI channels) 	<ul style="list-style-type: none"> - Sensation does not feel the same when compared to the other arm = Peripheral neuropathy, Radiculopathy OR Myelopathy (depending on distribution of loss)

Cervical Myotomes: Motor Exam	<ul style="list-style-type: none"> - Inform Pt to hold all positions against resistance and to report any pain elicited; Position and stabilize appropriately; Perform bilateral; Grade accord. to 0-5 Muscle grading scale using # of sec. to determine grading - C5 (LU & LI): <u>Deltoid</u> – Pt's arms abducted to 90 degrees; <u>Biceps brachii</u> – Pt's elbows flexed & palm facing upwards - C6 (LU & LI): <u>Brachioradialis</u> – Pt's elbows flexed & thumb pointing upwards; <u>Wrist Extensors</u> – Pt's wrists extended with elbows straight    	<p>Muscle grading:</p> <p>5 – Complete range of motion against gravity with full resistance</p> <p>4 – Complete range of motion against gravity with some resistance</p> <p>3 – Complete range of motion against gravity</p> <p>2 – Complete range of motion with gravity eliminated</p> <p>1 – Evidence of slight contractility; No joint motion</p> <p>0 – No evidence of contractility</p> <ul style="list-style-type: none"> - Pain elicited, Decreased effort OR Inability to perform test = Radiculopathy (spinal motor nerve lesion) OR Neuropathy (peripheral motor nerve lesion) OR Muscle problem
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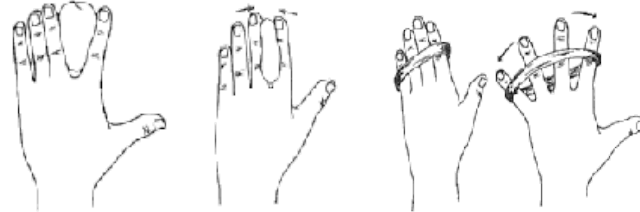
- C7 (PC & SJ): Triceps - Pt's elbows flexed & thumb pointed upwards (Dr resists on POST arm, just above olecranon); Wrist Flexors - Pt's wrists flexed with elbows straight; Finger Extensors - Pt's fingers extended



- C8 (HT & SI): Flexor Digitorum - Pt's fingers flexed

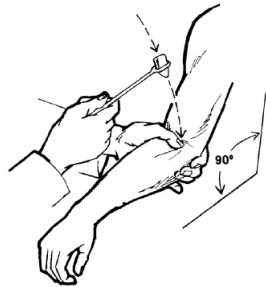


- T1 (HT & SI): Finger Adductors/Abductors - Pt spreads fingers apart and Dr tries to squeeze them together; Pt spreads fingers and Dr inserts their fingers between Pt's and Pt tries to prevent Dr from removing fingers without bending any joints

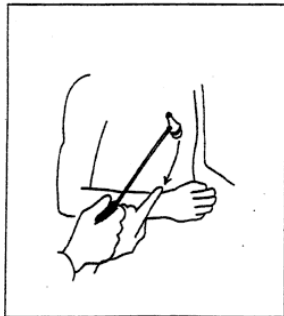


Cervical DTR's: Reflex Exam

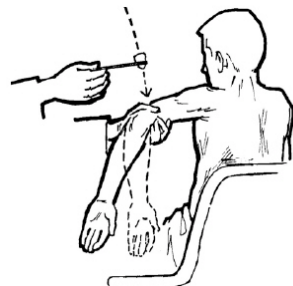
- Have Pt relax or distract Pt from looking at reflex hammer being used
- C5 (LU & LD): Biceps brachii - Dr cradles Pt's arm and displaces tendon with their thumb; Dr hits their thumb with hammer



- C6 (LU & LI): Brachioradialis - Dr cradles Pt's arm and palpates tendon; Dr strikes tendon directly or their thumb





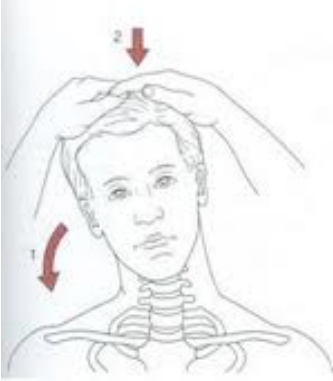
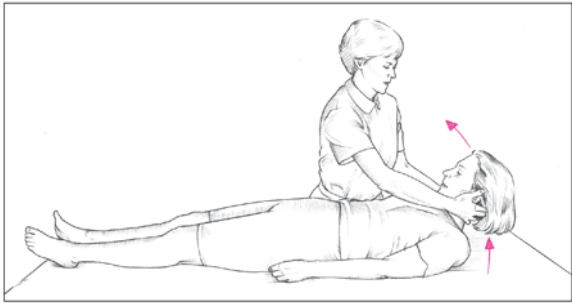

- C7 (PC & SJ): Triceps - Dr drapes Pt's arm over theirs and palpates tendon; Dr places their thumb over tendon and strikes thumb

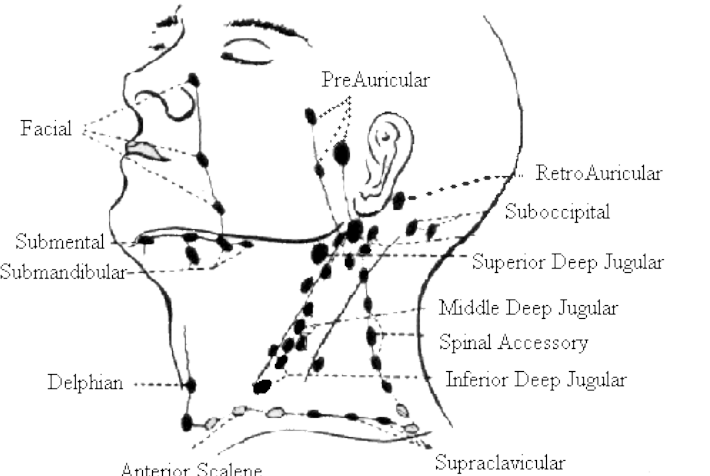


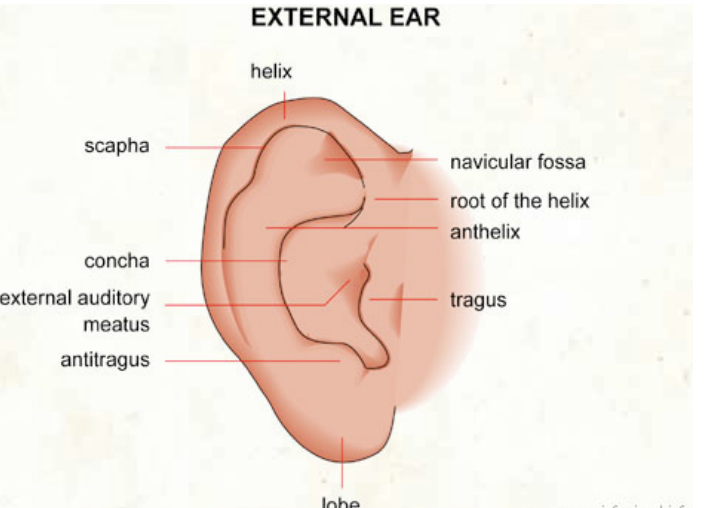
Wexler Reflex Scale:


- 0 - No response
- 1 - Hyporeflexia
- 2 - Normal**
- 3 - Hyperreflexia
- 4 - Hyperreflexia with transient clonus
- 5 - Hyperreflexia with sustained clonus

- Any finding above or below "Normal" = Possible spinal nerve lesion

CERVICAL SPINE EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
Cervical Distraction Test	<p>- Contact Pt's head in the depression under their ears; Gently pull the head away from the shoulders; Pt informs of any pain elicited</p> 	<p>- Exacerbation of pain = Sprain/Strain - Relief of pain = Possible IVF encroachment OR Facet problem</p>
Cervical Compression Test	<p>- Apply pressure from the top of Pt's head down to their shoulders; Pt informs of any pain elicited</p> 	<p>- Radicular pain = Disc, Stenosis, Adhesion involvement - Local pain = Joint involvement</p>
Jackson's Compression Test	<p>- Laterally flex Pt's head and compress downwards from the top of their head; Pt informs of any pain elicited</p> 	<p>- Radicular pain = Disc, Stenosis, Adhesion involvement - Local pain = Joint involvement OR Sprain/Strain on opposite side of flexion</p>
MENINGEAL IRRITATION EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
Brudzinski's Test	<p>- Pt lying supine with knees extended - Dr slowly flexes Pt's neck; Pt informs of any pain elicited</p> 	<p>- Pt has involuntary reflex causing knees & hips to jump/extension of low back AND/OR Nausea/Vomiting = Meningitis OR Nerve root involvement</p>
Kernig's Test	<p>- Pt lying supine with knees extended; Pt informs of any pain elicited - Dr slowly flexes Pt's knee and hip to 90 degrees; Perform bilateral - Dr then slowly extends Pt's knee, while Pt's hip still flexed</p> 	<p>- Inability to straighten leg OR Pain while straightening = Meningitis, Nerve root involvement OR Tight muscles</p>

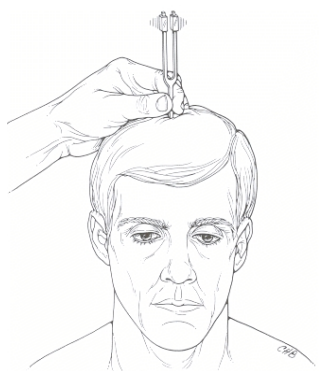
CERVICAL LYMPHNODE EXAM	INSTRUCTIONS	FINDINGS/INDICATIONS
<p>1. Submental 2. Submandibular 3. Pre-Auricular 4. Post-Auricular 5. Tonsillar 6. Occipital 7. Supraclavicular 8. ANT Cervical Chain 9. POST Cervical Chain 10. Deep Cervical Chain</p>	<p>- Palpate Pt's neck and head with finger pads using circular motion and appropriate pressure - Have Pt inform if any areas are tender; Pay attention for fixed, matted nodes</p> 	<p>- Swollen lymph nodes DDX = Infection, Mononucleosis, AIDS, Chronic Lymphocytic Leukemia, Non-Hodgkin's Lymphoma (painless swelling) - Large & Tender = Infection - Fixed, Non-Tender, Matted = Malignancy</p>

EAR AND RELATED EXAMS	INSTRCTIONS	FINDINGS/INDICATIONS
<p>Auricular Palpation</p>	<p>- Pt seated; Instruct Pt to inform if pain is produced upon palpation - Dr pulls on the helix of Pt's affected ear</p> 	<p>- Pain = Otitis Externa Palpation – Tissue Tenderness Pain Scale 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)</p>

<p>Otoscopy</p>	<p>- Pt seated; Instruct Pt to relax, keep head still, and inform if pain is produced prior to or during exam - Dr uses otoscope with speculum attached - Dr pulls helix of ear superiorly and posteriorly with one hand, while the other hand holds otoscope and stabilizes instrument - Dr holds hand on Pt's head and gently inserts scope - Observe middle ear surface and tympanic membrane (ear drum) - Perform bilateral, using a new sterile speculum for other ear</p> 	<p>- Redness, Swelling, Loss of Landmarks, Rupture, Pus, Exostosis = Otitis Media, Otitis Externa, OR Ruptured Tympanic Membrane</p>
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Weber's Test

- Pt seated; Instruct Pt to inform if they hear sound equally in both ears or in one ear better than the other
- Dr demonstrates tuning fork sound
- Dr hits fork and places it on the vertex of the Pt's skull
- Pt identifies where sound is heard



- Sound lateralizes to one ear
- If sound is heard on same side as complaint = Conductive ear pathology
- If sound is heard on opposite side of complaint = Sensory problem

Nasal Palpation and Rhinoscopy

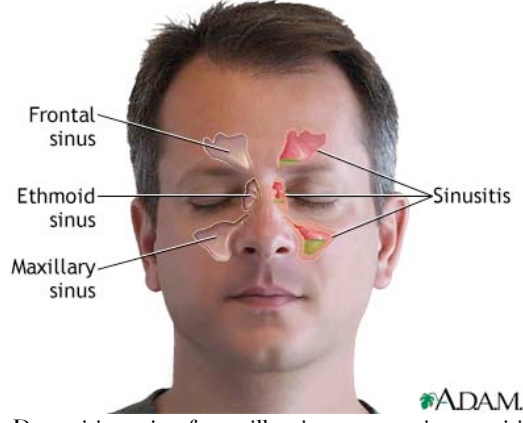
- Pt seated; Dr informs Pt of nasal examination and asks Pt to indicate if any pain is produced
- Dr palpates nose gently in its entirety
- Dr used rhinoscope/otoscope with speculum
- Dr tips Pt's nostrils open by placing thumb on nose tip and then inserts rhinoscope/otoscope gently into each nostril
- Perform bilateral, using a new sterile speculum for other nostril



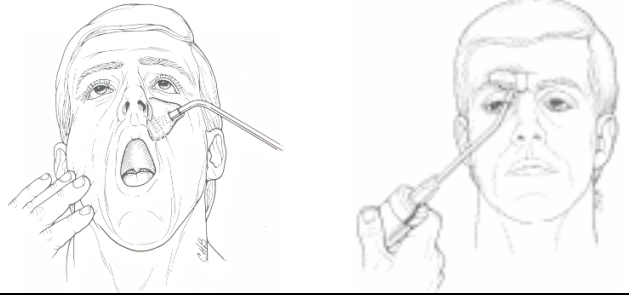
- Pain, Holes, Polyps, Redness, Discharge = Cold, Drug use OR Tumor

Sinus Palpation and Transillumination

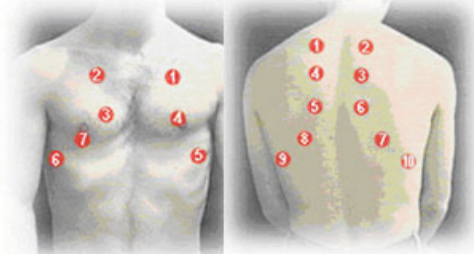
- Pt seated; Instruct Pt to inform if any pain is produced during exam
- Dr palpates Pt's sinuses: Maxillary, Ethmoid, Frontal; Perform bilateral

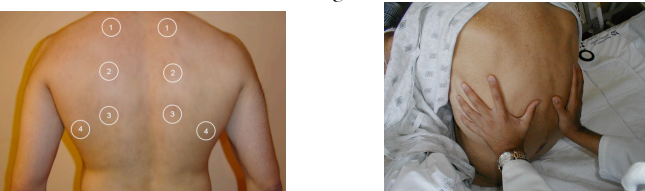



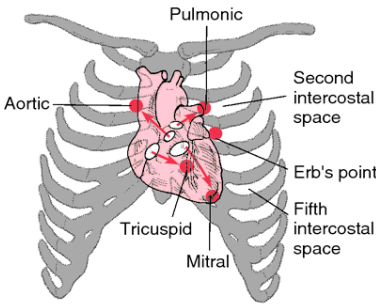
- Dr positions tip of transilluminator over sinus cavities and firmly against the skin of the Pt so no light escapes
- Dr transilluminates the maxillary sinuses by putting the instrument against the sinus pointing it down in order to view the light through the Pt's open mouth
- Dr transilluminates the frontal sinuses by putting the tip of the instrument below the brow with the tip pointing upwards
- Perform bilateral

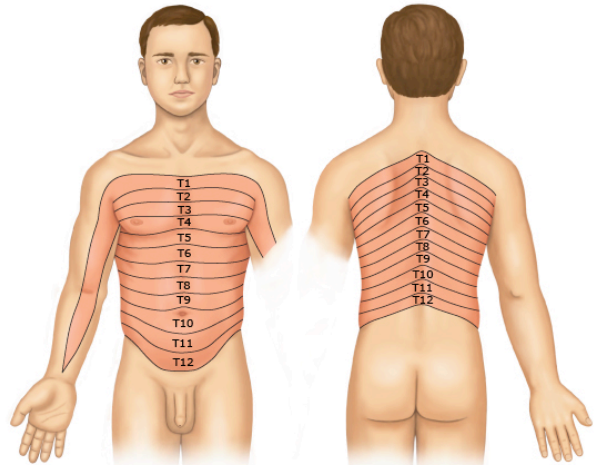


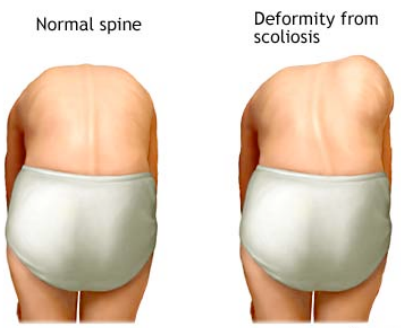
- Pain or Swelling on Palpation; Fluid line = Sinusitis OR Tumor


PULMONARY EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
Lung Auscultation Exam	<ul style="list-style-type: none"> - With Pt's ANT chest exposed (wearing a gown), place the stethoscope on the different auscultation positions (indicated below) - Have Pt breathe normally as Dr listens to the breath sounds through the stethoscope - Listen for the Duration, Pitch, and Intensity of the breath sounds - Note the type of breath sounds heard, as well as any added (or abnormal sounds); Try to ignore heart beat when listening to the breath around the heart; Normal breath sounds are relatively equal on inspiration and expiration with sounds that range from slow, low-pitch to a loud-high pitch (but a relatively consistent sound without disruptions of sound during breathing) - Perform bilateral; Repeat above process on the back/POST chest (follow the diagram below) 	<p>Abnormal breath sounds:</p> <ul style="list-style-type: none"> - Rales, crackles, or crepitus (caused by "popping open" of small airways and alveoli collapsed by fluid, exudate, or lack of aeration during expiration) DDX = pneumonia, atelectasis, pulmonary fibrosis, acute bronchitis, or bronchiectasis - Wheeze (some part of respiratory tree must be narrowed or obstructed increasing airflow velocity) DDX = asthma, other COPDs (bronchitis, emphysema, bronchiectasis), pulmonary edema, or anaphylaxis - Rhonchus (course rattling sound caused by thick, mucous secretions in bronchial airway) DDX = mucosal swelling, tumor, COPDs - Strider (high pitched sound from turbulent gas flow in upper airway) DDX = airway obstruction d/t epiglottitis, foreign body, laryngeal tumor

Fremitus (Tactile) Exam	<ul style="list-style-type: none"> - With Pt sitting upright, have them expose their back (wearing a gown) - Dr places palm on the different positions of the Pt's back (indicated below) and each time a hand is placed, have the Pt say "99" - Feel for variations in vibration during vocalization; Perform bilateral 	<ul style="list-style-type: none"> - Increased vibration = Decreased air volume within the lung - Decreased vibration = Separation of lungs and pleura
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CARDIOVASCULAR EXAM	INSTRUCTIONS	FINDINGS/INDICATIONS
Heart Auscultation Exam	<ul style="list-style-type: none"> - Pt is typically supine or lying at 30 degrees; Pt may be seated or side-lying as needed  <p>- Dr places stethoscope (diaphragm for high-pitched sounds; bell for low-pitched sounds) over the Five Auscultatory Points on the chest and listens to heart sounds; The <u>Five Auscultatory Points</u> include:</p> <ul style="list-style-type: none"> - Aortic: Second intercostal space, Right side, Parasternal margin - Pulmonic: Second intercostal space, Left side, Parasternal margin - Erb's (Ectopic): Third intercostal space, Left side - Tricuspid: Fifth intercostal space, Left Side, Parasternal margin - Mitral: Sixth intercostal space, Left Side, Midclavicular line  <ul style="list-style-type: none"> - Listen for normal heart sounds; The 1st heart sound (lub), marks the beginning of systole/end of diastole (related to the closure of the mitral and tricuspid valves; loudest at the apex); The 2nd heart sound (dub), marks the end of systole/beginning of diastole (related to the closure of the aortic and pulmonic valves; loudest at the base) 	<ul style="list-style-type: none"> - Murmurs (abnormal heart sounds; attributed to turbulent blood flow) = Possible Valvular heart disease (Assess location and timing in heart rhythm)

THORACIC NEURO EXAM	INSTRUCTIONS	FINDINGS/INDICATIONS
Thoracic Dermatomes: Sensory Exam	<ul style="list-style-type: none"> - Test sensation of thoracic dermatomes with opposite end of reflex hammer - Ask Pt to expose their back (wearing a gown); Have Pt sitting upright with their arms abducted at least 45 degrees; Test first on the sternum and then move to the back - Remind Pt to inform if at any point there is pain, no sensation at all, or any other odd sensations, also comparing one side from the other - Test dermatomes from medial to lateral from each spinous process; Perform bilateral - Remember to follow dermatomes under Pt's arm as well, going as far as to be aligned vertically with the axilla 	<ul style="list-style-type: none"> - Decreased sensation from one side to the other = Herpes zoster, Scoliosis OR Rib or Vertebral Subluxation

THORACIC SPINE EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
Adam's Maneuver	<ul style="list-style-type: none"> - Pt exposes their back (wearing a gown) and Dr inspects & palpates the spine for a rib hump and scoliosis - Pt slowly flexes forward and Dr re-inspects & palpates the back  <p style="text-align: center;">*ADAM</p>	<ul style="list-style-type: none"> - Scoliosis or Rib hump is either reduced OR maintained on flexion (i.e. lateral deviation of the spinal column) - No change with flexion = Structural scoliosis - Reduction of hump = Functional scoliosis

Sternal Compression Test	INSTRUCTIONS	FINDINGS/INDICATIONS
Sternal Compression Test	<ul style="list-style-type: none"> - Pt lies supine; Remind Pt to inform if there is any pain present prior to or during the exam - Apply a downward pressure on the midpoint of the sternum <p>*Note: Not safe to perform in the case of a rib fracture. Performing would result in incredible discomfort for the Pt as well as possible complications of breaking the rib further and puncturing the lungs and/or diaphragm, and the brachial plexus (from the 1st and 2nd ribs)</p> 	<ul style="list-style-type: none"> - Rib pain = Rib fracture OR Subluxation <p>Palpation – Tissue Tenderness Pain Scale</p> <ul style="list-style-type: none"> 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)

Spinous (SP) Percussion Test

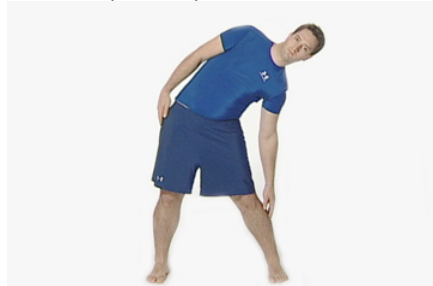
- Pt seated with head slightly flexed and draped accordingly with back exposed; Dr asks Pt to point to area of pain and inform if exam intensifies symptoms
- Dr starts either above or below area of pain and percusses towards pain level
- Dr percusses each spinous process and palpates associated muscles



- Acute Localized or Radicular pain
 - Localized = Fracture on involved segment
 - Radicular = Possible Disc Lesion
- Palpation – Tissue Tenderness Pain Scale
 0 = No tenderness
 +1 TTP = Tenderness to palpation WITHOUT grimace/flinch
 +2 TTP = Tenderness to palpation WITH grimace/flinch
 +3 TTP = Tenderness with WITHDRAWAL
 +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)

Scheplemann’s Test OR Forestier’s Bowstring Test

- Pt seated or standing; Remind Pt to inform if any pain present before or during exam
- Pt actively laterally flexes their trunk; Perform bilateral

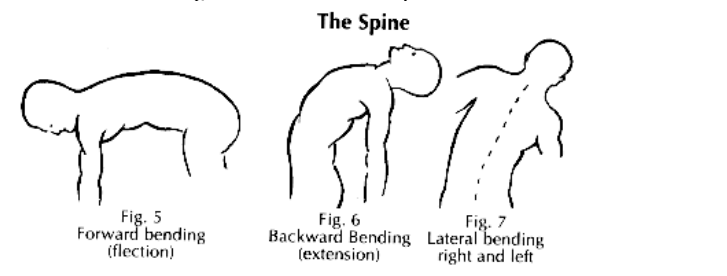


- Pain on either Concave OR Convex side
 - Concave = Neuritis
 - Convex = Sprain OR Pleurisy
- Muscle tightening on the Concave side (normally the convex side demonstrates tightening) = Ankylosing Spondylitis

LUMBAR ROM

Lumbar Ranges of Motion

- INSTRUCTIONS**
- Have Pt Flex, Extend, and Laterally flex (bilateral) their lumbar
 - Observe their ranges of motion as compared to normal

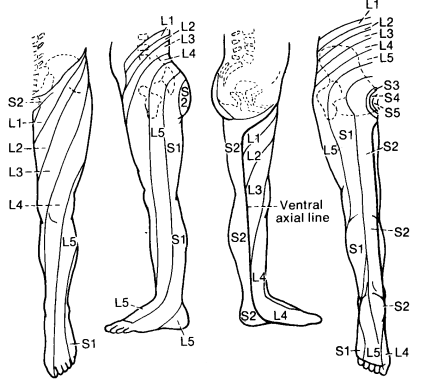


- FINDINGS/INDICATIONS**
- Normal:
- Flexion = 60 degrees
 - Extension = 25 degrees
 - L. & R. Later Flexion = 25 degrees
- Beyond norm = Hyper-
 - Below norm = Hypo-

LUMBARNEURO EXAMS

Lumbar Dermatomes: Sensory Exam

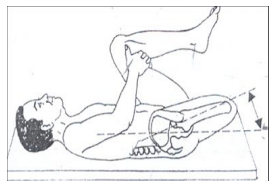
- INSTRUCTIONS**
- Ask Pt to remove clothing and any jewelry to have access to the legs; Drape Pt’s groin if necessary
 - Ask Pt to inform of any pain, no sensation at all, or odd sensations during exam, also comparing one side from the other
 - Use opposite end of reflex hammer and test on Pt’s sternum first
 - Pt closes their eyes
 - Cover all dermatome levels fully (L1-S2) on both the front and back of the legs; Perform bilateral
 - Compare left to right; If there is a difference in sensation, check the area above and below as well



- FINDINGS/INDICATIONS**
- Sensation does not feel the same when compared to the other leg = Peripheral neuropathy, Radiculopathy OR Myelopathy (depending on distribution of loss)

Lumbar Myotomes: Motor Exam

- For all myotome exams, ask Pt to resist motion and inform if any pain is produced; Grade results according to 0-5 Muscle grading scale, using # of sec. of resistance held to determine grading; Position and stabilize appropriately; Perform bilateral
 - L1-L3 (ST, SP, BL, KD, GB, LV): Illiopsoas & Quadratus femoris – Pt’s knee and hip flexed, Dr contacts distal femur with one hand while other hand contacts distal tibia/fibula



- L4 (ST, SP, UB, GB): Tibialis – Pt’s ankle is inverted & dorsiflexed; Dr contacts foot and tries to plantar flex & evert it (“swoop foot in”)



- L5 (ST, UB, KD, GB): Extensor hallucis longus – Pt dorsiflexes big toe; Dr contacts big toe and tries to pull it down; Pt then dorsiflexes the rest of their toes; Dr contacts toes and tries to pull them down



- S1 (UB & GB): Peroneus longus & brevis – Pt’s ankle everted & plantarflexed; Dr contacts foot and tries to invert & dorsiflex it (“swoop foot out”)

Muscle grading:
5 – Complete range of motion against gravity with full resistance
 4 – Complete range of motion against gravity with some resistance
 3 – Complete range of motion against gravity
 2 – Complete range of motion with gravity eliminated
 1 – Evidence of slight contractility; No joint motion
 0 – No evidence of contractility

- Pain elicited, Decreased effort OR Inability to perform test = Radiculopathy (spinal motor nerve lesion) OR Neuropathy (peripheral motor nerve lesion) OR Muscle problem

Lumbar DTR’s: Reflex Exam

- Pt seated; Have them relaxed, turn their head away, or close their eyes; Perform DTR’s with reflex hammer; Perform bilateral
 - L4 (ST, SP, UB, GB): Tibialis - Position Pt’s leg so it is hanging free and palpate for patellar tendon; Strike tendon with hammer



- S1 (UB & GB): Peroneus longus & brevis – Gently stretch the Achilles tendon (dorsiflex) with one hand; Strike the tendon with hammer



Wexler Reflex Scale:
 0 – No response
 1 – Hyporeflexia
2 – Normal
 3 – Hyperreflexia
 4 – Hyperreflexia with transient clonus
 5 – Hyperreflexia with sustained clonus

- Any finding above or below “Normal” = Possible spinal nerve lesion

LUMBAR SPINE EXAMS

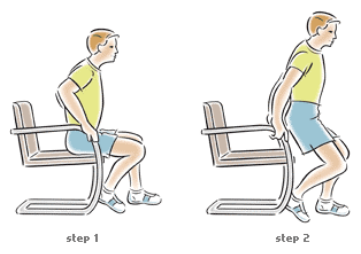
INSTRUCTIONS

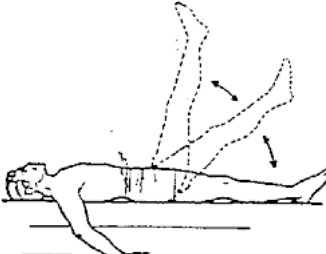

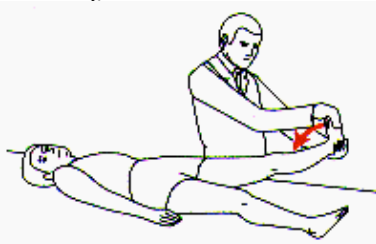

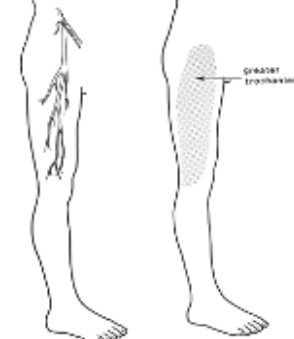
FINDINGS/INDICATIONS


Minor’s Sign


- Ask Pt to stand up from a seated position; Pt informs if any pain elicited

- Pt supports self on unaffected side while standing & keeps affected leg flexed = Possible sciatic radiculopathy (if pain travels to feet) OR Facet problem (if pain doesn’t travel past knee)

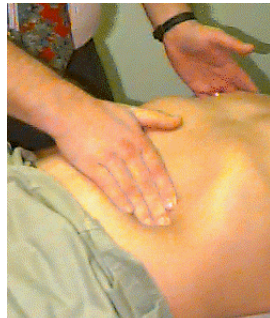
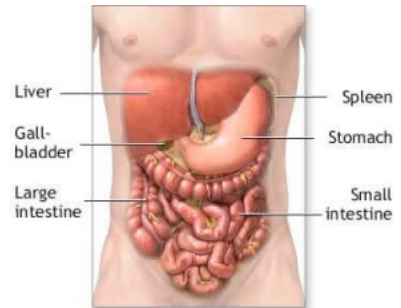



<p>Straight Leg Raise (SLR)</p>	<p>- Pt supine; Pt informs of any pain elicited; Slowly elevate Pt's leg to point of pain or 90 degrees (knee remains extended); Perform bilateral</p> 	<p>- Radicular pain = Sciatic involvement</p>
<p>Kemp's Test</p>	<p>- Pt standing with feet shoulder width apart and arms at side - Pt touches back of their knee with hand; Pt informs if any pain elicited; Instruct Pt to perform this by extending their back and reaching behind them; Perform bilateral</p> 	<p>- Radicular pain extending not beyond the knee = Facet involvement - Pain on side of body being stretched = Sprain/Strain</p>
<p>Freiberg's Test</p>	<p>- Pt supine; Pt informs of any pain elicited; Dr internally rotates the affected leg and performs a SLR; If pain is produced, Dr externally rotates leg</p> 	<p>- Symptoms relieved by external rotation = Piriformis syndrome</p>
<p>Gaenslen's Test</p>	<p>- Pt supine with one butt cheek off the side of table and other leg flexed into their chest; Pt informs of any pain elicited - Dr stands to the side of the Pt (not between their legs) and applies pressure to each leg to shear the SI joint; Perform bilateral</p> 	<p>- Pain in the SI on the extended leg = SI joint subluxation OR Sprain</p>
<p>Tinel's - Lateral Femoral Cutaneous Nerve</p>	<p>- Pt supine; Ask Pt location of pain and begin exam on opposite side - Using reflex hammer, tap on the inner thigh along the lateral femoral cutaneous nerve; Pt informs of any pain elicited</p> 	<p>- Reproduction of symptoms = Meralgia Paresthetica</p> <p>Palpation – Tissue Tenderness Pain Scale 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)</p>



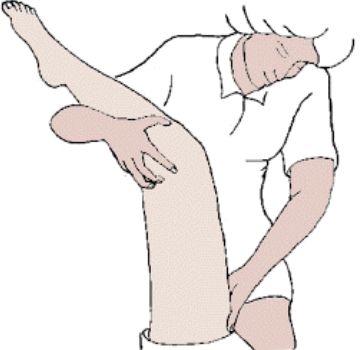

Heel Walking	<ul style="list-style-type: none"> - Pt standing; Dr instructs Pt to walk on their heels approx. 10 steps ahead of them - Dr observes for toe(s) to drop 	<ul style="list-style-type: none"> - Toe(s) drop = L4-L5 lesion OR Common Peroneal Nerve Lesion OR Problem with Tibialis Anterior or Extensors
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Toe Walking	<ul style="list-style-type: none"> - Pt standing; Dr instructs Pt to walk on their toes approx. 10 steps ahead of them - Dr observes for heel(s) to drop 	<ul style="list-style-type: none"> - Heel(s) drop = S1 lesion OR Tibial Nerve Lesion OR Problem with Gastrocnemius or Soleus
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ABDOMINAL EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
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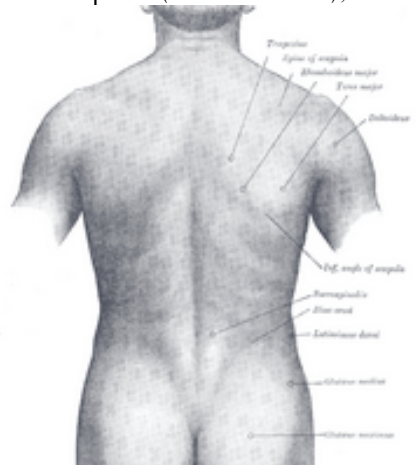
Abdominal Organ Palpation	<ul style="list-style-type: none"> - Pt supine with knees flexed and arms at side; Remind them to inform of pain before or during exam - Expose Pt's abdomen (wearing a down) and make sure Pt is properly draped and permission is given to palpate their abdomen - Use one hand to palpate and the other to move palpating hand; Perform with overlapping concentric rings over entire abdomen with superficial palpation; Perform again with deep palpation - Palpate organs individually (Spleen, Liver, Kidneys)  	<ul style="list-style-type: none"> - Pain, Masses OR Pulsations - Pain = Inflammation, Infection - Masses = Malignancy - Pulsations = Aneurysm <p><u>Liver:</u> - Hepatomegaly OR Pain = Cancer OR Cirrhosis</p> <p><u>Spleen:</u> - Splenomegaly OR Pain = Infection, Cancer, OR Blood disease</p> <p><u>Kidneys:</u> - Pain OR Enlargement = Infection AND/OR Cancer</p> <p>Palpation – Tissue Tenderness Pain Scale 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)</p>
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Jar Test	<ul style="list-style-type: none"> - Dr asks Pt to perform the following and inform if pain is elicited: Pt stands on toes and drops down on heels; Pt performs maneuver 	<ul style="list-style-type: none"> - Abdominal pain = Peritonitis
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<p>Rebound Tenderness Test</p>	<ul style="list-style-type: none"> - Pt supine with knees flexed and arms at side; Remind them to inform of pain before or during exam - Expose Pt's abdomen (wearing a down) and make sure Pt is properly draped and permission is given to palpate their abdomen - Ask Pt to identify painful area and Dr contacts Pt in opposite quadrant - Dr pushes hand into the abdomen and quickly releases the pressure 	<ul style="list-style-type: none"> - Pain throughout abdomen = Peritonitis <p>Palpation – Tissue Tenderness Pain Scale</p> <ul style="list-style-type: none"> 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)
<p>Rosving's Test</p>	<ul style="list-style-type: none"> - Pt supine with knees flexed and arms at side; Remind them to inform of pain before or during exam - Expose Pt's abdomen (wearing a down) and make sure Pt is properly draped and permission is given to palpate their abdomen - Dr places hand in Left Lower Quadrant and depresses with Pt's respiration, then quickly releases pressure 	<ul style="list-style-type: none"> - Pain in Right Lower Quadrant = Appendicitis <p>Palpation – Tissue Tenderness Pain Scale</p> <ul style="list-style-type: none"> 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)
<p>Psoas Sign</p>	<ul style="list-style-type: none"> - Pt supine; Remind them to inform if painful - Dr flexes Pt's right hip to 90 degrees; Ask Pt to hold position and resist - Do not perform on left 	<ul style="list-style-type: none"> - Pain in Right Lower Quadrant = Appendicitis
<p>Murphy's Sign</p>	<ul style="list-style-type: none"> - Pt supine with knees flexed and arms at side; Remind them to inform of pain before or during exam - Expose Pt's abdomen (wearing a down) and make sure Pt is properly draped and permission is given to palpate their abdomen - Dr gently pushes anterior to posterior under right ribcage; Perform with respiration and observe for cessation of respiration 	<ul style="list-style-type: none"> - Cessation of respiration due to pain = Cholecystitis <p>Palpation – Tissue Tenderness Pain Scale</p> <ul style="list-style-type: none"> 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)

Murphy's Punch

- Pt seated; Dr informs Pt that they will tap on their back and ask them to inform if pain produced
 - Pt positioned so the costovertebral angles can be seen
 - Dr places one hand in the angle and hits it with their other hand, in the form of a punch (mild stimulation); Perform bilateral



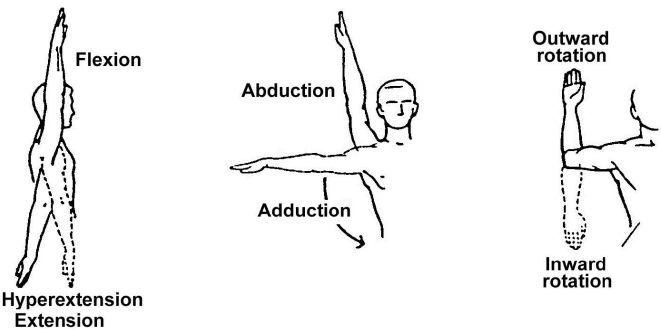
- Kidney pain = Kidney inflammation OR UTI (Pyelonephritis)

Palpation – Tissue Tenderness Pain Scale
 0 = No tenderness
 +1 TTP = Tenderness to palpation WITHOUT grimace/flinch
 +2 TTP = Tenderness to palpation WITH grimace/flinch
 +3 TTP = Tenderness with WITHDRAWAL
 +4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)

UPPER EXTREMITY ROM INSTRUCTIONS FINDINGS/INDICATIONS

Shoulder ROM

- Pt informs if pain is produced during exam; Have Pt Flex, Extend, Abduct, Adduct, Internally Rotate, and Externally Rotate their shoulder
 - Observe ranges of motion as compared to normal; Perform bilateral, using opposite joint ROM as a comparative measure as well

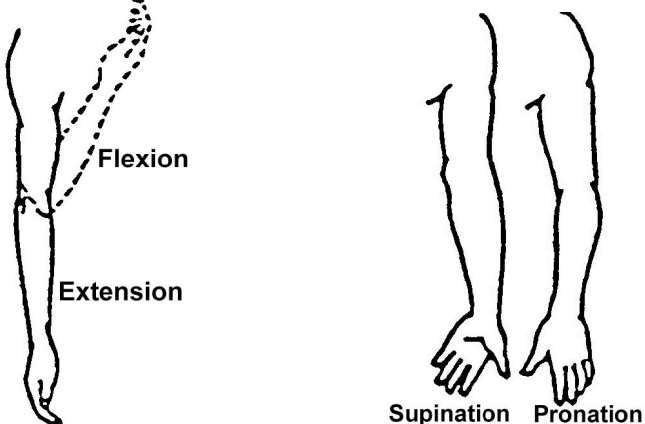


Normal:
 - Flexion = 170-180 degrees
 - Extension = 50-60 degrees
 - Abduction = 170-180 degrees
 - Internal Rotation = 80-90 degrees
 - External Rotation = 90-100 degrees

- Beyond norm = Hyper-
 - Below norm = Hypo-

Elbow ROM

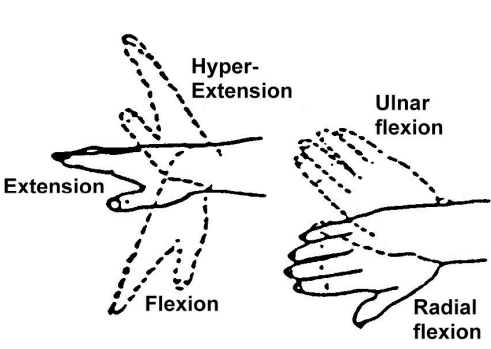
- Pt informs if pain is produced during exam; Have Pt Flex, Extend, Supinate, and Pronate their elbow



- Observe ranges of motion over course of treatment to assess whether improvements are taking place; Perform bilateral, using opposite joint ROM as a comparative measure as well

Wrist ROM

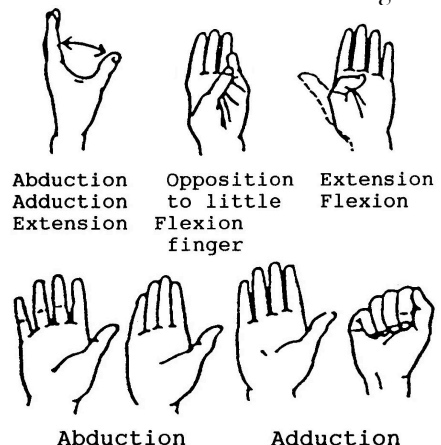
- Pt informs if pain is produced during exam; Have Pt Hyper-Extend, Flex, Ulnar Flex, and Radial Flex their wrist



- Observe ranges of motion over course of treatment to assess whether improvements are taking place; Perform bilateral, using opposite joint ROM as a comparative measure as well

Thumb and Finger ROM

- Pt informs if pain is produced during exam; Have Pt Abduct, Adduct, Oppose, Extend, and Flex their thumb
 - Have Pt Abduct and Adduct their fingers



- Observe ranges of motion over course of treatment to assess whether improvements are taking place; Perform bilateral, using opposite joint ROM as a comparative measure as well

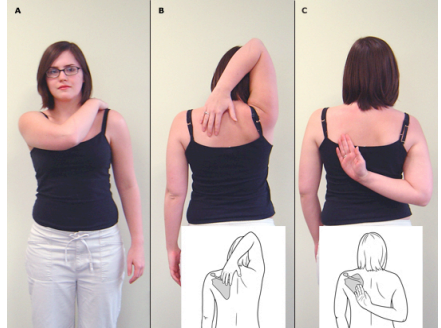
UPPER EXTREMITY EXAMS

INSTRUCTIONS

FINDINGS/INDICATIONS

Apley's Scratch Test

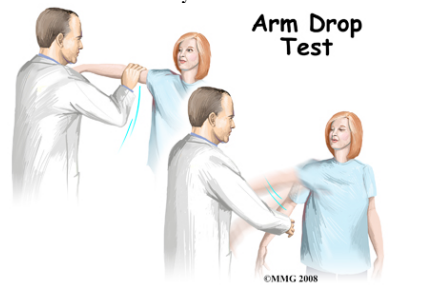
- Pt standing; Perform bilateral; Pt informs if pain is produced during exam
 - Compare distances reached by each finger amongst each set of actions
 - Pt reaches in front of neck towards the opposite scapula
 - Pt reaches behind neck towards the opposite scapula
 - Pt reaches behind back, crawling thumb or fingers up the spine



- Pain AND/OR Asymmetrical distance reached when comparing left to right amongst each set of actions = GH dysfunction OR Tight muscles

Drop Arm Test (Codman's)

- Pt informs if pain is produced during exam; Dr passively abducts Pt's arm to 90 degrees & asks Pt to hold up arm
 - If Pt is able to hold, Dr taps Pt's arm or applies downward resistance
 - Dr has Pt actively lower their arm while observing the motion



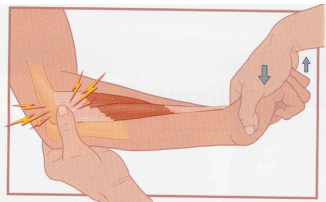



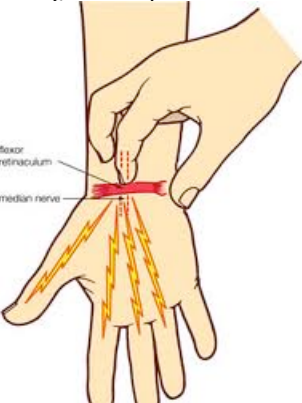
- Inability to hold arm up, Gives way with tap OR Jerky motion when lowered
 - Complete tear = Can't hold arm up
 - Partial tear = Gives way with tap OR Jerky motion when lowered
 - Tear likely associated with Rotator Cuff muscle injury (Supraspinatus, Infraspinatus, Teres Minor, and Subscapularis muscles)

Hawkins-Kennedy Test

- Pt informs if pain is produced during exam; Dr supports Pt's elbow with one hand, while stabilizing the scapula over the trapezius with the other
 - Pt's elbow is flexed 90 degrees
 - Dr moves Pt's arm into passive internal rotation

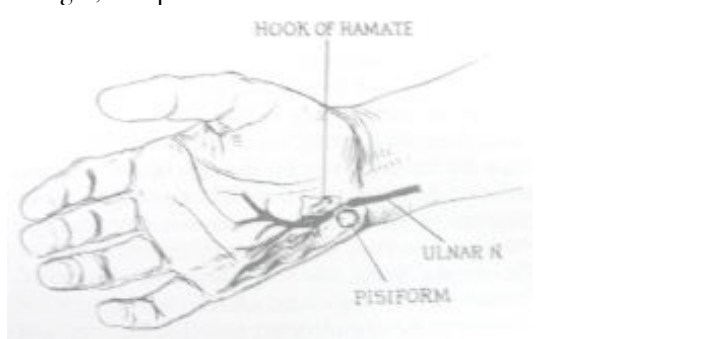


- Pain in anterior aspect of shoulder = Subacromial impingement syndrome (possibly from the Supraspinatus muscle)

<p>Cozen's Test</p>	<p>-Pt informs if pain is produced during exam; Pt's elbow is flexed 90 degrees; Pt's forearm is pronated and wrist extended; Dr applies resistance to wrist extension</p> 	<p>- Pain over lateral epicondyle = Lateral Epicondylitis (a.k.a Tennis Elbow)</p>
<p>Mill's Test</p>	<p>- Pt informs if pain is produced during exam; Pt's forearm is supinated and their wrist flexed; Pt is instructed to pronate their forearm against Dr's resistance</p> 	<p>- Pain over medial epicondyle = Medial Epicondylitis (a.k.a Golfer's Elbow)</p>
<p>Phalen's Test</p>	<p>- Pt informs if pain is produced during exam; Instruct Pt to keep shoulders relaxed while performing exam - Pt places the dorsum of their hands together (i.e. maximum wrist flexion) with forearms pronated; Pt performs for 60 sec or until symptoms start</p> 	<p>- Reproduction of pain AND/OR Parasthesias in median nerve distribution = Carpal Tunnel Syndrome</p>
<p>Tinel's - Cubital Tunnel</p>	<p>- Pt informs if pain is produced during exam; Dr flexes Pt's elbow slightly and palpates the ulnar nerve; With reflex hammer or finger, Dr taps over the Pt's cubital tunnel</p> 	<p>- Reproduction of pain AND/OR Parasthesias down the distribution of the ulnar nerve = Cubital tunnel syndrome</p> <p>Palpation - Tissue Tenderness Pain Scale 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ "Jump Sign") to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)</p>
<p>Tinel's - Carpel Tunnel</p>	<p>- Pt informs if pain is produced during exam; Dr palpates location of median nerve (carpel tunnel) at Pt's affected wrist; With reflex hammer or finger, Dr taps over this location</p> 	<p>- Reproduction of pain AND/OR Parasthesias in median nerve distribution = Carpal tunnel syndrome</p> <p>Palpation - Tissue Tenderness Pain Scale 0 = No tenderness +1 TTP = Tenderness to palpation WITHOUT grimace/flinch +2 TTP = Tenderness to palpation WITH grimace/flinch +3 TTP = Tenderness with WITHDRAWAL +4 TTP = Withdrawal (+ "Jump Sign") to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)</p>

Tinel's - Tunnel of Guyon

- Pt informs if pain is produced during exam; Dr palpates location of ulnar nerve (Tunnel of Guyon) at Pt's affected wrist; With reflex hammer or finger, Dr taps over this location



- Reproduction of pain AND/OR Parasthesias in ulnar nerve distribution = Tunnel of Guyon syndrome

Palpation - Tissue Tenderness Pain Scale
 0 = No tenderness
 +1 TTP = Tenderness to palpation WITHOUT grimace/flinch
 +2 TTP = Tenderness to palpation WITH grimace/flinch
 +3 TTP = Tenderness with WITHDRAWAL
 +4 TTP = Withdrawal (+ "Jump Sign") to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)

Bracelet Test

- Pt informs if pain is produced during exam
 - Dr gives mild to moderate lateral compression to the distal ends of the radius and ulna



- Acute forearm, wrist AND/OR hand pain = Rheumatoid Arthritis (when correlated with lab values and x-rays)

Palpation - Tissue Tenderness Pain Scale
 0 = No tenderness
 +1 TTP = Tenderness to palpation WITHOUT grimace/flinch
 +2 TTP = Tenderness to palpation WITH grimace/flinch
 +3 TTP = Tenderness with WITHDRAWAL
 +4 TTP = Withdrawal (+ "Jump Sign") to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)

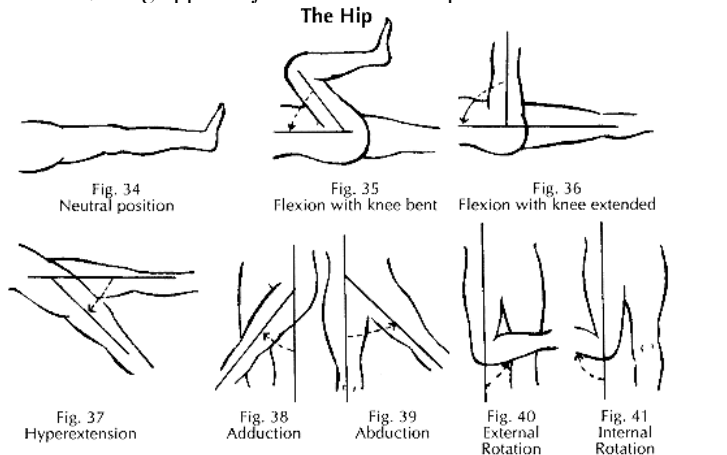
LOWER EXTREMITY ROM

INSTRUCTIONS

FINDINGS/INDICATIONS

Hip ROM

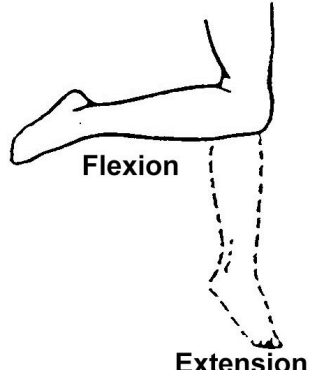
- Pt informs if pain is produced during exam; Have Pt perform the following ranges of motion of their hips:
 Flexion, Extension, Abduction, Adduction, Internal Rotation, and External Rotation
 - Observe their ranges of motion as compared to normal; Perform bilateral, using opposite joint ROM as a comparative measure as well



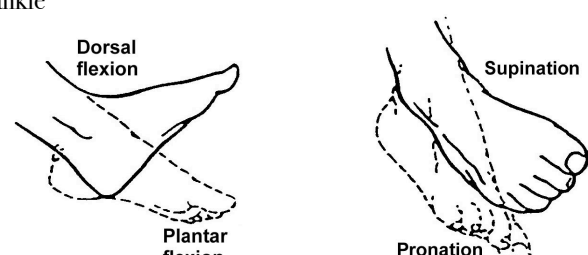
Normal:
 - Flexion = 120-130 degrees
 - Extension = 10-20 degrees
 - Abduction = 45 degrees
 - Adduction = 30 degrees
 - Internal Rotation = 45 degrees
 - Beyond norm = Hyper-
 - Below norm = Hypo-


Knee ROM

- Pt informs if pain is produced during exam; Have Pt Flex their knee from an extended position





- Observe ranges of motion over course of treatment to assess whether improvements are taking place; Perform bilateral, using opposite joint ROM as a comparative measure as well

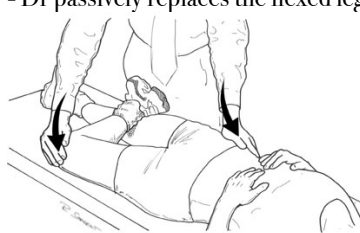
Ankle ROM	<p>- Pt informs if pain is produced during exam; Have Pt Dorsiflex, Plantar Flex, Supinate (Internally Rotate), and Pronate (Externally Rotate) their ankle</p> 	<p>- Observe ranges of motion over course of treatment to assess whether improvements are taking place; Perform bilateral, using opposite joint ROM as a comparative measure as well</p>
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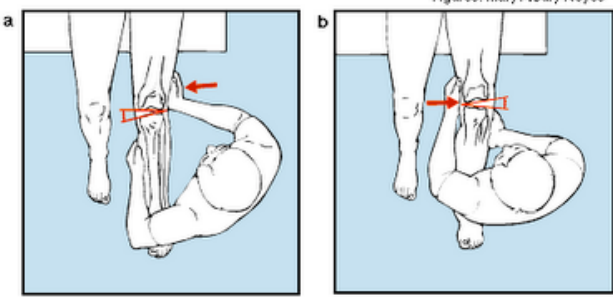
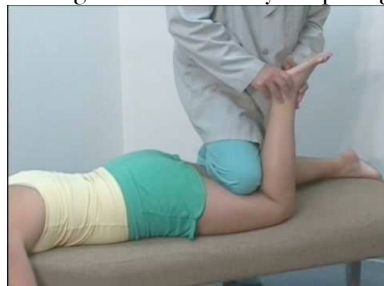
Toe ROM	<p>- Pt informs if pain is produced during exam; Have Pt Flex, Extend, Abduct, and Adduct their toes</p> 	<p>- Observe ranges of motion over course of treatment to assess whether improvements are taking place; Perform bilateral, using opposite joint ROM as a comparative measure as well</p>
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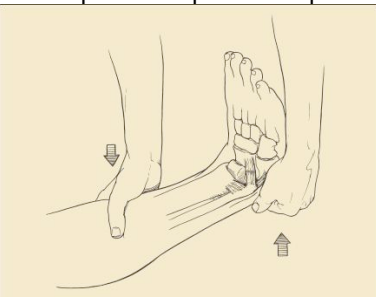
LOWER EXTREMITY EXAMS	INSTRUCTIONS	FINDINGS/INDICATIONS
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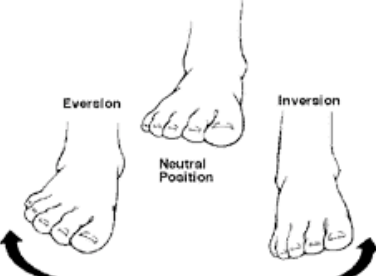
Actual Leg Length	<p>- Pt standing; Dr places one end of tape measure on Pt's ASIS and the other end on the floor next to Pt's foot</p> <p>- Dr measures the length</p> <p>- Perform bilateral</p> 	<p>- Unequal lengths = Anatomic Short Leg OR Joint Pathology (including Hip Dislocation)</p>
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Peripheral Joint Clearance	<p>- Pt informs if pain is produced during exam; Pt standing; Pt slowly squats down towards the floor to touch their feet; Dr is standing close to protect from falling (while squatting or upon rising)</p> <p>- If Pt is unable to squat down completely with heels on floor, have Pt repeat squat allowing their heels to elevate</p> 	<p>- Pain in Hips, Knees AND/OR Ankle joints = Problem with painful joint</p>
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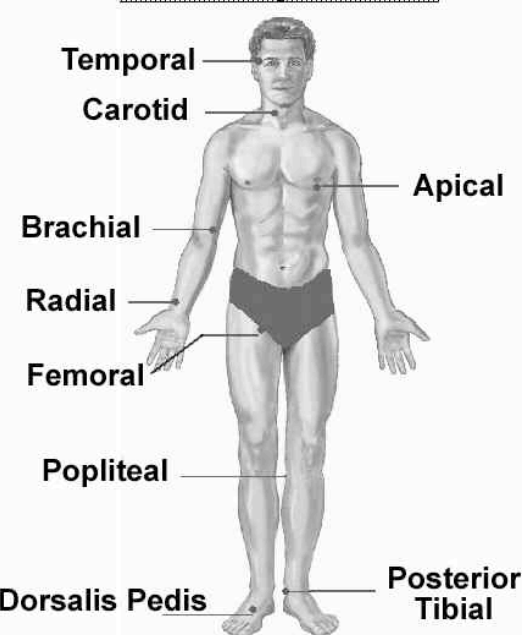
Patrick's Test	<p>- Pt informs if pain is produced during exam; Pt supine; Dr passively flexes Pt's hip & knee, and then abducts & externally rotates the same knee; The ankle is placed just above the patella on the opposite leg</p> <p>- Dr stabilizes the opposite ASIS and gently depresses Pt's flexed knee towards the table</p> <p>- Dr passively replaces the flexed leg back onto the table</p> 	<p>- Pain in groin OR Inferior gluteal region = Hip capsulitis, Arthritis OR Fracture</p>
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<p>Anvil Test</p>	<ul style="list-style-type: none"> - Pt informs if pain is produced during exam; Pt supine with foot exposed and slightly dorsiflexed - Dr hits the Pt's calcaneus with their fist; Perform bilateral 	<ul style="list-style-type: none"> - Pain in groin AND/OR Upper thigh = Hip fracture, Arthritis OR Inflammation of the hip
<p>Drawer Sign - Knee</p>	<ul style="list-style-type: none"> - Pt informs if pain is produced during exam; Pt supine with affected knee flexed 45 to 90 degrees; Dr sits on Pt's foot to stabilize - Dr grasps Pt's proximal tibia with both hands - From a neutral position, Dr pushes the proximal tibia from ANT-POST - From neutral position, Dr pulls the proximal tibia from POST-ANT 	<ul style="list-style-type: none"> - 5 mm of tibial movement in either direction (ANT-POST=PCL; POST-ANT=ACL) = ACL or PCL sprain/tear
<p>Varus and Valgus Stress Test</p>	<ul style="list-style-type: none"> - Pt supine; Pt's knee is flexed between 20-30 degrees - <u>Varus</u>: Dr grasps medial joint line and palpates lateral joint line to create a varus stress - <u>Valgus</u>: Dr grasps lateral joint line and palpates medial joint line to create a valgus stress  <p>Figures: Mary Albury-Noyes</p> <p>Figure 3. To examine a patient with a suspected medial collateral ligament (MCL) injury for instability (a) the physician supports the seated patient's leg with one hand, tucking the patient's foot under the examiner's arm. Valgus stress is then applied (arrows). To test for lateral collateral ligament (LCL) instability (b), the physician switches the position of the hands and applies varus stress (arrows). Both tests are performed at full extension and 25° flexion. MCL and LCL injuries are graded by the degree of joint space opening.</p>	<ul style="list-style-type: none"> - Gaping along lateral joint line = LCL Sprain OR Tear - Gaping along medial joint line = MCL Sprain OR Tear
<p>Apley's Compression & Distraction</p>	<ul style="list-style-type: none"> - Pt informs if pain is produced during exam; Pt prone and Dr flexes their knee to 90 degrees; Dr stabilizes Pt's thigh down on the table with their knee - Dr rotates Pt's tibia internally and then applies downward pressure on Pt's heel, followed by rotating the tibia externally and applying downward pressure on Pt's heel - Dr rotates Pt's tibia internally and then pulls on Pt's foot, followed by rotating the tibia externally and pulling on Pt's foot 	<ul style="list-style-type: none"> - Pain with compression = Meniscus involvement - Pain with distraction (or pulling) = Ligament involvement

<p>Drawer Sign – Foot/Ankle</p>	<p>- Pt supine; Dr stabilizes Pt’s ankle with out hand and grasps and exerts a pushing pressure on the tibia with the other hand</p> <p>- Dr then grasps anterior aspect of foot with one hand and grasps and exerts a pull on the posterior aspect of the tibia with the other hand</p> 	<p>- Gapping when tibia is pushed or pulled</p> <p>- Gapping with Push = Sprain of the Anterior Talofibular Ligament</p> <p>- Gapping with Pull = Sprain of the Posterior Talofibular Ligament</p>
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<p>Medial/Lateral Stability-Stress Test</p>	<p>- Pt supine</p> <p>- Dr passively everts Pt’s foot</p> <p>- Dr then passively inverts Pt’s foot</p> 	<p>- Gapping of joint</p> <p>- Gapping when foot is Everted = Sprain of the Deltoid Ligament</p> <p>- Gapping when foot is Inverted = Sprain of the Anterior Talofibular OR Calcaneofibular Ligament</p>
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<p>Tinel’s – Tarsel Tunnel</p>	<p>- Pt informs if pain is produced during exam; Pt seated or supine; Dr stands to the side of the limb and places one hand on the lower leg and uses a hammer or their fingers to tap on the posterior tibial nerve</p> 	<p>- Reproduction of pain AND/OR Paresthesias in distribution of posterior tibial nerve = Tarsal tunnel syndrome</p> <p>Palpation – Tissue Tenderness Pain Scale</p> <p>0 = No tenderness</p> <p>+1 TTP = Tenderness to palpation WITHOUT grimace/flinch</p> <p>+2 TTP = Tenderness to palpation WITH grimace/flinch</p> <p>+3 TTP = Tenderness with WITHDRAWAL</p> <p>+4 TTP = Withdrawal (+ “Jump Sign”) to non-noxious stimuli (i.e. superficial palpation, pin prick, gentle percussion)</p>
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<p>Peripheral Pulses</p>	<p>- Pt Supine; Dr palpates pulses of the lower extremity: Femoral, Popliteal, Posterior Tibial, and Dorsalis Pedis arteries</p> <p>- Note: Have Pt cover their own genitals when palpating Femoral artery</p> <p>- Assess for <u>Rate, Rhythm, and Nodularity</u></p> 	<p>- Occlusion = Atherosclerosis, Diabetes, Edema, OR Congenital Abnormality</p>
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MALINGERING EXAMS	INSTRUCIONS	FINDINGS/INDICATIONS
<p>Axial Loading Test</p>	<ul style="list-style-type: none"> - Dr instructs Pt to stand up straight and report if any pain is experienced during exam - Dr presses either on the shoulders or on the top of Pt's head 	<ul style="list-style-type: none"> - Pt reports pain in Neck or Back = A behavioral sign (Malingering), unless Pt has a history of fibromyalgia
<p>Magnusson's Test</p>	<ul style="list-style-type: none"> - Pt is instructed to point to the site of pain; Dr marks the site that the Pt indicates - Dr distracts Pt by performing an examination away from the marked site of pain - Dr asks once again for Pt to point to the site of pain 	<ul style="list-style-type: none"> - Any significant change in the Location of pain = Malingering OR Hysteria