Clinical Skills Lab 5 Sheet

Subject : Peripheral Nervous System Examination

The exam will be divided into a neurological problem in :

1) An upper limb

2) A lower limb

3) A cerebellum.

>> This means that you do not have to examine the entire body , just focus on the tests for that area.

هذه الجداول تتضمن النقاط الرئيسة للامتحان العملي التي يجب ان تؤديها و باقي الشيت يتضم شرح لطريقة تنفيذ هذه الخطوات و صورا و فيديوهات لتوضيح الصورة و أيضا المعلومات النظرية المهمة للامتحان النظري .

THE UPPER LIMB EXAMINATION:

Pre-examination:

1) hand hygiene

2) Privacy and Chaperone (ask for one of your health care assistant to be a chaperone)

3) Introduce yourself and Take patient's name (your name and pt. name)

4) Explanation the examination(today I will examine your .... this require ... It is ok for you?!) and take the Consent (CAN I EXAMINE YOU?!)

5) Position of the pt. (the patient will be **sitting** in the upper limb examination.)

6) Exposure >> In upper and lower limb examination the exposure would just be to expose those areas.

7) Before you touch the pt. ask him if he has any pain ?!

1st : general inspection

1) muscle bulk: muscle wasting, muscle hypertrophy

2) Deformity: clawing of the hands

3) Abnormal(involuntary) movements: Fasciculation, Myokymia, Myoclonic jerks, Athetosis(typing movement), Chorea(dancing), Resting tremor, Stretching (intention) tremor

4) Asymmetry

2nd : palpation (feel)

1)Feel the muscles

soft like a pillow, hard like a stone, pain(tenderness)

2) Feel the tone >> Assess by a passive movement

1) Hold the patient's hand as if shaking hands
2) Using your other hand to support his elbow.
3) Assess tone at the wrist and elbow.
4) Comment on what you find (Hypotonia, Hypertonia(spasticity and rigidity))

3rd:examination of reflexes(Deep):

1) Supinator jerk: hammer falls on the distal end of the radius bone

2) biceps jerk: The hammer falls on the doctor's finger on the biceps tendon

3) triceps jerk: The hammer falls on the on the triceps tendon

4th: testing movement and power (Graded 0-5) : >> assess whether he can overcome gravity, then apply resistance to this movement
Movements: shoulder **abduction/adduction, elbow **flexion/extension**, wrist **flexion/extension**, finger and thumb **adduction, and grip strength**

5th: testing coordination (Cerebellum):

1) Finger-to-nose test يلمس انفه و بعدها يلمس اصبعك

2) Rapid alternating movements تطلب منه ان يقوم بحركة تكون عبارة عن (نمط متكرر)

3) Rebound phenomenon تدفع يديه الممدودتان للاسفل لترى ان كانتا سيتوقفان عند مكانهم الاصلي

4) Ideomotor apraxia يكتب اسمه على ورقة

5) Ideational apraxia ان يريك كيف يصب الشاي

6th: Sensation: >> you will not test every dermatome you only test a general test by assess the limb from inside and outside and in multiple vertical levels

1) Light touch: cotton swap

2)Vibration: tuning fork

3) Superficial pain: neurological pin

4) Temperature: cold metallic object, e.g. tuning fork

5) Joint position sense

THE LOWER LIMB EXAMINATION:

Pre-examination:

1) hand hygiene

2) Privacy and Chaperone (ask for one of your health care assistant to be a chaperone)

3) Introduce yourself and Take patient's name (your name and pt. name)

4) Explanation the examination(today I will examine your .... this require ... It is ok for you?!) and take the Consent (CAN I EXAMINE YOU?!)

5) Position of the pt. (In the lower limb examination the patient **reclining** and the patient will be **sitting** in the upper limb examination.)

6) Exposure >> In upper and lower limb examination the exposure would just be to expose those areas.

7) Before you touch the pt. ask him if he has any pain ?!

1st : general inspection

1) muscle bulk: muscle wasting, muscle hypertrophy

2) Deformity: Flat foot, pes cavus

3) Abnormal(involuntary) movements: Fasciculation, Myoclonic jerks, Chorea(dancing), Resting tremor, Stretching (intention) tremor

4) Asymmetry

2nd : palpation (feel)

1)Feel the muscles

soft like a pillow, hard like a stone, pain(tenderness)

2) Feel the tone >> Assess by a passive movement

1) Roll the leg from side to side
2) Then briskly lift the knee into a flexed position and observe the movement of the foot
3) Assess tone at the hip ,Knee and the ankle .
4) Comment on what you find (Hypotonia, Hypertonia(spasticity and rigidity))

3rd:examination of reflexes(Superficial):

1) Plantar response(Babinski sign)

2) Abdominal reflexes

3) Cremasteric reflex (only in men)

examination of reflexes(Deep):

1) knee jerk: Strike the patellar tendon

2) Ankle jerk: Strike the Achilles tendon

4th: testing movement and power (Graded 0-5) : >> assess whether he can overcome gravity, then apply resistance to this movement
Movements: hip **flexion/extension, knee **flexion/extension**, **and** ankle **plantarflexion/dorsiflexion**

5th: testing coordination (Cerebellum):

Heel-to-shin test

6th: Sensation: >> you will not test every dermatome you only test a general test by assess the limb from inside and outside and in multiple vertical levels and assess the trunk from up down and for both sides

1) Light touch: cotton swap

2)Vibration: tuning fork

3) Superficial pain: neurological pin

4) Temperature: cold metallic object, e.g. tuning fork

5) Joint position sense

THE CEREBELLUM EXAMiNATiON:

مهم الترتيب لانه مترابط :

a) Dysarthria في البداية تراقب كلامة عندما تبدأ الحديث معه

b) Rapid alternating movements تطلب منه ان يقوم بحركة تكون عبارة عن (نمط متكرر)

Tap hand alternating palm and back of the hand

c) Finger-to-nose test or Heel-to-shin test (dysmetria + tremor)

ان يلمس انفه و بعدها يلمس اصبعك

d) Nystagmus

تطلب منه ان يلاحق اصبعك بعينيه دون تحريك راسه

e) Ideomotor apraxia+ Ideational apraxia

تطلب منه ان يكتب اسمه على ورقة ثم ان يريك كيف يصب الشاي

f) Rhomberg test يقف و يرفع يديه للامام و يغمض عيينه و يحاول الاتزان

g) Rebound phenomenon تدفع يديه الممدودتان للاسفل لترى ان كانتا سيتوقفان عند مكانهم الاصلي

h) Stance and the gait تطلب منه المشي

PERIPHERAL NERVOUS SYSTEM EXAMINATION:

NOTES FOR EVERY PHYSICAL EXAMINATION:

1) Plz read the paper on the door very very very carefully >> because the time is not enough to do all what you learn in the lecture >> **ONLY DO WHAT IS WRITTEN**

2) Even though if the time is finished and there is something you didn't do>> **PLZ SAY WHAT YOU WILL YOU DO** and you will take a part of the mark

3) In the examination >> Plz comment on the test you do **(SAY WHAT YOU FIND)** >> Don't say "I do this and this" without say what you have been seen

IN THE EXAM THERE WILL BE AN ABNORMAL SIGN

PRE-EXAMINATION:

1) **hand hygiene**
2) **Privacy** and **Chaperone** (ask for one of your health care assistant to be a chaperone)
3) **Introduce yourself and Take patient's name** (your name and pt. name)
4) **Explanation** the examination(today I will examine your .... this require ... It is ok for you ?!) and **take the Consent** (CAN I EXAMINE YOU?!)
5) **Position** of the pt. (In the lower limb examination the **patient reclining** and the patient will be **sitting** in the upper limb examination.)
6) **Exposure** >> In upper and lower limb examination the exposure for the upper and lower limbs would just be to expose those areas.
****IN THE EXAM THE STUDENT WILL LIKELY NOT EXPOSE THE AREA**

7) Before you touch the pt. **ask him if he has any pain** ?!

ASSESS THE MOTOR SYSTEM UNDER THE FOLLOWING HEADINGS:

- First of all : general inspection (look)
- secondly: palpation (feel)
    1. Feel the muscles
    2. Feel the tone
- Thirdly : examination of reflexes

> NOTE: we examine the reflexes after the tone BUT before the muscle power because the anxiety and the pain increase the response

- Fourthly : testing movement and power
- Fifthly: testing coordination (Cerebellum)

IN THE EXAM YOU SHOULD DO ANY TEST BILATERALLY OR AT LEAST SAY THAT YOU WILL DO THE TEST BILATERALLY

> NOTE: we do everything **bilaterally** >> to assess the **symmetry** because it consider as our **reference** to any test to say it is normal or abnormal.

e.g. when you test the muscle strength and you find a weakness in it you should assess it to the other side if it is symmetrical it could be normal .

First of all : general inspection

1) muscle bulk :

- muscle wasting >> e.g. muscle dystrophy
- muscle hypertrophy >> e.g. professional sport player

2) Deformity:

- clawing of the hands (مثل المخالب) >> problem in the ulnar nerve
- Flat foot *(no arch in his foot)* or pes cavus *(opposite to flat foot =high arch)* >> could be due to neuro problem

3) Abnormal (involuntary) movements:

- Fasciculation: irregular twitches under the skin overlying resting muscles , caused by individual motor units firing spontaneously
  NOTE: Fasciculation is seen, not felt
  TO SEE IT : https://www.youtube.com/watch?v=sVgQS_6iUGE

- Myokymia: is rapid bursts of repetitive motor unit activity often occurring in an eyelid
  TO SEE IT : https://www.youtube.com/watch?v=fq8BgG9W8aU

- Myoclonic jerks : sudden shock like contractions of one or more muscles which may be focal or diffuse (حركة سريعة و مفاجأة)
  TO SEE IT : https://www.youtube.com/watch?v=HmN4Zb7A2ak

- Athetosis: involuntary writing(typing on computer) movement
  TO SEE IT : https://www.youtube.com/watch?v=ZF1uTCf4ZIg

- Chorea: brief, random, purposeless movements >>(مثل الرقص في كل الجسم)
  It could be normal >> the pt. had it from birth or acquired it by a brain damage
  TO SEE IT : https://www.youtube.com/watch?v=HOalYWvVLU8

- Tremor: oscillatory movement about a joint or a group of joints resulting from alternating contraction and relaxation of muscles
  I. Resting tremor >> **Always a problem** ... may be caused by *parkinsonism disease*
     TO SEE IT : https://www.youtube.com/watch?v=ZMx07OagyJw
  II. Stretching (intention) tremor >> **it can be normal** ... may be caused by *cerebellum damage*
     -we tested it when we test the coordination by order the pt. to touch his nose then touch my finger
     TO SEE IT : https://www.youtube.com/watch?v=mBr1ZZ1dr3E

NOTE: Before you touch the pt. **ask him if he has any pain** ?!

secondly: palpation (feel)

1. Feel the muscles

- Feel the muscle if it is **soft like a pillow** >> muscle dystrophy
- If it is **hard like a stone** >> cerebral palsy
- Feel if there is any pain(**tenderness**)
- The normal feeling for the muscle is little pit firm

2. Feel the tone

- **Tone** is the resistance felt by the examiner when moving a joint **passively**.
- General Steps:

  1) Ask the patient to **relax**. (Enquire about any painful joints or limitations of movement before proceeding)

  2) **Passively** move **each joint** tested through as **full** a range as possible in **all anatomically possible directions**.

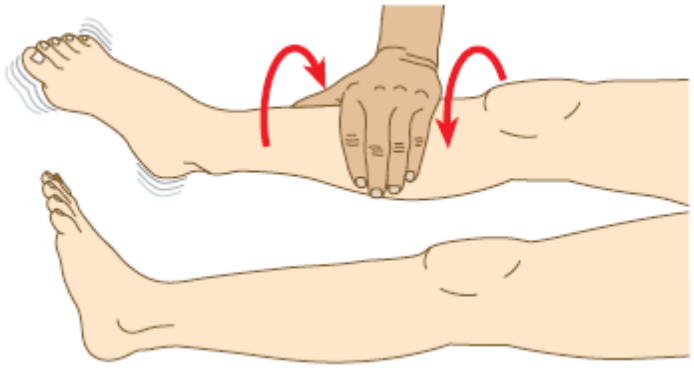
NOTE: **Be unpredictable with these movements, both in direction and speed, to prevent the patient actively moving with you; you want to assess passive tone.**

Upper limb

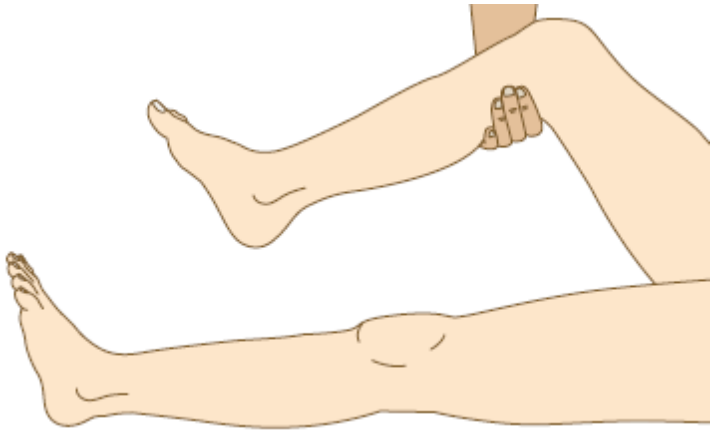
1) Hold the patient's hand as if shaking hands
2) Using your other hand to support his elbow.
3) Assess tone at the **wrist** and **elbow**.

Lower limb

I) Roll the leg from side to side



2) Then briskly lift the knee into a **flexed position** and **observe** the movement of the **foot**



- Hypotonia (decreased muscle tone)) suggest a lower neuron lesion
- Hypertonia (increased muscle tone) suggest a upper motor neuron lesion
- There are two types of hypertonia: **spasticity and rigidity**.

  Spasticity is velocity-dependent resistance to passive movement >> it is detected with quick movements

  Rigidity is a sustained resistance throughout the range of movement and is most easily detected >> when the limb is moved slowly.

  In parkinsonism this is classically described as '**lead pipe rigidity**'

NOTE:
In Lower motor neurone lesion >> we have Wasting , hypotonia ,Fasciculation , and Reflexes absent or diminished
In Upper motor neurone lesion >> we have 'Patterned' weakness, No muscle wasting , Hyperreflexia , Hypertonia and Babinski response .

Thirdly : examination of reflexes:

1) Superficial reflexes (Skin)

- This group of reflexes is **polysynaptic** and elicited by **cutaneous stimulation rather than stretch stimulation**

**** There is a scale to classify the respond:**

+1 : hyporeflexia (diminished response)
+2: normal
+3: hyperreflexia (more intense than we normally see)
+4: very very strong **with clonus**

A. Plantar response (S1–2)

1) Run a blunt object along the **lateral border** of the sole of the foot towards the **little toe**

2) Watch **both** the first **movement of the great toe** and the **other leg flexor muscles.**

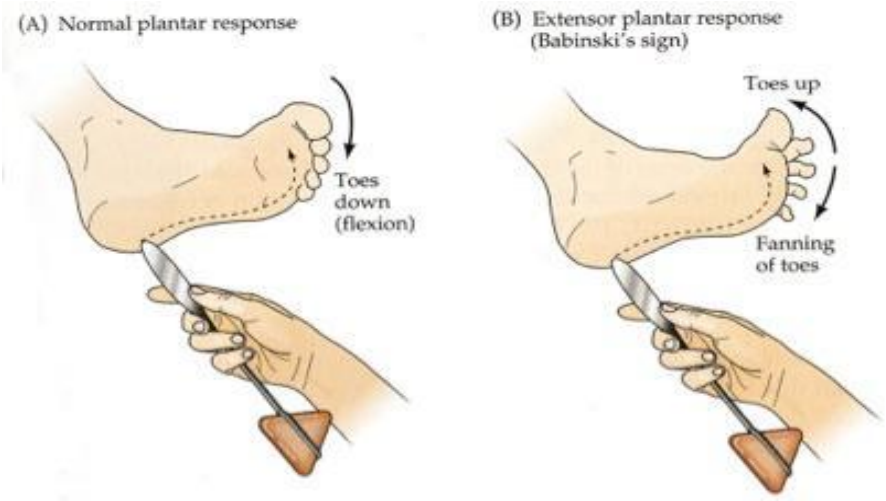
NOTE: The normal response is flexion of the great toe with flexion of the other toes.

❖ A true Babinski sign (extensor plantar):

- An **abnormal** plantar response is **extension** of the large toe (extensor plantar or Babinski response).

>> This is a sign of **upper** motor neurone damage.

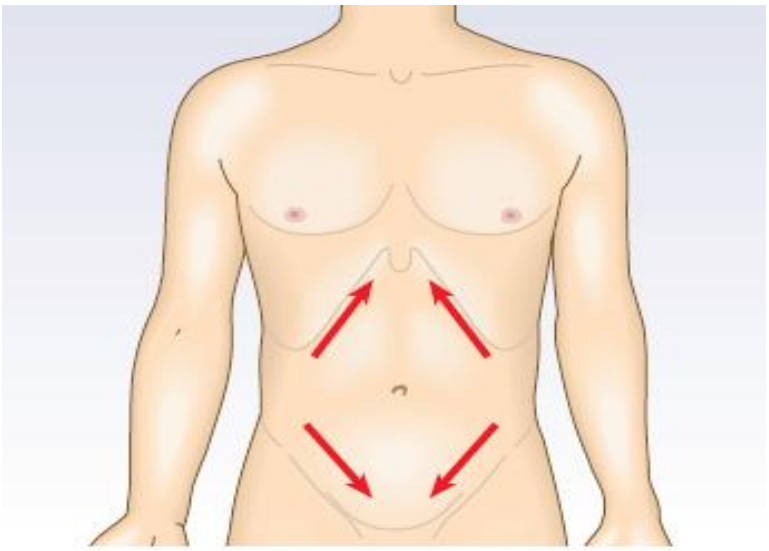
NOTE: it can be normal before 1 year old



B. Abdominal reflexes (T8–12)

1) The patient should be supine and relaxed.

2) Use a blunt object and briskly, but lightly, stroke the upper and lower quadrants of the abdomen in a **medial direction**



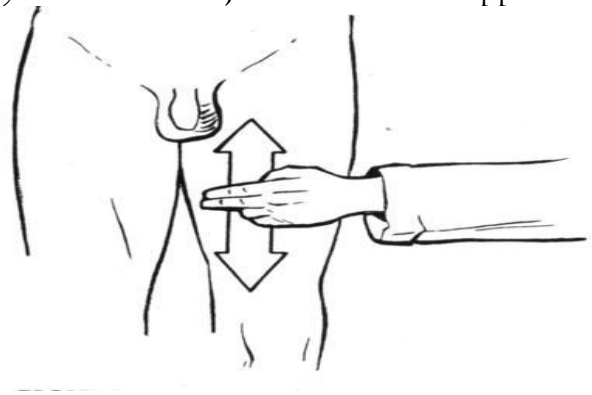
NOTE: The normal response is **contraction of the underlying muscle**, with the **umbilicus moving laterally** and up or down depending upon the quadrant tested.

C. Cremasteric reflex (L1–2): **males only**

1) **Explain** what you are going to do.

2) **Abduct** and **externally rotate** the patient's thigh.

3) Use a blunt object to stroke the upper medial aspect of the thigh.

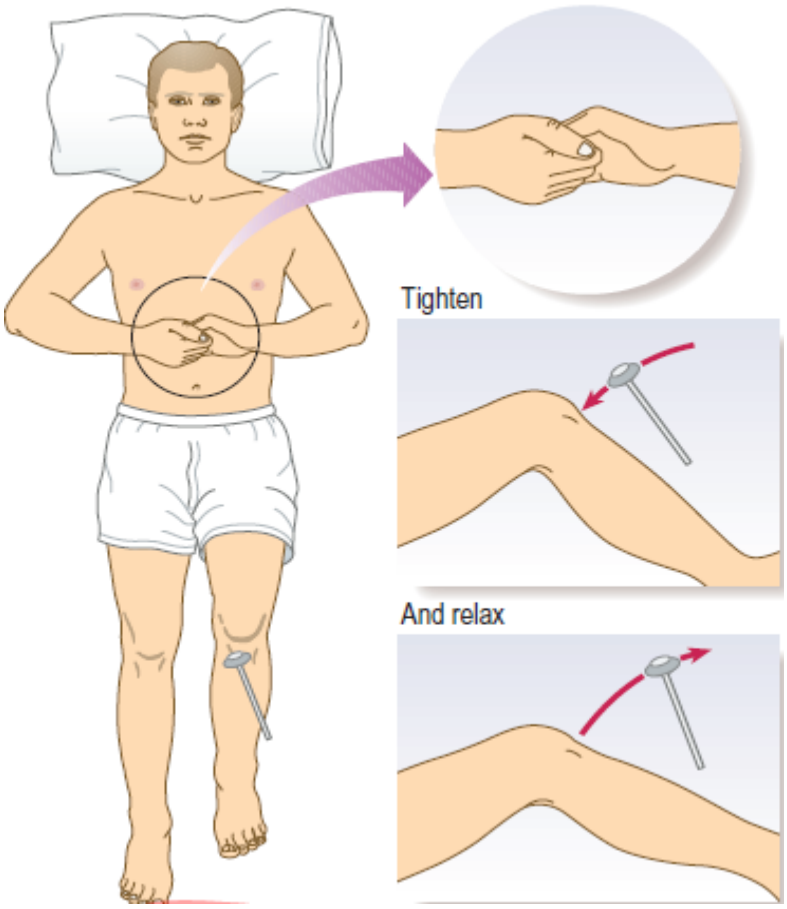


NOTE: Normally the testis on the side stimulated will rise briskly

2) Deep tendon reflexes(muscles)

- A tendon reflex is the **involuntary contraction** of a muscle **in response to stretch >> Stretch reflex**

NOTE: Use reinforcement whenever a reflex appears absent.
- For knee and ankle reflexes, ask the patient to **interlock** the fingers and pull one hand against the other **on your command, immediately before you strike the tendon**



- To reinforce upper limb reflexes, ask the patient to **clench the teeth or to make a fist with the contralateral hand.**
>> Strike the tendon immediately after your command to the patient

- General Steps:

1) Ask the patient **to lie supine on the examination couch** with the **limbs exposed**.

2) He should be as relaxed and comfortable as possible

3) Flex **your** wrist and allow the weight of the tendon hammer head to determine the strength of the blow.

4) Strike the tendon, **not the muscle or bone**.

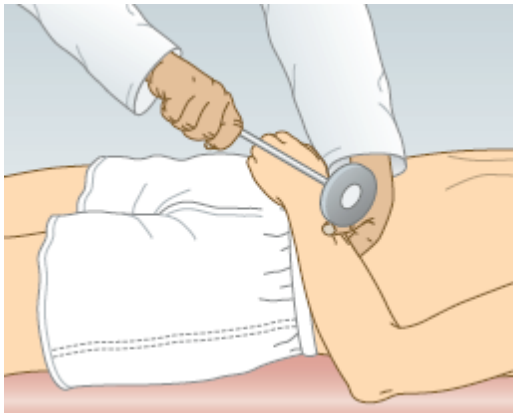
5) Compare each reflex with the other side; check for **symmetry** of response >> Then **record** the response

>>This is the general steps for every deep tendon reflex and the important thing **is the location of the tendon for every reflex**

**Upper limbs reflexes:

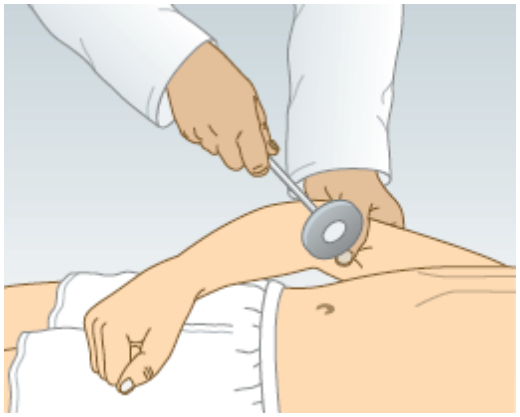
1) Supinator jerk(C5,C6):

- The hammer falls on the **distal end of the radius bone**



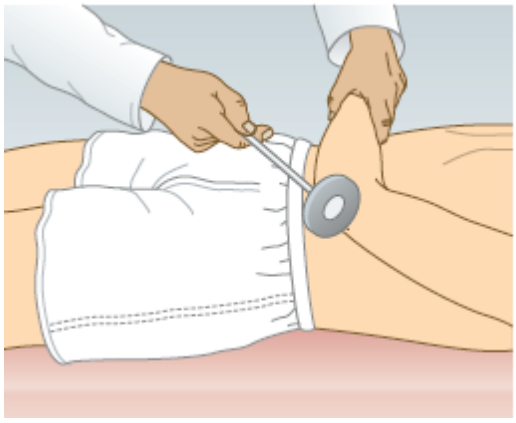
2) biceps jerk(C5,C6):

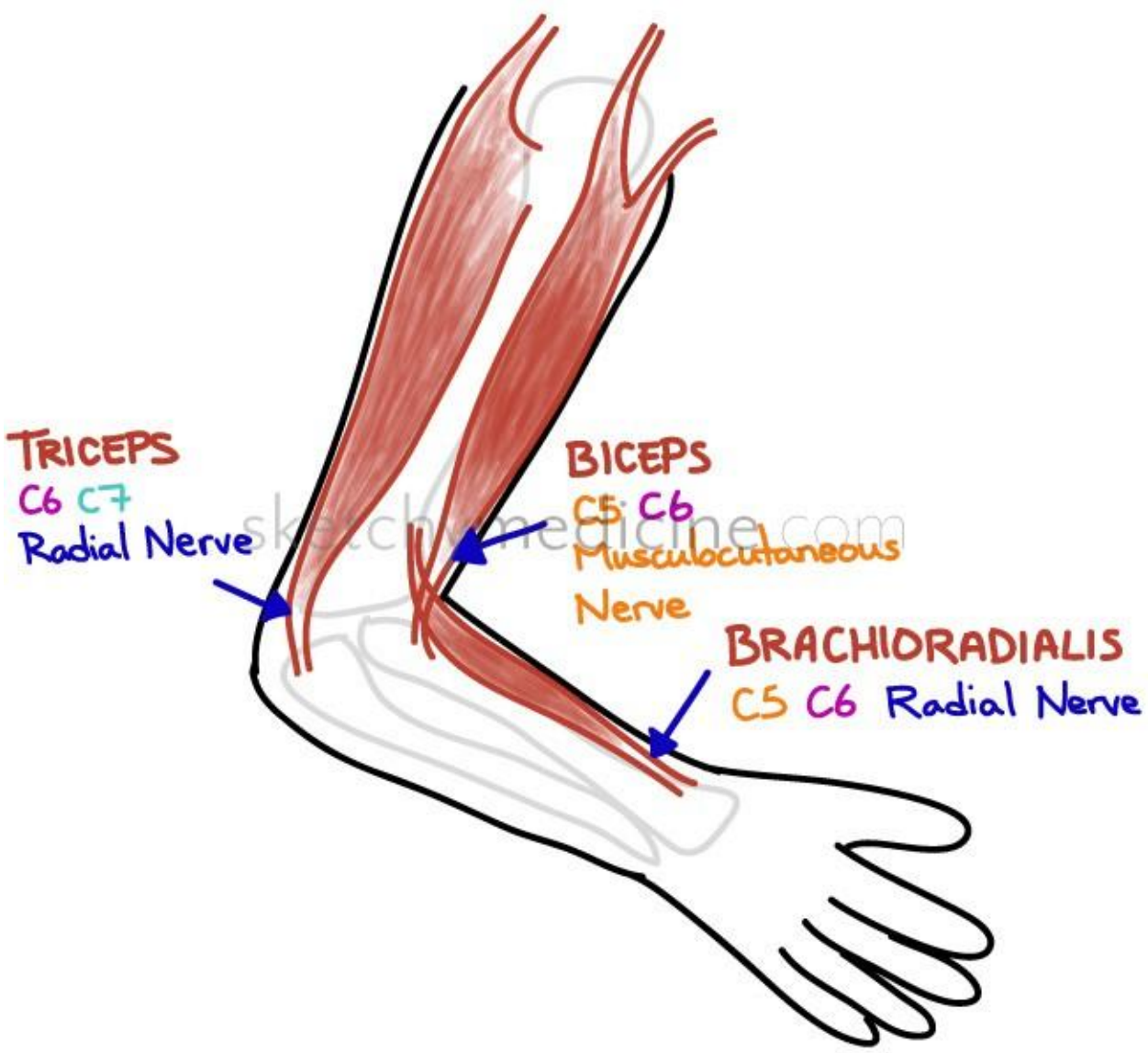
- The hammer falls on the doctor's finger on the biceps tendon



3) triceps jerk(C7,C8):

- The hammer falls on the on the triceps tendon



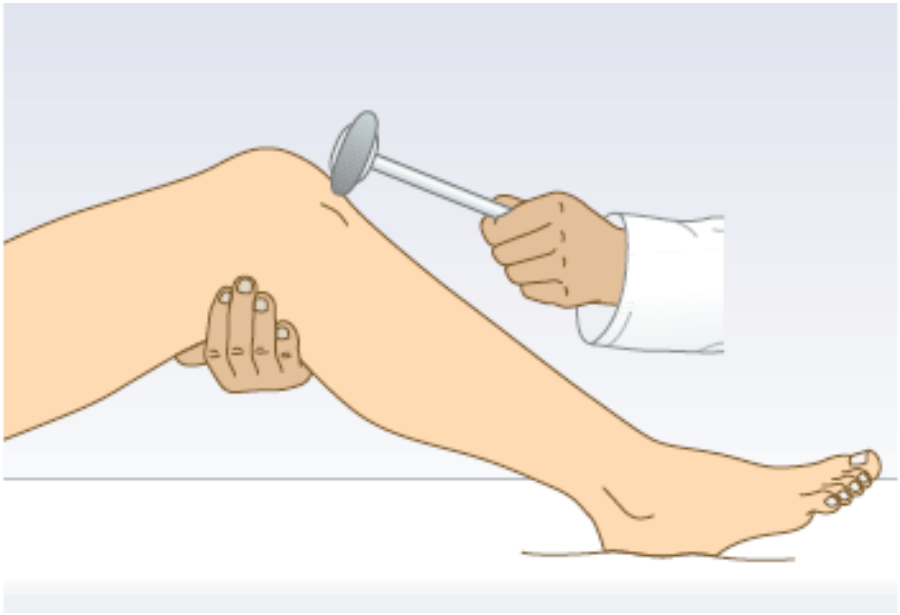


**lower limbs reflexes:

1) knee jerk(L3,L4):

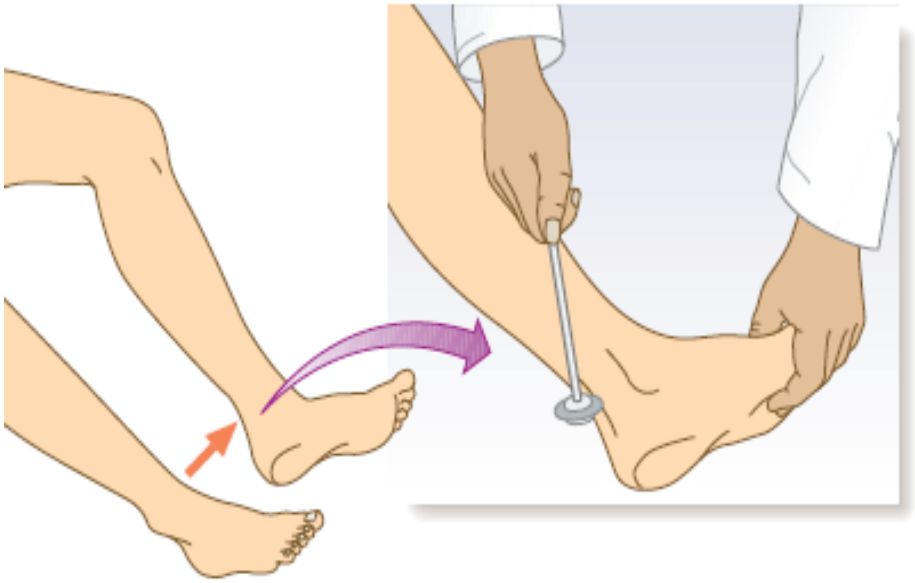
* note that the legs should not be in contact with each other

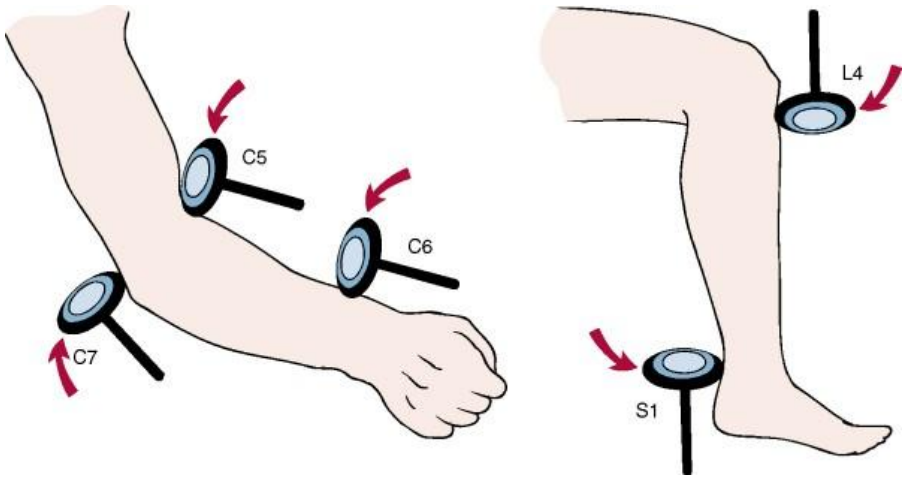
Strike the patellar tendon



2) Ankle jerk (S1,S2):

Strike the Achilles tendon





NOTE: you do not have to remember the root innervations of every reflex.

Fourthly : testing movement and power

NOTE: Do not test every muscle in most patients; the commonly tested muscles are listed below:

1) In the upper limb: **shoulder** abduction/adduction, **elbow** flexion/extension, **wrist** flexion/extension, **finger and thumb** adduction, and grip strength

2) In the lower limb: **hip** flexion/extension, **knee** flexion/extension, and **ankle** plantarflexion/dorsiflexion

In the lower limb:

1) Test lower limb power with the **patient reclining**.

2) Ask the patient to undertake a movements (mentioned above) .

A) First assess whether he can **overcome gravity**, e.g. instruct the patient 'Lift your right leg off the bed' to test hip flexion.

B) Then **apply resistance** to this movement testing across a single joint, e.g. apply resistance to the thigh in hip flexion, not the lower leg.

In the upper limb:

1) Test upper limb power with the patient **sitting on the edge of the couch**

2) Ask the patient to undertake a movements (mentioned above) .

A) First assess whether he can **overcome gravity** e.g. ask the patient to lift his arms above his head and ask him to 'play the piano', checking movements of the outstretched arms

B) Then **apply resistance** to this movement testing across a single joint

11.18 Medical Research Council scale for muscle power	
0	No muscle contraction visible
1	Flicker of contraction but no movement
2	Joint movement when effect of gravity eliminated
3	Movement against gravity but not against examiner's resistance
4	Movement against resistance but weaker than normal
5	Normal power

Fifthly: testing coordination (Cerebellum)

- Coordination: **Performing complex movements** smoothly and efficiently depends upon intact **sensory** and **motor** function and an intact **cerebellum.**

Q What are the disorders that will result from a cerebellum injury?!

1) Dysarthria : it is a condition occur with the muscles that help produce speech, often making it very difficult to pronounce words

2) Dysdiadochokinesia : impairment of rapid alternating movements

3) Rebound phenomenon : is a reflex that occurs when one attempts to move a limb against resistance that is suddenly removed >>when the resistance is removed, the limb will usually move a short distance in the original direction *>> because I can't regulate the activity of the antagonist muscles*

4) Dysmetria : described as an inability to judge distance or scale BECAUSE >> *lack of coordination of movement typified by the undershoot or overshoot of intended position*

TO SEE 2,3,4 >>https://www.youtube.com/watch?v=alGXuFIaBI4

5) Nystagmus: rapid involuntary movements of the eyes
TO SEE IT >https://www.youtube.com/watch?v=phpe_RVGqcA

6) Apraxia :

A) Ideomotor apraxia: These patients have deficits in their ability to plan or complete motor actions that rely on semantic memory. They are **able** to explain how to perform an action, but **unable** to "imagine" or act out a movement
يعني بكون عارف طريقة القيام بالشيء بس ما بقدر يتخيل كيف يعمله لانه عنده مشكلة في الذاكرة الدلالية مثل انه يكتب اسمه

B) Ideational apraxia: inability to **conceptualize** a task
ما بكون عارف كيف هاد الاشي بنعمل مثل انه كيف بتشرب الشاي

7) Rhomberg sign :

- Rhomberg test: is a test used in an exam of neurological function for **balance**, and also as a test for **drunken driving**.

>> The exam is **based on** the premise that a person **requires at least two of the three following senses to maintain balance while standing**:

1) **proprioception** (the ability to know one's body position in space) >> **dorsal column**

2) **vestibular** function (the ability to know one's head position in space)

3) **vision** (which can be used to monitor and adjust for changes in body position).

- A patient who has a problem with proprioception can still maintain balance by using vestibular function and vision >> In the Romberg test, the standing patient is asked to close his or her eyes >> **A loss of balance is interpreted as a positive Romberg's test**

TO SEE IT: https://www.youtube.com/watch?v=4hOSkmDYAR4

8) Ataxic gait (staggering gait =wide-Based Gait) >> he can't walk in tandem gait (heal to toe walking=when I short the stance distance)

TO SEE IT: https://www.youtube.com/watch?v=FpiEprzObIU

Q How we examine the cerebellum function ?!

1) In the examination of the motor system of the upper limbs >> we do (Finger-to-nose test +Rapid alternating movements + Rebound phenomenon + Ideomotor apraxia+ Ideational apraxia)

2) In the examination of the motor system of the lower limbs >> we do (Heel-to-shin test)

3) In the examination of the cerebellum function: We assess: مهم الترتيب لانه مترابط

i) Dysarthria
j) Rapid alternating movements
k) Finger-to-nose test or Heel-to-shin test (dysmetria + tremor)
l) Nystagmus
m) Ideomotor apraxia+ Ideational apraxia
n) Rhomberg test
o) Rebound phenomenon
p) Stance and the gait

a. في البداية تراقب كلامة عندما تبدأ الحديث معه
b. ثم تطلب منه ان يقوم بحركة تكون عبارة عن (نمط متكرر)
c. ثم ان يلمس انفه و بعدها يلمس اصبعك
d. ثم تطلب منه ان يلاحق اصبعك بعينيه دون تحريك راسه
e. ثم تطلب منه ان يكتب اسمه على ورقة ثم ان يريك كيف يصب الشاي
f. ثم تطلب منه ان يقف و يرفع يديه للامام و يغمض عيينه و يحاول الاتزان
g. ثم تدفع يديه الممدودتان للاسفل لترى ان كانتا سيتوقفان عند مكانهم الاصلي
h. ثم تطلب منه المشي

I. Rapid alternating movements test :

1) Demonstrate **repeatedly patting (**the palm of your hand with the palm and back of your opposite hand**)** as quickly and regularly as possible.

2) Ask the patient to copy your actions.
3) Repeat with the opposite hand.
>> ataxia makes this task <u>difficult, with a slower, irregular rhythm than normal</u>.

2. Finger-to-nose test :

I) Ask the patient to touch her nose with the tip of her index finger and then touch your finger tip.

2) Hold your finger just within the patient's arm's reach (you should make the patient use her arm outstretched).

3) Ask her to repeat the movement between nose and target finger as quickly as possible.

4) Make the test more sensitive by changing the position of your target finger.

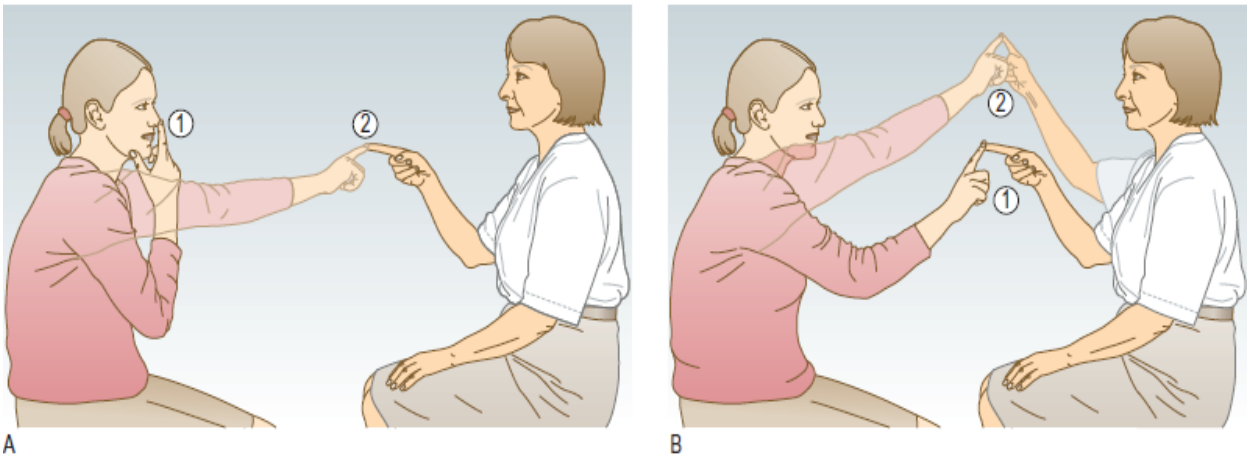
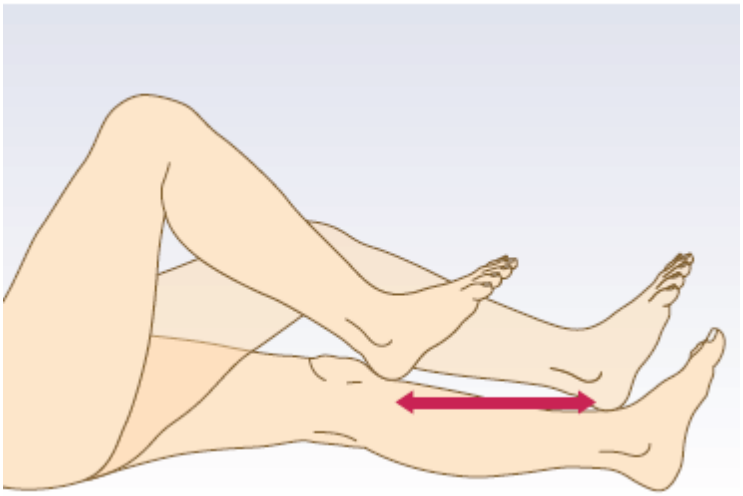


Fig. 11.24 Finger-to-nose test. (A) Ask the patient to touch the tip of her nose and then your finger. **(B)** Move your finger from one position to another, towards and away from the patient, as well as from side to side.

3. Heel-to-shin test:

I) With the patient lying supine, ask him to place his heel on his opposite knee

2) and then slide his heel up and down the shin between knee and ankle



4. Nystagmus: ask the pt. to follow your finger by his eye without rotating his head

5. Apraxia tests :

   1) Ideomotor apraxia >>> Ask the patient to write his name

   2) Ideational apraxia >>> Ask the patient to perform an imaginary act, e.g. drinking a cup of tea, combing the hair, folding a letter and placing it in an envelope.

6. Rhomberg test >> discussed above

7. Rebound phenomenon >> push the extended hands of the pt. down and observe if it come back to its original place

8. Stance and the gait >> ask the pt. to walk in tandem gait (heal to toe walking)

ASSESS THE SENSORY SYSTEM UNDER THE FOLLOWING HEADINGS :

- **Proprioception** (joint position sense) and **vibration** are conveyed in large, myelinated fast-conducting fibers in the peripheral nerves and in the **posterior (dorsal) columns** of the spinal cord.
- **Pain** and **temperature** sensation are carried by small, slow-conducting fibers of the peripheral nerves and the **spinothalamic tract** of the spinal cord.
  NOTE: Clarify that by 'numbness' the patient means lack of sensation rather than weakness or clumsiness

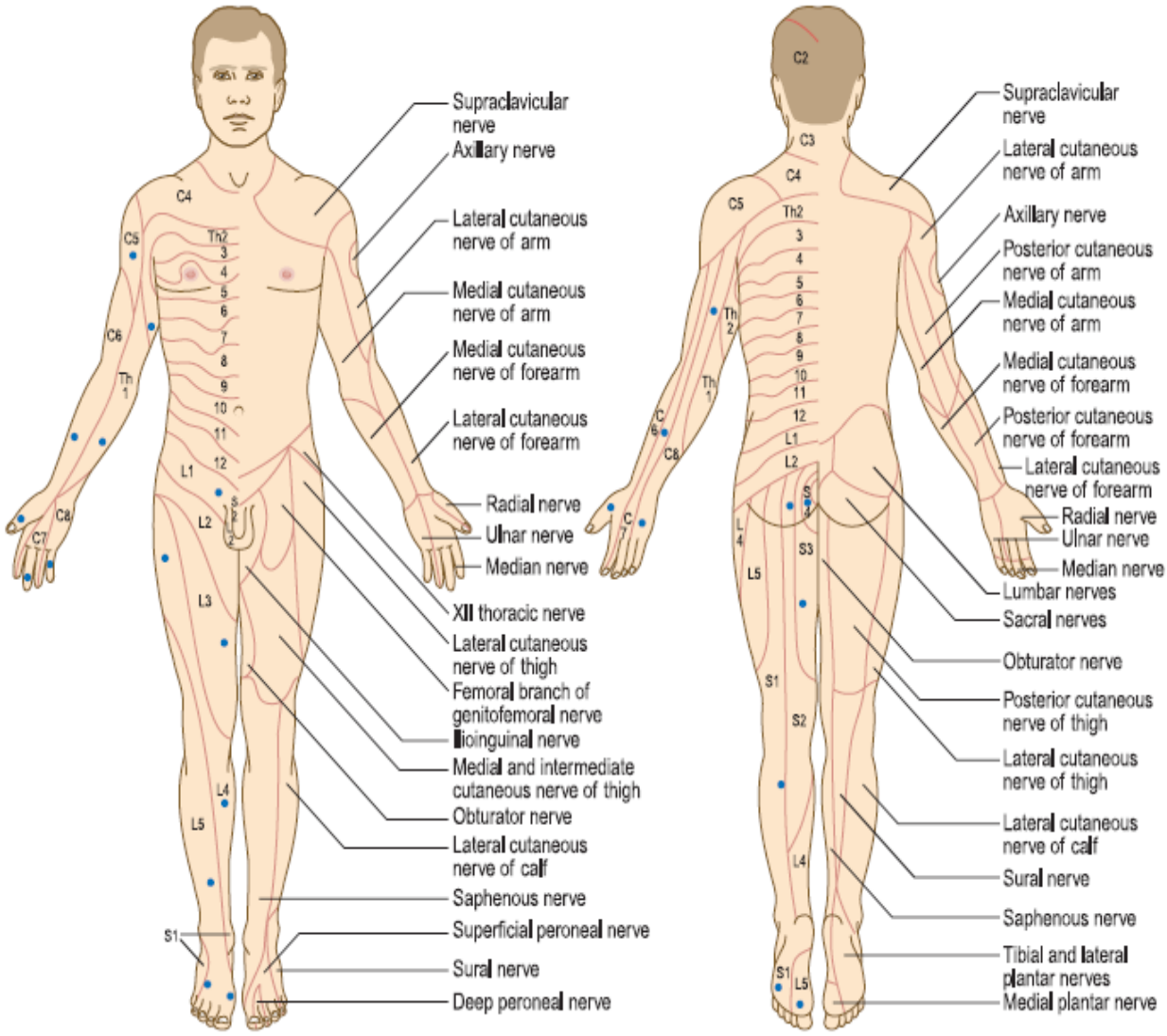
- Dermatome : an area of skin that is mainly supplied by a single spinal nerve
  NOTE: you should not know every dermatome and what is the spinal nerve that supply it >> you only should know that:
  - **Cs** supply the arm and neck
  - **Ts** supply the trunk
  - **Ls** and **Ss** supply the legs and groin

  - At the trunk is changes in vertical patterns
  - At the arm and the legs is changes in horizontal patterns
  - The nipple at the level of the T4
  - The umbilical at the level of the T10

NOTE : In the sensory examination you will not test every dermatome you only test a general test by assess the trunk from up down and for both sides , the arm and the leg from inside and outside **in multiple vertical levels**

NOTE: you should assess the sensory system by the pt. looks away or closes his eyes

❖ Points (blue) for testing cutaneous sensation of limbs. By applying stimuli at the points marked:



Light touch:

1) While the patient looks away or closes his eyes, use a wisp of **cotton wool**

2) ask the patient to say yes to each touch.

3) make a dabbing

4) Compare each side for symmetry.

Vibration

1) Place a **vibrating tuning fork over the sternum**.

2) Ask the patient, '**Do you feel it buzzing**?'

3) Place it on the tip of the great toe >> If sensation is impaired, place the fork on the interphalangeal joint and progress proximally, to the medial malleolus, tibial tuberosity and anterior iliac spine, depending upon the response.

>> Repeat the process in the upper limb. Start at the distal interphalangeal joint of the forefinger and if sensation is impaired, proceed proximally.

NOTE: for more accuracy of the response, ask the patient to close his eyes and to report **when you stop the fork vibrating** with your fingers.

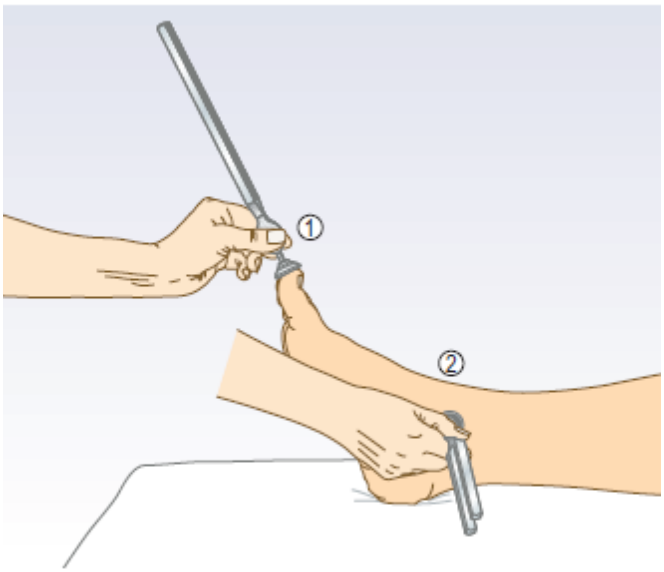


Fig. 11.30 Testing vibration sensation. At the big toe (1) and the ankle (2).

Superficial pain:

1) Use a fresh **neurological pin, e.g. Neurotip**

2) **Explain** and **demonstrate** that the ability to feel a sharp pinprick is being tested.
3) make a **dabbing**

4) Compare each side for **symmetry**.

Temperature:

1) Touch the patient with a **cold metallic object, e.g. tuning fork**,

2) Ask if it feels cold.

Joint position sense:

1) With the patient's eyes **open**, **demonstrate** the procedure.

2) **Hold** the distal phalanx of the patient's great toe at the sides.

3) Tell the patient **you are going to move** his toe up or down, demonstrating as you do so

4) Ask the patient to close his eyes and to **identify the direction** of small movements in random order.

>>Test both great toes (or middle fingers). If impaired, move to more proximal joints in each limb.

Testing for position sense in the big toe.