SESSION I : SENSORY EXAM, MOTOR EXAM, MMSE

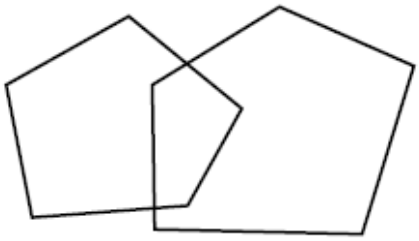
	NEUROLOGIC EXAMINATION **(EXAMINATION OF SENSORY FUNCTION)**					
	Tests of sensory function are concerned with appreciation of primary or cutaneous sensation and evaluation of cortical integration of sensory impulses. The sensory function is include exteroception sensation tests (light touch, pain and temperature) and propioseption sensation tests. (vibration sense and position sense).					
I	***Exteroception sensory examinations.***					
1	**Light touch**.					
	The patient sits or lies with hand supinated, and he/she is asked to close the eyes and is instructed to answer "yes" when the stimulus is appreciated.					
	The examiner takes a wisp of cotton and applies it lightly to the skin, and alternates between the two sides, examining the homotropic area					
	The cotton is applied to the skin of the neck beginning in the C3 dermatome on each side and passing down the neck to the shoulder and the lateral aspect of the arm and forearm to the hand. The fingers are tested individually.					
	The stimulus is then applied up the medial aspect of the forearm and upper limb to the chest.					
	Sensation in the lower limb is examined in a similar fashion with an alternating application of the cotton down the lateral aspect of the thigh, leg and foot, and up the medial aspect of the foot, leg and thigh					
2	**Pain and temperature** sensation tests are examined in a similar fashion.					
	Pain sensation is tested with pinwheel or needle. Temperature sensation is tested with glass tube filled with hot or iced water					
II	***Propioception sensory examinations.***					
1	**Position sense**. *Position sense is tested by gently moving a terminal phalanx of toes or fingers*					
	The patient is asked to close the eyes					
	The examiner grasps the terminal phalanx in the sides and gently moves it a few degrees in an upward or downward direction.					
	The patient is asked to indicate whether the digit is moved up or down.					
	Compare the two sides with the similar test.					

2	**Vibration sense.**					
	The patient is asked to close the eyes					
	The examiner places the base of a tuning fork over a bony prominence.					
	The patient is asked to indicate whether the sensation of vibration is appreciated or not					
	The similar tests are carried out in the other side and compare the both sides.					
3	**Discriminative sensation (stereognosis)**					
	The patient is asked to close the eyes					
	The examiner places in the patient's hand a familiar object such as a coin, paper clip, key, pencil or cotton ball					
	The patient is asked to tell the examiner what the object is					
	Normally a patient will identify it correctly					

NEUROLOGIC EXAMINATION **EXAMINATION OF MOTOR FUNCTION**						
	The examination of motor function include inspection, strength and tones of limbs and percussion for detecting fasciculation					
	The examiner inspects the motor condition of upper and lower extremities.					
	The contour and muscle development of the two side should be equal.					
	During this inspection also detect the muscle wasting, the presence of fasciculation and involuntary movement of the limbs					
	The strength of limbs.					
	The patient is asked to elevate and contract of muscles of upper extremity against resistance of examiner's hand					
	Test the strength of lower arm flexion (C5-6-biceps) at the elbow : The examiner hold the patient's wrist from above and instruct the patient to flex the hand up to their shoulder. The examiner provide resistance at the wrist. Repeat and compare to the opposite arm.					
	Test the strength of lower arm extension (C6,C7,C8-triceps) at the elbow: the patient is asked to extend their forearm from a fully flexed position against the examiner's resistance. Repeat and compare to the opposite arm.					

	Test the strength of wrist extension(C6, C7, C8, radial nerve): the patient is asked to extend their wrist while the examiner resists the movement. Repeat with the other arm.					
	Test the patient's grip (finger fexion: C8): the patient is asked to hold the examiner's fingers in their fist tightly and instruct the patient not to let go while the examiner attempts to remove them. Normally the examiner cannot remove their fingers. Repeat with the other hand.					
	Test the strength of finger abduction (T1) : the patient is asked to abduct or "fan out" all of their fingers. Instruct the patient to not allow the examiner to compress them back in. Normally, one can resist the examiner from replacing the fingers. Repeat with the other hand.					
	Test the strength of thumb opposition (C8,T1) : the patient is asked to touch the tip of their thumb to the tip of their pinky finger. Apply resistance to the thumb with your index finger. Repeat with the other thumb and compare.					
	The patient is asked to elevate and contract of muscles of lower extremity against resistance of examiner's hand					
	Test the strength of hip flexion (L2,L3) : the patient is asked to lie down and raise each leg separately while the examiner resists. Repeat and compare with the other leg.					
	Test the strength of legs adduction (L2,L3,L4): the examiner place the hands on the inner thighs of the patient and ask the patient to bring both legs together					
	Test the strength of legs abduction (L4,L5,S1): the examiner place the hands on the outer thighs and ask the patient to move the patient legs apart.					
	Test the strength of hip extension (L4,L5) : the patient is asked to press down the examiner's hand which is placed underneath the patient's thigh. Repeat and compare to the other leg.					
	Test the strength of knee extension (L3,L4) : the examiner place one hand under the knee and the other on top of the lower leg to provide resistance. Ask the patient to "kick out" or extend the lower leg at the knee. Repeat and compare to the other leg.					
	Test the strength of knee flexion (L5,S1) : the examiner hold the knee from the side and apply resistance under the ankle. The patient is asked to pull the lower leg towards their buttock as hard as possible. Repeat with the other leg.					

	Test the strength of ankle dorsiflexion (L4,L5): the examiner hold the top of the ankle. The patient is asked to pull their foot up towards their face as hard as possible. Repeat with the other foot.					
	Test the strength of ankle plantar flexion (S1,S2): the examiner hold the bottom of the foot. The patient is asked ask to "press down on the gas pedal" as hard as possible. Repeat with the other foot and compare.					
	Test the strength of extensor halucis longus muscle (L5) : The patient is asked to move the large toe against the examiner's resistance "up towards the patient's face".					
	The examiner notices the grade of strength of limbs. Grade 5. The patient can against the full resistance of the examiner's hand equally (normal patient). Grade 4. The patient can against only light resistance of the examiner'' hand. Grade 3. The patient can only against the gravitation resistance. Grade 2. The patient can only move the limbs over the bed. Grade 1. The patient cannot move the limbs but just move the fingers. Grade 0. The patient is total paralysis (paraplegia)					
	The same manner for examining the lower extremity.					
	The tone of muscles					
	The patient is asked to relax the muscles of limbs					
	The examiner flex and extend passively the patient's joint of limbs and felt the muscle resistance, Abnormal response is the increased of tonicity of the muscles. Comparing the tone's limb muscles of two side					
	The fasciculation					
	The examiner percuss on one area of limbs.					
	The examiner notice the fasciculation moving of the muscles on the area of examination (*Fasciculation is the contraction of some group of muscles*)					

NEUROLOGIC EXAMINATION MINI MENTAL STATE EXAMINATION (MMSE)						
	Orientation • Time : Year Month Day Date Time (1 point for each correct) • Place : Country Town District Hospital Ward (1 point for each correct)					
	Registration • Examiner names 3 objects (e.g. Apple, Table, Penny) • Patients ask to repeat (1 point for each correct) • THEN patients to learn the 3 names repeating until correct					
	Attention and Calculation • Subtract 7 from 100, and then repeat for results. • Continue 5 times : 100 93 86 79 65 • Alternative : Spell "WORLD" backwards , "DLROW" (1 point for each correct)					
	Recall • Ask for names of three objects learned earlier (1 point for each correct)					
	Language • Named a pencil and watch (1 point for each correct) • Repeat : No if, ands, or buts (1 point if correct) • Give a 3 stage command. (Score 1 point for each stage correct) Eg. "Place index finger of right hand on your nose and then on your left ear". • Ask patients to read and obey written command on a piece of paper stating " Close your eyes" (1 point if correct) • Ask the patients to write a sentence. (Score 1 point if it is sensible and has a subject and a verb)					
	Copying • Ask the patients to copy a pair of intersecting pentagons. (1 point if correct) 					
	TOTAL = 5 + 5 + 3 + 5 + 3 + 2 + 1 + 3 + 1 +1 +1 = 30					

CRANIAL NERVES EXAM, GCS

	NEUROLOGICAL EXAMINATION **CRANIAL NERVES**					
1	**N.I. (OLFACTORY NERVE)**					
	The patient is asked to inhale with one nostril occluded					
	The examiner brings the test substance close to the no occluded side. The test substance : - must be nonirritating - such as coffee, tobacco, tea					
	Each nostril is test separately					
	The examiner notes that inhalation is adequate, and then requests the patient to identify the test substance.					
2	**N.V (TRIGEMINAL NERVE)**					
	Examination of N.V includes: - evaluation of corneal reflex - sensation of the face and scalp - motor function - the jaw reflex					
2.1	**Evaluation of corneal reflex** (This reflex is tested by the light application of cotton to the cornea)					
	The examiner takes a cotton applicator and pulls the cotton head into a fine point.					
	The patient is asked to look upward and the cotton is brought toward the eye from a lateral position and gently applied to the cornea					
	The result: The application should produce a prompt bilateral reflex closure of the eyelids. The response is compared on the two sides.					
2.2	**Sensation over the face and scalp.**					
	The patient is asked to close the eyes and to respond if touched.					
	The cotton is applied to the forehead on one side, followed by application to the forehead in a similar position on the other side. Then to the cheeks on the two sides, the to the jaws on the two sides.					
	The patient's responses are monitored and the patient is asked whether the sensation appears to be equal on the two sides of the face					
	The same test is then repeated using a sharp pin with a gentle application					
2.3	**Motor function**					
	The examiner places the fingers over the temporalis muscles.					

	The patient is asked to clench the teeth or bite and the examiner will felt the contraction of the temporalis muscle under the examiner's hands on both sides.					
	A similar test is performed over the masseter muscle					
2.4	**The jaw jerk reflex**					
	The examiner tap the anterior lower jaw with the reflex hammer					
	A normal response is a slight upward movement of the mandible, and in an abnormal response is increased upward movement of the mandible.					
3	**N. VII (FACIAL NERVE)**					
	Examination of N.VII is include : - Motor function of facial muscles. - taste sensation of the anterior two-thirds of the tongue					
3.1	**Motor function of facial muscles** - lower facial muscles test - upper facial muscles test					
	1. *Lower facial muscles test:*					
	The patient is asked to grimace and show the teeth					
	In a normal response, the mouth angles have to in symmetrical position. In an abnormal response, the mouth deviate to the normal side					
	2. *Upper facial muscles test.*					
	The patient is asked to close the eyes tightly					
	The examiner attempt to open the lids. (in a normal patient, it is not possible even when the examiner uses considerable force)					
	The patient is asked to move upward of his/her eyebrow.					
	In a normal response, the wrinkles of forehead are symmetrical in two side. In an abnormal response, there are not wrinkles of forehead in abnormal side.					
3.2	**Taste sensation of the two-third anterior of the tongue.** *There are four forms of taste sensation: sweet* (sugar)*, sour* (vinegar)*, bitter* (quinine) *and salty* (salt). *All these test substances should be prepared in solution forms.* Prepare one paper which be divided in four area by two cross line. Write in each area one form of taste sensation					
	The patient is asked to protrude the tongue and should be hold during this examination					
	The examiner is gently apply a test substance on the tongue with a cotton applicator					
	The patient signals when the test substance is identified and then can point out the kind of taste sensation on the paper. Do not use verbal communication.					
4	**N.IX (GLOSSOPHARYNGEAL NERVE)** N.IX examination is include: - Taste sensation of the one-third posterior of the tongue. - Gag reflex examination					
	Taste sensation of Tenth Nerve is tested in the same manner as taste sensation of Seventh Nerve.					
	Gag reflex examination					

	The patient is asked to open widely of the mouth					
	The examiner stimulate the pharyngeal wall with tongue spaltel on each side					
	The examiner notice the gag response					
5	**The Tenth Nerve (Vagus Nerve)** The Tenth nerve examination is include: - The changes of the speech - The contraction of the soft palate - Dysphagia					
	The changes of speech					
	The patient is asked to speak a sentence or some words.					
	The examiner notice the change of the patient's speech whether dysphonia or dysarthria. *Dysphonia is difficulty in phonation due to paralysis of vocal cord. The voice is hoarse and the volume reduced. Dysarthria is difficulty in articulation due to vagal paralysis results in weakness of the soft palate.*					
	Examination of the soft palate					
	The patient is asked to open the mouth and say "Ah"					
	The examiner notice the contraction of the soft palate in the both side and the ovula position.					
	In normal response the soft palate in both side (the arching of the palate / *arcus palatum*) elevate symmetrically and the ovula remain in the midline.					
	In abnormal response the soft palate does not elevate in affected side and the ovula is drawn to the opposite side.					
	Dysphagia					
	The patient is asked to swallow some little food					
	The examiner notice the difficulty in swallowing and the patient is choked.					
6	**The eleventh Nerve (Accessory Nerve)** The eleventh Nerve examination is motor function test of the sternocleidomastoid and trapezius muscles					
	The strenocleidomastoid examination					
	The patient is asked to turn the head to one side against resistance by the examiner's hand					
	The examiner palpate the sternocleidomastoid muscle in the opposite side and felt the contraction of the muscle. This examination is also performed in other side.					
	The trapezius examination					
	The examiner place both hands on the patient's shoulder and palpating the trapezius muscle on each side					
	The patient is asked to elevate the shoulder against the examiner's resistance.					
	The examiner notice equality of contraction the both muscles.					
7	**The Twelfth Nerve (Hypoglossal Nerve)** The Twelfth Nerve examination is pure motor test.					
	The patient is asked to open the mouth and the tongue remain lying on the floor of the mouth					

	The examiner notice whether there are fasciculation and atrophy of the tongue's muscles or not, and then					
	The patient is asked to protrude the tongue					
	The examiner notice whether the tongue deviate to one side. The paralyzed tongue deviates toward the side of motor neuron lesion (affected side).					

NEUROLOGICAL EXAMINATION
(COORDINATION EXAMINATION)

1.	Cerebellar dysfunction is often the source of impaired coordination but other factors can affect coordination including muscle weakness, Lack of propioseptive input and dyspraxia.					
Rebound phenomenon examination						
1.	The patient sits in front of the examiner.					
2.	The patient is ask to lift the arm and flex at elbow joint and clench the hand.					
3.	The examiner depress the patient's forearm and releasing is rapidly					
4.	Normal response is the patient's arm movement immediately reassumes the initial position. Abnormal response will make several oscillation movements before reassume the resting position agree time till strike the patient's face.					
Dysdiadochokonesia Testing **(disturbed ability to perform rapid alternating movement)**						
1.	The patient is asked to rapidly to rapidly pronate and supinate the extended forearms and hands on the thigh					
2.	Normal response is the rapid alternating movement which should be of equal rate and amplitude of the sides.					
3.	Abnormal response is allowing movement which will present on one side (the effected side).					
Finger to-nose test						
	The examiner holds the extended index finger it arms length from the patient.					
	The patient is asked to touch the finger then touch his/her nose. This should be performed slowly.					
	Normal response is the patient will reach out and tap the examiner's finger and then rapidly return his/her finger to the nose.					
The heel-to shin test						
	The patient is asked to slides the heel of one extremity down the anterior tibial surface of the other.					
	This activity should be a smooth movement and in normal response is the heel should remain on the tibial crest without ataxia.					
The tandem gait test						
	The patient is asked to walk toward the examiner with one foot placed in front of the other, and the heel touching the toes at each step.					
	Normal response is the patient moves without any unsteadiness or sudden lateral placement of one foot to maintain balance					
The Romberg Test						
	The patient is asked to stand with the feet together and parallel, the heels and toes are touching.					

	The examiner's stands at the side of the patient to watch if the patient falls in this test.					
	The patient is asked to close the eyes and the examiner notice the direction of the fall of the patient.					
	Normal response is the patient should be able to maintain posture without movement of the feet.					

Phisiologic, Pathologic and Primitive Reflexes

NEUROLOGICAL EXAMINATION (EXAMINATION FO REFLEXES)						
	The examination of reflexes are include: ❑ ***Physiological reflexes:*** • Tendon reflexes: • Biceps reflex • Triceps reflex • Brachioradialis reflex • Knee jerk reflex • Achilles or ankle tendon reflex • Superficial reflex (abdominal reflex) ❑ ***Pathological reflexes*** **(extensor/dorsal plantar response reflexes)** • Babinski reflex • Chaddock reflex • Oppenheim reflex • Gordon reflex • Scheiffer reflex • Rossolimo reflex • Mendel Bechterew reflex • Hoffman Tromner reflex ❑ ***Regression or primitive reflexes*** • Glabella reflex • Palmo-mental reflex • Snout reflex • Grasp reflex					
I	**Physiological reflexes**					
1	***Biceps reflex***					
	The patient lies and is instructed to relax.					
	The examiner takes the patient's arm and flexes the elbow joint, and places over the abdominal area.					
	The examiner places the index finger on the patient's biceps tendon and gently strikes the finger with the reflex hammer. *The result is produce contraction of the biceps muscles and flexion at the elbow.*					
	The response on the two sides is compared.					
2	***Triceps reflex***					

	After preparing the patient as same as the biceps reflex test, the examiner flexes the elbow to 90^0 and elevates the elbow joint slightly and then strikes the triceps tendon with reflex hammer *This produce contraction of the triceps muscles and extension of the elbow*					
	The response of the two sides is compared					
3	***Brachioradialis reflex***					
	The patient's arm is lied beside the body.					
	The examiner hold the patient's lower arm and strikes the wrist joint with reflex hammer. *The result is produce the contraction of brachioradialis with a flexion movement at the elbow.*					
	The response of the two sides is compared					
4	***Knee jerk reflex / Patellar reflex***					
	The examiner flexes the patient's leg at the knee joint and places the hand below the knee and against the leg.					
	The examiner strikes the patellar tendon at the knee joint. *This produce extension reflex of the lower leg*					
	The response of the two sides is compared					
5	***Achilles tendon reflex / Ankle tendon reflex***					
	The examiner places one patient's leg above another one and bend the foot at ankle joint. in dorsal flexion					
	The examiner strikes the Achilles tendon with reflex hammer. *This produce plantar flexion of the foot*					
6	***Superficial reflex (Abdominal reflex)***					
	The patient opens the clothes over the abdominal area of the body					
	The examiner strokes the skin of the abdomen gently with the base of reflex hammer. The skin is stroked in a diagonal fashion moving downward lateral to medial toward the midline. The sites of stimulation are the above of umbilicus, at the level of umbilicus and the below of the umbilicus.					

II	**Pathological reflexes**					
	All pathological reflexes in the lower extremities produce extensor plantar response, is a dual response consisting of extension of the hallux (the first digit of toes) and extension of the other toes which separate in a fan-like fashion. Exception for Rossolimo and Mendel Bechterew reflexes, the results are the contraction of the toes.					
1	***Babinski reflex***					
	The examiner holds the patient's foot at ankle joint and stimulates with scratching the lateral aspect of the sole of the foot with the blunt object (the base of reflex hammer).					
	The movement is carried out along the lateral aspect of the sole of the foot and then across the head of metatarsal bones					
	The examiner notice the reflex response					
2	***Chaddock reflex***					
	The examiner strokes the lateral aspect of dorsal foot from posterior to anterior across the head of metatarsal bones with the blunt object.					
	The examiner notice the reflex response					
3	***Oppenheim reflex***					
	The examiner places the flexed forefinger and middle finger on the proximal tibial bone, and then moves downward with pressure until the edge distal of tibia.					
	The examiner notice the reflex response					
4	***Gordon reflex***					
	The examiner presses the gastrocnemius muscles with less strength					
	The examiner notice the reflex response					
5	***Scheiffier reflex***					
	The examiner presses the achilles tendon					
	The examiner notice the reflex response					
6	***Rossolimo reflex***					
	The examiner percusses the anterior aspect of plantar pedis with reflex hammer *The pathological response is contraction of the toes*					
7	***Mendel Bechterew***					
	The examiner percusses the anterior aspect of dorsal pedis with reflex hammer *The pathological response is contraction of the toes*					
8	***Hoffman Tromner reflex***					
	The examiner takes the patient's index and middle finger and places on the same fingers of the examiner					
	The examiner strikes the terminal phalanx of these patient's fingers with the examiner's finger					
	The result is the contraction of the fingers					

III	**Primitive reflexes**					
1	*Glabellar reflex*					
	Examiner taps gently the forehead in the midline just above the bridge of the nose					
	The stimulus should be come from the outside of the visual field (to prevent the threatening response)					
	Normal response is rhythmic contraction of the eyelids which disappears after e few seconds. Usually do not more eight contractions					
2	***Palmo-mental reflex***					
	The examiner strokes the palm of patient's hand at the lateral aspect of metacarpal area of digit one downward from proximal to distal.					
	Abnormal response is the contraction of mental muscles in the ipsilateral chin					
3	***Snout reflex***					
	The examiner taps the face between the upper lip and the nose gently with the finger					
	Abnormal response is a pursing of the lips to each stimulus					
4	***Grasp reflex***					
	The examiner grasps the patient's hand as if to shake hands and then strokes the palm of the patient with his finger					
	Abnormal response is the patient's finger flex and grasps the examiner's fingers.					

MENINGEAL SIGN, SACROILLIAC JOINT FUNCTION TEST AND HYPOCALCEMIA EXAMINATION

NEUROLOGICAL EXAMINATION
(MENINGEAL SIGNS EXAMINATION)

1	**Neck stiffness (Nuchal rigidity**)					
	The examiner flexes the patient's head until the chin contacts the chest (sternum)					
	Abnormal response is the examiner felts the resistance of head movement and the patient shows painful expression.					
2	**Brudzinski's sign**					
	There are three types of Brudzinski's signs. Abnormal response is the flexion of the leg at knee joint					
	Brudzinski I : - The examiner flex the patient's head and notice the flexion movement of the leg *Brudzinski* II - The examiner elevates one leg of the patient upright and notice the flexion movement in another ones *Brudzinski* III - The examiner press the lower part of abdomen (suprapubical area) and notice the flexion movement of the leg *Brudzinski IV*					
3	**Laseque's sign**					
	The examiner elevates the leg of patient upright					
	Abnormal response is if the patient felts painful at leg angle (the angle between the leg and the surface of bed) less than 70^0					
4	**Kernig's sign**					
	The examiner elevates the patient's leg and flexes 90^0 at hip and knee joints, then extend the lower limb at knee joint.					
	Abnormal response is if the patient felts painful at knee angle less than 130^0					
5	Bragard Test					
	The patient is supine					
	The examiner grasps the patient's heel with one hand and anterior aspect of the knee with the other					
	The examiner slowly raises the patient's leg, which is extended at the knee					
	At the onset of the Laseque's sign, the examiner lowers the patient's leg just far enough that the patient no longer feels pain.					
	The examiner then passively moves the patient's foot into extreme dorsoflexion in this position, eliciting the typical pain caused by stretching of the sciatic nerve					

	Abnormal response is if the patient felt painful in the posterior thigh radiating into the knee					

PATRICK'S AND CONTRAPATRICK'S EXAMINATION				
I	**Patrick's Test** or **FABERE** (**F**lexion, **AB**duction, and **E**xternal **R**otation) **test**			
1	The patient is supine			
2	The examiner flexes the patient's leg and putting the foot of the tested leg on the opposite knee until the thigh abducted and externally rotated			
3	The examiner press the superior aspect of the tested knee joint lowering the leg into further abduction			
4	The examiner immobilize the pelvis on the extended contralateral side to prevent it from moving during the test			
5	Normal response if the knee of the abducted leg will almost touch the examining table			
6	Abnormal response if there is pain at hip or sacral joint, or if the leg cannot lower to the point of being parallel to the opposite leg.			
II	**Contra Patrick's Test**			
1	The examiner flexes the patient's leg until the thight endorotation and adduction			
2	The examiner press the tested knee			
3	Abnormal response if there is pain limited at gluteal and sacral or radiating to affected tight			

CHVOSTEK AND TROSSEAU'S EXAMINATION				
Chvostek Examination				
1	Tell the patient to relax his facial muscles			
2	The examiner stand infront of the			
3	The examiner tap the reflex hammer to the cranial nerve VII as it emerges and in the area of its branches just anterior to the ear lobe dan below the the zygomatic arch and the corner of his mouth.			
4	Positive response if there is twitching of the lip at the corner of the mouth to spasm of all facial muscles			
Trousseau's Sign				
1	Tell the patient to relax her forarm			
2	Centre the sphygmomanometer cuff over the brachial artery			
3	Inflating a sphygmomanometer cuff above systolic blood pressure for several minutes			
4	Positive response if there is muscular contraction including flexionof the wrist and metacarpophalangeal joint, hyperextension of the finger, and flexion of the thumb on palm, suggestive of neuromuscular excitability caused by hypocalcemia			

MODULE OF SKILL LABORATORIUM PRACTICE

BLOCK : **NEUROBEHAVIOUR SYSTEM**

TOPIC : **SKULL AND SPINAL X-RAY**

No.	Procedure	Performance Scale		
		0	1	2
	Skull X-ray examination			
1	Say Basmalah			
2	Take a history and examine the patient before requesting a radiograph			
3	Request a radiograph only when necessary			
4	Look at the radiograph, the whole radiograph and the radiograph as a whole in appropriate settings			
5	Remember the rules of two, especially two position (anteroposterior and lateral view)			
6	**Condition of good radiograph of skull**			
	a. Determine the quality of the film (kV, mAs, processing)			
	b. Determine if the identity/markers are complete			
	c. Determine there is no artefact			
	d. Determine there is no movement of the patient in order to avoid blurness			
7	**Radiological appearances of normal skull**			
	Lateral view :			
	a. Skull has inner and outer surface			
	b. Blood vessels indent the inner surface. These indentations branch and taper, whereas fractures do not usually branch or taper			
	Anteroposterior view:			
	Suture have saw-tooth appearance which distinguishes them from fractures which form smooth lines			
	Interprete:			
	a. Size : abnormally small as with microcephaly (premature closure of the suture), anencephaly			
	abnormally large as with hydrocephaly (diastasis suture, facial bones appear extremely small			
	b. Countour :			
	- Smooth and sharp			
	- No contour defects			
	- No circumscribed cortical thinning or thickening			
	- No expansion			
	abnormal countour : scaphocephaly, brachycephaly, depressed skull fractures			
	c. Density			
	Pneumatization/airspace			
	- No sinus clouding			
	- No air-fluid levels			

	d. Other bony structures			
	- Facial skeleton, orbits, petrous ridges: shape (symmetry), structure, contours			
	e. Soft tissues : - No foreign bodies or calcification			
	- No swelling			
	f. Dural spaces			
	Normally no dural space.			
8	Explain the Conclusion			
9	Say Hamdallah			
	Spinal x-ray examination			
1	Say Basmalah			
2	Take a history and examine the patient before requesting a radiograph			
3	Request a radiograph only when necessary			
4	Look at the radiograph, the whole radiograph and the radiograph as a whole in appropriate settings			
5	Remember the rules of two, especially two position (anteroposterior and lateral view)			
6	**Condition of good radiograph of spine**			
	a. Determine the quality of the film (kV, mAs, processing)			
	b. Determine if the identity/markers are complete			
	c. Determine there is no artefact			
	d. Determine there is no movement of the patient in order to avoid blurness			
7	**Radiological appearances of normal spine**			
	Coverage : The whole spine is visible on both views			
	Curve (contour) and alignment : Follow the corners of the vertebral bodies from one level to the next			
	The vertebral bodies and spinous processes are aligned (AP)			
	Check the Anterior line (line formed by connecting anterior margins of vertebral body), the Posterior line (connecting posterior margins of vertebrae), and the Spinolaminar line (the line formed by the anterior edge of the spinous processes - extends from inner edge of skull) for continuity			
	Normal *lordosis* is the two forward curves seen in the neck (cervical spine) and low back (lumbar spine). Normal *kyphosis* is the two backward curves seen in the chest (thoracic spine) and hip areas (sacral spine).			
	Number of vertebral segment : abnormal: failure of development, supernumerary element			
	Seven cervical vertebrae, twelve thoracic vertebrae and five lumbar vertebrae articulated and separated from each other by intervertebral discs			
	Five in the sacrum and four in the coccyx are fused in adults			
	Size : The vertebral bodies should gradually increase in size from top to bottom			
	The pedicles gradually become wider apart from superior to inferior			
	Shape : The vertebral bodies and pedicles are intact (AP)			
	Spacing : Disc spaces gradually increase from superior to inferior			

	Note: Due to magnification and spine curvature the vertebral bodies and discs at the edges of the image can appear larger than those in the centre of the image			
	The L5/S1 space is normally slightly narrower than L4/L5			
	Density : abnormal if homogeneously lucent/homogeneously sclerotic			
	Architecture			
	Soft tissues : Check the paravertebral line. Some fractures cause widening of the prevertebral soft tissue due to prevertebral haematoma			
	Edge of image : Check the other structures visible			
8	Explain the Conclusion			
9	Say Hamdallah			

LEARNING GUIDE
PSYCHIATRIC EXAMINATIONS

I	INTRODUCTION	Yes	No
1.1.	Greeting the patient and relatives, introducing the examiner's self, put the patients and the examiner at ease, determine the suffering with compassion and empathy, establish leadership, balance the roles.		
	Observe the patient's appearance: face feature, nutritional status, body type, hygiene, clothes, eye contact Observe the patient's consciousness Observe the patient's affect Observe the patient's attention Observe the patient's psychomotor behavior : posture, movements		
1.2.	**PATIENT'S IDENTITY** **Name** What is your name ? **Age** How old are you ? **Education** Tell me about your education background **Marital status** Are you married ? How many children? Age of Children **Occupation** What do you do for living ? **Residence** Where do you live ? With family? **Religion** Do you commited to a certain religion ?		
II	**HISTORY OF PRESENT ILLNESS**		
2.1.	**CHIEF COMPLAINT** How can I help you?		
	INFORMED CONSENT		
2.2.	**HISTORY OF PRESENT ILLNESS** **Onset of illness/ Chief Complaint** Since when this things happened? **Whether the onset was sudden or insidious** Did this thing happen suddenly or gradually? **The precipitating factor** Was there any special event which bothering you before all these things happened?		
2.3.	**THE COURSE OF ILLNESS** **Emotional changes** Is there any changes in your mood? Assess the patient's mood How is your mood? If the patient cannot describes his/her mood spontaneously, ask: - Depressive Do you feel depressed, sad or unhappy?		

	- Anxious Do you feel worried, nervous, anxious, fear or tense? - Panic attack Have you ever had sudden spells or attacks of nervousness, panic, or a strong fear that just seems to come over you all of sudden, or for no particular reason? (palpitation, excessive sweating, dyspnea, strangled, fear of death, being crazy, unable to control) - Euphoric Do you feel high, excited or very happy more than usual? - Irritable Do you get angry easily?		
	Behaviour changes(heteroanamnesa) Is there any changes in your behaviour? (isolated, aggressive, agitation, etc)		
	Somatic symptoms Do you have any physical complains (such as pain, tinnitus, blurring of vision, palpitation, excessive sweating, dry mouth, fatigue, or difficulty in swallowing)?		
	Vegetative symptoms Is there any changes in your sleep, appetite, body weight, urination, libido, menses?		
	Cognitive symptoms Do you have any problem with concentration or problem solving?		
	Patient's functioning Do you still doing your tasks as usual? Do you have any problem with personal hygiene? How involved are you with the social life around you?		
3.2.	**Orientation and cognition**		
3.2.1	Now I have to ask you some unusual questions, I hope you don't mind Assess the patient's orientation to : **Time** Can you tell me is it day or night? **Place** What is the name of the place that we are in now? **Person** Do you know who am I?		
3.2.2	Assess the patient's perception **Auditory hallucination** Do you sometimes hear things that others don't hear? **Visual hallucination** Do you sometimes have "visions" or see things that others don't see? **Olfactory hallucination** Do you sometimes smell things that are unusual or that others don't smell? **Gustatory hallucination** Do you sometimes taste things that are unusual?		

	Tactile hallucination Do you sometimes feel any strange or unusual sensation in your skin?		
3.2.3	Assess the patient's memory **Recent memory** How did you come to this place? **Past Remote** Where did you celebrate last New Years? With whom? **Remote memory** Where do you live when you were a kid? **Immediate memory** Now I will mention three objects. Please repeat them after I have mentioned them. (mention 3 different object and let the patient repeat them) **Recall** Please repeat 3 object I mentioned before (after 5 minute)		
3.2.4.	Assess the patient's thought : <u>Obsession</u> Have you ever been bothered by certain thoughts or images that came into your mind over and over even though you tried to ignore or stop them and these make you uncomfort? <u>Phobia</u> - Social phobia Have you ever been so afraid of embarrassing yourself in situation when you have to become center of people's attention, like speaking out in a room full of people, eating in restaurant, using a public restroom? -Agoraphobia Have you ever been so afraid in public area, crowded place, cannot travel alone, and afraid being left alone? - Simple phobia Have you ever been much more afraid of things that the average person is not afraid of? like flying, heights, small animals, receiving an injection, or seeing blood, so you prefer to avoid such things? <u>Somatic complaint (somatoform)</u> Is there any problem with your physical health, but the doctors said otherwise? **<u>Delusion</u>** **Delusion of paranoid: (Delusion of persecution and Delusion of reference)**		
	Delusion of persecution Does anyone ever spy on you or plot against you?		
	Delusion of reference Did it ever seem that people were talking about you or taking special notice of you?		

	Delusion of grandeur Do you have talents or abilities that other people don't have?		
	Delusion of self accusation Do you bothered by guilt feeling about something you may have done in the past that cannot be forgiven and deserve punishment?		
	Delusion of control Is there anybody or other power outside yourself that control everything that you do?		
	Somatic delusion Is there any problem with your physical health which the doctors cannot explained, but you are convince that is a problem in your body? <u>Thought:</u> **Thought withdrawal** Are your thoughts ever taken out of your head ? **Thought insertion** Are thoughts that were not your own ever insert into your head ? **Thought broadcasting** Do you sometimes feel as if your thoughts were being broadcast out loud so that other people could actually hear what you were thinking? **Thought control** Do you sometimes feel that someone or something outside yourself controls your thoughts or action against your will?		
	Suicide idea Have you had any thoughts about ending your life?		
	Assess the patient's psychomotor behaviour: **Compulsion** Have you ever felt you had to repeat certain act over and over even though it did not make much sense, like hand washing, ordering, checking or counting?		
3.2.5.	Assess the patient's **insight of illness** Do you think that you had a psychiatric or mental problem and need to seek any help?		
	CLOSING According to interview and examination I conclude that you suffer from ……and you need to take medications, and I'll give a prescription for a week. Would you come again next week?		