



# NEET - MDS

MASTERS OF DENTAL SURGERY

BY NBE

NATIONAL ELIGIBILITY CUM  
ENTRANCE TEST

Volume - 4

General Medicine & General Surgery



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# Neurology

## Seizure & Epilepsy:-

**Seizure**:- Transient occurrence of sign or symptoms due to abnormal excessive or synchronous neurons activity in brain. (Abnormal Excitation of Neuron) → all together

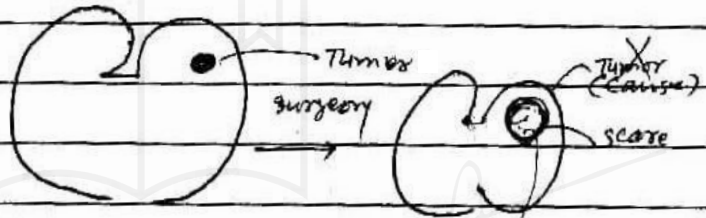
**Epilepsy**:- ① ≥ 2 unprovoked seizures.

OR When cause is absent.

② single seizure asso. with a/w particular.

clinical or EEG features ex. Absent seizure.

ex. Recurrent seizure



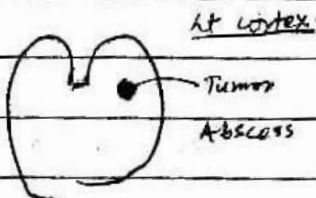
It is seizure because cause (Tumor) is present

③ Recurrent seizure due to chronic underlying cause which is irreversible or non correctable.

## classification of seizure

Focal

When only one cerebral Hemisphere are involved.



✓ First CT/MRI

Generalised.

both cerebral hemispheres are involved.



• metabolic Abnormalities

First check Sugar

- Na<sup>+</sup>

- Ca<sup>++</sup>

Investigation

- CT

## Focal seizures

with intact awareness

conscious

responding to verbal commands.

↓

During the time of seizure.

with impaired awareness

- impaired consciousness

level

- NOT responding to

verbal commands

3 additional features:-

(1) Jacksonian march:-

progression of abnormal jerky

movement.

(2) Todd's paralysis:- paralysis

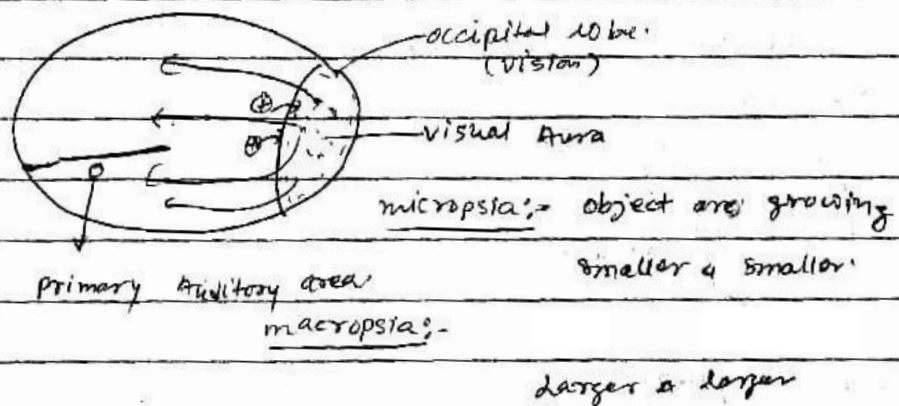
of involved area Exhaustion

(3) Epilepsia partialis continua:-

continuous focal seizure for

hr. to days.

AURA:- subjective internal events which can't be observed by others.



At Prodrome:- Vague premonitory symptoms which can be seen by other.

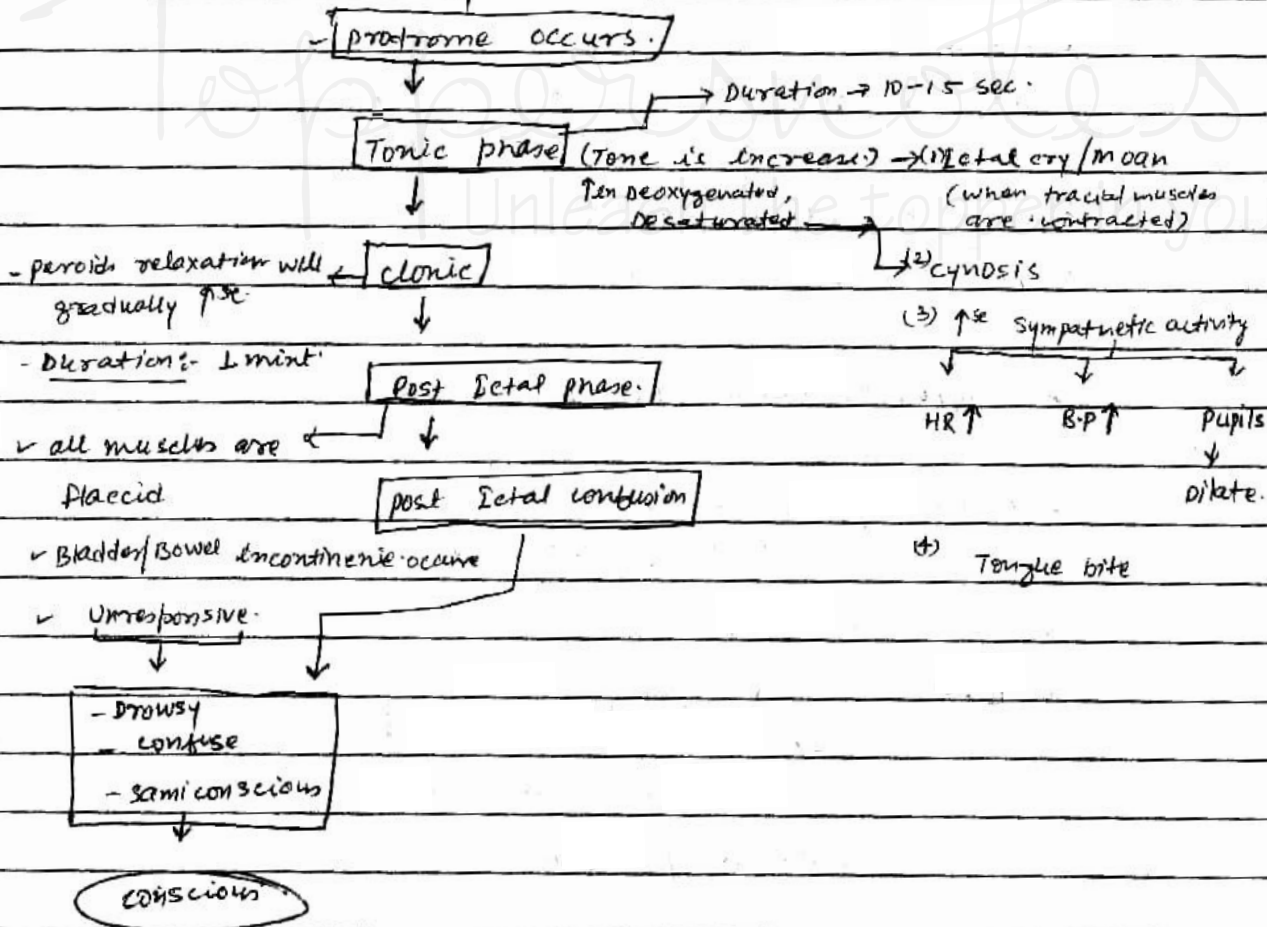
- ex. yawning  
Excitation  
Depression

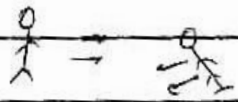
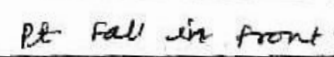
Generalised Tonic-clonic Seizure (GTCS)

Generalised seizure:- (1) GTCS

- (2) TONIC.
- (3) ATONIC
- (4) myoclonic
- (5) Absence.

(1) GTCS:- Generally Aura is absent.



(2) Tonic	Atonic
✓ sudden increase in tone of all muscles in body.	✓ sudden loss of tone.
	
Pt. Fall in back.	Pt. Fall in front.

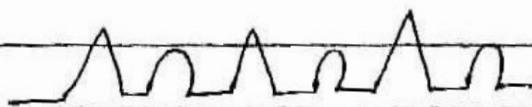
(4) Myoclonic seizure:- sudden brief muscles contraction that may involve one part of body or entire body.

(5) Absence seizure <sup>(Petit mal seizure)</sup>:- sudden brief lapses of consciousness without loss of postural tone.

- ✓ family H/O (+)
- ✓ MC age group 4 to 10 years - Harrison  
5 to 15 year - Bradley
- ✓ ↓<sup>sed</sup> School performance
- ✓ Physically present mentally absent
- ✓ C/F :- Day Dreaming.
- ✓ Hyperventilation provokes seizures
- ✓ No Aura
- ✓ motor symptoms → Absent.  
↳ if (+) → mild.

✓ No post ictal confusion

✓ EEG



spike & wave pattern.

✓ frequency 3 Hz.

I/t of Absence seizure:- Valproate

Ethosuximide

E7V

Lamotrigine

First line drugs for GTCs:-

GTCs:-

Focal  
lamotrigine.

lamotrigine

- Lamotrigine

↓ Carb:

valproate

- CBZ / OxCBZ

Car

- Phenytoin

↓ Pakad

- Levetiracetam

↓ Le

In pregnancy:- seizure frequency remain unchanged in 50%

✓ ↑<sup>seiz</sup> in 30%

✓ ↓<sup>seiz</sup> in 20%

First line antiepileptic in pregnancy:-

A/c to type of seizure:-

if GTCs:-

lamotrigine.

✓ Lowest possible dose

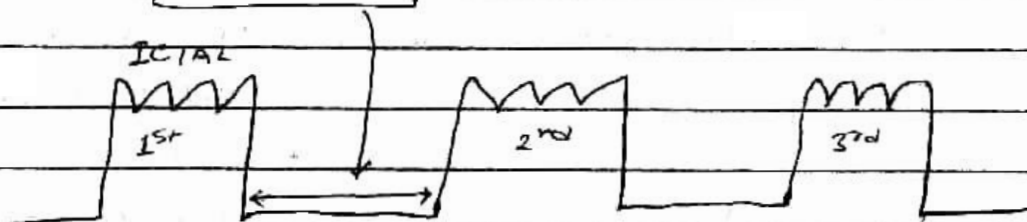
✓ Avoid polytherapy.

✓ safest Antiepileptic in pregnancy:- lamotrigine, CBZ

Status epilepticus:- continuous seizures for 5 mint. or

repetitive seizures with impaired consciousness

in interictal period.





T/t :- lorazepam / midazolam / clonazepam

↓

Levetiracetam / valproate / Phenytoin

↓

midazolam loading dose  
(0.2 mg/kg)

followed by continuous infusion

(0.2 mg/kg/hr)

or/and

separately / add propofol (2 mg/kg <sup>f/b</sup> 2 mg/kg/hr  
 (followed by))

↓

Phenobarbital

↓

Ketamine

Isoflurane

Desflurane

Syncope :- Transient loss of consciousness due to ↓<sup>sed</sup> blood flow to brain

Features	Seizure	Syncope
(1) Immediate precipitating factor	usually none	Emotional stress, Valsalva, orthostatic hypotension, cardiac etiologies.
(2) Premonitory symptoms	None or aura (e.g. odd odor)	Tiredness, nausea, diaphoresis, tunneling of vision
(3) posture at onset	variable	usually erect
(4) facial appearance during event	cyanosis, frothing at mouth	pallor

(5) Aching of muscles after event.	often	Sometimes.
(6) Biting of tongue.	Sometime	Rarely.
(7) Incontinence	Sometime	Sometime
(8) Headache	Sometime	Rarely

Stoke adams attack :- Syncope due to bradycardia / Asystolic

Parkinson's disease :- mean age of onset 60 yrs.

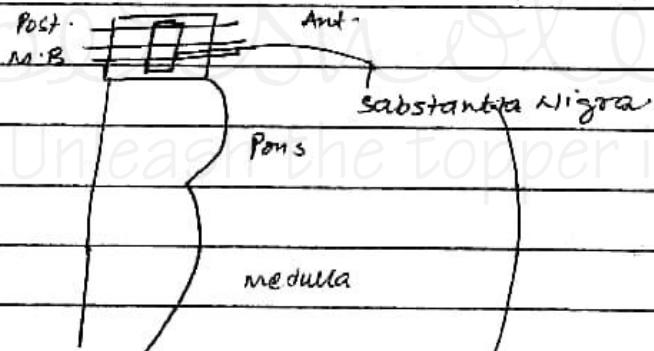
- Neurodegeneration disorder.

- Death of dopaminergic Neurons.

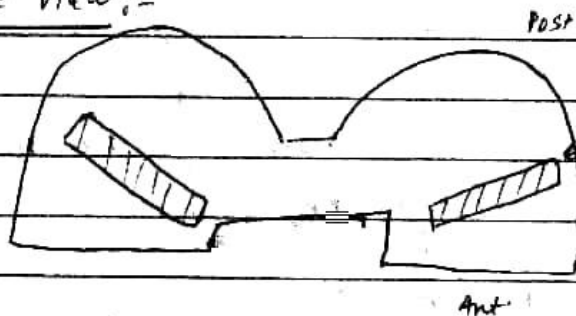


Substantia Nigra.

Lateral view :-



Transverse view :-



↓ <sup>Sec</sup> levels of Dopamine.



↓↓  
↑ Tone.

↑<sup>se</sup> Action in Ach.  
Cause of tremors.

C/F :-

cardinal motor features

other motor features

**TRAP** G

1) Tremors :- Resting  
- Earliest sign.

- mask facies  
- Reduce eye blinking

2) Rigidity :- cog-wheel.

- soft voice (Hypophonia)  
- Dysphasic

3) Akinesia <- Bradykinesia :-  
slow action

- micrographia  
(smaller hand writings)

4) Postural instability :-  
Inability to react to sudden  
change in a posture.

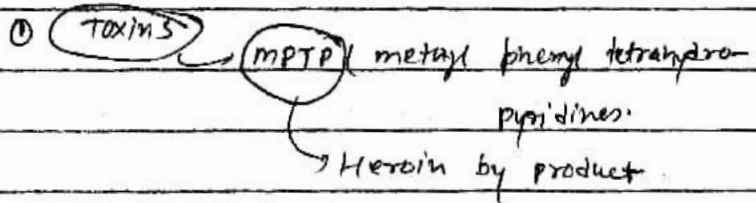
pull test :-

5) GAIT :- festinating gait

Cause of Parkinson disease :-

(1) Genetic defect :- α-synuclein / Lewy body (formation of  
Abnormal  
Dopaminergic Neuron protein)

Secondary P.K

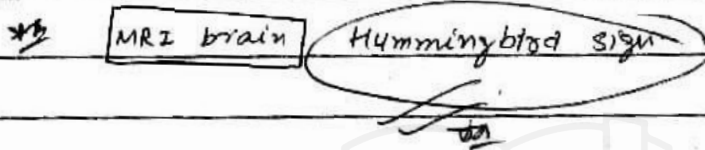


(2) Drugs — Dopamine Blocking agents  
(Antipsychotics) → M.C. cause.

Atypical parkinsonism :-

(i) steal richardson syndrome :- — Atrophy of mid-brain  
(Progressive supranuclear palsy) — Defective downward gaze  
palsy

— Recurrent falls.

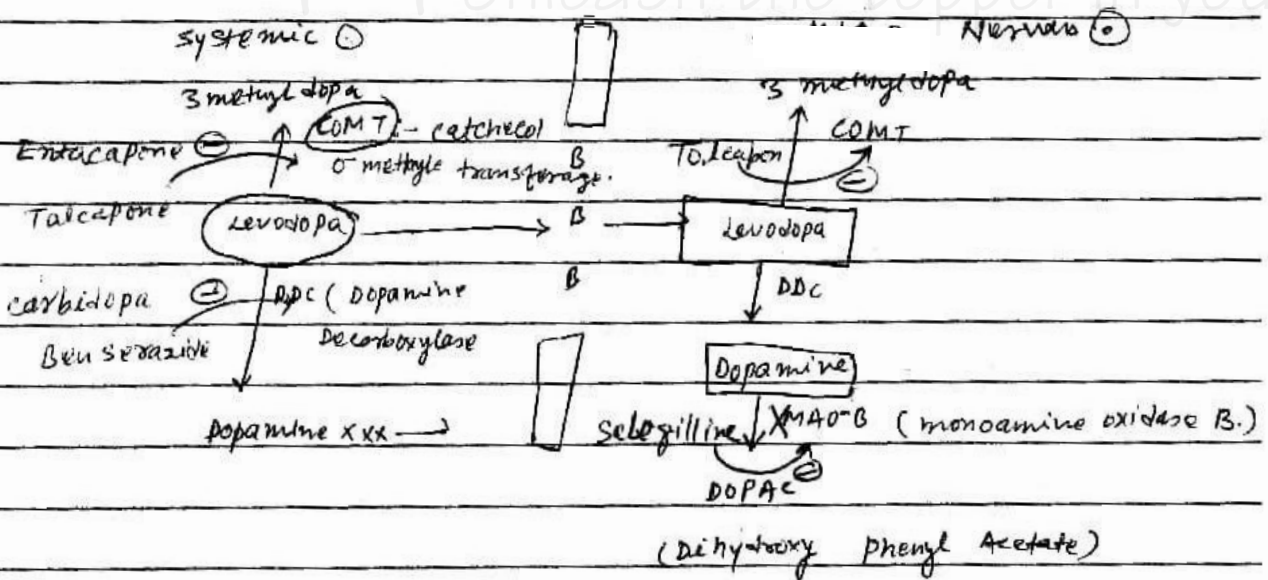


(2) (~~positive not cross brain sign~~) — Multiple system Atrophy :-

P.K + cerebellar feature + Autonomic Nerve system feature

T/t :- D.O.E :- Levodopa.

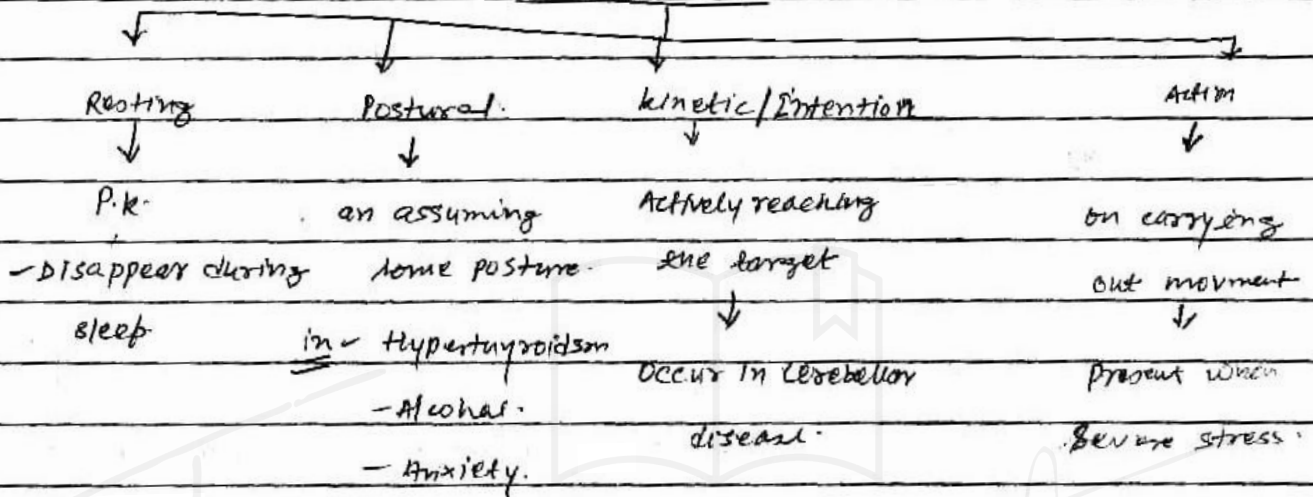
other drugs.



## Hyperkinetic movement disorder :-

(1) Tremors :- Alternate contraction of agonist & antagonist in oscillating rhythmic manner.

### classification



Essential tremors :- commonest motor disorder

Age. 6-10 yrs.

- manifests as postural or action tremors.

B/L symmetrical

✓ Improved by alcohol.

✓ worsened by stress.

✓ Autosomal dominant - *TGFB1* gene

T/t → Beta blockers

(2) Chorea :- Rapid semi-purposeful graceful dance like non-patterned involuntary mov. involving both distal & proximal muscles.

— Lesion in caudate nucleus

Huntington's chorea :-

Chromosome - 4

- Autosomal disease.

✓ ↑<sup>SE</sup> CAG → repeats

(defect in  
chromosome)

(3) Hemiballismus :-

✓ Lesion - subthalamic Nucleus.

- large amplitude flinging motion

proximal joint && distal.

(4)

Dystonia :- pattern sustained contraction of groups of muscles leading to twisting or abnormal posturing.

Gene :- DYT gene

(5) Athetosis :-

slow distal writhing (twisting)  
(motion)

GAP :-

Globus pallidus lesion

(6)

TICS :-

brief repeated stereotyped muscles contraction, that can often be suppress for a short time.

## Headache :-

**Primary**

No exogenous cause.

(1) Migraine

(2) Tension type Headache.

(3) Trigeminal Autonomic cephalalgias.

TAC Unilateral

q/w → cranial.

autonomic feature.

✓ lacrimation

✓ conjunctival redness

✓ nasal congestion.

**Secondary**

When exogenous cause present

✓ systemic infection

✓ Head injury

✓ subarachnoid hemorrhage

✓ brain tumor

(1) Migraine :-

Female > male

Diagnostic criteria :- repeated attacks of headache lasting for 4-72 hrs. with Normal physical examination & no other reasonable cause for headache.

At least 2 of the following :-

- movement ↑ pain

**(MUST)**

- unilateral

- severe or moderate.

- Throbbing.

⊕ Any one of the following :-

- Nausea

- Vomiting

- photophobia

- Phonophobia

## T/H of migraine :-

### Acute Attack

### prophylaxis

(1) Analgesics :- Acetaminophen.  
Aspirin.

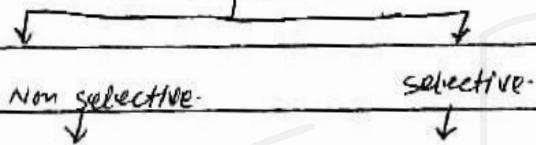
(1) Piroctifen :- 5HT<sub>2A/2C</sub>

(2) NSAIDs :- Naproxen  
Ibuprofen.

Antagonist

(3) 5HT Receptor Agonist :-

(2) B-Blockers :- Propranolol.  
Metoprolol.



(3) Antidepressant :- Amitriptyline

- Ergotamine.  
- Di hydroergotamine.

### Triptans

(4) Anti-convulsant :- Valproate

Topiramate.

FAST  
Acting

slow  
Acting (5) serotonergic :- methysergide.

✓ Sumatriptan

(6) calcium channel blocker :-

✓ Rizatriptan

✓ Flunarizine

✓ Amitriptan

✓ Zolmitriptan

✓ Eletriptan

(7) Angiotensin II Receptor blocker :-  
candesartan.

(9) Dopamin Receptor  
Antagonist

ex metachlorpromide

prochlorperazine



(2) Tension Type Headache :- MC type of primary headache.

↓

- ✓ Dull aching, bilateral band like sensation head.
- ✓ Featureless headache.
- ✓ NO other features.
- ✓ No clear evidence for tension as etiology.

T/tx :- Episodic < 15 days/month.

- Analgesic:

\* Acetaminophen / Aspirin / NSAIDS.

Chronic tension headache :- > 15 days/month.

DOC :- Amitriptyline.

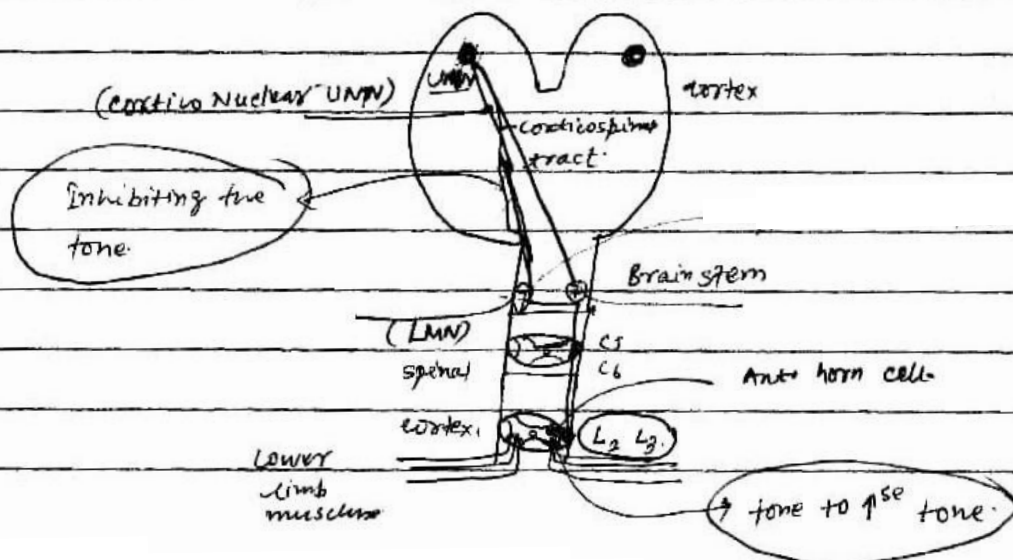
### Spinal cord

Upper motor Neuron

Lower motor Neuron :- fibres coming out from CNS (brainstem or spinal cord) and innervating skeletal muscle

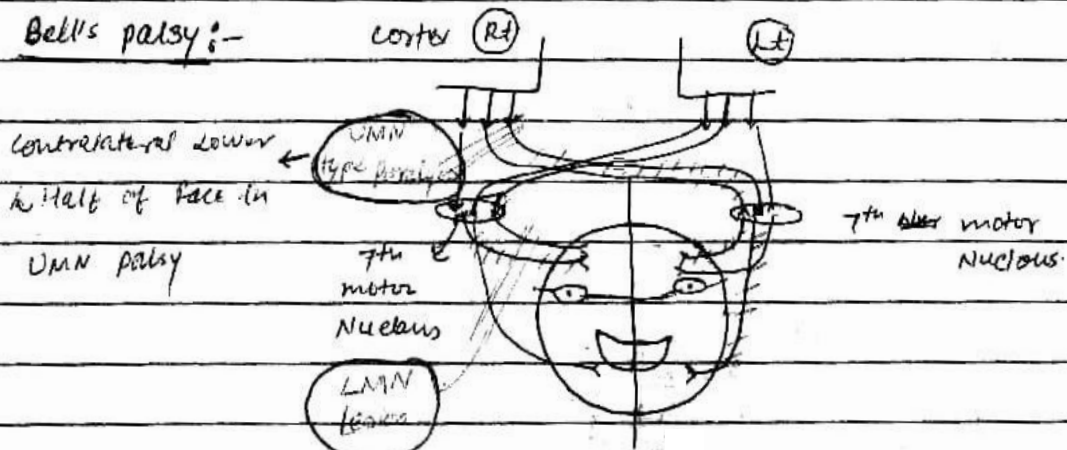
or voluntary muscle.

Upper motor Neuron :- fibres coming down from brain or brainstem a controlling/regulating/altering the activity of LMN.



Lesion		
	UMN ex (Hemiplegia)	ex. palio LMN <sup>Ant Horn cell</sup>
power	↓↓	↓↓
	Groups of muscles affected	Individual muscles.
Atrophy of muscles	disuse Atrophy.	⊕ ⊕
Tone (Resistance given by muscles to passive movement)	↑↑ Hypertonia	↓↓, <sup>Spnd</sup> Flaccidity.
Reflexes	Exaggerated	Loss
Biceps		
Supinator C5/6		
Triceps L4/5		
Knee L4/5		
Ankles		

Bell's palsy :-



LMN palsy is called  
bell's palsy  
Ipsi. lateral paralysis  
Upper & lower