


Celtic Consultancy



Rapid Neurological Screen

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Aims

- ✦ Description of symptoms
- ✦ Terminology
- ✦ Awareness cardinal symptoms
- ✦ Build on existing knowledge / experience
- ✦ Develop examination techniques

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National Campaign

- ✦ Face Arm Speech Test (Stroke FAST)
 - § Facial palsy
 - ▼ Affected side
 - § Arm weakness
 - ▼ Affected side
 - § Speech Impaired

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Cincinnati Stroke Scale

- ✦ Facial Droop
- ✦ Arm Drift
- ✦ Abnormal Speech

✦ If any of these three signs abnormal the probability of stroke = 72%

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History

- ✦ Can be difficult to elicit
 - § Communication deficits
 - § Absence of witnesses
 - § No knowledge of base line neurology
- ✦ Time – intensity relationship
 - § Sudden neurological deficit – vascular disorder
 - § Chronic / progressive – degenerative or neoplastic


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Cardinal Symptoms

- ✦ Headache
- ✦ Dizziness
- ✦ Blackouts
- ✦ Visual impairment
- ✦ Deafness
- ✦ Paraesthesia
- ✦ Weakness
- ✦ Sphincter dysfunction




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Conscious level
Emergency
Situation

AVPU

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Glasgow Coma Scale

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GCS



Best Eye opening response


- 4 Spontaneous
- 3 Speech
- 2 Pain
- 1 None

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GCS

• Best Verbal response

- 5 Orientated
- 4 Confused
- 3 Inappropriate words
- 2 Incomprehensible sounds
- 1 None



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GCS

• Best Motor response


- 6 Obeys commands
- 5 Localises pain
- 4 Withdraws from pain
- 3 Abnormal flexion
- 2 Extension
- 1 None




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GCS

- Range 3 to 15
- Record each component
 - ▾ E4 V5 M6
- What score = unconscious /coma?
- GCS= 8 or less
- If patient known to be dysphasic record D as verbal response, if intubated record T
- If muscle paralysis medication is used, record P in motor response
- If eyes closed with swelling record C in eye response



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Forbe's 7 Stage Screen

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Forbe's Frame Work

1. Walk
2. Talk
3. Vision
4. Face
5. Upper limb
6. Lower limb
7. General

• Not a comprehensive neurological exam

Base on Forbe's Quick Neurological Exam

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1.WALK

- Locomotion
- Watch patient walk in
- Gait

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2. TALK

- **Observe patient talking and giving history**
- **Dyslexia**
 - § Read out loud
- **Dysarthria**
 - § Difficulty in articulation
 - § Ask to say words labial and lingual consonants
 - ▼ "British constitution"
 - ▼ "Artillery"
- **Dysphasia**
 - § Expressive (Motor)
 - ▼ Repeat sentence / explain making cup of tea
 - § Receptive (sensory)
 - ▼ Ask patient to perform commands
 - § Global (Both)
- **Dysphonia**
 - § Problem with sound production
 - § Volume

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Intellectual Function

(Not part of Forbe's Screen)

Abbreviated Mental Test

- How old are you?
- What is your DOB?
- What day of the week is it?
- What month?
- What year?
- Remember the following address (e.g. 42 West St.)
- What is the name of this place?
- What year did WWII start?
- What is the present monarch's name?
- Count backwards from 20 to 1.
- Repeat the address I asked you to remember

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Score

- 1 point for each correct answer
- Normal score 8+
- Mid - moderate dementia 4 -7
- Moderate - severe dementia <4

3. VISION

- ✦ Visual Acuity - VA
- ✦ Fields of Vision – FOV
- ✦ Extra Ocular Movements – EOM
- ✦ Papilloedema



Visual Acuity

- ✦ Measurement of vision
- ✦ Measures function of the eye - gives indication of disability
- ✦ Checked using Snellen Chart
- ✦ May need alternative gross assessment – fingers/light



Visual Acuity

- ✦ Snellen chart at 6m
- ✦ Scaled down Snellen
- ✦ Smallest line you can read
- ✦ Numbers under letters indicate the distance at which a person with no refractive error can read the line
- ✦ Cover each eye alternately & record VA
- ✦ Measure with spectacles or preferably pinhole



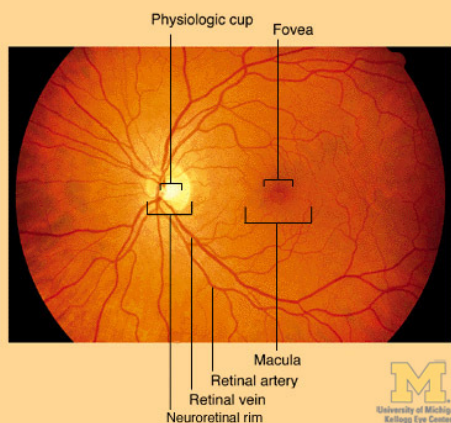


VA – Right 6/12 Left 6/6

6/12 indicates that the smallest letter that can be read, can normally be read by someone with normal vision at 12m – but the patient has to be brought to 6m before it is recognised by the patient.



Testing Fields of Vision



4. FACE

- Eye Closure
- Lip Closure
- Attempt to open
- Bell's palsy – weakness in lip and eye
- Stroke – weakness in lip only



5. UPPER LIMB

- Drift – arms out, palms up, hold, eyes closed
- Finger nose test – eyes open
- Shoulder abduction
- (reflexes)



6. LOWER LIMB

- Hip flexion and extension – power
- Knee extension – power
- Ankle jerk
- Plantar response



7. GENERAL

- Meningism
- BP
- HS



Motor Function
Inspect

- § Shape & bulk of patient musculature
 - ✓ note asymmetry
- § Look for Involuntary movements
- § Note fasciculation
 - ✓ Muscle twitching occurs during rest
 - ✓ Stop during voluntary movements
- § Tremors
 - ✓ Rate & amplitude
 - ✓ Action, resting, intentional
 - ✓ Ask patient to outstretch hands



Tone

- Ask patient to adopt supine position and let limbs go floppy.
- Flex and extend limbs, slowly – quickly
- Assess tone at wrist by shaking forearm and observing hand
- Assess tone at the ankle by rolling leg.
- Hypertonia - hypotonia



Power

- ✦ Check hand dominance
- ✦ Resisted movements (Isotonic)
- ✦ Assess power by comparing like for like.

Fine Movements

- ✦ Ask patient to play piano with arms outstretched
- ✦ Tying knots or fastening buttons



Power

The UK Medical Research Council System:

- 0 = total paralysis
- 1= flicker of contraction
- 2= movement with gravity eliminated
- 3= movement against gravity
- 4=movement against resistance
- 5= normal power



Sensation

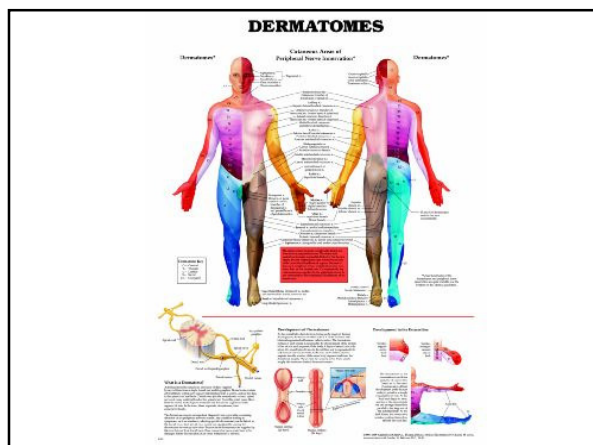
- ✦ Light touch
 - § Wisp of cotton wool
 - § Apply at single point
 - § Ask patient to close eyes and confirm contact
- ✦ Two point discrimination
 - § Compasses
 - § Apply tip with equal gentle pressure
 - § Young person expect 3mm @ finger tip, 1cm @ palm, 3cm @ sole of foot



Other Sensation Tests

- ✦ Pain
 - § Distinguish between sharp & blunt (neurotip)
- ✦ Temperature
- ✦ Proprioception
- ✦ Vibration sense





Co-ordination

- ✦ Coordination requires intact motor, sensory and cerebellar function
- Simple tests
- ✦ Quickly slap examiners hand with front & back of hand
 - ✦ Outstretched finger nose test
 - ✦ Heel-shin test
 - ✦ Stand with feet together – then close eyes- one leg
 - ✦ Observe gait on slow and quick walking (especially turning)



Examination of reflexes

- ✦ Reflex arc
- ✦ Afferent pathway triggered by stimulation of a receptor- efferent system which activates an effector organ
- ✦ Disturbances of reflexes provide strong evidence of neurological dysfunction



MUSCLE STRETCH REFLEXES (DEEP TENDON REFLEXES)

- ✦ GRADED 0 - 5
 - 0 - ABSENT
 - 1 - PRESENT WITH REINFORCEMENT
 - 2 - NORMAL
 - 3 - ENHANCED
 - 4 - UNSUSTAINED CLONUS
 - 5 - SUSTAINED CLONUS





Biceps jerk (C5-C6)



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Triceps Jerk (C6, C7)

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Supinator Jerk (C5, C6)

- ✦ Strike radial aspect of distal radius
- ✦ Normal response is Supination of the hand

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Knee Jerk (L3,L4)




Babinski's (Foot Grasp) Reflex



- ✦ Stimulation of sole of foot
- ✦ Normal – Plantar flexion of toes
- ✦ Abnormal – dorsiflexion of great toe and fanning of other toes
- ✦ Indicated upper motor lesion
- ✦ Absence can be caused by cold feet



Clonus & Reinforcement

- ✦ Clonus
 - § Rhythmic repetition of involuntary muscle
 - § Few beats in anxious patient may not be significant
- ✦ If no reflex is observed, repeat using reinforcement.
 - § Upper limbs – ask patient to clench jaw and relax just before strike
 - § Lower limbs- lock two hands and pull



Forbe's Frame Work

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- ✦ Not a comprehensive neurological exam
 - ✦ Refer if abnormality detected

Base on Forbe's Quick
Neurological Exam