

Welcome to Barton NRU!

Dear

Your Practice Assessor for this placement shall be

Your Practice Supervisors are

The Learning Environment Manager (LEM) for Barton is Savitha DSouza

Please don't hesitate to discuss any problems or concerns that arise during your time here with your assessor and/or Sister Savitha DSouza. In their absence you can speak with either Sister Paula Topping or Charge Nurse Anwar Auckburally.

The shift patterns for our Unit are:-

Early Shift 07:00 – 15:00 with a 30 min meal break

Late Shift 13:30 – 21:30 with a 30 min meal break

Night Shift 21:00 - 07:30 with a 30 min meal break

Savitha DSouza organises your rota to ensure that you work as many shifts as possible with your assessor or supervisors. You will find the student rota in the "Off Duty" file kept at the nurse's station. Please speak to your assessor or Savitha if you want to change an existing rota or leave a note of requests in an envelope for Savitha in the staff post tray. Arrange changes with your assessor, Charge Nurse or Sister when Savitha is on annual leave.

The Unit telephone numbers are:- 01772524473 (Ward Clerk)

01772 524524 (Nurse's Station)

The Unit has a swipe Card Entry System. Please be careful who you let in or out of the Unit when releasing the doors as some of our patients may not be safe unsupervised outside the Unit.

Sister Paula Topping is the Band 7 Ward Manager for Barton. Anwar Auckburally and Savitha DSouza are the Band 6 charge nurse and Sister. We have a dedicated team of Staff Nurses, Health Care Assistants, an Assistant Practitioner, Trainee Nurse Associate and our very valuable Ward Clerk Carol Parker and Housekeeper Mandy Hewitson.

The NRU has a Multidisciplinary Team (MDT) of specialised therapists supported by assistant therapists including Occupational Therapists (OTs) Lead by Melanie Churcher, Physiotherapists lead by Louise Brown, Speech and Language Therapists (SALT) lead Leah Freimann and Neuropsychologists Lead by consultant clinical neuropsychologist Dr Tania Mann. Heather Gledhill, Lynn Harpley and Christine Watkinson provide secretarial support for the three consultants.

The Neuro Rehabilitation Unit also has beds on Bleasdale Ward. Neurosurgical wards and Neurology wards are on wards 2A, 2B, 2C and 17. This is a Regional Unit and our patients may come from Barrow-in-Furness, The Lake District, Lancaster, Morecambe Bay, The Fylde Coast and Preston. Other Neurosciences Regional Units are based at The Walton Centre in Liverpool, The Greater Manchester Neuroscience Centre in Salford and The Neurosciences Centre in Newcastle.

Dr David Shakespeare and Dr Elisa Barberan are the Consultants in Neurological Rehabilitation Medicine. A Registrar and FY2 support them.

The NRU provides specialist in-patient neurological rehabilitation for patients with brain injury (common causes include trauma, Sub-Arachnoid Haemorrhage, cerebral tumours, infections and hypoxia), spinal injuries and other neurological conditions such as Guillan Barre Syndrome and Multiple Sclerosis. We have recently expanded and are in the process of reorganising. Currently, Barton has 13 patients and Bleasdale has 19 Neuro Rehabilitation patients and 3 General Medical patients.

Dr Shakespeare runs a specialist spasticity management clinic advising on physical management, oral anti-spasticity medication, treatment with Botulinum Toxin, intra-theal Baclofen and intra-theal Phenol. There are also links to a service offering functional electrical stimulation for foot drop. In addition to clinic consultations, Dr Shakespeare visits patients on other hospital wards and at home to advise on neurological rehabilitation issues.

"One of the key goals of rehabilitation is to help brain injury survivors reclaim their sense of identity and control over their life." Dr Shakespeare.

To help achieve this goal the NRU MDT work together and liaise closely with other relevant departments. During your placement you can arrange sessions to work with members of the NRU MDT and a range of other appropriate clinicians.

There is a SPOKE Placement Board with a list of suggested SPOKE placements. This is situated between Sister's office and Bay One. Next to it is a Student & Assessor Board where you may find information on any relevant study days. Some SPOKE placements can be popular and may need to be organised a few weeks in advance – especially theatres. Check the duty rota and try to arrange your SPOKE placements for days when you are not working with your assessor.

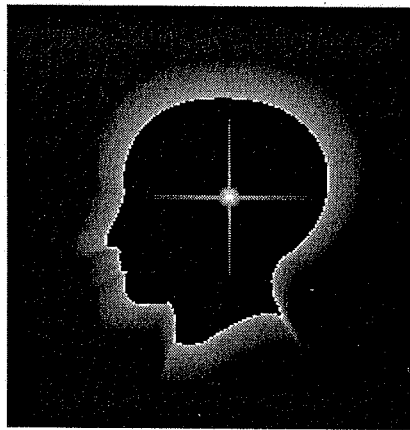
More information can be found in the "Student Support" File is kept in the staff room. 2 Policy and Procedure files are also kept here and you should familiarise yourself with these Trust Policies and Procedures that are relevant to this placement.

A small range of clinical text books are available in the Sister's office. The Sidney Driscoll Library on Ward 2A also has a range of Neuroscience books and journals for the use of the department's medical and nursing staff. (www.sdnf.co.uk)

Welcome and learning package

Pre- registration nurse

Neurosciences Directorate



Students Name

Mentors Name

Dates of placement

Updated June 2016

Welcome to Neurosciences. During your placement we hope that you will feel part of the team.

You will be allocated a mentor who will, with the assistance of others, provide you with support. You will be rostered to work with your mentor as much as possible during your placement.

We encourage you to take responsibility for your own learning and it will be your responsibility to arrange times with your mentor for your assessments and to review your work. Your priority will be to learn and the staff will endeavour to facilitate this for you. We encourage you to ask questions which can be directed at any member of the Multi disciplinary team (MDT) within the ward, and to seek out learning opportunities.

On your first day please complete the learning contract and ensure that the orientation and health and safety checklist has been completed.

Resources for learners.

Each ward in the directorate has a folder containing information about training and education available within the Trust, information can be found either here or in the resource room where there is a notice board for pre-registration students.

The Sidney Driscoll Library located on ward 2a has some resources for student nurses as do the ward managers offices in all areas. If you need any other resources please ask the Clinical Educator.

The computer in the conservatory on between ward 2b & 2c is also available for you to use.

The orange 'information' folders provided by the university are located in the office of each of the wards.

The speciality of Neurosciences is vast and it would be impossible to cover everything during the short duration of a placement. The purpose of this learning package is to assist you in developing the basic skills and knowledge required to safely care for a patient in the Neuroscience setting. It is important to consider the area in which you are working within the context of the directorate as a whole and in consideration of the patient's journey.

The neuroscience directorate consists of Neurosurgery on Wards 2a, b, and c and Neurology on Ward 17. On ward 2a, b and c, pre and post-operative patients are cared for. Some post op patients are level 2 (more highly dependant) and these patients are monitored on Ward 2a.

Ward 17 is a neurology ward. The Neuro-rehabilitation unit cares for patient's who have had a traumatic brain injury.

The directorate is supported by various specialist nurses, and physiological measurements technicians.

Current Hours of duty worked within the directorate:-

Early shift: 07.00-15.00

Late shift: 13.30-21.30

Night Shift: 21.00-07.30

Suggested reading for this placement.

Any good anatomy and physiology book such as 'Principles of Anatomy and Physiology' Tortora and Babowski. Wiley.

A Neurosciences nursing book e.g. 'The Clinical practice Neurological and Neurosurgical Nursing.' Joanne V Hicky. Lippincott.

Or:

'Neuroscience Nursing: evidence-based practice' Sue Woodward, Wiley-Blackwell

Nursing journals.

'Neurology and Neurosurgery illustrated.' Lyndsey, Bone, Callendar.

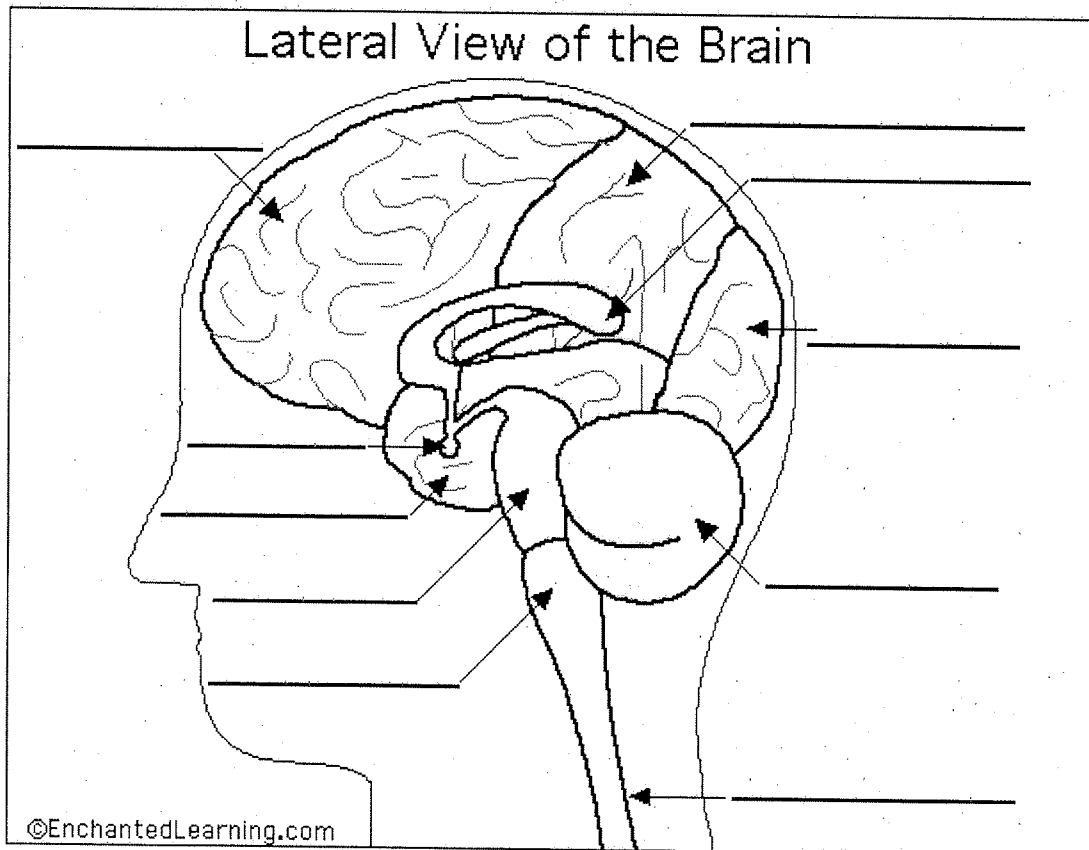
You will find it helpful to have knowledge of the following.

- The areas of the brain and their function.
- Cerebral circulation
- The cranial nerves
- Basic spinal anatomy.

All these resources can be found in the Trust Libraries and the journals can be accessed via the intranet.

Neuro Anatomy and Physiology.

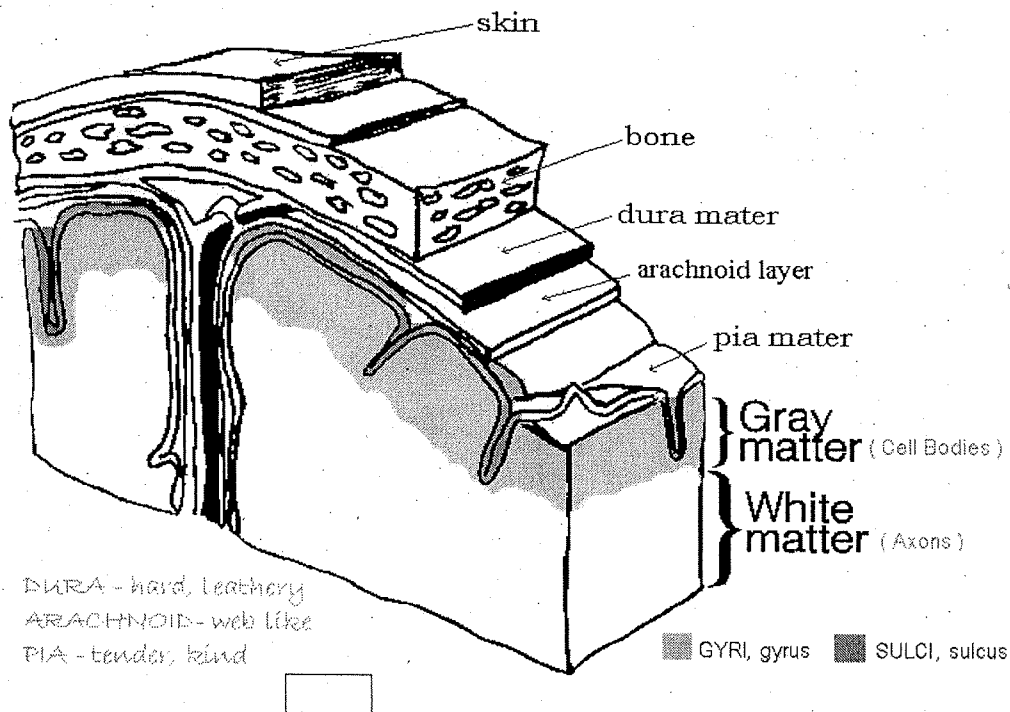
From reviewing the basic anatomy of the brain from a textbook of your choice can you label the diagram below?



Which areas of the brain are responsible for these functions?

Function	Area of brain responsible.
Personality Emotions Motor Problem solving reasoning	
sensory	
Hearing Language Speech	
vision	
Balance and coordination	
Regulation of basic body functions	

The Meninges.



The spine

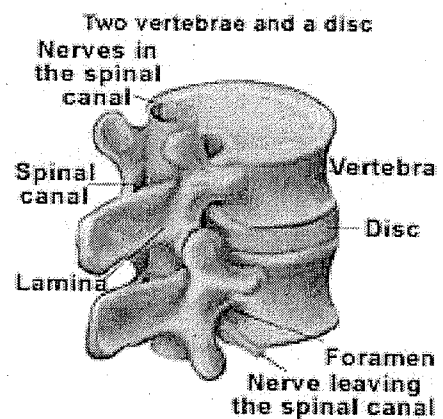
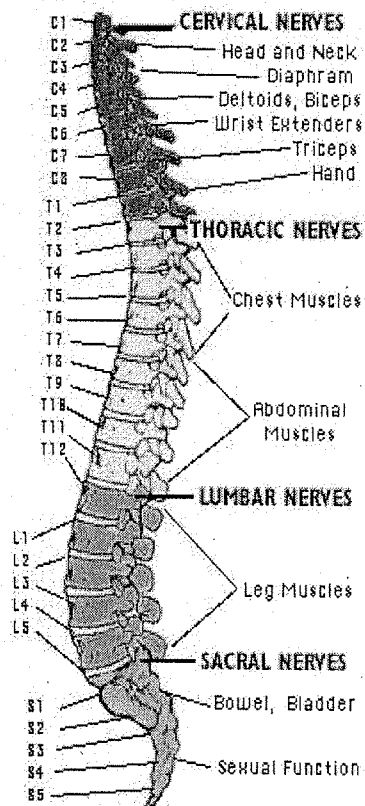
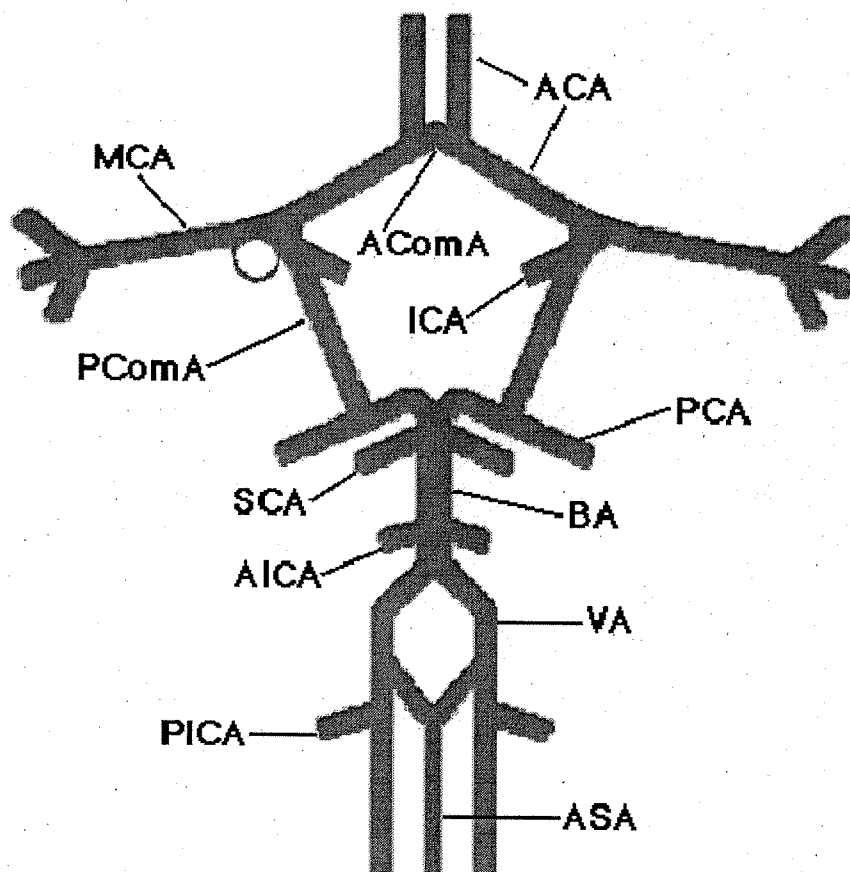


Diagram to illustrate cerebral circulation.



Can you complete the diagram by indicating what the letters stand for?

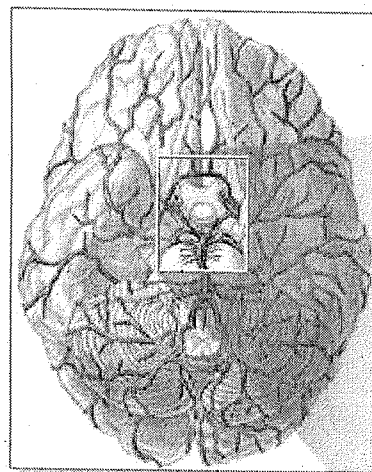
ACA		AICA	
MCA		ICA	
PCA		PICA	
AICA		VA	
BA		ASA	
SCA			

Diagram to illustrate cerebral aneurysms

TYPES OF CEREBRAL ANEURYSMS

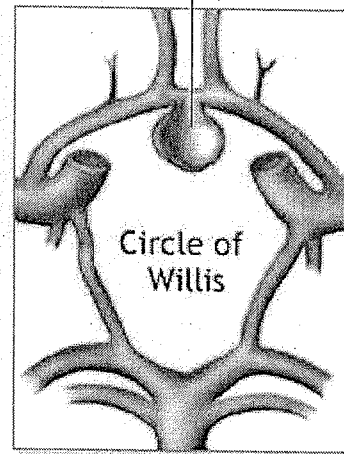


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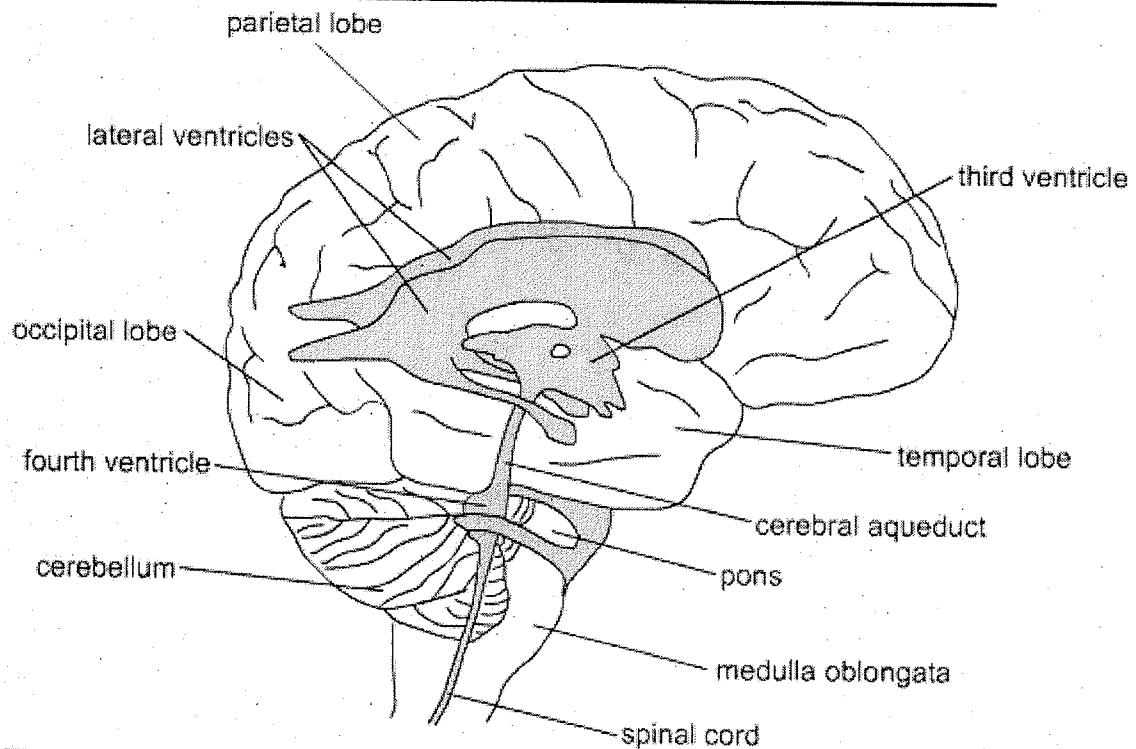
Bottom view of brain
and major arteries
of the brain

Berry aneurysm on the
anterior communicating
artery of the brain



ADAM.

Diagram to illustrate the ventricles of the brain.

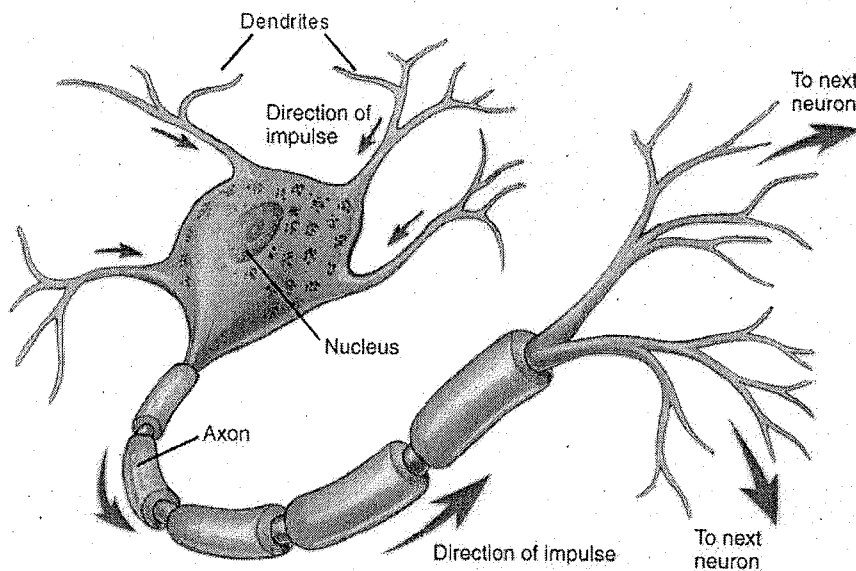


Where is CSF produced?

What is its purpose?

Where does it go?

Neurological disorders can occur as a result of damage or dysfunction of the nerve cells (neurones).



Describe the following

Sensory nerve

Motor nerve

Which Neurological disorder is associated with degeneration of motor neurones.

Neurotransmitter

Which Neurological disorders are associated with dysfunction at the neuromuscular junction.

The shaded areas around the neuron on the diagram above represent the myelin sheath. What is the function of the myelin sheath?

Which neurological condition is caused by a disorder of the myelin sheath?

Neurological assessment

All patients admitted to Neurosciences have a full Neurological assessment carried out by the medical staff who document this information in a booklet. Take a look at a completed booklet. Ongoing Neurological assessments are also carried out by the nursing staff.

Why do we perform neurological assessment?

- To give information about a patient's conscious level by looking at behavioural responses, in association with vital signs and pupil reaction,
- To help determine which regions of the nervous system need further investigation and if any emergency therapeutic interventions are needed prior to further investigation
-and thus to help preserve the functioning of the nervous system.
- To highlight any deterioration in the patient's condition.

How do we carry out neurological assessment?

A full neurological examination of the patient for diagnostic purposes involves assessment of:-

- Patient history
- Mental status
- Cranial nerves
- Motor system
- Reflexes
- Coordination and gait
- Sensory system.
- Skull and spine

Neurological observations give us information about the patient's central nervous system i.e. the brain and spinal cord.

The Glasgow coma scale devised by Teasdale and Jennet 1974 is a useful tool for assessing level of consciousness.

Reduced level of consciousness can occur as a result of intracranial disease, or secondary to other systemic conditions. It is a common feature in acute illness and therefore forms part of the overall patient assessment A, B, C, D, E.

D is for debility and refers to neurological assessment.

The AIMS principles highlight that a reduction in level of consciousness can lead to a compromised airway and for this reason a more rapid assessment can be used using the AVPU scale.

Causes of neurological deficit.

Head injury	hypoglycaemia
Intracranial haemorrhage	hyponatraemia
Space occupying lesion	drugs
Cerebral infarction	fits
Intracranial infection / abscess	hypothermia
Cerebral malignancy	hyperthermia
Hypoxaemia	hypothyroidism
Hypotension	hepatic encephalopathy
Hypercapnoea	

The Glasgow Coma Scale. (GCS)

The GCS is a numerical scale where scores are assigned to three behavioural responses:-

- Eyes opening
- Verbal response
- Motor response.

The total score gives a combined score of 15. It is more helpful to report the score for each behaviour as an indication of where the problem lies, and this is often abbreviated thus E3, V2, M5, = GCS 10. The highest score of 15 indicates a person who is alert and responsive, the lowest score is 3. A patient with a GCS of <9 is usually electively intubated because of the risk of loss of airway.

E – Eyes opening

		Score	
EYES OPEN (Eyes closed by swelling = C)	Spontaneously	4	The patient opens eyes as you approach.
	To speech	3	Opens eyes when spoken to or touched. Persist, raise voice if necessary. If no response apply painful stimuli.
	To pain	2	If the patient does not have facial injuries or a basal skull fracture apply orbital pressure, or pressure at the jaw margin. Alternatively try squeezing the trapezius muscle between thumb and forefinger.
	None	1	

Painful stimuli should be performed for no longer than 30 seconds.

V – Verbal response

		Score	
Best verbal response	Orientated.	5	The patient needs to be able to state who and where they are, the month and current year.
	Confused.	4	The patient is confused if they are unable to answer these questions.
	Uses inappropriate words	3	Those that are unrelated to the questions asked.
	Makes incomprehensible sounds	2	Moans and groans in response to speech or stimuli.
	None	1	

If the patient is unable to respond due to the presence of an Endo tracheal tube or tracheostomy then this is recorded as T.

If the patient has dysphasia this is recorded as a D.

What is dysphasia?

M – Motor response

Best motor response.	Obeys commands	6	Ask patient to stick their tongue out. Allows assessment of patients who may have spinal injury that prevents them from moving their limbs. Asking a patient to squeeze your fingers can illicit a primitive grasp which can be confused with an appropriate response.
	Localizes to pain	5	If patient does not obey command apply painful stimulus. Attempting to remove cause of pain is an example of localizing.
	Withdraws to pain	4	
	Abnormal flexion to pain	3	There may be a purpose less flexion of arms. Unequal flexion in the arms could indicate Hemiparesis or hemiplegia.
	Extension to pain	2	Sometimes accompanied by internally rotating the shoulder and hand.
	None	1	Painful response should not be applied to the lower limbs as any response may be the result of a spinal reflex which could be confused as appropriate.

The chart overleaf is an example of a Neurological observation chart. The chart currently in use on the Neurosciences wards is an enlarged version of this chart and includes the early warning score and action plan.

Words commonly used in Neurosciences, and their meanings - continued

Myelogram	X-R of the vertebral canal using contrast medium.
Magnetic resonance imaging (MRI)	A method of brain scanning using magnetic fields.
Neuralgia	Pain in the nerve
Neurone	The nerve cell, its fibre and all its branches.
Nystagmus	Rhythmical oscillation of the eyes.
Oculomotor	Concerned with eye movement
Olfactory	Concerned with the sense of smell.
Optic	Concerned with the eyes or visual pathways.
Otorrhoea	Running from the ear.
Papilloedema	Swelling of the optic nerve seen with an ophthalmoscope.
Petit mal (absence seizures)	A form of epilepsy, frequent episodes of detachment from surroundings.
Photophobia	Dislike of light
Posterior horns	Part of spinal grey matter receiving sensory roots
Ptosis	Drooping of the eye lid
Reflex	An automatic response to stimuli
Retro- Bulbar	Behind the eye
Rhinorrhea	Running from the nose.
Scotoma	A patch of blindness
Sella Turcica	A saddle shaped cavity at the base of the skull containing the pituitary gland.
Sensory	Concerned with feeling.
Sensory level	The point where sensation changes from normal to abnormal
Shunt	A method of bypassing an obstruction to CSF flow.
Space occupying lesion	A tumour or other growing lesion.
Spondylosis	Degeneration changes in bone and disc in the spine.
Status epilepticus	Prolonged seizure or, seizures following each other in rapid succession
Stereotaxis	Use of instrumentation to locate accurately locate lesions in the brain
Stupor	Unconscious but rousable
Subdural	Between dura and arachnoid.
Sulci	Furrows on the surface of the brain.

Words commonly used in Neurosciences, and their meanings - continued

Syrinx	A cavity in brain stem or cord
Tentorial herniation	Forcing part of the brain through the
Tic	Recurrent spasm
Tinnitus	Ringing in the ears
Trephine	A circular disc cut in the skull
Ventricles	Cavities in the brain containing CSF
Vertigo	A sense of rotation
Vestibular	Concerned with the Labyrinth and its connections.
White matter	The parts of the brain and spinal cord containing myelinated fibres.
Xanthochromic	Yellow coloured.