Right Brain
Art awareness
Creativity
Imagination
Intuition
Holistic thought
Music awareness
3-D forms
Left hand control

Left Brain
Analytic thought
Logic
Language
Reasoning
Science and Math
Written Numbers skills
Right hand control
CONTRALATERAL CONTROL
1. **Frontal Lobe**
   Controls:
   - Behaviour
   - Emotions
   - Organisation
   - Personality
   - Planning
   - Problem solving
   Arteries: ACA, MCA

2. **Parietal Lobe**
   Controls:
   - Judgement of shape, size, texture, and weight
   - The sensation of pressure and touch
   - Understanding of spoken/written language
   Arteries: ACA, MCA

3. **Occipital Lobe**
   Controls:
   - Colour recognition
   - Shape recognition
   Arteries: PCA

4. **Cerebellum**
   Controls:
   - Balance
   - Muscle co-ordination
   - Posture maintenance
   Arteries: Basilar, PCA, AICA, SCA

5. **Brainstem**
   Controls:
   - Alertness
   - Blood pressure
   - Digestion
   - Breathing
   - Heart rate
   Arteries: Vertebral, Basilar

6. **Hippocampus**
   Controls:
   - Object recognition
   - Stores meaning of words or places
   Arteries: PCA

7. **Temporal lobe**
   Controls:
   - Smell identification
   - Sound identification
   - Short-term memory
   - Hearing
   Arteries: MCA, PCA

ACA = Anterior Cerebral Artery
MCA = Middle Cerebral Artery
PCA = Posterior Cerebral Artery
PICA = Posterior Inferior Cerebellar Artery
AICA = Anterior Inferior Cerebellar Artery
SCA = Superior Cerebellar Artery
SPEECH CENTRES

Broca controls the muscles of the larynx, pharynx and mouth that enable us to speak.

Wernicke’s area Controls our understanding of language.
BLOOD SUPPLY TO THE BRAIN

- Internal carotid artery
- Middle cerebral artery
- Circle of Willis
- Basilar artery

Bottom view of brain
WHAT IS A STROKE?

interruption of the blood supply to the brain, caused by a blocked or burst blood vessel...cuts off the supply of oxygen and nutrients, causing damage to the brain tissue. (World Health Organisation 2010)
Ischemic stroke
obstruction within a blood vessel
84% of all stroke cases.
ISCHAEMIC STROKE
Atherosclerosis

- Deposit of cholesterol and plaque within the walls of arteries
- Narrow lumen
- Reduce Blood flow

Thrombus

- Clot can form on roughened edges of plaque
- May block lumen
Emboli

- When a thrombus breaks off it becomes an embolus
- Travel through the blood stream until they reach a vessel too narrow to pass through
- Commonly form in the heart
- AF
Primary Intracerebral Haemorrhage (ICH) when a weakened blood vessel ruptures
11% of all stroke cases
INTRACEREBRAL HAEMORRHAGE
Subarachnoid Haemorrhage (SAH)
When a weakened blood vessel ruptures in the subarachnoid space.
5% of all stroke cases
SUBARACHNOID HAEMORRHAGE
Dissection
Carotid/vertebral artery
Tend to be younger patients
Preceeding neck trauma

Cerebral Venous Thrombosis
Prothrombotic tendency eg. Contraceptive pill/ inflammatory illness/infection/pregnancy
Illustration of GCS

M6 Obeying
M5 Localizing
M4 Withdrawal
M3 Abnormal flexing
M2 Extensor response
M1 No response

V5 Oriented
V4 Confused
V3 Inappropriate
V2 Incomprehensible
V1 Absent

Spontaneous E4
To speech E3
To pain E2
None E1

Squeeze my hand, show me a thumbs up, a fist, and a victory sign

A car hit me. An ambulance brought me here.
Where am I? Who are you?
F*#
Ouch
TIA

- Transient Ischaemic Attack
- Symptoms 100% resolved
- Half are mimics
- 6.5% risk of stroke within 7 days
- 300mg aspirin
- Urgent assessment of risk factors
RISK FACTORS FOR STROKE

Non Modifiable

- Age
- Gender
- Ethnicity
- Family History
- Previous stroke
RISK FACTORS FOR STROKE

Modifiable

- Atrial Fibrillation
- Hypertension
- Smoking
- Diabetes
- High Cholesterol