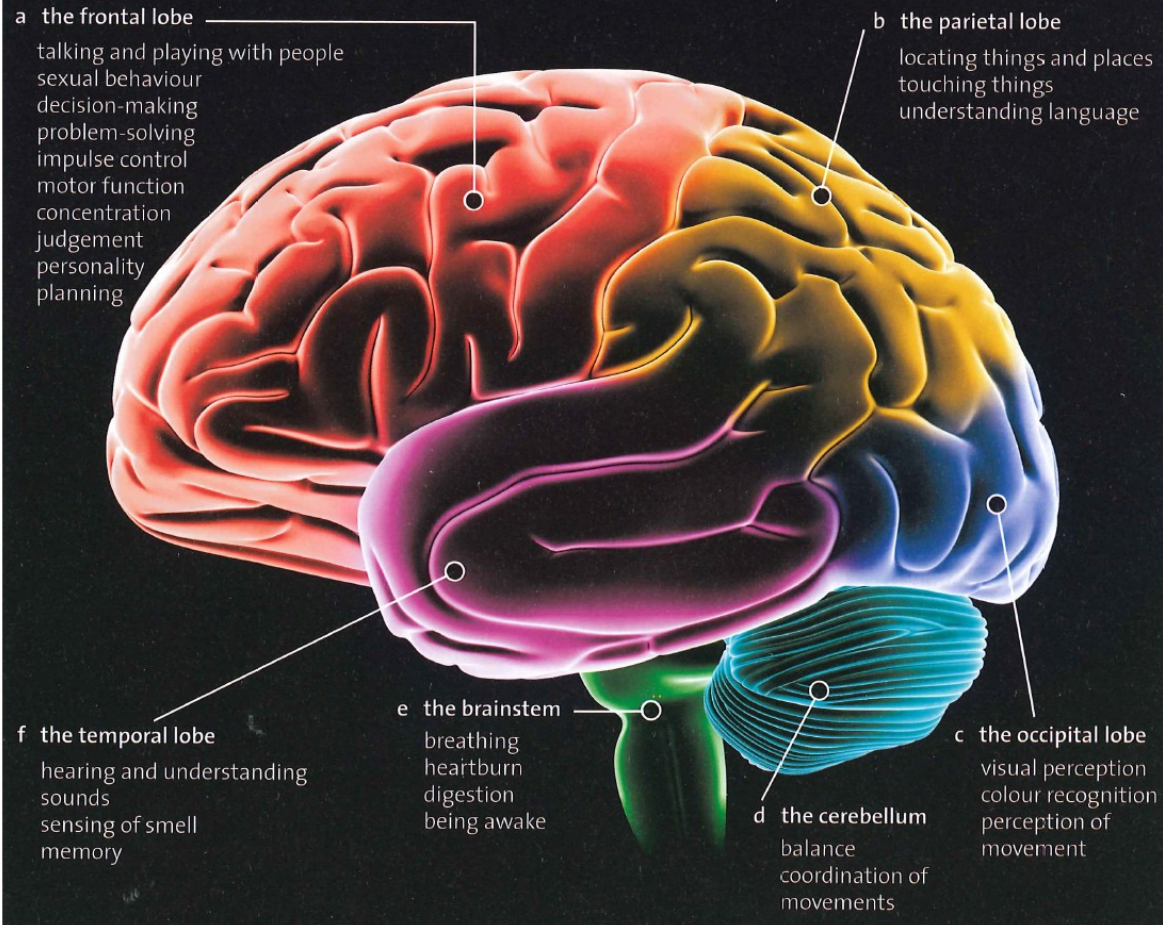


## Scrub up

- 1 Look at the map of the brain. With a partner, decide which parts of the brain a–f you would use most when doing each of the actions 1–6 below.

- 2 Listen to five people describing the effect of a head injury on a family member or friend. Decide which part of the brain a–f you think each person has damaged. Compare your answers with a partner before listening again.

1 \_\_\_\_\_ 3 \_\_\_\_\_ 5 \_\_\_\_\_  
2 \_\_\_\_\_ 4 \_\_\_\_\_



## Glasgow coma scale

Read about the Glasgow coma scale and complete the text with the adjectives and adverbs below.

appropriately                      incomprehensible  
bent                                      random  
coherently                          spontaneously  
deeply                                  verbal

The Glasgow coma scale is used for measuring how \_\_\_\_\_ 1 unconscious a patient is, in order to assess the extent of brain damage. Eye response, verbal response, and motor response are tested. For each of these tests, the patient receives a score, with the minimum being 1 for no response. the total for the three tests gives the patient's GCS score.

### Eye response

- a eyes opening to \_\_\_\_\_ 2 command
- b no eye opening  1
- c eyes opening in response to pain
- d eyes opening \_\_\_\_\_ 3

### Verbal response

- a confused (the patient responds to questions but there is \_\_\_\_\_ 4, some confusion)
- b none
- c inappropriate words (\_\_\_\_\_ 5 speech, but no conversational exchange)
- d \_\_\_\_\_ 6 sounds (moaning, but no words)
- e orientated (the patient responds \_\_\_\_\_ 7 to simple questions)

### Motor response

- a withdrawal (pulls arm away) from pain
- b extension (arms straight by sides) in response to pain
- c no motor response
- d obeys commands (the patient does simple things as asked)
- e localizing to pain (moves hand towards pain)
- f flexion (arms \_\_\_\_\_ 8 up to chin) to pain

## First and Second Conditional

- 1 Work in pairs. Read the two sentences, spoken by a doctor. Answer the questions that follow.
- His blood pressure would be lower if he didn't smoke.
  - If we break up the clot now, that'll prevent further damage to the brain.
- Which sentence talks about something which is possible in the future?
  - Which sentence imagines something different from the real situation now?

2 Complete the sentences

- If Mr. Jones \_\_\_\_\_ (not stop/drink), he \_\_\_\_\_ (really affect) his health.
- I \_\_\_\_\_ (not give) Mrs Rook morphine if she \_\_\_\_\_ (not want) it.
- She \_\_\_\_\_ (probably die) if we \_\_\_\_\_ (not operate) soon.
- If he \_\_\_\_\_ (not be) in hospital, he \_\_\_\_\_ (be looked after) at home.
- They \_\_\_\_\_ (not recover) if they \_\_\_\_\_ (not take) their medicine.
- If George \_\_\_\_\_ (be not) in hospital, he \_\_\_\_\_ (be) on holiday.

3 Complete the dialogue by putting the verbs in brackets in the correct tense.

Nurse 1 How's Mr Rigg?

Nurse 2 If his operation goes <sup>1</sup> (go) well tomorrow, he 'll make <sup>2</sup> (make) a full and speedy recovery.

Nurse 1 It's a straightforward procedure, isn't it?

Nurse 2 Yes, he's having a haematoma evacuated from his skull. He \_\_\_\_\_ <sup>3</sup> (be) home by the weekend, unless something unexpected \_\_\_\_\_ <sup>4</sup> (happen).

Nurse 1 We spend too much time treating cyclists. There \_\_\_\_\_ <sup>5</sup> (not be) so many accidents if they \_\_\_\_\_ <sup>6</sup> (have) more cycle paths.

Nurse 2 And if cycle helmets \_\_\_\_\_ <sup>7</sup> (be) compulsory, there \_\_\_\_\_ <sup>8</sup> (be) fewer brain injuries.

Nurse 1 Yes. This patient was lucky. At least he \_\_\_\_\_ <sup>9</sup> (wear) a helmet when he next \_\_\_\_\_ <sup>10</sup> (ride) his bike.

4 Complete these sentences in a way that is true for you.

- If I had more time, I ...  
I'll be very happy if ...  
If my current plan is successful, ...  
If I could work anywhere in the world, ...

5. Match the beginnings and endings of the sentences and complete the appropriate tense.

- |   |   |
|---|---|
| 1 The patient _____ (go) into shock                       | a he _____ (talk) you through the procedure.        |
| 2 The operation _____ (be) simpler                        | b if the patient _____ (be) so overweight.          |
| 3 If we _____ (have) another theatre,                     | c if we _____ (stop) the bleeding quickly!          |
| 4 If you _____ (change) your dressings every day at home, | d if we _____ (use) them less.                      |
| 5 Antibiotics _____ (be) more effective                   | e we _____ (be able) to handle a lot more patients. |
| 6 If the surgeon _____ (decide) to operate tomorrow,      | f you _____ (get) an infection.                     |

## Common medical adjectives

- 1 Adjectives relating to parts of the body, the senses or areas of life often use Greek or Latin roots. Complete the expressions with the adjectives below.

auditory	nasal	sensory
cerebral	ocular	verbal
cranial	senile	visual
cutaneous		

- a \_\_\_\_\_ haemorrhage *bleeding in the*
- \_\_\_\_\_ perception *the ability to h*
- \_\_\_\_\_ polyps *abnormal grow*  
*the nose*
- \_\_\_\_\_ skills *the ability to us*
- \_\_\_\_\_ aortic stenosis *a heart conditi*  
*associated with*  
*elderly*
- \_\_\_\_\_ impairment *a problem with*  
*or more of the*
- \_\_\_\_\_ anatomy *the anatomy of*  
*skull*
- \_\_\_\_\_ acuity *the ability to se*  
*things clearly*
- the \_\_\_\_\_ surface *the surface of t*
- \_\_\_\_\_ diseases *diseases of the*

## Reading

### Case study – a head injury

- 1 You are going to read the case study of a young footballer who received brain injuries four months ago. First, read the first paragraph of the case study and tick (✓) which injuries Katie sustained.

- |                     |                          |                     |
|---------------------|--------------------------|---------------------|
| 1 a fractured skull | <input type="checkbox"/> | 4 a broken leg      |
| 2 a broken arm      | <input type="checkbox"/> | 5 internal injuries |
| 3 chest injuries    | <input type="checkbox"/> |                     |

- 2 Read the rest of the case study and match the headings with paragraphs A–E.

- |                                     |       |
|-------------------------------------|-------|
| 1 Cognitive skills                  | _____ |
| 2 Psychosocial                      | _____ |
| 3 Communication                     | _____ |
| 4 Physical functioning and mobility | _____ |
| 5 Personal and self care            | _____ |

- 3 Rate how well you think Katie can probably do these things. Write a number from 0 to 5 (0 = she cannot do it, 5 = she can do it without help).

- |                                     |       |
|-------------------------------------|-------|
| 1 brush her hair                    | _____ |
| 2 control her emotions              | _____ |
| 3 feed herself                      | _____ |
| 4 make decisions                    | _____ |
| 5 recognize what things are         | _____ |
| 6 remember information              | _____ |
| 7 understand her disabilities       | _____ |
| 8 understand what people are saying | _____ |



## CASE STUDY

Katie Martin is a nine-year-old female who was in a car crash. At the scene her Glasgow coma scale was 3. She was intubated and transported by helicopter to hospital. She was taken to the intensive care unit due to her intracranial haemorrhage which 24 hours later resulted in evacuation. She was placed on a ventilator and a tracheostomy was performed. Katie's pre-operative diagnosis was left frontal haemorrhagic contusion and multiple skull fracture. She had a left frontal craniotomy with evacuation of the intracerebral haematoma. The dural tear and skull fracture were repaired. Additionally she suffered lacerations to the liver, face, left eyelid, and a right femur fracture. Four months after the accident, her mental and physical state have improved, as outlined below.

**A** Katie is able to reposition herself in bed. She can ambulate 10–15 feet with maximal assistance, but locomotes in a wheelchair. She will need physical therapy to improve coordination and balance. She requires moderate assistance transferring in and out of the bed, chair, and car. Her hearing is adequate, but she has lost the vision in her left eye. She is unable to write, but can hold a pen, so she will need physical therapy to restore her fine motor coordination and strength.

**B** She needs assistance for grooming and hygiene care. She will need occupational therapy to help restore her dressing, grooming, and hygiene skills. She needs assistance using the toilet. Katie shows little interest in food, but feeds herself with small bites and has a G-tube for supplemental nutrition. She has moderate problems with both her bladder and bowel management.

**C** Katie's frontal lobe syndrome has left her unable to produce abstract reasoning, logical concept formation, and planning. She is no longer spontaneous and creative. She does not possess the judgement and insight required to make

safe or reasonable social and personal decisions. Her memory has been compromised for both auditory and visual processing of stimuli and retrieval of information. Although she is alert, she cannot sustain concentration sufficiently in order to learn. She is able to count, but has difficulty identifying objects. She can follow simple commands.

**D** She is more alert and oriented to person and can identify significant relationships. Katie has a basic understanding of simple conversations, but cannot produce or comprehend abstract thoughts. She is capable of expressing her basic needs. She is uncooperative and easily frustrated. She cries easily and shouts obscenities without provocation.

**E** Katie is emotional and cries frequently for brief periods of time for no particular reason, but is easily redirected. She argues because of her poor ability to overcome frustration and delay gratification. Katie is unaware of the extent of her impairment. It is predicted that she will become depressed and angry as she gains insight. Katie does not initiate recreational activities and entertainment.

### 4. Find the words below in the text and match them with their definitions

- |                   |  |
|-------------------|--|
| 1. evacuation     | a. the fact that a part of the body is unable to do something fully  |
| 2. tracheostomy   | b. changing position   |
| 3. contusion      | c. the process of getting rid of solid or liquid material from e.g. the brain  |
| 4. dural          | d. to understand   |
| 5. laceration     | e. relating to or affecting the tough membrane forming the outermost of the three coverings of the brain and spinal cord |
| 6. reposition     | f. tearing or a deep cut in one's flesh or organ   |
| 7. to ambulate    | g. to care for the appearance, getting dressed etc.  |
| 8. grooming       | h. intestines  |
| 9. bowel          | i. mentally perceptive and responsive  |
| 10. retrieval     | j. the cognitive operation of accessing information in memory  |
| 11. alert         | k. walk from place to place  |
| 12. to sustain    | l. surgical opening in the neck for the insertion of a catheter or tube to facilitate breathing                          |
| 13. to comprehend | m. to maintain, to keep  |
| 14. impairment    | n. traumatic injury of the brain, bruise of the brain tissue   |