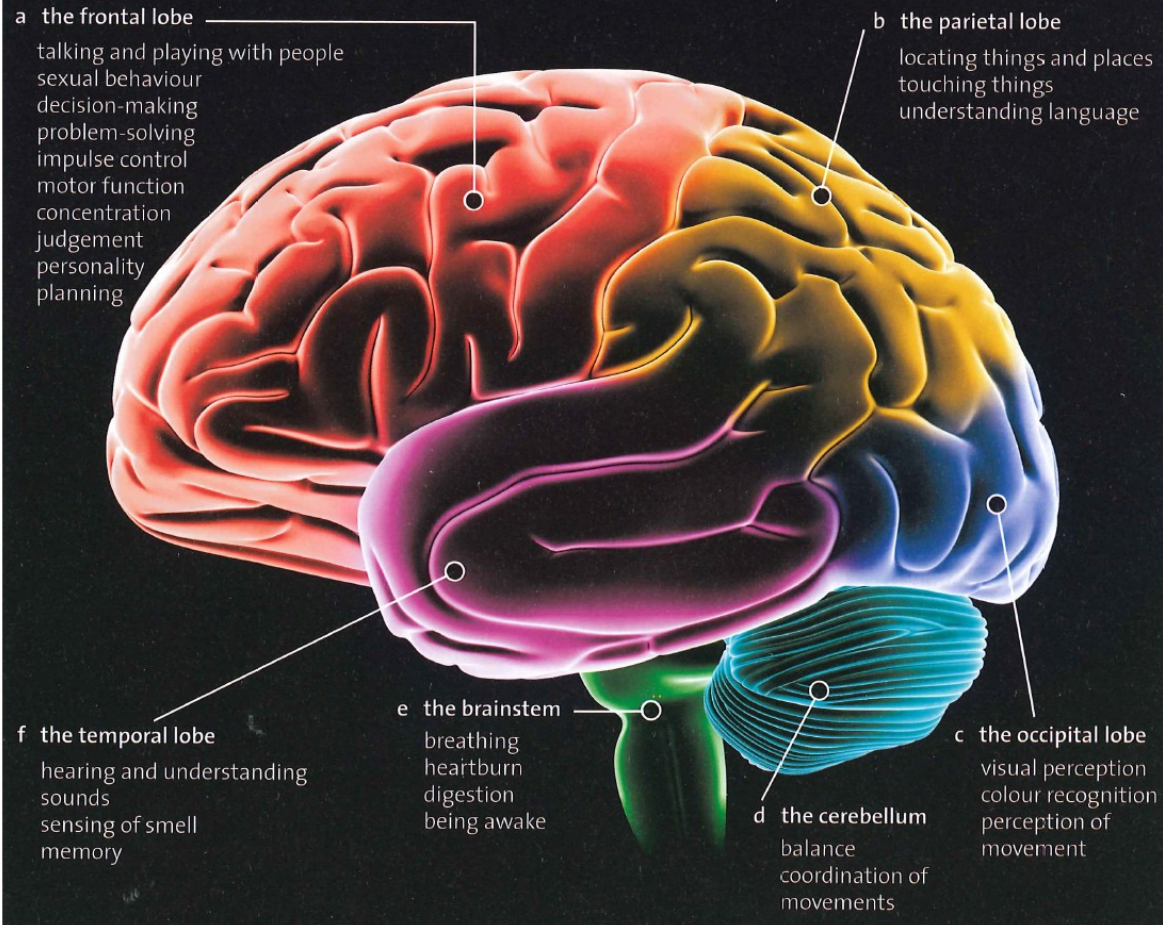


## Scrub up

- 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.

- a His blood pressure would be lower if he didn't smoke.  
 b If we break up the clot now, that'll prevent further damage to the brain.
- 1 Which sentence talks about something which is possible in the future?  
 2 Which sentence imagines something different from the real situation now?

2 Complete the sentences with verbs in correct form.

1. If Mr. Jones \_\_\_\_\_ (not stop/drink), he \_\_\_\_\_ (really affect) his health.  
 2. I \_\_\_\_\_ (not give) Mrs Rook morphine if she \_\_\_\_\_ (not want) it.  
 3. She \_\_\_\_\_ (probably die) if we \_\_\_\_\_ (not operate) soon.  
 4. If he \_\_\_\_\_ (not be) in hospital, he \_\_\_\_\_ (be looked after) at home.  
 5. They \_\_\_\_\_ (not recover) if they \_\_\_\_\_ (not take) their medicine.  
 6. 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 sentences and complete appropriate form of the verbs.

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

## Common medical adjectives

auditory	nasal	sensory
cerebral	ocular	verbal
cranial	senile	visual
cutaneous		

- 1 a \_\_\_\_\_ haemorrhage *bleeding in the brain*  
 2 \_\_\_\_\_ perception *the ability to hear*  
 3 \_\_\_\_\_ polyps *abnormal growths in the nose*  
 4 \_\_\_\_\_ skills *the ability to use words*  
 5 \_\_\_\_\_ aortic stenosis *a heart condition associated with the elderly*  
 6 \_\_\_\_\_ impairment *a problem with one or more of the senses*  
 7 \_\_\_\_\_ anatomy *the anatomy of the skull*  
 8 \_\_\_\_\_ acuity *the ability to see things clearly*  
 9 the \_\_\_\_\_ surface *the surface of the eye*  
 10 \_\_\_\_\_ diseases *diseases of the skin*

2 Work in pairs and share your knowledge. How many of these adjectives can you complete?

- 1 weakness of the muscles m \_\_\_\_\_  
 weakness  
 2 the body's system of veins the v \_\_\_\_\_  
 system  
 3 cancer of the womb u \_\_\_\_\_ cancer  
 4 lung problems p \_\_\_\_\_ disorders  
 5 a heart operation c \_\_\_\_\_ surgery  
 6 keeping the mouth clean o \_\_\_\_\_ hygiene  
 7 eczema in babies i \_\_\_\_\_ eczema  
 8 problems with thinking c \_\_\_\_\_  
 impairment

## Conditionals

- **0 conditional**

If (When) you press the switch, the light \_\_\_\_\_ (come) on.

If + simple present, _____	It refers to the <u>present/past/future</u> . It is <u>possible/impossible/always true</u> .
----------------------------	---

- **1st conditional**

If I \_\_\_\_\_ (fail) the exam, I \_\_\_\_\_ (be) sad.

If + simple present, _____ + _____	It refers to the <u>present/past/future</u> . It is <u>possible/impossible/always true</u> and also <u>very likely/very unlikely</u> that the condition will be fulfilled.
------------------------------------	---

- **2nd conditional**

If I \_\_\_\_\_ (win) 50 million crowns, I \_\_\_\_\_ (travel) around the world.

If + past tense, _____ + _____	It refers to the <u>present/past/future</u> . It is <u>possible/impossible/always true</u> and also <u>very likely/very unlikely</u> that the condition will be fulfilled.
--------------------------------	---

- **3rd conditional**

If I \_\_\_\_\_ (be) in the accident, I \_\_\_\_\_ (die) there.

If + past perfect, _____ + past participle	It refers to the <u>present/past/future</u> . It is <u>possible/impossible/always true</u> that the condition will be fulfilled.
--	---

### 1. Complete the sentences with these conjunctions: *provided (that), unless, in case (of)*

- |  |   |
|--|---|
| <p>a. Take an umbrella _____ it rains.</p> <p>b. _____ you start with the treatment immediately, it won't help you.</p> <p>c. _____ the room is clean, I don't mind which hotel we stay at.</p> <p>d. _____ he was very ill, he would be at work.</p> <p>e. Call this number _____ of emergency.</p> | <p>f. Travelling by car is convenient _____ that you have somewhere to park.</p> <p>g. I will leave my mobile phone switched on _____ Jane calls.</p> <p>h. You will be sick _____ you stop eating junk food.</p> |
|--|---|

### 2. Complete the sentences with the correct form of the verb in brackets.

- If you \_\_\_\_\_ (freeze) a piece of metal, it \_\_\_\_\_ (contract).
- a. You \_\_\_\_\_ (pass) the exam in biophysics unless you \_\_\_\_\_ (study) hard.
- b. Humans are among the few animals to have colour vision. If you \_\_\_\_\_ (be) a horse for example, you \_\_\_\_\_ (see) everything in black and white.
- c. The brain works in two parts, the left side and the right side. Scientists can put one side of the brain to sleep, and see what happens. For example, if they \_\_\_\_\_ (turn off) the right side of the patient's brain, the patient \_\_\_\_\_ (be able) to sing, because musical ability comes from the right side of the brain.
- d. If you \_\_\_\_\_ (cool) the steam, it \_\_\_\_\_ (turn) back into water.
- e. If my grandfather \_\_\_\_\_ (be) alive, he \_\_\_\_\_ (be) a hundred tomorrow.
- f. Beetles are one of the most numerous species on the planet. In fact, if other insects and animals \_\_\_\_\_ (eat) beetles, in about a year the beetle population \_\_\_\_\_ (weigh) as much as the whole Earth!
- g. If you \_\_\_\_\_ (smoke), chemical changes \_\_\_\_\_ (take place) in your cells because they don't receive enough oxygen.

### 3. Complete the sentences using the verbs in brackets.

- |   |   |
|---|---|
| <p>a. If Alexander the Great (march) _____ west instead of east, he (conquer) _____ the whole of Europe.</p> <p>b. If more Vikings (go) _____ to North America, they (bring) _____ some Indians back to Europe.</p> <p>c. If the ancient Egyptians (build) _____ bigger boats, they (cross) _____ the Atlantic and (land) _____ in America.</p> <p>d. If a storm (not hit) _____ Bartolomeu Dias's ship off the coast of Africa in 1487, they (not arrive) _____ in the Indian Ocean by accident.</p> <p>e. If Columbus (not read) _____ about Marco Polo's trip to China, he (not try) _____ to sail there by crossing the Atlantic.</p> | <p>f. If Columbus (sail) _____ east in 1492, he (reach) _____ China or Japan.</p> <p>g. If the Aztecs (not think) _____ that Cortes and his men were gods, the Spaniards (not conquer) _____ Mexico so easily.</p> <p>h. If Lewis and Clark (not find) _____ a way across America from St Louis to the Pacific in 1806, thousands of settlers (not make) _____ the journey in later years to settle in the central North America.</p> <p>i. If Charles Darwin (not take) _____ a voyage to South America between 1831 and 1836, he (not write) _____ his famous book The Origin of Species.</p> |
|---|---|

## Breaking bad news

### 1. Discuss with your partner:

- Have you ever got any bad news from the doctors (or any of your relatives)?
- What is the best way to break bad news to someone? Do you have any personal experience?

### 2. Watch the video *Breaking bad news 1*: alternatively <http://www.youtube.com/watch?v=xCBQUGvZU7k>

- What is the patient suffering from?
- What are the strong and weak points of this conversation?

### 3. Read the Six Steps of SPIKES: a) make sure whether you understand all the underlined vocabulary

- Do you agree with these steps, would you follow them if you were a doctor?
- Watch the video *breaking bad news 2* and tick which steps were carried out.

#### S – Setting

- Arrange for some privacy
- Involve significant others
- Sit down
- Make connection and establish rapport with the patient
- Manage time constraints and interruptions.

#### P – Perception of condition/seriousness

- Determine what the patient knows about the medical condition or what he suspects.
- Listen to the patient's level of comprehension
- Accept denial but do not confront at this stage.

#### I – Invitation from the patient to give information

- Ask patient if s/he wishes to know the details of the medical condition and/or treatment
- Accept patient's right not to know
- Offer to answer questions later if s/he wishes.

#### K – Knowledge: giving medical facts

- Use language intelligible to patient
- Consider educational level, socio-cultural background, current emotional state
- Give information in small chunks

- Check whether the patient understood what you said
- Respond to the patient's reactions as they occur
- Give any positive aspects first e.g.: Cancer has not spread to lymph nodes, highly responsive to therapy, treatment available locally etc.
- Give facts accurately about treatment options, prognosis, costs etc.

#### E – Explore emotions and sympathize

- Prepare to give an empathetic response:
- Identify emotion expressed by the patient (sadness, silence, shock etc.)
- Identify cause/source of emotion
- Give the patient time express his or her feelings, then respond in a way that demonstrates you have recognized connection between 1 and 2.

#### S – Strategy and summary

- Close the interview
- Ask whether they want to clarify something else
- Offer agenda for the next meeting  
e.g.: I will speak to you again when we have the opinion of cancer specialist.

### 4. Read a paragraph about Katie Martin, imagine you are her doctor and it is right after her surgery. You have to inform her parents. With your partner prepare a strategy for informing the parent using the SPIKES protocol.

#### 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.

tick (✓) which injuries Katie sustained.

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

**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   |