

Brain Diagnosis

1. You're in the Dome parking lot at 2 AM when a guy in a hockey mask holding a long-bladed knife jumps out at you. What system of nerves would arouse your body to action? How would they react? (Be specific).
2. Siggy the Rat had a stimulating electrode implanted in his brain. Siggy presses a bar to activate that electrode-something he would rather do than eat, sleep or have sex. Sometimes he presses 7000 times/hr. What is Siggy's electrode stimulating?
3. Amy was having a really bad week. On Monday her vision got blurrier and blurrier until she could no longer see at all. On Tuesday she found she couldn't hear. On Wednesday her sense of taste went. On Thursday she lost her sense of touch. Her CAT scan revealed a single brain tumor was probably producing all of these deficits. What single part of the brain is involved in all of these sensory processes?
4. After falling through the ice on a local pond little Johnny was trapped under the icy water for 10 minutes before the rescuers got him out. They were able to resuscitate his pulse and breathing but he did not regain consciousness for days. Disturbance of what specific part of Johnny's brain might have resulted in an inability of the brain to regulate normal alertness? (multiple answers)
5. Walking down a dark New York street late at night you suddenly feel the metal barrel of a pistol press against your head behind your ear and hear the instructions "Don't move a muscle while I slip your wallet out of your pocket". Unfortunately you do move, the gun is fired and the bullet enters the brain. Breathing and heart beat stop almost immediately. Where is the bullet?
6. Uncle Ed suffered a stroke which damaged a portion of his cortex. He shows some weakness and partial paralysis of his right leg. What area of his cortex was affected by the stroke? (be specific – lobe and where on the cortex)
7. Maurice was extremely short for his age. His doctors concluded the brain was not stimulating the proper release of hormones necessary for growth. What area of the brain are they probably focusing on?
8. Wayne has been diagnosed as a paranoid schizophrenic. What neurotransmitter change seems to underlie schizophrenia? How does it cause schizophrenia?
9. Grandma Mary had a stroke which impaired her ability to speak fluently although she can move all the necessary muscles. What is the most likely location of her brain damage (be specific)?
10. You're taking a short cut thru a back yard to get to your car and encounter two unrestrained Dobermans who begin pursuit. You run faster than you have ever run before, and dive into your car just in the nick of time. It takes 10 minutes for your pulse and breathing to slow down to

normal. What part of the nervous system slows heart rate and breathing down to normal afterwards?

11. Jeanette suffers from focal epilepsy (seizures localized in just one part of the brain). Her seizures are triggering extreme emotions- most often extreme fear followed by a rage response. What part of the brain is being affected?
12. After Martin's cerebrovascular accident he had difficulty understanding what others were saying to him. He could speak but what he said made little sense. Where is Martin's brain damage?
13. Paul suffered from encephalitis (a brain infection) while in college. He received good medical attention but still the infection took its toll on certain parts of his brain, so that now Paul cannot store new long-term memories. What part of the brain did the encephalitis damage?
14. Jan suffered a concussion in a car accident. Since that day she has notice a dramatic decrease in her sexual libido, a lack of appetite and an absence of thirst. She never thinks of having a drink until her lips actually dry and crack. What part of her brain might have been affected by the car accident?
15. Philip is hooked on cocaine. What neurotransmitter seems most closely related to the pleasure such drugs produce and their addictive qualities?
16. On Justin's 21st birthday he & his buddies celebrated a bit too much. When the police stopped his car Justin's speech was slurred, he couldn't walk a straight line or balance on one foot. He nearly missed his face altogether when asked to touch his nose while his eyes were closed. The impaired functioning of what part of Justin's brain is responsible for these difficulties with motor coordination and balance?
17. Brett was a superior student and had a full scholarship, but following a head injury he can no longer plan, organize or follow through with tasks necessary for school. (In addition he no longer shows concern for others or for common social courtesies. He's rude and disinhibited.) Where was his injury?
18. Leon's car was broadsided by a semi causing Leon's head to smash against the driver's side window damaging his temporal lobe cortex. What ability may be affected?
19. Gwen's brain has a congenital anomaly (a difference in brain anatomy that she was born with) - it lacks the main connection between the right and left hemispheres. What was Gwen born without? Describe how she would act.
20. Pete was struck by lightning when he insisted on finishing his 18 holes of golf despite the lightning packed thunderstorm. He was looking down; lining up a long putt shot and the bolt of lightning struck the rear of his head, frying his occipital lobes. What aspect of behavior is likely to be impaired if Pete survives?