Behavioral Medicine P.C.

Brains are Amazing
Want to know how yours works?

- Judgment
- Planning
- Sustained attention
- Response inhibition
- Problem solving

- Inductive creative and emotional areas
- Metaphorical thinking
- Spatial-object memory

- Mood regulation
- Approach behavior
- Conscious awareness
- Interest
- Engagement

- Logical
- Detailed attention
- Response organization

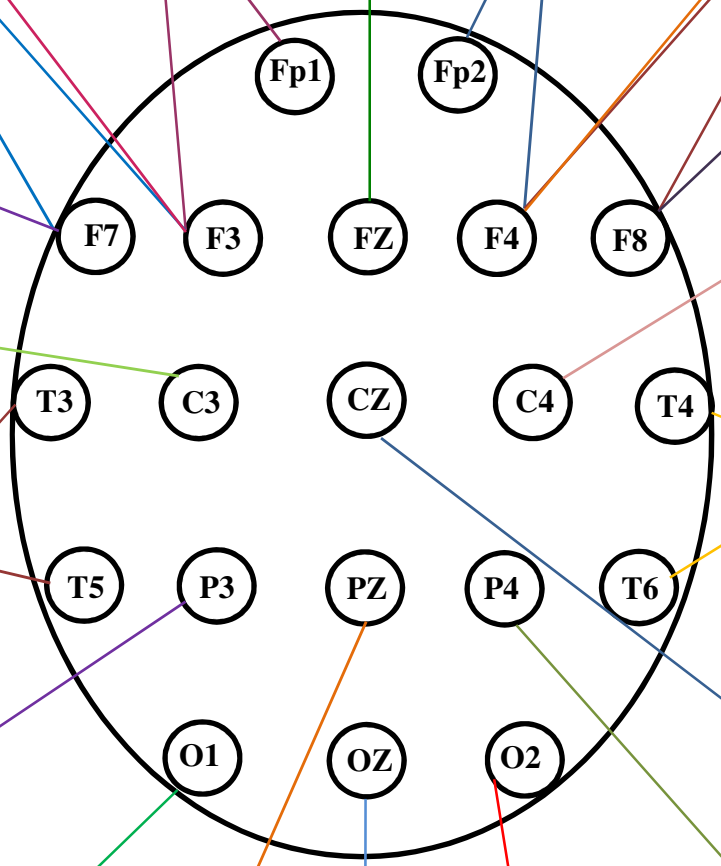
- Frontal eye fields
- Motor
- Focus
- Action observation

- Emotional control
- Attention

- Avoidance behavior
- Sustained attention
- Impulse control
- Emotional tone variations

- Creates/controls spoken and written language
- Visual/auditory working memory
- Selective attention
- Broca's area

- Spatial/visual working memory
- Empathy conscience
- Emotional processing



- Sleep
- Reasoning
- Decision making
- Emotional/feeling
- Filtering/processing
- Related to physical relaxation

- Hand and digits
- Audition
- Happiness
- Filtering/processing

- Sense of direction
- Visual memory
- Facial recognition
- Long term memory
- Sound/voice intonation perception
- Processes fear

- Wernicke's area
- Visual perception
- Short term memory
- Positive mood
- "Inner voice"

- Somato-sensory association cortex
- Hub of affective limbic system
- Filtering/processing

- Language processing
- Imagination
- Math calculations
- Naming objects
- Complex grammar
- Right side body awareness

- Visual-spatial
- Facial decoding
- Sleep
- Spatial memory
- Map orientation
- Knowing difference between right and left

- Memory encoding with semantic tasks

- Working memory
- Integrate somato-sensory information with posterior visual perceptions

- Hallucinations

- Perception
- Vision
- Color

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This is the 10/20 system, which refers to the 10% or 20% front-back or right-left distance between electrodes when arranged on the head. Electrode sites are labeled based on location, for example, the letters F, C, P, and O refer to Frontal, Central, Parietal, and Occipital. While there isn't a 'central' lobe, it is helpful to refer to these sites as central on the head. Z indicates the sites which fall along the midline of the head, and sites closer to the midline are labeled with smaller numbers.

The brain functions when trillions of neurons, which produce electrical activity, communicate with one another. Large groups of neurons fire together in order to move messages throughout the brain. These groups work either independently or in synchrony with other areas. For example, while completing a task, independent groups of neurons work to complete the task with faster frequencies produced in the cortex. Neurons also communicate with those outside their immediate vicinity to cooperate with other areas of the brain to complete tasks and to share information. However, when the brain is at rest, large areas of the cortex work with older areas of the brain (the brain stem and cerebellum), which produce slower frequencies.

Because the brain's functioning is so complex, it forms certain patterns or habits that help it function more efficiently. At some point, these "stable activation patterns" are no longer helpful or effective, and by training the brain, we help to break these habits and allow the brain more flexibility. The goal is not necessarily to change patterns, but to increase flexibility in shifting brain functions and the capacity to sustain a pattern long enough to complete a task.