THE SCIENCE BEHIND BRAIN IMPLANTS

Brain implants are devices that provide electrical stimulation to a specific region in the brain, to produce a desired outcome.

TYPES OF BRAIN IMPLANTS

Deep Brain Stimulation (DBS) to the subgenual cingulate gyrus and the ventral striatum is used in cases of severe depressive disorder.

Brain implant stimulation to the parietal lobe is being implemented to help restore the sense of feeling in cases of paralysis and prosthesis.

Deep Brain Stimulation (DBS) to the thalamus, subthalamic nucleus, and a portion of the globus pallidus is used for the control of tremors and other symptoms in cases of patients with Parkinson’s disease.

Stimulations to the hippocampus by brain implants are being studied for long-term memory creation, which may be beneficial for patients suffering from Alzheimer’s, a stroke, or brain injuries.

Stimulations to the hippocampus by brain implants are being studied for implementation in long-term memory modification and improved cognitive function, which may be beneficial for patients suffering from PTSD such as Servicemen.

Beneficence
Treatment can restore previously lost function.

Autonomy
Potential to give or remove a patient’s abilities.

Justice
Brain enhancements can provide unfair advantage.

Maleficence
Long term risks are unclear.

Sources listed at: https://docs.google.com/presentation/d/1tDHFwyX_pWgDFFuQ8FDC4ncLQA2GXoLIjUy94LS9b_g/edit?usp=sharing