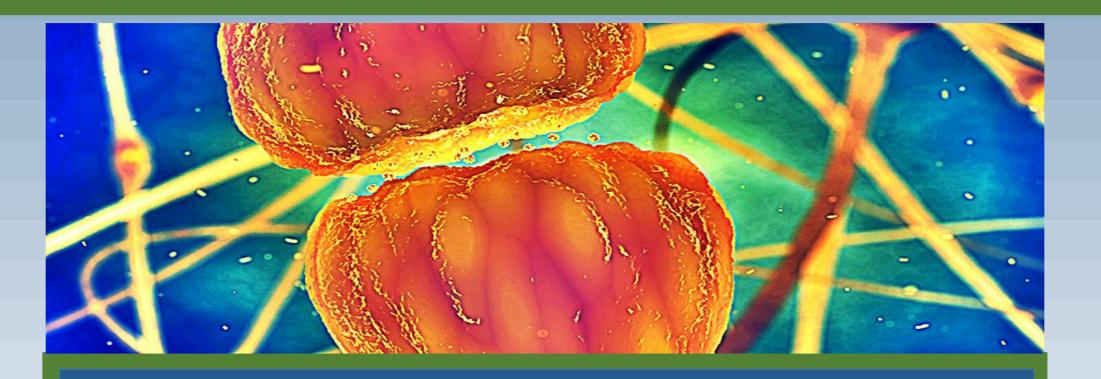


Second Brain Found in the Heart! Ahmad Muftah Elfeituri, 3rd Year Basic Medical Science

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Introduction.



Where are memories stored?

Some memories can persist for several seconds or even minutes as Short term memory or even longer as long term memory and this is thought to result when brain cells release chemicals called neurotransmitters in the gaps (synapse) between each other in a particular pattern. They do this until the chemicals are all used up. The presence of these neurotransmitters in a specific pattern corresponds to the thought that is being remembered. The thought will remain as long as the neurotransmitters remain in these gaps. But there is a process called *endocytosis* where cells reabsorb the neurotransmitters and, when this is completed, the thought disappears.⁽¹⁾



Heart Transplants and Cell Memory.

The behaviors and emotions acquired by the recipient from the original donor are due to the combinatorial memories stored in the neurons of the organ donated. Heart transplants are said to be the most susceptible to cell memory where organ transplant recipients experienced a change of heart.⁽¹⁾

Organ donors may be doing more than just saving lives. They may be giving a new life' to organ transplant recipients. **Body memory** is a hypothesis that the body itself is capable of storing memories, as opposed to only the brain. The most common organ transplants include the cornea, kidney, and heart with a heart transplant ranking at the highest rate.

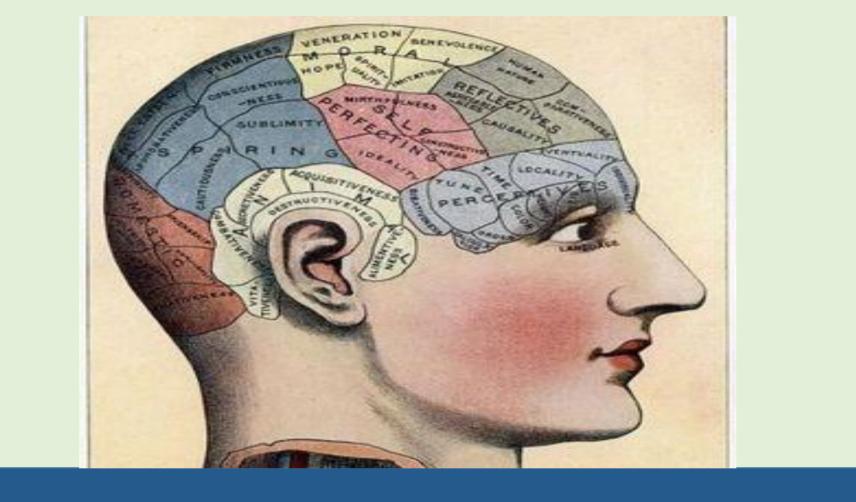
The heart ultimately stores memories through combinatorial coding by nerve cells, which allows the sensory system to recognize smells, according to cellular memory theory. ⁽¹⁾

Theory of cellular memory.

Cellular memory is an additional hypothesis that memories can be stored outside the brain, these memories are stored in all the cells of human bodies. The idea that non-brain tissues can have memories is also believed by some individuals who have received organ transplants, Cellular memory is the speculative notion that human body cells contain clues to our personalities, tastes, and histories, independently of either genetic codes or brain cells. The magical thinking of our ancestors may account for the first beliefs in something like cellular memory. Eating the heart of a courageous enemy killed in battle would give one strength. Even today, some people think that eating brains will make them smarter. ⁽¹⁾

Story Time.

 Claire Sylvia, a heart transplant recipient who received the organ from an 18-yearold male that died in a motorcycle accident, reported having a craving for beer and chicken nuggets after the surgery. The heart transplant recipient also began to have reoccurring dreams about a man named 'Tim L.' Upon searching the obituaries, Sylvia found out her donor's name was Tim and that he



Study.

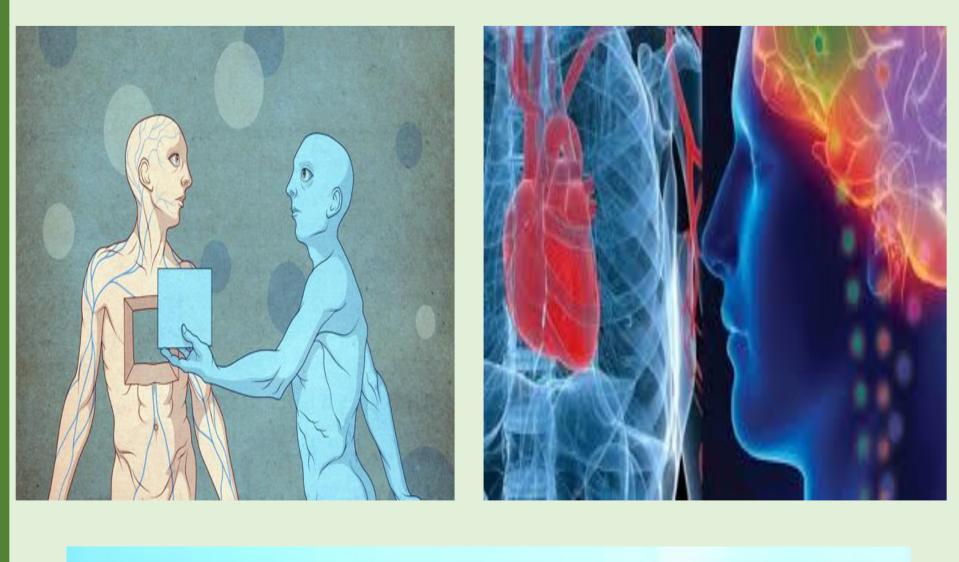
Researchers interviewed 47 patients who received a heart transplant over a period of two years in Vienna, Austria. Researchers found that 79 percent of patients did not feel that their personality changed postsurgery, 15 percent experienced a change in personality due to the life-threatening event, and 6 percent did confirm a drastic change in their personality due to their new heart.

Researchers focused on 10 patients who received a heart transplant and found two to five parallels per patient post-surgery in relation to their donor's history. The parallels that were observed in the study were changes in food, music, art, sexual, recreational, and career preferences. ⁽²⁾

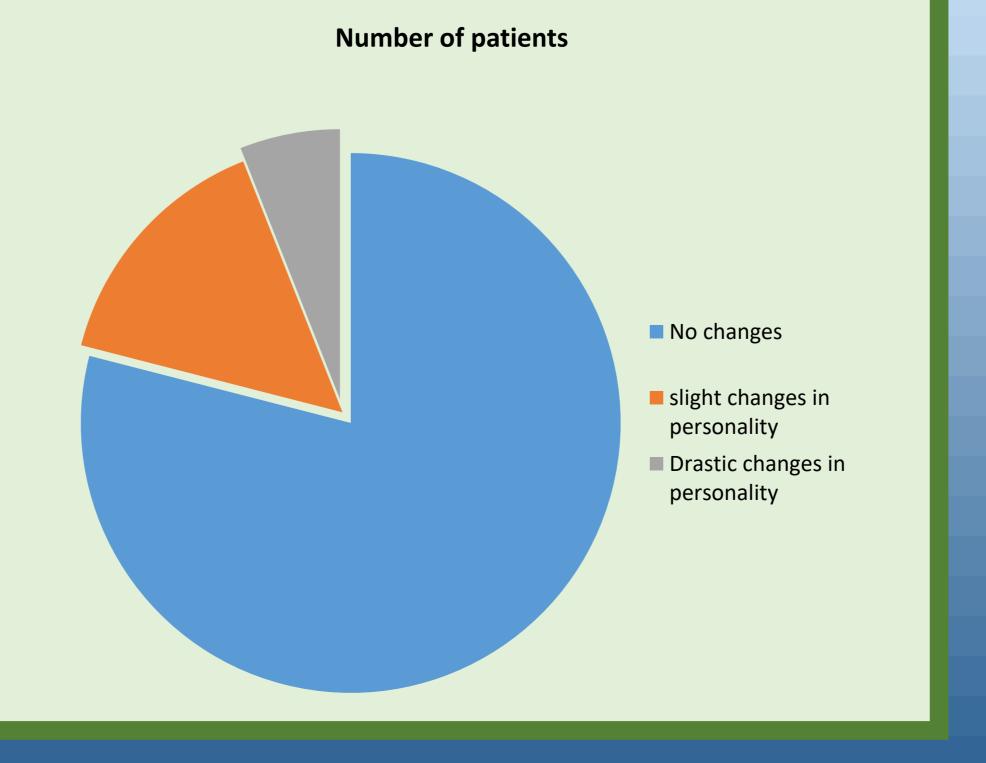
- loved all of the food that she craved, according to her book A Change of Heart.
- In the study, a patient received a heart transplant from a man who was killed by gunshot to the face, and the organ recipient then reported to have dreams of seeing hot flashes of light directly on his face.
- Cheryl Johnson, 37, says she has changed completely since receiving the organ. Now, not only has her personality changed, the single mother also claims that her tastes in literature have taken a dramatic turn.

Conclusion.

Even though recent studies show inconclusive results, some evidence showed that the heart has the ability to retain some memories and traits and this subject remains an important point for further investigation.







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