Researchers discover how to regain lost memory

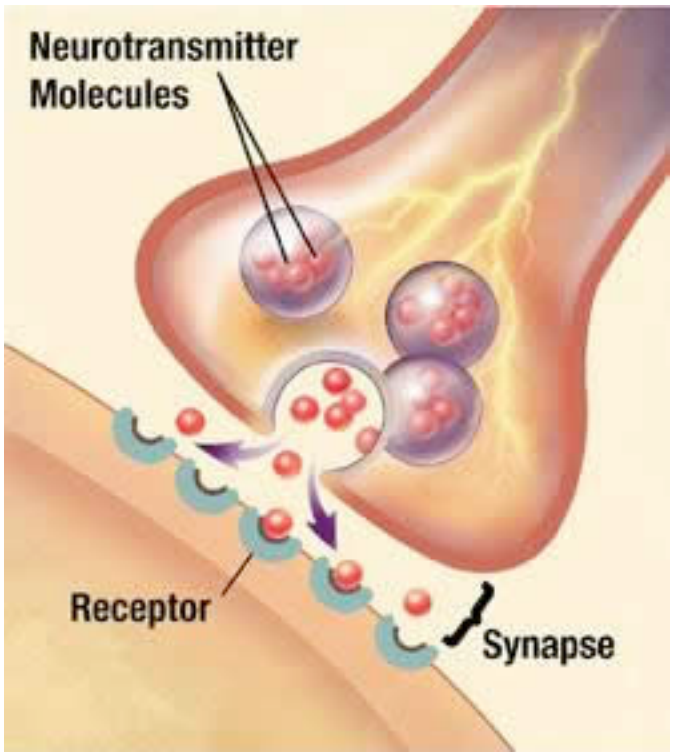
Researchers who study human aging say **memory loss** begins as early as age 50, and now they know why --- **low-grade inflammation** in the brain interrupts the transmission of signals from brain cell to brain cell, impairing memory. A striking discovery that the injection of an anti-inflammatory drug can help people regain their memory in just 10 minutes suggests a mechanism for maintaining or reversing age-related memory loss. However, the injectable drug produces only temporary memory improvement and is too costly. The ingredients in **Synterra AM™ and Synterra PM™** inhibit naturally the **same** inflammatory pathway as the above-mentioned drug and may explain why **Synterra AM™ and PM™** users commonly report profound improvement in their thinking capacity.

The 10-Minute Cure for Memory Loss

The discovery comes from the world of **anti-inflammatory drugs** that doctors employ for various conditions. Doctors who injected an anti-inflammatory drug, **etanercept** (Enbrel), among otherwise healthy patients with back pain, surprisingly noted their patients' mood, attentiveness and thinking rapidly improved after the injections. (1)

These doctors then tried the anti-inflammatory drugs on older patients with memory problems, this time injecting the drug directly into a network of veins in the neck. Patients were instructed to look at the floor for 5 minutes after the injections so the medicine could flow back into the brain. The results have been astonishing and made worldwide news headlines --- senile patients regain their memory in just 10 minutes! The major drawback of this treatment is that the effect wears off after about six days and requires repeated injections that could cost $10,000-$40,000 a year.

The reason etanercept injections are required is that etanercept is a very large molecule that consists of 934 amino acids and has a molecular weight of approximately 150,000 Daltons (measure of atomic mass), and it can't pass through the blood-brain barrier that protectively restricts the passage of various chemical substances and microscopic objects like germs into the brain.



The medical literature describes etanercept as an anti-inflammatory drug that acts as a **tumor necrosis factor (TNF)** inhibitor. The TNF molecule is known as a cytokine (sigh-toe-keen) that sends signals to surrounding cells and is responsible for the immune response to invading pathogenic germs.

Overstimulation of cytokines like TNF can trigger a dangerous syndrome known as a **cytokine storm**. A good example is influenza which can trigger an immune response that fills the lungs with fluids and the patient can rapidly drown in his own lung fluid.

In the brain, protective cells called **microglia**, which surround neurons (brain cells), release small amounts of TNF which protects neurons from infection, whereas the massive release of TNF by microglia leads to inflammation. Uncontrolled TNF production interrupts the flow of information via chemicals called neurotransmitters across a gap between neurons called a **synapse**. Each cytokine binds to a specific **cell-surface receptor**. Etanercept binds to TNF receptors on the surface of cells, thus inhibiting the chaos TNF generates. (2)

Brain plaque stimulates production of TNF

Much is said about the accumulation of **plaque** in the brain known as **beta amyloid**. Recently researchers have shown that injection of beta amyloid into the brain of mice produced marked deficits in learning and memory, as measured by the ability of these animals to navigate a water maze. The provision of TNF-

blocking agents reduced this beta-amyloid induced decline in brain function, which suggests beta amyloid is what triggers the microglia to overproduce TNF. (3)

Normal levels of TNF are needed under non-inflammatory conditions to maintain normal brain function. The total absence of TNF has also been shown in animals to result in a learning and memory decline. (4)

Aged adults with memory loss have been found to have elevated TNF blood serum levels. (5) Blood plasma levels of TNF continue to increase throughout adulthood and are the highest among centenarians. (6)

Without TNF inhibitors the aging brain (in people over 50 years of age) is silently deteriorating as chronic inflammation interrupts the transfer of nerve impulses across the synapses.

Calming the cytokine storm, naturally

As an alternative to injectable TNF inhibiting drugs, researchers are searching for small molecules that can be orally absorbed and pass through the blood brain barrier to inhibit TNF, natural molecules like resveratrol(228.2 Daltons), **quercetin** (338.2 Daltons), **Ashwaganda root** and **Sea Buckthorn berry**, a combination of molecules which are natural **TNF inhibitors** and are provided **Synterra AM™ and Synterra PM™!**

Reference:

(1) New Scientist, August 9, 2008; Journal Neuroinflammation. 2008 Jan 9; 5:2