

## About Controlled Amino Acid Treatment (CAAT)

Angelo P. John, a cancer theorist for more than 40 years, developed an extremely interesting and promising nutritional approach to help cancer patients. CAAT – Controlled Amino Acid Treatment — is a novel approach to cancer treatment. The treatment has been used since 1994 in very advanced-cancer patients combined with or without conventional treatment of radiation and/or chemotherapy. Angelo John develops these nutritional programs for cancer patients with the cooperation of the patient's oncologist or with nutritionally oriented complementary and alternative physicians who work with cancer patients.

CAAT is an amino acid and carbohydrate deprivation protocol that uses scientifically formulated amino acids. Based on the fact that the needs of normal cells and cancer cells are quite different, the diet of the cancer patient is manipulated to include a blend of amino acids (protein building blocks in the body). Cancer cells are literally starved to death.

The program consists of:

- A strict diet
- A special amino acid blend—the exact blend depends to some extent on the type of cancer being treated
- Certain nutritional supplements, and the avoidance of others

The treatment attacks cancer cells in four ways:

- Helps to prevent new blood vessel formation (angiogenesis), which is necessary for the growth of solid cancers.
- Interferes with the cancer cell's ability to produce energy by blocking a process called glycolysis in cancer cells.
- Reduces the ability of the body to produce factors that stimulate growth of cancers.
- Interferes with the production of specific amino acids that are necessary for DNA replication in cancer cells.

The diet is quite strict and is low in both carbohydrates and protein. Fat intake is moderate and involves specific fats. The amino acid blend reduces certain amino acids (such as glycine, valine, leucine, and isoleucine) and increases others, resulting in reduced production of the protein elastin, which is necessary for angiogenesis.

In contrast to normal cells, which produce energy primarily through the use of oxygen, cancer cells produce energy by a process known as glycolysis because their mitochondria (energy producing structures in cells that utilize oxygen) are damaged and not capable of utilizing oxygen the way normal cells do. The theory is that the strict diet and the blend of amino acids attack the glycolysis process in cancer cells, thus helping to prevent the production of energy in cancer cells.

Certain growth factors produced in the body, such as human growth hormone and insulin growth factor 1 (IGF1) tend to stimulate cancer growth. This program with its reduced calorie and protein diet tends to reduce the production of these growth factors. The growth of cancer cells requires certain amino acids (like glycine) and nutrients (like vitamin B6) for replication of the cancer cells' DNA. The reduction of these nutrients in this CAAT protocol helps to inhibit DNA replication in cancer cells.

A number of nutritional supplements are part of the program. These may include, but are not limited to:

- Vitamins A, C and D
- D-Limonene
- N-Acetylcysteine (NAC)
- Grape Seed Extract
- Lycopene and others

On the other hand, most of the B vitamins, especially vitamin B6, are avoided because they enhance the glycolysis process or DNA replication.

Regardless of the cancer type, all cancer cells survive through the same biochemical processes. CAAT interferes with these processes and causes the cancer cells to die, significantly increasing the patients' chance of recovery. However, because each patient is unique, CAAT is designed for one's specific needs, taking into account the patient profile and medical history. A personalized amino acid deprivation formula and food plan is designed for each patient's individual requirements. **SOURCE: Alternative Cancer Research Institute**

#### **Further Reading & References**

- Controlled Amino Acid Treatment (CAAT)-A Novel Nutritional Approach to Cancer Treatment by Michael B. Schachter, MD, CNS, FACAM
- A.P. John Institute for Cancer Research <http://www.apjohncancerinstitute.org/>