

# Proteins & Nutrition

**Proteins are a**

**Denatured Protein-**

**The body uses**

**Protein from a muscle**

**Essential/non-essential AA's and the liver:**

**Nutritional Marasmus –**

**Kwashiorkor –**

**Kwashiorkor vs Marasmus –**

---

## Proteins and Nutrition

**Proteins are** a three dimensional structure that is very susceptible to heat and acid

**Denatured Protein-**the three dimensional structure of the protein has been altered.

The body uses amino acids, not proteins, so eating specific proteins doesn't really mean anything. A denatured protein isn't really any worse than a regular protein, because protein is protein.

**Protein from a muscle** is no different than protein from an organ or really no different than protein from a vegetable, a vegetable protein is almost always going to be incomplete.

**Essential/non-essential AA's and the liver:** the Liver can manufacture about 80% of the Amino Acids that the body needs. From breaking down proteins, or build from scratch using carbohydrates/lipid/ or AA's.. The 20% it cannot manufacture, are considered essential.

**Nutritional Marasmus** – the medical term for caloric starvation. Simply not enough calories going into the body.

**Kwashiorkor** – protein starvation. You have adequate calories, but insufficient essential AA's.

**Kwashiorkor vs Marasmus** – (Kwashiorkor) the babies with the big bellies vs Marasmus – totally skinny.

## Lysine, Phenylalanine, Arginine

### Lysine

**Too much lysine:**

### Phenylalanine

**Babies born without the enzyme to convert phenylalanine to tyrosine –**

### Arginine

- 1.
- 2.
- 3.

---

## Lysine, Phenylalanine, Arginine

### Lysine

**Too much lysine:** will interfere with insulin production.

- (Diabetics should avoid supplementation of lysine.)

### Phenylalanine

**Babies born without the enzyme to convert phenylalanine to tyrosine –** phenylketonuria (PKU baby) have to avoid all foods containing phenylalanine. Nutrasweet is a major culprit of this. (PKU babies that go unchecked can have grossly retarded mental development.) (If you try to avoid it, you'll still get enough to take care of the needs)

### Arginine

1. Seems to stimulate the immune system. (It kick starts the thymus and T4 cells)
2. Given to increase wound healing
3. Seems to slow the rate of cancer growth in certain studies

## **Creatine, Carnitine, and Cysteine**

**Creatine –**

**Arginine, methionine, glycine:**

**Carnitine –**

- 1.
- 2.
- 3.
- 4.

**Carnitine: Can be made from**

**Carnitine and vegans:**

**Carnitine is sometimes used for**

**Cysteine –**

**Glutathione –**

**Glutathione and cysteine**

**The liver and Tylenol:**

**Methionine:**

**AKA-NAC –**

---

## **Creatine, Carnitine, and Cysteine**

**Creatine –** Used by body builders instead of anabolic steroids, legally.

**Arginine, methionine, glycine** are important in forming creatine naturally in the body. (“Stacking”) This will do the same thing as taking anabolic steroids.

**Carnitine –** found in the heart in larger concentrations than in any other part of the body.

1. Helps convert fatty acids into energy (grab fatty acids molecules and carries them into the Mitochondria.)
2. Seems to lower Triglyceride, LDL, and raise HDL levels.
3. Sometime given to people with mild angina (Charley horse of the heart) instead of nitro.
4. Seems helpful in chronic fatigue syndrome.

**Carnitine: Can be made from** lysine and methionine.

**Carnitine and vegans:** It's in very low supply in the vegan diet? It's pretty pricey

**Carnitine is sometimes used for Alzheimer's** patients.

Cysteine – is a non-essential

**Glutathione –** this is one of the body's major naturally occurring antioxidants.

**Glutathione and cysteine** work together in the liver.

**The liver and Tylenol:** Tylenol is toxic to the liver. Most people don't have enough of substance to clear Tylenol from the liver. Cysteine and glutathione are given to combat Tylenol poisoning in the hospital.

**Methionine:** An amino acid than can convert into cysteine.

**AKA-NAC –** absorbs better than cysteine supplements.

# Glutamine, Glutamic Acid, and Lysine

## Glutamine and glutamic acid

- 1.
- 2.
- 3.

## Lysine

**The number one treatment for**

**Primer on herpes –**

- Simplex I:
- Simplex II:

**Herpes tends to feed**

## Herpes zoster

**You want to avoid the following foods during an outbreak:**

**Good source of lysine**

**At the first sign you want to supplement**

**Excess supplementation of lysine with kids**

---

# Glutamine, Glutamic Acid, and Lysine

## Glutamine and glutamic acid

1. Important as a neurotransmitter.
2. Both abundant in food and easily absorbed. However some people don't absorb it very well. High doses can be given to those with a low IQ's. The research is questionable.
3. Glutamine gives some relief in some people to Crohn's disease and colitis. (Inflammation of the intestine)

## Lysine

**The number one treatment for** herpes. Not a lot of proof, but there isn't much else.

**Primer on herpes –** Although not always.

- Simplex I: cold sores
- Simplex II: genital sores

**You want to avoid the following foods during an outbreak:** (arginine rich foods)

- chocolate, nuts, beer, coconut

**Herpes tends to feed** on arginine, and seems to be blocked by lysine. (comment about ether)

**Herpes zoster –** shingles – chicken pox infection that hides in the spinal nerves and mutates. It later shows up as shingles. (short of eye infection, its not dangerous.) You can now get shingles multiple times. That didn't used to be the case.

**Good source of lysine –** most animal source foods.

**At the first sign you want to supplement** with 2000 - 3000 mg of lysine.

**Excess supplementation of lysine with kids** tends to stunt their growth.

**Most virus are ether labile.** (You can get Hot Shot for carburetors.)

## Taurine and Tryptophane

**Taurine –**

**A form of methionine abbreviated SAM –**

**Dosage -**

**Used for some people with bi-polar disorders –**

**Tryptophane –**

**Redux story –**

**The tryptophan story:**

**You can buy**

**Foods high in tryptophane**

- 
- 
- 

---

## Taurine and Tryptophane

**Taurine –** essential for babies. Some researchers are questioning whether this is true. Mostly from animals.

A form of methionine abbreviated SAM – considered to be low in clinically depressed patients. (Instead of lithium). Also seems to be of benefit in older patients if pre-Alzheimer's.

**Dosage -** 300 mg - 2 day, need multiple B's to make this work.

**Used for some people with bi-polar disorders –** you can't treat a psychotic condition.

**Tryptophane –** used to produce serotonin and melatonin. Too much serotonin can cause heart problems.

**Redux story –** (phen-phen) The medicine wasn't bad, but the way to formulate it to meet federal guidelines caused to convert into too much serotonin.

**The Tryptophane story:**

Not back on the market. It was taken off the market due to a number of deaths and illnesses. It had nothing to do with Tryptophane but contamination problem. It is a very good sleep aid. (Aka Turkey)

**You can buy** 5-HTP instead that contains a form of tryptophane.

**Foods high in tryptophane**

- Bran flakes.
- Turkey
- shredded weak with milk

# Serotonin, Phenylalanine, and Tyrosine

**Serotonin –**

**Phenylalanine or tyrosine cautions**

- 
- 

**Tyromine –**

**Avoid Tyromine by:**

- 
- 
- 
- 
- 

---

# Serotonin, Phenylalanine, and Tyrosine

**Serotonin** – Immitrex mimics serotonin, a prescribed drug for migraines, it constricts the small blood vessels going to the brain and meninges, where most of the migraines come from. So serotonin can sometimes help migraines (about 60% in one study) The headaches were as bad, but the number decreased.

**Phenylalanine or tyrosine**

- In excess will raise your blood pressure
- You can have medication interaction problems with mood altering drugs
  - (Seem to interfere with MAO inhibitors)

**Tyromine** – formed from phenylalanine and tyrosine. It seems to trigger migraines. If you are susceptible to migraine, don't supplement tyrosine and phenylalanine.

**Avoid tyromine by:**

- alcohols
- aged pickles
- chocolate
- beer
- seeds