

## LIPO, LIPO-B, & LIPO-C TREATMENTS

### LIPO (Methionine / Inositol / Choline Chloride 25/50/50 mg/ml)

**Methionine:** helps the liver maintain the optimal ability to process fatty acids. Methionine contributes to methyl donation to histones that activate certain genetic processes involved in the increase of lean tissue. Although indirectly linked to lipolysis, it is believed that the increase in lean tissue increases resting metabolic rate, therefore increasing the overall required calories that must be obtained from storage or dietary intake. Methionine, via S-adenosylmethionine, has been shown in animal models to increase CNS activity, therefore increasing the caloric requirements required by the CNS.

**Inositol:** is a sugar-like molecule, referred to as a sugar alcohol. Even though very similar in molecular structure to glucose, this molecule does not exhibit the traits that simple carbohydrates exhibit. Contrary to simple carbohydrates, this sugar alcohol does not actively increase adipose storage. This set of enzymes ultimately enables the body to produce triglycerides fat molecules that reside in body fat. Inositol may be effective in reducing insulin resistance, a common condition associated with increased body fat.

**Choline:** is a simple molecule usually classified as a B vitamin. The B vitamin class is usually involved in the generation of energy and support of metabolism. Choline is an important precursor to the neurotransmitter acetylcholine. This neurotransmitter is involved in a host of activities, one of which includes muscular function and contraction. Acetylcholine is a fundamental neurotransmitter that enables the communication between neurons. Increased neural communication results in increased CNS activity which ultimately leads to increased energy expenditure. Energy expenditure requires nutrient input, either from stored energy (fat), or dietary nutrients. Along with the increase in CNS activity comes increased cognitive ability.

### Lipo-B (Methionine / Inositol / Choline Chloride / Cyanocobalamin 25/50/50/1 mg/mL)

Lipo-B contains the MIC compound with the addition of B-12. The mixture of compounds individually may be effective, however in this combination they may exhibit more lipotropic activity in a synergistic fashion. Injection of this mixture of lipotropic compounds may be more effective than oral supplementation, due to its increased absorption through injection.

**B12 (Cyanocobalamin):** Cyanocobalamin is an essential nutrient known as vitamin B12. Cyanocobalamin is the most widely used form of vitamin B12. The vitamin B12 is fundamental in many biological processes, many of which are important to the survival of the organism. Vitamin B12 is involved in processes including DNA synthesis, fatty acid and amino acid metabolism. B12 is purported by its users and practitioners to help speed up overall metabolic processes and create a greater feeling of overall energy and well-being. The human body is incapable of producing vitamin B12 on its own, B12 must be consumed in the diet. Consumption of vitamin B-12 may be an effective agent to speed up metabolism, especially if the individual has a deficiency.

### Lipo-C

#### (Methionine / Inositol / Choline / L-Carnitine / Thiamine HCl (B1) / Dexpantenol (B5) 15/50/50/50/15/5mg/mL)

Lipotropic injections are used to help release fat deposits from the body. Some of these areas include the stomach, inner thighs, neck, buttocks, and hips. Because lipotropics directly aid fat breakdown and are closely related to B vitamins, when used together they are thought to intensify each other's effects. They are usually injected separately, but as part of the same overall injection cycle. The amino acids that are injected into the body stimulate the liver into optimizing the process of metabolism. These injections boost the metabolic power of the body. The injections are only effective temporarily. As soon as the effect of these substances wears out, the body starts returning to normal gradually.

The supplementation of choline has been shown to reduce serum and urinary carnitine. The reduction of carnitine in these fluids may indicate carnitine has been partitioned in tissues that utilize it as a fatty acid mitochondrial transport. When carnitine is used in the mitochondria it transports fatty acids to the location which they are broken down and used as energy. choline supplementation may increase the utilization of carnitine and increase the removal of fatty acids, even though all fatty acids are not burned as energy. The fragments of fatty acids not burned as energy are extruded in the urine as molecular fragments. The addition of L-Carnitine, B1 & B5 are included to further potentiate these effects.