L-Phenylalanine is an essential amino acid that converts to Tyrosine, helping to elevate catecholamine neurotransmitters. 2,3,4,5,6,11 It has been used in the treatment of depression, 2,3,4,5,6,11 and may be helpful with those with Parkinson’s Disease 8,12 and Multiple Sclerosis.1 It also helps in appetite suppression.12 *

D-Phenylalanine increases endorphin production and is recommended for chronic pain endurance.10

RECOMMENDED TO ENHANCE STRUCTURE & FUNCTION RELATING TO NUTRITIONAL NEEDS AND DEFICIENCIES PERTAINING TO:
- Tyrosine production for neurological health and thyroid function.2,11,12
- Elevating Catecholamine neurotransmitters - deficient in depression.2,3,4,5,6,7,11
- Neurological health pertaining to MS and Parkinson's Disease.1,8
- Appetite suppression & obesity control.9,12
- Increasing deficient neurotransmitters, which increases appetite for Anorexics.3,7

WHAT IS L-PHENYLALANINE?
L-Phenylalanine is an essential amino acid; therefore, it cannot be synthesized from other amino acids and must be obtained in the diet from food sources or through supplementation. The primary sources of foods that contain Phenylalanine are meats and milk products, although smaller amounts are found in oats and wheat germ. It can cross the blood brain barrier, thus effecting brain chemistry. As the precursor to Tyrosine, it is necessary in the function of catecholamine neurotransmitters epinephrine, norepinephrine, dopamine and tyramine, as well as the manufacturing of thyroxine and triiodothyronine in the thyroid gland. Vitamins and minerals are necessary for proper metabolism, and B6, B3, vitamin C, copper and iron are required. Because of its effects on neurotransmitters, supplementation can help alter mood and it has been used as an anti-depressive. It can effect alertness and may be useful in neurological problems such as Parkinson's disease and MS. Phenylalanine is also involved in melanin production, and those who can not convert Phenylalanine to Tyrosine due to a heredity problem have a metabolic defect called phenylketonuria (PKU).

WHAT IS D-PHENYLALANINE?
D-Phenylalanine is the Dextrorotatory of Phenylalanine, whereas L-Phenylalanine is the Levorotatory form of this amino acid. The L-forms of amino acids are the ones that are bioavailable and are for protein synthesis and regulatory functions, however the D-forms are like mirror images of the Levorotatory forms, and are not absorbed into the body.

D-Phenylalanine acts as an inhibitory agent to the enzymes that are responsible for the breakdown of endorphins, which control pain perception. Since it allows for increased endorphin production, D-Phenylalanine has been successfully used in the management of chronic pain. These two forms of Phenylalanine have different uses and are available as separate preparations. Montiff provides Pure L-Phenylalanine for those who require this form of the amino acid and D-Phenyl-Relief, for those who require pain control. (Refer to the technical sheet on D-Phenylalanine for additional information.)

L-PHENYLALANINE AND DEPRESSION
Low levels of the neurotransmitters serotonin and norepinephrine are involved in depression. Phenylalanine is the precursor to Tyrosine, and numerous studies (especially in the 70’s and 80’s) have been documented on the use of L-Phenylalanine and L-Tyrosine in the treatment of depression. Since they raise norepinephrine levels, these amino acids can be very effective with depressed individuals whose catecholamine levels are low.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.
While Tyrosine supplementation may be the first choice (note Montiff Pure L-Tyrosine and Neuro-Balance formula), L-Phenylalanine may also be effective and may be substituted with some individuals. Besides the hydroxylation to Tyrosine, it is involved in the decarboxylation to Phenylethylamine (PEA), which has amphetamine-like stimulants, and acts as an antidepressant substance. Studies have demonstrated that supplementation with Phenylalanine has improve symptoms of depression within two weeks. In some cases, positive results have been noted when combining both L-Phenylalanine and L-Tyrosine.

PHENYLALANINE AND OBESITY & ANOREXIA
- Phenylalanine stimulates the production of cholecystokinin, which induces satiety. Since this promotes the feeling of having eaten enough, Phenylalanine may be useful to obese individuals and those who are on a weight reduction program. (Take 1-2 mid morning and mid afternoon). In addition, a recent double blind study examined changes in body composition during an 4-week diet and exercise program in those taking a compound of L-Phenylalanine and lipotrophic nutrients. The results indicated that the supplementation accelerated the rate of body fat loss and helped maintain lean body mass.
- Anorexics have low Phenylalanine and Tyrosine levels in their blood plasma levels as evident in amino acid analyses. Supplementation may stimulate the appetite in these individuals, since Phenylalanine produces epinephrine (adrenaline), which induces their desire to eat.

PHENYLALANINE AND PARKINSON’S DISEASE & MS
- Phenylalanine is associated with brain chemistry and neurological health. In addition to raising norepinephrine, it elevates dopamine, and deficiencies of dopamine have been associated with Parkinson’s Disease. Low levels of Phenylalanine have been evident in amino acid plasma profiles of these individuals, and supplementation may also benefit those exhibiting depression.
- There has been some preliminary evidence that L-Phenylalanine may have some positive effect on individuals with MS. In a recent study (published 7-2001), L-Phenylalanine supplementation was combined with lofepramine. In this randomized placebo-controlled trial, patients were studied for 6 months. Those on the lofepramine and Phenylalanine showed significant MRI changes with a reduction in visible lesions.

DIRECTIONS: Take 1-2 capsules twice daily on an empty stomach, with a full glass of water or fruit juice. B-6 and Vitamin C and other vitamins and minerals are necessary for proper metabolism; therefore it is necessary to also take a daily vitamin-mineral supplement and B complex, and B-Complete and Montiff Vita-Minz Plus are recommended.

CAUTION: L-Phenylalanine can raise blood pressure in some individuals; therefore, it should not be taken for those with Hypertension or anxiety. It should also not be taken by those with preexisting melanomas, pregnant or lactating women, those with phenylketonuria (PKU) or individuals who are taking MAO inhibitor drugs.

REFERENCES

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