

# Protocol for Nutritional **BLOOD SUGAR** Support

Practitioner Information - Protocol For Life Balance™ Supplements

Diet and exercise form the cornerstone of blood sugar regulation. Management depends upon good general nutrition, control of oxidative stress and utilization of substances that support pancreatic function as well as cellular uptake of glucose. The individual components below can be combined as a supplemental protocol for blood sugar support.

## True Balance™ Multi-Vitamin

Diabetics often exhibit elevated requirements for many nutrients. In part, this may be an aspect of the higher BMI commonly found in diabetics. The lower micronutrient levels observed with increasing adiposity may result from inadequate nutrient intake and/or alterations in nutrient metabolism (1). For instance, magnesium and zinc levels are depressed and oxidative stress is increased, findings with significance for advanced glycation end products and serum lipids control (2). Certain B vitamins and other nutrients, similarly, are supportive in cases of peripheral neuropathy (3).

True Balance™ is a multi-vitamin and mineral supplement designed to provide support for the maintenance of healthy blood sugar levels throughout the day. It contains high amounts of thiamine and biotin to support the conversion of carbohydrates into energy. Also included is *Gymnema sylvestre* extract, which is a plant native to India and Asia that is known to support healthy glucose utilization.

### Cautions and interactions

Chromium and gymnema supplements may interact with certain diabetes medications. Carefully monitor blood sugar levels in patients taking chromium and gymnema concurrently with such medications.

## Alpha Lipoic Acid

*alpha*-lipoic acid (ALA) is an antioxidant that is naturally manufactured in the human body. It has been called the “universal antioxidant” because of its versatility—it helps scavenge an unusually wide array of cell-damaging free radicals in both water and lipid environments (4). ALA works in conjunction with vitamins C and E and some other antioxidants, “recycling” them and making them more effective. Beyond its direct antioxidant function, ALA helps to boost glutathione levels. Glutathione possesses its own antioxidant capabilities and is a critical component in cellular and hepatic detoxification mechanisms. Lastly, *alpha*-lipoic acid is a co-factor in the multi-enzyme complex that catalyzes the last stage of glycolysis. Of all the nutritional glucose modulators available, *alpha*-lipoic acid is the most powerful, versatile, and extensively tested.

### Cautions and interactions

Blood hormone levels and thyroid function tests should be monitored in people on thyroid hormones who concomitantly are supplementing *alpha*-lipoic acid because very high intakes of ALA (usually at or above 400 mg/day) may interfere with the conversion of exogenous T4 to T3 (5). In an animal model, chronic supplementation with extremely high doses of *alpha*-lipoic acid increases the requirement for biotin, but this has not been observed in humans.

Because it may affect insulin sensitivity, blood glucose levels should be monitored closely when *alpha*-lipoic acid supplementation is added to diabetes treatment regimens. *alpha*-lipoic acid may be used as a dietary supplement if taking certain medications, including adriamycin, cisplatin, cyclophosphamide and cyclosporine A (6, 7).

## Glucose Balance™

Glucose Balance™ is designed to be used in conjunction with True Balance™ to supply additional amounts of nutrients, such as biotin, magnesium and thiamin, known to be particularly important for carbohydrate metabolism.

Glucose Balance™ contains GlucoFit™, a specialized ingredient extracted from the herb *Lagerstroemia speciosa*, a small tree typically found in tropical Southern Asia. The leaves of *Lagerstroemia speciosa* produce corosolic acid, the main active ingredient in GlucoFit™. Studies have documented corosolic acid’s exceptional ability to help maintain a healthy glucose metabolism (8). It has been successfully tested in humans, proving previous findings from animal models.

These statements have not been evaluated by the FDA. These products are not intended to diagnose, treat, cure or prevent any disease.

This formula also contains *Gymnema sylvestre*, an herb native to the tropical forests of southern and central India that has been used by Ayurvedic herbalists to support blood sugar regulation for nearly two millennia. Studies demonstrate that *Gymnema* extract increases the functions of the liver and the pancreas, organs that tend to have weakened functions in those who are overweight or experience blood sugar regulatory problems.

### Cautions and interactions

B vitamins (thiamine and pantothenic acid) may interfere with the absorption of certain antibiotics, such as tetracycline and sulfa drugs. Also, B vitamins may interact with some chemotherapy agents and they should only be used concurrently under the supervision of a physician.

Alternately, B vitamins may affect tricyclic antidepressants. Chromium and *G. sylvestre* supplements may interact with certain diabetes medications. Studies suggest that antacids may reduce the body’s ability to absorb chromium.

## Additional Support

**Pantethine, Pycnogenol®, ChromeMate®, Stevia, Fiber**  
Pantethine is a derivative of vitamin B5; it is the stable disulfate form of pantetheine, which provides the active part of coenzyme A molecules (CoA) and of what is known as a “carrier” protein found in cell metabolism. Pantethine, but not pantothenic acid, has been shown to support the regulation of blood lipids and liver function. The actions of pantethine in promoting proper lipid metabolism have not been fully explained. Supplementation with pantethine often progressively improves the metabolism of undesirable cholesterol, triglycerides, low density lipoprotein (LDL) cholesterol and apolipoprotein B (apo-B) while leading to an increase in the desirable high density lipoprotein (HDL) cholesterol and apolipoprotein A (apo-A) (9).

Pycnogenol® is a patented extract of French Maritime Pine bark containing bioflavonoids and oligomeric procyanidins. Pycnogenol® has been shown to inhibit *alpha*-glucosidase, effectively slowing glucose uptake from the intestinal tract (10).

Chromium (ChromeMate®) supplementation supports the actions of insulin and is useful in cases of chromium deficiency. Chromium potentiates the effects of insulin by improving its ability to bind to its cellular receptor. If a lack of chromium is responsible for the sub-optimal clearance of blood sugar by insulin, supplemental chromium will mean that less insulin is needed to control blood sugar levels.

References available at [www.protocolforlife.com](http://www.protocolforlife.com)

**True Balance™** (Provides B Vitamins) \_\_\_\_\_ **X** \_\_\_\_\_  
(Suggested: 2 twice daily)

**Alpha Lipoic Acid** \_\_\_\_\_ **X** \_\_\_\_\_  
(Suggested: 1 twice daily)

**Glucose Balance™** \_\_\_\_\_ **X** \_\_\_\_\_  
(Suggested: 1 three X daily)

### Additional Support Products:

**Pantethine** \_\_\_\_\_ **X** \_\_\_\_\_  
(Suggested: 1 daily)

**Pycnogenol®** \_\_\_\_\_ **X** \_\_\_\_\_  
(Suggested: 1 twice daily)

**ChromeMate®** \_\_\_\_\_ **X** \_\_\_\_\_  
(Suggested: 1 twice daily)

### Other recommended products:

**Stevia: as instructed:** \_\_\_\_\_

**Fiber:** both whole foods and fiber supplements may be useful to slow the absorption of sugars from a meal.

Please note the instructions, cautions and interactions on each product package, and begin each new product separately, in turn. Use only under the supervision of a qualified health practitioner.