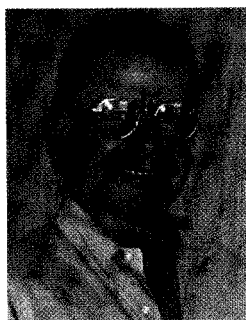


4Life[®] Transfer Factor,[™] Diabetes and the Immune System

Important Answers by Richard H. Bennett, Ph.D.



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WHAT IS DIABETES?

There is a new and threatening epidemic in America and all developed countries; it is not SARS or the like, it is diabetes. While diabetes mellitus is not new, the rate of new cases is increasing for young and old alike. Its causes are complex but involve genetics, immunity, lifestyle and lurking infections.

For everyone, blood sugar is the source of energy for all of the cells in our bodies.

In the diabetic, blood sugar can't get into the body's cells because insulin is in short supply, or cells may become resistant to the functions of insulin, a condition known as insulin resistance. Insulin, a hormone, acts on the cells of the body to open an active door that transports glucose inside the cell. Once inside, this energy-packed molecule fuels all of the functions of that cell.

THE DISEASE DIABETES TAKES TWO GENERAL FORMS.

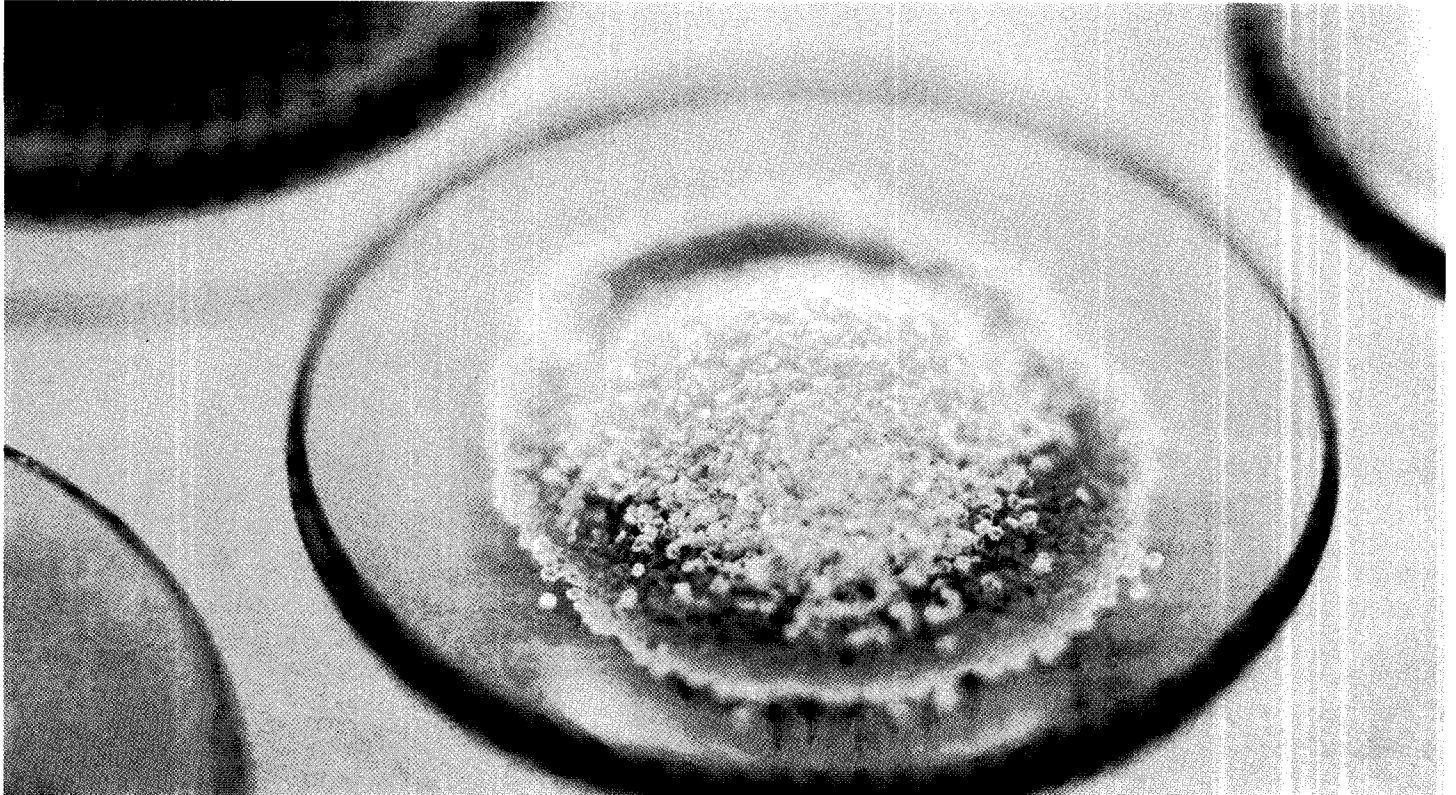
Type 1, or juvenile onset diabetes, can occur in newborns to adoles-

cents. The cells in the pancreas that manufacture insulin are attacked by the immune system. The reason appears to be a combination of heredity and the exposure to infectious agents by either the child or the expectant mother. Type 1 diabetics are typically insulin-dependent for life and are at an elevated risk for heart disease, stroke and opportunistic infections.

Type 2, or adult onset diabetes, is due largely to prolonged, excessive consumption of high-calorie foods. In these persons, young or old, the cells of the body become somewhat resistant to the effects of insulin and even in the presence of adequate insulin, glucose can't get into the cell. Fortunately, for some Type 2 diabetics, dietary restrictions and exercise are sufficient to manage the disease. For others, insulin injections may be required to maintain blood sugar.

HOW IS THE IMMUNE SYSTEM INVOLVED WITH DIABETES?

In both types of diabetes, the immune system has roles of a double-edged sword. In Type 1 patients, the immune system is acting out of balance and creating an autoimmune reaction attacking the cells and mechanisms of insulin production. The very early changes in type 1 diabetics are linked to a host of viral infections, ranging from maternal Rubella to Epstein Barr virus (Mononucleosis) in the ado-



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lescent. It is postulated that the virus attacks the pancreatic cells, and the immune response then must attack those cells to kill the virus factories they have become. In some cases, the immune response continues after the virus is controlled and innocent pancreatic cells are attacked. The crossfire gives rise to autoimmunity problems.

In diabetes patients, the risk of infection is great. The diabetic's immune system is lethargic and organs and tissues are more susceptible to infection. Diabetics are two times more likely to be hospitalized for infection.

HOW DOES 4LIFE TRANSFER FACTOR HELP THE IMMUNE SYSTEM?

Over the years and after teaching people about 4Life Transfer Factor, many have come up to me and commented how 4Life Transfer Factor has helped them manage their sugar levels. I must admit I listened in awe and was baffled. Now with a greater understanding of how transfer factors work in the immune system and the immune system's role in the diabetic, the pieces are starting to fall into place.

Transfer factors have the ability to bring new information and stimulation to the immune system. In that process, communication

between parts of the immune system occur. The stimulation of the immune system, like replacing a new battery in a home thermostat, brings regulation to a system out of control. At the same time if a person is suffering from a new viral infection attacking the pancreatic cells, the ability of 4Life Transfer Factor to increase viral surveillance and potentially preventing disease onset.

4Life Transfer Factor is not a cure or prevention for either type of diabetes. Yet its unique ability to aid the balancing functions of the immune system and provide general immune support makes it a safe and practical supportive supplement.

