What is Immune Deficiency?

The immune system enables the body to fight off illness and infection on a daily basis. While we are usually unaware of it, we are constantly surrounded by a multitude of viruses, bacteria, microbes, parasites, and toxins that pose a potential threat to our health. If it were not for the immune system, these germs and foreign cells would have the upper hand.
Like most other important body systems, the immune system goes about its important job without any thought or effort on our part. It is usually only when things go wrong that we realize just how essential the immune system is.
Varying in degrees of severity, immune deficiency can be thought of as a condition where the body's defense system is compromised, causing it to be less resilient to foreign invading cells. Abnormal cells which develop inside the body systems may also multiply and cause illness if the immune system is compromised.

"Vitamin D and your Immune System"

Auto Immune Disease and Vitamin D

Vitamin D is a nutrient hormone although it's not a vitamin in the classic sense. Vitamin D exists as an inactive pro-hormone until it is metabolized within the body to a steroid hormone. Deficiencies of vitamin D have been found to contribute to various cancers and autoimmune diseases, particularly conditions of type 1 diabetes, multiple sclerosis, and psoriasis. Recent studies indicate that there's a critical need for testing blood levels of vitamin D.

Sources of Vitamin D

About 80 percent of the body's supply of vitamin D is produced photo chemically when ultraviolet radiation from sunlight reacts with a precursor chemical found in the skin. The end product is vitamin D3 or cholecalciferol. The liver metabolizes vitamin D3 into calcidiol, which is the main form of vitamin D that circulates in the blood. The kidneys then convert calcidiol into compounds that bind with protein. Linked to protein, vitamin D travels to various organs within the body.

With age, the body's ability to manufacture vitamin D declines. Sun blocks, cloud covers, and pollution also reduce absorption of vitamin D. Recent studies show that vitamin D deficiency is

widespread, especially among minority groups. Levels of vitamin D are also low in celiac disease, Crohn's disease, and in pancreatic enzyme insufficiency. Besides sunlight, vitamin D is available from cod liver oil, fatty fish, and vitamin D-fortified milk.

Functions of Vitamin D

Vitamin D maintains blood levels of both calcium and phosphorus. These minerals are essential for the support of normal neuromuscular function and skeletal mineralization. Without adequate vitamin D, calcium is leached from blood, causing rickets in children and osteomalacia in adults. In addition, low calcium levels (hypocalcemia) can lead to low levels of parathyroid hormone (hypoparathyroidism).

At the Cellular Level

At the cellular level, vitamin D supplementation can help prevent or reduce disease progression. In certain malignancies, such as prostate cancer, vitamin D acts as an anti-inflammatory agent by down regulating the enzyme cyclo-oxygenase II. Vitamin D also down regulates pro-inflammatory cytokines and increases levels of anti-inflammatory cytokines. In recent prostate cancer studies, the addition of vitamin D to chemotherapeutic agents resulted in markedly improve outcomes.

Diagnosing PI Signs of primary immunodeficiency

People with primary immunodeficiency (PI) have one thing in common – susceptibility to infection. If you have two or more of the following warning signs, talk to a physician about getting tested for primary immune deficiency.1

- *Eight or more new ear infections within one year*
- *Two or more serious sinus infections within one year*
- *Two or more months of antibiotics with little effect*
- *Two or more bouts of pneumonia within one year*
- *Failure of an infant to gain weight or grow normally*
- *Recurrent, deep, skin or organ abscesses*
- *Persistent thrush in mouth or elsewhere on skin after age one*
- *Need for intravenous antibiotics to clear infections*
- *Two or more deep-seated infections such as meningitis, osteomyelitis, cellulitis or sepsis*
- *A family history of primary immunodeficiency*

To diagnose primary immune deficiency disease, doctors generally do a physical exam, ask about family history, and order blood tests to check red and white blood cells, antibodies, and the complement system, and skin tests that show if T cells are working. These tests help doctors determine the type of PI and recommend a treatment protocol. Always seek the advice of your own physician regarding any medical conditions.

Vitamin D and your body's immune and inflammatory response:

Vitamin D plays a role in regulation of both the "infectious" immune system and the "inflammatory" immune system. Low vitamin D levels are associated with several autoimmune diseases, including multiple sclerosis, Sjogren's Syndrome, rheumatoid arthritis, thyroiditis and Crohn's disease. Osteoporosis is strongly associated with low vitamin D. Postmenopausal women with osteoporosis respond favorably (and rapidly) to higher levels of D plus calcium and magnesium.

To contact Pivotal Health please contact us at 1-877-404-8804 or visit www.pivotalhealth.info