

THE IMMUNE SYSTEM

The word “immune” comes from the Latin word for “protection.” Your body’s immune system is your built-in protection against attack by foreign substances known as antigens. An antigen is any substance that causes an immune response or causes the body to “attack.” Examples of antigens include bacteria or viruses.

The purpose of an immune response is to help protect your health. Unfortunately, your immune system cannot discriminate between harmful foreign substances (such as bacteria and viruses) and transplanted organs. To your immune system, a transplanted organ is seen as a foreign substance that needs to be eliminated.

To protect your transplanted organ from attack, medications are used to suppress, or hold back, your body’s immune response. These medications, called immunosuppressants, include Neoral, Prograf, OKT3, Prednisone, Imuran, Cellcept, and Rapamycin.

HOW THE IMMUNE SYSTEM WORKS

Our immune system is able to tell the difference between substances that belong in our body and those that are foreign. Once a substance is recognized as foreign, the immune system goes to work to try to eliminate it from the body. This is why immunosuppressant medications must be taken after an organ transplant. A basic understanding of the immune system will help you understand why taking these medications as instructed is critical to the success of your transplant.

Lymphocytes are white blood cells that are the primary defenders of our immune system. These are the only cells in the body that have the ability to recognize specific antigens (foreign substances).

There are different kinds of lymphocytes. B-lymphocytes react to antigens in solution, such as blood. T-lymphocytes react to infected or foreign cells, such as a transplanted organ. The different cells of the immune system all work together to resist or overcome an infection in the body.

T- and B- lymphocytes are always present in all of the tissue in your body. They remain inactive until they recognize a specific antigen. There are receptors on the surface of lymphocytes that bind with the antigen. When this coupling occurs, the immune response is activated and the lymphocyte destroys the antigen.

Immunosuppressant medications prevent the lymphocyte and the antigen from binding, therefore preventing the immune system from destroying your transplanted organ.