

Causes of Low or High Total Immunoglobulins

Table 1. Causes of secondary or acquired hypogammaglobulinemia

Conditions that cause an abnormal loss or increased catabolism of immunoglobulins	<ul style="list-style-type: none"> • Nephrotic syndrome and other severe renal diseases • Severe burns • Sepsis • Protein-losing enteropathy • Intestinal lymphangiectasia
Conditions & factors affecting immunoglobulin production	<ul style="list-style-type: none"> • Nutritional due to malnutrition or alcoholism • Drugs such as phenytoin, carbamazepine, immunosuppressive drugs or chemotherapy agents • Malignancies, especially hematological malignancies (chronic lymphocytic leukemia, lymphoma, multiple myeloma) • Rheumatological disease, including rheumatoid arthritis or systemic lupus erythematosus • Viruses including HIV, Epstein-Barr virus, rubella and cytomegalovirus



Table 2. Causes of increased immunoglobulin levels

Immunoglobulin Result	Associated Conditions
Polyclonal increase in any or all of the three classes (IgG, IgA and/or IgM)	<ul style="list-style-type: none"> • Infections, acute and chronic (including HIV, Epstein-Barr virus, cytomegalovirus) • Connective tissue diseases (rheumatoid arthritis, systemic lupus erythematosus, scleroderma) • Chronic active autoimmune hepatitis (IgG) • Primary biliary cirrhosis (IgM) • Hematologic disorders • Non-hematologic malignancies • In cord blood of newborns with intrauterine infection (IgM to offending pathogen)
Monoclonal increase in one class with or without decrease in other two classes	<ul style="list-style-type: none"> • Multiple myeloma (IgG, IgA, rarely IgM) • Monoclonal gammopathy of uncertain significance • Chronic lymphocytic leukemia • Non-Hodgkin lymphoma • Waldenstrom macroglobulinemia (IgM) • Primary systemic amyloidosis • Monoclonal cryoglobulinemia