

# Non-Hodgkin's Lymphoma

## Chapter 1 Lymphatic System

The lymphatic system works to rid the body of toxins and waste. It transports lymph throughout the body. Lymph is a fluid that contains infection-fighting white blood cells. Lymph nodes filter lymph. The lymphatic system connects lymph nodes, of which there are hundreds, with tonsils, adenoids, the spleen, and thymus with a series of vessels. The spleen is the largest lymphatic organ and it filters the blood to control the number of red blood cells and how much blood is stored in the body. It also helps to fight infection. The thymus stores immature lymphocytes that will become T cells. Tonsils are the body's first line of defense and can become infected frequently. These lymphatic vessels carry lymph upward toward the neck throughout the entire body.<sup>1</sup>

## Chapter 2 Lymphoma

Lymphoma begins in the lymphatic system which includes the immune system. The immune system helps fight off infections and diseases. Lymphomas can start anywhere there is lymph tissue in the body. This includes lymph nodes, spleen, bone marrow, thymus, adenoids, tonsils, or digestive tract.<sup>2</sup>

Lymphomas arise from hematopoietic stem cells and undergo differentiation to a specific phenotype which expresses unique cell surface receptors and has a distinct morphology. Lymphomas are malignant tumor cells arrested at a certain stage of differentiation. This process progressively accumulates genetic lesions that result in the clonal expansion of malignant T or B-cells. Balanced reciprocal recombinations (chromosomal translocations) signify lymphoid malignancies in over 90 percent of non-Hodgkin's lymphoma (NHL) patients.<sup>3</sup>

## Chapter 3 Non-Hodgkin's Lymphoma Classifications

Lymphomas are not only based on cell size, cell shape, and growth pattern, but on the distinctive clinicopathologic entities. There are specific immunologic or genetic features that make lymphomas distinct. The two main types of lymphocytes are B lymphocytes (B cells) or T lymphocytes (T cells). The B cells protect the body from bacteria or viruses by making antibodies that attach to foreign cells and mark it for destruction. The T cells destroy the foreign cells marked by the B cells and destroy other abnormal cells.<sup>2,4</sup>

### Subtypes

- Precursor B-lymphoblastic leukemia/lymphoma<sup>2</sup>
- Precursor T-lymphoblastic lymphoma/leukemia<sup>2</sup>

### Subtypes for Peripheral B-cell Neoplasms

- B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma
- B-cell prolymphocytic leukemia
- Lymphoplasmacytic lymphoma/immunocytoma
- Mantle cell lymphoma
- Follicular lymphoma
- Extranodal marginal zone B-cell lymphoma of mucosa-associated lymphatic tissue type
- Nodal marginal zone B-cell lymphoma