

Neurophysiologic changes also provide the foundation for language, learning, and behavior development. Neurologic or electroencephalographic development is sometimes used as an indicator of maturational age in the early weeks of life.

Lymphoid Tissues

Lymphoid tissues contained in the lymph nodes, thymus, spleen, tonsils, adenoids, and blood lymphocytes follow a growth pattern unlike that of other body tissues. These tissues are small in relation to total body size, but they are well developed at birth. They increase rapidly to reach adult dimensions by 6 years old and continue to grow. At about 10 to 12 years old, they reach a maximum development that is approximately twice their adult size. This is followed by a rapid decline to stable adult dimensions by the end of adolescence.

Development of Organ Systems

All tissues and organ systems undergo changes during development. Some are striking; others are subtle. Many have implications for assessment and care. Because the major importance of these changes relates to their dysfunction, the developmental characteristics of various systems and organs are discussed throughout the book as they relate to these areas. Physical characteristics and physiologic changes that vary with age are included in age-group descriptions.

Physiologic Changes

Physiologic changes that take place in all organs and systems are discussed as they relate to dysfunction. Other changes, such as pulse and respiratory rates and blood pressure, are an integral part of physical assessment (see [Chapter 4](#)). In addition, there are changes in basic functions, including metabolism, temperature, and patterns of sleep and rest.

Metabolism

The rate of metabolism when the body is at rest (**basal metabolic rate**, or **BMR**) demonstrates a distinctive change throughout