Functions of the Skeletal System 1. Tendons and ligaments are strong bands of fibrous connective tissue. Cartilage (kar'ti-li) is somewhat rigid but more flexible than bone, and its functions reflect these characteristics. In the adult, the surfaces of bones within movable joints are covered with carti-lage, which provides a smooth cushion between adjacent bones. Cartilage also provides a firm, yet flexible support within certain structures, such as the nose, external ears, ribs, and trachea. Bone provides a rigid framework that supports the soft tissues of the body and maintains the body's shape. Cartilage is abundant in the embryo and the fetus, where it provides a model from which most of the adult bones develop. Tendons and ligaments form attachments. Cartilage. Bone. 2.3.