

## Clinical Research in Orthopedics

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## Protective Structure for Vital Organs Farzam Vazifehdan \*

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## Introduction

The skeleton makes up almost one-fifth of a healthy body's weight. This versatile inner framework supports all other parts and tissues, which might collapse without skeletal reinforcement. It also protects certain organs, like the fragile brain inside the skull. Bones are reservoirs of important minerals, especially calcium, and also make new cells for the blood. About one person in 20 has an additional rib. Bone is a lively tissue, and albeit it's about 22 per cent water, it's a particularly strong yet lightweight and versatile structure. An identical frame made from high-technology composite materials couldn't match the skeleton's weight, strength, and sturdiness. It's as strong as steel but light as aluminum. It can repair itself if damaged and may remodel its bones to thicken and strengthen them in areas of additional stress, when persons do extreme sports. The skeleton is that the framework that gives structure to the remainder of the body and facilitates movement.

Ligaments are strong bands or straps of animal tissue that provide support to bones and link bone ends together in and around joints. They're made from collagen – a troublesome, elastic protein. An outsized number of ligaments bind together the complex wrist and ankle joints the foot ligaments store energy as they stretch when the foot is planted then impart it again as they recoil and shorten to place a "spring within the step". This protects a huge amount of energy when walking. These bones provide structure and protection and facilitate motion. Bones are arranged to make structures. The skull protects the brain and provides shape to the face. The thoracic cage surrounds the guts and lungs. The spinal column, commonly called the spine, is made by

over 30 small bones. Then there are the limbs (upper and lower) and therefore the girdles that attach the four limbs to the spinal column. The brain is surrounded by bones that form a part of the skull. The guts and lungs are located within the chest cavity, and therefore the spinal column provides structure and protection for the medulla spinals.

The skeleton is a framework for tissues and organs to connect themselves to. This technique acts as a protective structure for vital organs. Major samples of this are the brain being protected by the skull and therefore the lungs being protected by the skeletal structure. Located in long bones are two distinctions of bone marrow (yellow and red). The vellow bone marrow has fatty animal tissue and is found within the marrow cavity. During starvation, the body uses the fat in yellow bone marrow for energy. The red bone marrow of some bones is a crucial site for blood corpuscle production, approximately 2.6 million red blood cells per second so as to exchange existing cells that are destroyed by the liver. Here all erythrocytes, platelets, and most leukocytes form in adults. From the red bone marrow, erythrocytes, platelets, and leukocytes migrate to the blood to try to to their special tasks. Another function of bones is that the storage of certain minerals. Calcium and phosphorus are among the most minerals being stored. The importance of this storage "device" helps to manage mineral balance within the bloodstream. When the fluctuation of minerals is high, these minerals are stored in bone; when it's low it'll be withdrawn from the bone.

Because many other body systems, including the vascular, nervous, and integumentary systems, are interrelated, disorders of 1 of those systems can also affect the system and complicate the diagnosis of the disorder's origin. Diseases of the system mostly encompass functional disorders or motion discrepancies; the extent of impairment depends specifically on the matter and its severity. During a study of hospitalizations within the us, the foremost common inpatient OR procedures in 2012 involved the musculoskeletal system: knee arthroplasty, laminectomy, hip replacement, and fusion.

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