

Joint Anatomy and Actions

A Short Lesson in the Kinesiology of Exercise

The Knee Joint

The knee is a very unstable and complex joint. It is formed by the articulation of the femur (thigh bone) with the fibula and tibia bones of the shin. The knee joint is a hinge joint and its action is similar to the movement of a door on hinges. However, it is not a true hinge joint because some rotation and sliding of the bones is possible when the knee is bent.

The knee joint is stabilized and held together by many ligaments and tendons. The ligaments also play an important role in limiting the range of motion in the joint. If they did not perform this function, the bones of the knee joint would literally pop apart when you assume the extreme position of flexion as in a deep squat.

Your knees must not only support your weight, but must also be used so that you can walk, run, jump, and so on. In addition, the knee plays a major role in shock absorbing during jumping and running. Because of this and because the knee is anatomically unstable, it is very important that you develop all of the muscles around the knee.

Basic Movements in the Knee Joint



Extension

Moving the shin away from the back of the thigh or vice versa.



Flexion

Moving the back of the shin towards the back of the thigh or vice versa.

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