

## Anatomy Assignment 1: Factors affecting joint stability.

The stability of a joint is a measure of how difficult it is to cause disruption from its desired position or alignment, another way to describe this is as a joint's resistance to displacement.

The function of the joints is obviously to provide the bones with a means of moving or being moved. But because such provisions bring with them a threat of instability, the joints have a secondary function for providing stability without interfering with the desired motions.

All the joints of the body do not have the same degree of strength or stability. Some such as the hip or elbow are fairly stable. Others such as the shoulder or knee are less stable and therefore more easily injured.

The strength or degree of freedom follows Emerson's law: "For everything that is given, something is taken."

In the shoulder, movement is gained at the expense of stability, while in the hip, movement is sacrificed for stability.

Even as muscles pull on bones to cause movements, they stabilize and strengthen the joints of the skeleton.

(Elaine N. Marieb (2005) Human Anatomy & Physiology 6<sup>th</sup> edition).

The stability of a joint is dependant on a number of factors, the main ones listed below.

### **Ligamentous Arrangement:**

The Arrangement of ligaments around the joint allows them to resist any motion that would tend to stretch

them. The greater the axially of a joint the more complex the ligamentous arrangement has to be.

Fascia:

The role of the fascia in joint stability is similar to that of the ligaments. Fascia is a fibrous tissue that forms muscle sheaths and is by nature resistant to tension so it will provide a resistive force.