



# ***Biophysics***

## **Fourth lecture**

### **Load bearing in biology(part2)**

#### **Second stage**

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## 1-2 Types of stress

### 1- Longitudinal stress

It is the stress that causes deformation in the length of the body, as is the case for the spring that was mentioned in the previous activity, and it is of two types:

#### a .tensile stress

It is the stress that causes deformation in the length of a body when two vertical tensile forces act on two opposite surfaces, leading to an increase in length (elongation).

#### b .pressing stress

It is stress when two forces act vertically in the body inward, causing it to compress, i.e. a decrease in length.

The longitudinal stress can be defined by the following mathematical relationship:

longitudinal stress

### 2-Shear stress

It is the ratio between the perpendicular tangential force to the surface area on which the force acts and deformation occurs, according to the relationship:

Shear stress