



**Ministry of Higher Education and  
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# Pressure

By

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**Objectives:** after the end of this lecture, the student must know:

1-What is pressure and how can it affect our various body parts and organs like skull, heart, lung....etc

2- Changes in pressure after diving

3- Principles of use of hyperbaric oxygen in the treatment of certain diseases The pressure of column of liquid calculated

$$P = \rho g h \quad \rho = \text{density}$$

$g$  = gravity acceleration:  $h$  = height of column

The peak systolic blood pressure 120 mmHg.

Pressure is defined force per unit area in gases or liquid while for solids the quantity force per unit area is referred to as stress, the atmospheric pressure is about 10 N/m<sup>2</sup> or 760 mm Hg.

Since we live in a sea of air with pressure 1 atm, it is easier to measure pressure relative to atmospheric pressure.

There are places in the body where the pressure are lower than atmospheric or negative for example:

When we breath (inspire) the pressure in the lung must be lower than atmospheric pressure or the air would not flow to the lungs.

When person drink through straw the pressure in his mouth must be negative by an amount equal to the height of his mouth above the level of the liquid he is drinking.