

In more severe cases there may be vomiting, fever, fainting, and persistence of the other symptoms.

The physiological effects of low pressure are due to the low partial tension of oxygen. This causes a deficiency of oxygen in the blood (anoxemia). The body tries to compensate for this condition by:

- (a) Increases respiration
- (b) Chemical alterations in blood (lowering alkaline reserve)
- (c) Increased hemoglobin (increase in red blood cells)

#### Increased Pressure

Increased pressure is of importance chiefly in the industrial field as:

- (a) Tunnel workers
- (b) Deep sea divers

The subjecting of the individual to high pressures results in a condition called Caisson disease or "bends," the latter name given by workmen from the excruciating pains causing the individual to double up his body.

#### Symptoms

- (a) Slow respiration
- (b) Slow pulse
- (c) Pains in ears
- (d) Headache and dizziness
- (e) Excruciating pains
- (f) Vomiting

Death may occur from internal hemorrhage or there may be paralysis (diver's palsy).

Physiological effects are most marked and dangerous after decompression. Effects are due to:

- (a) Increase in amount of gases in blood (nitrogen)
- (b) Increase in chemical absorption of oxygen
- (c) Air emboli

#### Prevention

- (a) Gradually increasing pressure
- (b) Gradual decompression
- (c) Careful medical supervision

#### Temperature

The relation of temperature and light to health as two of the important elements in climate can only be mentioned. The influence of climate on the vigor and vitality of races is an interesting field of study. At this time, we will only consider the acute, extreme variations in temperature.

#### Low temperatures

- (a) Chilblains