

# HYPEREMIA

(hyper = over, haim = blood)

Hyperemia literally means 'too much blood'.

This refers to volume and flow change however, and should not be confused with polycythemia, 'too many red blood cells'.

Hyperemia occurs when excess blood builds up inside the vascular system, which is the system of blood vessels in the body.

When excess blood occurs outside the vascular system, due to a broken blood vessel or injury, this is known as hemorrhage.



**Cerebral babesiose**

**Both term (congestion and hyperemia), however indicate an excess of blood in the vessels of a given tissue or tissue site.**

**Hyperemia can basically occur only in two ways: either too much blood is being brought in through the arterioles (active hyperemia) or too little blood is being removed through the venules (passive hyperemia).**

# **Active Hyperemia**

**In arterial and capillar veins, the acceleration of blood flow is characterized by an increase in blood vessels due to the resultant dilation of the vessel or stagnation of the blood flow.**

**It occurs in two forms:**

- 1. Acceleration of blood flow in arteries**
- 2. Slowing of blood flow in arteries**

**Acceleration of blood flow in arteries:**

**In this case, the amount of blood in the arteries increases. However, it is not the case that the liquid or cellular part of the blood in the vein goes out of the vein. Hyperemic regions appear red. It is also physiologically shaped and is called "functional hyperemia".**

# Morphological Findings of Arterial Hyperemia

## Macroscopical Findings

It is slightly red in physiological condition. When it occurs in areas such as the face, the temperature of the zone increases because of the acceleration of blood.

As the blood vessels in the active hyperemia due to the blood stagnation deteriorate, the region is bulging and hot

Depending on the stagnation of the blood and the accumulation of erythrocytes, erythema (redness) is more pronounced (dark red).

## Microscopical Findings

There are many erythrocytes in the veins. If there is blood stagnation, erythrocytes accumulate like coins in capillaries. Other signs of permeability disorder develop.

# Passive Hyperemia

Prevention of blood flow in the veins is characterized by blood collection in the resultant veins of the blood slowing down and stopping.

Why passive hyperemia is called :

- Obstruction of arteries
- The effect of pressure on venules (such as drowning) in heart disorders, unable to pump the blood of the heart to the vessels,
- Other disorders other than venules

Organ and tissues are cyanotic, appearing in dark red color (violet color). Because venous erythrocytes are rich in carbon dioxide. The appearance of organs and tissues in such violet color is defined as cyanosis (Cyanos = blue).

Cyanotic appearance of tissues and organs is the most important indicator of venous hyperemia.