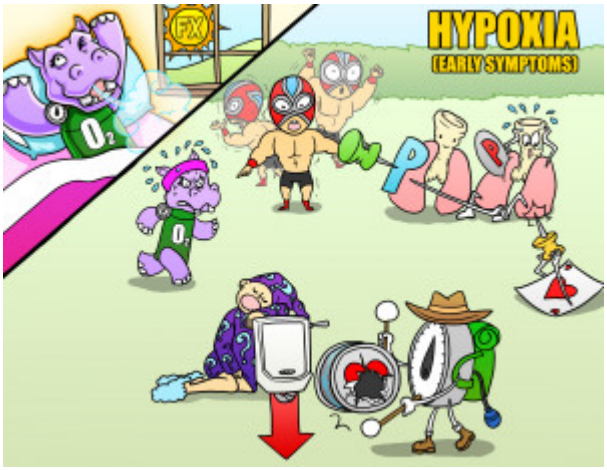
Hypoxia (Early Symptoms)

Low oxygen in the blood (hypoxemia) leads to hypoxia, which is the condition of inadequate tissue oxygenation at the cellular level. It can be a life-threatening problem and lead to fatal cardiac dysrhythmias. As the stages of hypoxia progress, the early symptoms of hypoxia can manifest. Depending on the underlying causes of hypoxia patients often show varying degrees of symptoms.



PLAY PICMONIC

Diaphoresis

Sweaty-sweatband

Compensatory release of catecholamines like epinephrine and norepinephrine can cause excessive perspiration, termed diaphoresis. This perspiration causes the skin to become moist and the air causes it to become cool to the touch.

Restlessness

Restless-wrestler

Some initial responses include releasing catecholamines like epinephrine and norepinephrine which stimulate an unexplained apprehension, restlessness and even irritability in some patients.

Tachypnea

Tac-P-lungs

As cells are deprived of oxygen they stimulate the respiratory center to increase respiratory rate and depth. Depending on the mechanism of decreased oxygenation other mechanisms like peripheral chemoreceptors can detect low oxygen levels in the blood and trigger this response.

Dyspnea on Exertion

Disc-P-lungs with Exertion

Difficulty with breathing when the body is exercising is one of the first signs of hypoxia because the demand of tissues exceed the supply available.

Tachycardia

Tac-heart-card

Tachycardia manifests as the body attempts to increase cardiac output to circulate oxygenated blood more frequently.

Hypertension

Hiker-BP

In initial stages of hypoxia tachycardia often causes increased blood pressure or hypertension. However, as hypoxia is sustained, compensatory mechanisms often cannot be sustained and blood pressure can become very low. Blood pressure changes are not a good indicator of hypoxia.

Arrhythmias

Broken Arrhythmia-drum

The heart is very sensitive to low oxygen levels because it has a high extraction percentage of oxygen from the blood. When oxygenation decreases slightly, the cardiac muscle can be immediately affected. This can occur in early stages, as well as late stages. Sustained hypoxia can lead to lethal

arrhythmias.

Decreased Urine Output

Down-arrow Urinal

Compensatory changes in the kidneys can lead to decreased urine output, especially in hypovolemic states.

Unexplained Fatigue

Question-mark Sleepy-guy

A feeling of extreme tiredness can occur as decreased oxygenation to tissues causes decreased cellular function. This may occur as an early or late symptom.