

National Research Tomsk Polytechnic  
University

# PULSE OXIMETRY

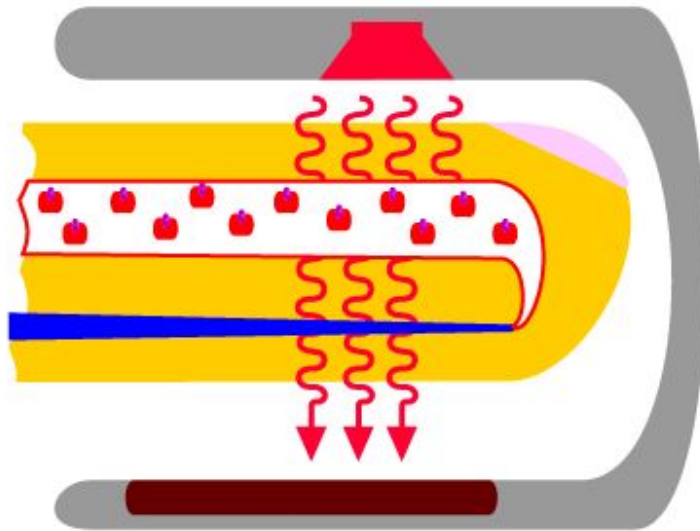


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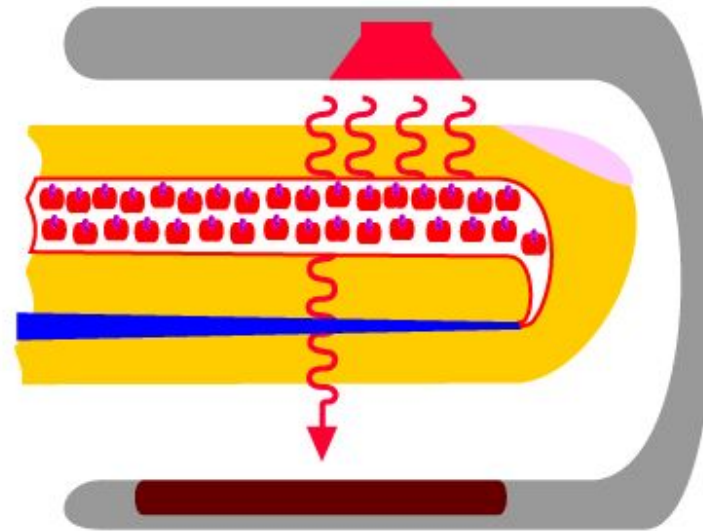
# THE SPURIOUS MEASUREMENTS CAME FROM TWO PULSE OXIMETERS IN WARM WATER, BUT FROM ALL SIX IN COLD WATER

low concentration



low absorption

high concentration



high absorption



**THE SYNDROME OF OBSTRUCTIVE SLEEP APNEA (OSA) IS A COMMON DISEASE IN WHICH THE RESPIRATORY TRACT IS FALLING IN A DREAM, STOPPING OR SUDDEN WEAKENING OF BREATHING - AND AS A RESULT, VARIOUS METABOLIC AND VASCULAR DISORDERS CAN DEVELOP.**



**OXIMETRY RESULTS CLASSIFIED  
16 PATIENTS AS POSITIVE, 43 AS  
NEGATIVE, AND 71 AS  
INCONCLUSIVE.**

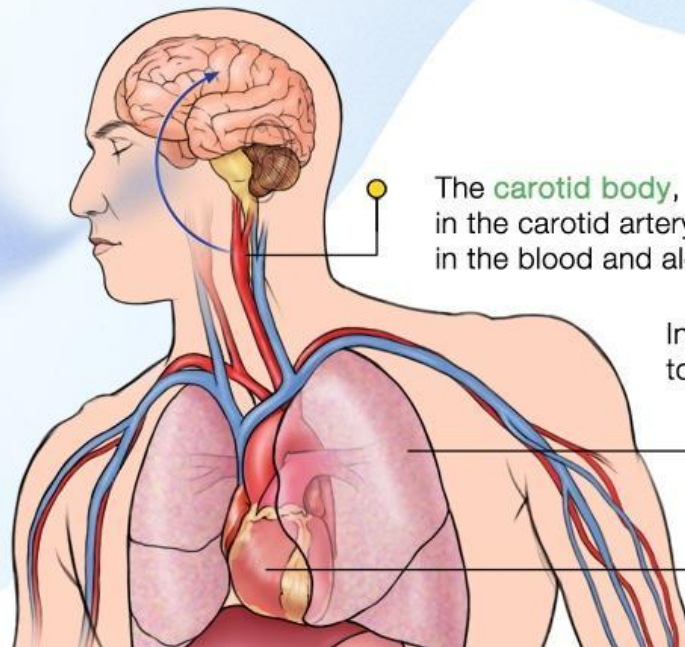


# PULSE OXIMETERS ARE ROUTINELY USED IN SEVERELY ILL PATIENTS TO DETECT HYPOXEMIA EARLY

## Effects of Hypoxia (hi-pok'se-ah)

: a condition in which the body as a whole or a region of the body is deprived of adequate oxygen supply.  
/hy-pox-ia/ - noun

Low oxygen pressure at high altitude



The **carotid body**, a cluster of specialized cells in the carotid artery, detects low oxygen levels in the blood and alerts the brain.

In response, the **brain** sends signals to the rest of the body to...

- increase breathing rate and constrict vessels in the **lung**
- increase **heart** rate



**Thank you for  
attention!**

