Medicine Prize 2019

How cells adapt to oxygen availability
The Nobel Prize in Physiology or Medicine

“the person who shall have made the most important discovery within the domain of physiology or medicine”
Who is rewarded with the Medicine Prize?

People who have either made a discovery about how organisms work or have helped find a cure for a disease.
What happens in cells if they receive too much or too little oxygen?
The Nobel Laureates

“for their discoveries of how cells sense and adapt to oxygen availability”

William G. Kaelin Jr
Born: 1957, USA

Sir Peter J. Ratcliffe
Born: 1954, United Kingdom

Gregg L. Semenza
Born: 1956, USA
All cells in the body need oxygen

Just as a candle needs oxygen in order to burn, cells in the body need oxygen to order to live.
Transporting oxygen through the body

Red blood cells transport oxygen to all of the cells in our body.
Variations in oxygen availability lead to adaptation

The body must adapt quickly if oxygen levels change inside the body, or in the atmosphere.
The benefit

The Nobel Laureates’ discoveries have given us new knowledge about human physiology – that is, how our organs and tissues function.
“We make knowledge. That’s what I do.”

Sir Peter J. Ratcliffe, 2019 Nobel Laureate
FOR THE GREATEST BENEFIT TO HUMANKIND

Nobel Prize Lessons