

Oxygen: Why We Can't Live Without It

The act of breathing is so important for life that we do it without thinking. But just what is happening inside of us when we breath – and when we stop breathing?

A Simple View of Our Complex Bodies

Our bodies are a complex system that we often take for granted because they normally work so well with proper diet and regular exercise. Those of us who aren't trained in medicine may be curious about how our bodies function but are baffled by medical terms that aren't easy to understand. A simple comparison to cars can provide some insight into how our bodies work:

Cars	Our Bodies
...burn gasoline to generate the power and move the wheels	...burn nutrients to make our legs and other organs work
...need oxygen to burn gasoline	...need oxygen to <i>burn</i> nutrients
...need to exhaust toxic carbon monoxide fumes from spent gasoline	...need to get rid of toxic carbon dioxide from spent nutrients

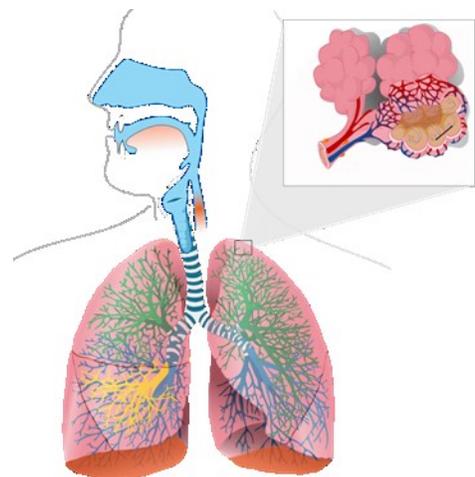
Rather than using a separate exhaust system to get rid of toxic material like a car does, our bodies rely upon our lungs and blood vessels to get oxygen into our blood and carbon dioxide out of our blood.

Our Lungs

Our lungs are like two large balloons that sit on either side of our heart. Ingeniously folded and lined with countless blood vessels, our lungs are uniquely designed to exchange oxygen for carbon dioxide with every breath we take.

When we breathe in, our lungs partially inflate with air that contains about 21% of oxygen. This oxygen passes from our lungs into our blood where it is then pumped by our heart throughout our bodies.

The oxygen in our blood is used to help power all our organs from our skin to our brain. When our organs use oxygen, they produce carbon dioxide that is put into our blood.



Before we breathe out, carbon dioxide passes from our blood back into our lungs. When we breathe out, the carbon dioxide is expelled from our bodies and the lungs are ready for the next breath in.

Breathing Emergencies

Breathing emergencies can interrupt the normal ebb and flow of oxygen into our blood and removal of carbon dioxide from our blood. **Over 7 million breathing emergencies occur every year** in the United States for many reasons from health issues to accidents. Every day in the United States:

- 10 people die from drowningⁱ
- 11 people die from asthmaⁱⁱ
- 200 people die due to opioid overdoseⁱⁱⁱ
- 800 people die from cardiac arrest^{iv}

During breathing emergencies, the amount of oxygen in our blood and organs can quickly drop to dangerously low levels. Lacking oxygen, our brains can become confused in less than 1 minute and we can fall into a coma or die within 10 to 15 minutes.

The rapid delivery of oxygen by a bystander can help provide basic medical support before professional emergency medical services (EMS) arrive on the scene. In cases of opioid overdose, delivery of oxygen before paramedics administer medication has been shown to help protect the lung from acute injury.^v

Fortunately, life-saving oxygen can now be delivered when needed by [the R15™ portable emergency oxygen device](#). Cleared by the Food and Drug Administration (FDA) for use by any untrained bystander, the R15 device can be placed in public spaces like schools and malls so bystanders can quickly and safely help a victim of a breathing emergency until EMS arrives on scene.

Our bodies are wondrous marvels of nature that can quickly be harmed during a breathing emergency. Thanks to the R15 device, we don't need special medical training to help family, friends and strangers who are victims of breathing emergencies.

To read more articles like this one please visit
<https://rapidoxygen.com/white-papers>

ⁱ Drowning Statistics, The World's Largest Swimming Lesson, [online 28Mar19>

https://www.wsl.org/WLSL/The_Event/Drowning_Data/WLSL/Drowning_Data.aspx

ⁱⁱ Asthma Statistics, AsthmaMD, [online 28Mar19> <http://www.asthamd.org/asthma-statistics/>

ⁱⁱⁱ Overdose Death Rates, National Institute on Drug Abuse, [online 28Mar19> <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

^{iv} Sudden Cardiac Death, Cleveland Clinic, [online 28Mar19> <https://my.clevelandclinic.org/health/diseases/17522-sudden-cardiac-death-sudden-cardiac-arrest>

^v SAMHSA Opioid Overdose Prevention TOOLKIT, p4 [online 28Mar19>

<https://store.samhsa.gov/system/files/sma18-4742.pdf>