BetterSafe

WELCOA'S ONLINE BULLETIN FOR YOUR FAMILY'S SAFETY

Beyond Hangovers

Alcohol & Its Effect on Your Brain

A brightly colored cosmopolitan is the drink of choice for the glamorous characters in Sex and the City. James Bond depends on his famous martini—shaken, not stirred—to unwind with after confounding a villain. And what wedding concludes without a champagne toast?

Alcohol is part of our culture—it helps us celebrate and socialize, and it enhances our religious ceremonies. But drinking too much—on a single occasion or over time—can have serious consequences for our health. Most Americans recognize that drinking too much can lead to accidents and dependence. But that's only part of the story. In addition to these serious problems, alcohol abuse can damage organs, weaken the immune system, and contribute to cancers. Plus, much like smoking, alcohol affects different people differently. Genes, environment, and even diet can play a role in whether you develop an alcohol-related disease. On the flip side, some people actually may benefit from drinking alcohol in small quantities. Sound complicated? It sure can be. To stay healthy, and to decide what role alcohol should play in your life, you need accurate, up-to-date information.

A Little Goes a Long Way: Know the Amounts

Knowing how much alcohol constitutes a "standard" drink can help you determine how much you are drinking and understand the risks. One standard drink contains about 0.6 fluid ounces or 14 grams of pure alcohol. In more familiar terms, the following amounts constitute one standard drink:

- 12 fluid ounces of beer (about 5% alcohol)
- 8 to 9 fluid ounces of malt liquor (about 7% alcohol)
- 5 fluid ounces of table wine (about 12% alcohol)
- 1.5 fluid ounces of hard liquor (about 40% alcohol)

Research demonstrates "low-risk" drinking levels for men are no more than 4 drinks on any single day AND no more than 14 drinks per week. For women, "low-risk" drinking levels are no more than three drinks on any single day AND no more than seven drinks per week. To stay low-risk, you must keep within both the single-day and weekly limits.

Even within these limits, you can have problems if you drink too quickly, have health conditions, or are over age 65. Older adults should have no more than three drinks on any day and no more than seven drinks per week.

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Based on your health and how alcohol affects you, you may need to drink less or not at all. People who should abstain from alcohol completely include those who:

- Plan to drive a vehicle or operate machinery
- Are pregnant or trying to become pregnant
- Take medications that interact with alcohol
- Have a medical condition that alcohol can aggravate

What Happens Inside The Brain?

Most people do not realize how extensively alcohol can affect the brain. But recognizing these potential consequences will help you make better decisions about what amount of alcohol is appropriate for you.

The brain's structure is complex. It includes multiple systems that interact to support all of your body's functions—from thinking to breathing and moving.

These multiple brain systems communicate with each other through about a trillion tiny nerve cells called neurons. Neurons in the brain translate information into electrical and chemical signals the brain can understand. They also send messages from the brain to the rest of the body.

Chemicals called neurotransmitters carry messages between the neurons. Neurotransmitters can be very powerful. Depending on the type and the amount of neurotransmitter, these chemicals can either intensify or minimize your body's responses, your feelings, and your mood. The brain works to balance the neurotransmitters that speed things up with the ones that slow things down to keep your body operating at the right pace.

Alcohol can slow the pace of communication between neurotransmitters in the brain.

Alcohol Shrinks and Disturbs Brain Tissue

Heavy alcohol consumption—even on a single occasion—can throw the delicate balance of neurotransmitters off course. Alcohol can cause your neurotransmitters to relay information too slowly, so you feel extremely drowsy. Alcohol-related disruptions to the neurotransmitter balance also can trigger mood and behavioral changes, including depression, agitation, memory loss, and even seizures.

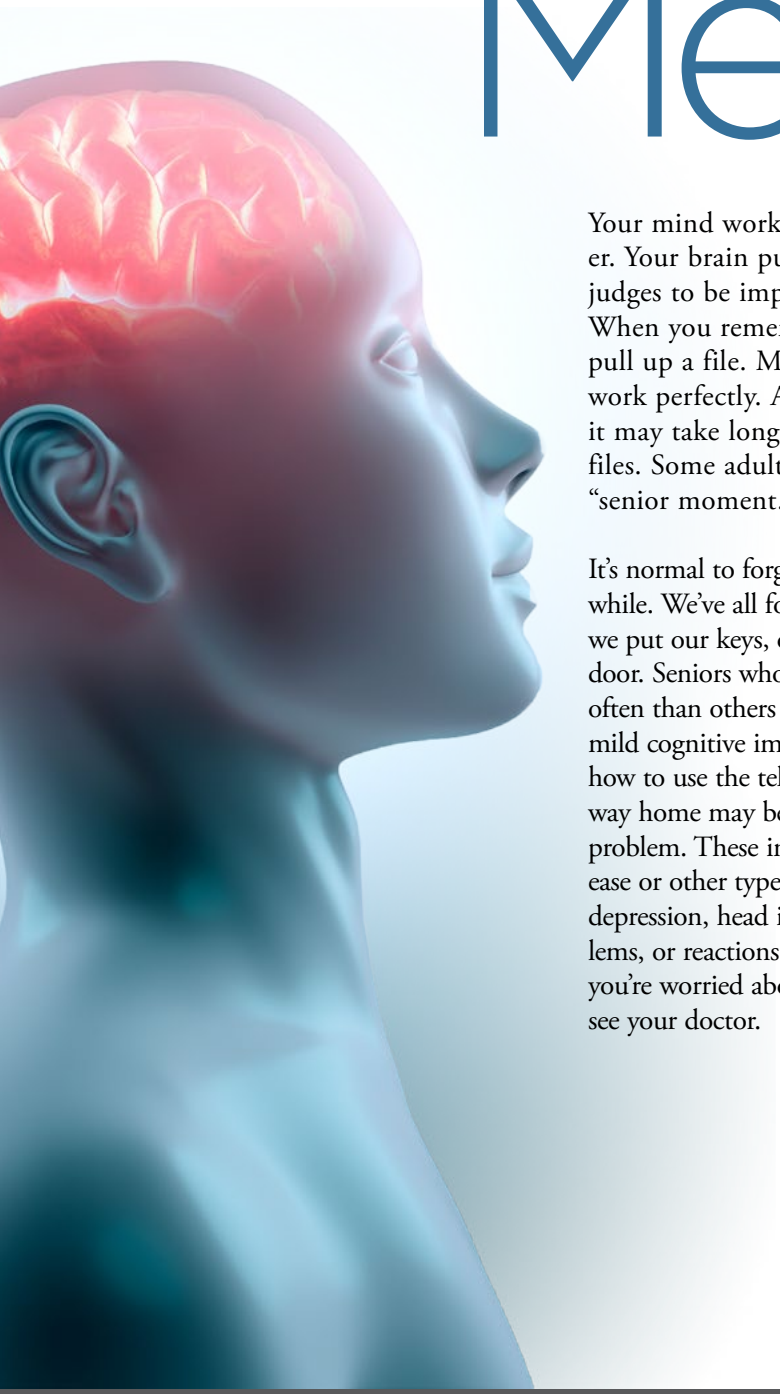
Long-term, heavy drinking causes alterations in the neurons, such as reductions in the size of brain cells. As a result of these and other changes, brain mass shrinks and the brain's inner cavity grows bigger. These changes may affect a wide range of abilities, including motor coordination; temperature regulation; sleep; mood; and various cognitive functions, including learning and memory.

One neurotransmitter particularly susceptible to even small amounts of alcohol is called glutamate. Among other things, glutamate affects memory. Researchers believe that alcohol interferes with glutamate action, and this may be what causes some people to temporarily "black out," or forget much of what happened during a night of heavy drinking.

Alcohol also causes an increased release of serotonin, another neurotransmitter, which helps regulate emotional expression, and endorphins, which are natural substances that may spark feelings of relaxation and euphoria as intoxication sets in. Researchers now understand that the brain tries to compensate for these disruptions. Neurotransmitters adapt to create balance in the brain despite the presence of alcohol. But making these adaptations can have negative results, including building alcohol tolerance, developing alcohol dependence, and experiencing alcohol withdrawal symptoms.

DayInDayOut
WELCOA'S ONLINE BULLETIN FOR YOUR LIFESTYLE

Is Fat Chewing Away at Your Memory?



Your mind works a lot like a computer. Your brain puts information it judges to be important into "files." When you remember something, you pull up a file. Memory doesn't always work perfectly. As people grow older, it may take longer to retrieve those files. Some adults joke about having a "senior moment."

It's normal to forget things once in a while. We've all forgotten a name, where we put our keys, or if we locked the front door. Seniors who forget things more often than others their age may have mild cognitive impairment. Forgetting how to use the telephone or find your way home may be signs of a more serious problem. These include Alzheimer's disease or other types of dementia, stroke, depression, head injuries, thyroid problems, or reactions to certain medicines. If you're worried about your forgetfulness, see your doctor.

The Possible Link Between Trans Fat & Your Memory

The trans fats found in your favorite junk foods aren't just clogging your arteries: New research shows they might also be messing with your memory.

Young and middle-aged men who ate large amounts of trans fats exhibited a significantly reduced ability to recall words during a memory test, according to findings at the American Heart Association's annual meeting in Chicago.

Men with the most trans fats in their diet suffered as much as a 10 percent reduction in the words they could recall, the study found.

What are Trans Fats?

Trans fats are a type of dietary fat that has been shown to both increase blood levels of LDL ("bad") cholesterol and decrease levels of HDL ("good") cholesterol.

Small levels of trans fats naturally occur in milk and meat products, but artificially created trans fats like partially hydrogenated oils are widely used in processed foods, fast food, baked goods, snack foods, frozen pizza and coffee creamers.

DayInDayOut

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The researchers studied adults who had not been diagnosed with heart disease, including slightly more than 1,000 men aged 20 or older.

Participants completed a dietary questionnaire, from which the investigators estimated their trans fat consumption.

To assess memory, researchers used a proven test called "recurrent words." They presented participants with a series of 104 cards with a word on each. Participants had to state whether each word was new or had already appeared on a prior card.

What did the Study Find?

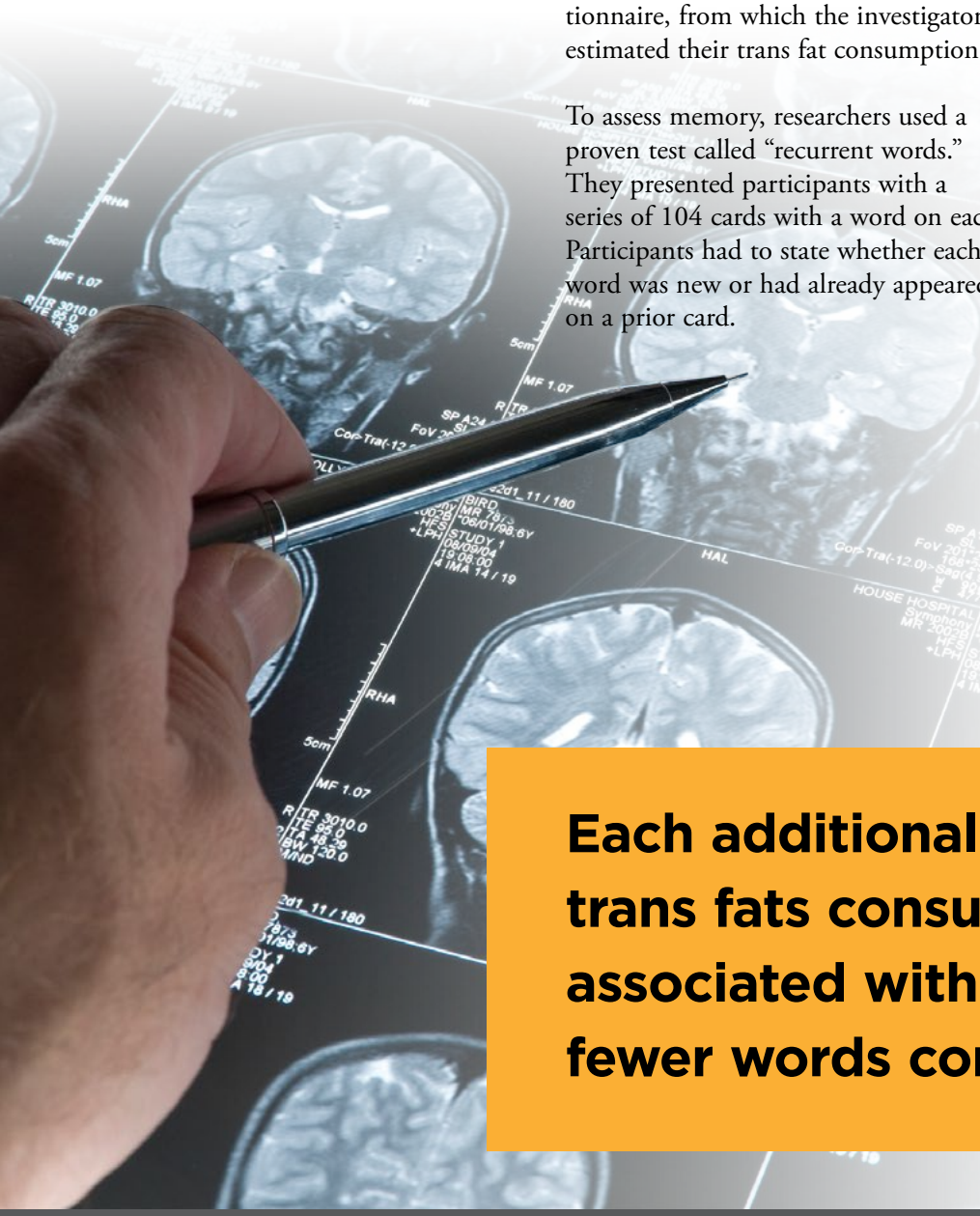
The researchers found that among men younger than 45, those who ate more trans fats showed notably worse performance on the word memory test, even after taking into account factors such as age, education, ethnicity and depression.

Each additional gram a day of trans fats consumed was associated with an estimated 0.76 fewer words correctly recalled.

The researchers hypothesize that the oxidizing effects of trans fats may cause brain cells important to memory to die off. Oxidative stress has been associated with diseases such as heart disease and cancer.

The scientists added that at the same time, the energy-sapping effects of the trans fats may make brain cells more sluggish and less responsive.

The scientists did point out that the study only shows an association between trans fats and memory, not a direct cause-and-effect relationship.



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TakeCharge

WELCOA'S ONLINE SELF-CARE BULLETIN

MORE THAN A SNORE

A Look at Sleep Apnea

Sleep apnea (AP-ne-ah) is a common disorder in which you have one or more pauses in breathing or shallow breaths while you sleep.

Breathing pauses can last from a few seconds to minutes. They may occur 30 times or more an hour. Typically, normal breathing then starts again, sometimes with a loud snort or choking sound.

Sleep apnea usually is a chronic (ongoing) condition that disrupts your sleep. When your breathing pauses or becomes shallow, you'll often move out of deep sleep and into light sleep.

As a result, the quality of your sleep is poor, which makes you tired during the day. Sleep apnea is a leading cause of excessive daytime sleepiness.

Detecting & Diagnosing Sleep Apnea

Sleep apnea often goes undiagnosed. Doctors usually can't detect the condition during routine office visits. Also, no blood test can help diagnose the condition.

Most people who have sleep apnea don't know they have it because it only occurs during sleep. A family member or bed partner might be the first to notice signs of sleep apnea.

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The most common type of sleep apnea is obstructive sleep apnea. In this condition, the airway collapses or becomes blocked during sleep. This causes shallow breathing or breathing pauses.

When you try to breathe, any air that squeezes past the blockage can cause loud snoring. Obstructive sleep apnea is more common in people who are overweight, but it can affect anyone. For example, small children who have enlarged tonsil tissues in their throats may have obstructive sleep apnea.

Major Signs and Symptoms

One of the most common signs of obstructive sleep apnea is loud and chronic (ongoing) snoring. Pauses may occur in the snoring. Choking or gasping may follow the pauses.

The snoring usually is loudest when you sleep on your back; it might be less noisy when you turn on your side. You might not snore every night. Over time, however, the snoring can happen more often and get louder.

You're asleep when the snoring or gasping happens. You likely won't know that you're having problems breathing or be able to judge how severe the problem is. A family member or bed partner often will notice these problems before you do.

Not everyone who snores has sleep apnea.

Another common sign of sleep apnea is fighting sleepiness during the day, at work, or while driving. You may find yourself rapidly falling asleep during the quiet moments of the day when you're not active. Even if you don't have daytime sleepiness, talk with your doctor if you have problems breathing during sleep.

Central sleep apnea is a less common type of sleep apnea. This disorder occurs if the area of your brain that controls your breathing doesn't send the correct signals to your breathing muscles. As a result, you'll make no effort to breathe for brief periods.

Central sleep apnea can affect anyone. However, it's more common in people who have certain medical conditions or use certain medicines.

Central sleep apnea can occur with obstructive sleep apnea or alone. Snoring typically doesn't happen with central sleep apnea.

This article mainly focuses on obstructive sleep apnea.

Who Is at Risk for Sleep Apnea?

Obstructive sleep apnea is a common condition. About half of the people who have this condition are overweight.

Men are more likely than women to have sleep apnea. Although the condition can occur at any age, the risk increases as you get older. A family history of sleep apnea also increases your risk for the condition.

People who have small airways in their noses, throats, or mouths are more likely to have sleep apnea. Small airways might be due to the shape of these structures or allergies or other conditions that cause congestion.

Small children might have enlarged tonsil tissues in their throats. Enlarged tonsil tissues raise a child's risk for sleep apnea. Overweight children also might be at increased risk for sleep apnea.

Race and ethnicity might play a role in the risk of developing sleep apnea. However, more research is needed.

To Your Health

WELCOA'S ONLINE GENERAL WELLNESS BULLETIN

A Clear Look at Your Lungs

An Organ that is Vital to Your Life

Your lungs are organs in your chest that allow your body to take in oxygen from the air. They also help remove carbon dioxide (a waste gas that can be toxic) from your body.

The lungs' intake of oxygen and removal of carbon dioxide is called gas exchange. Gas exchange is part of breathing. Breathing is a vital function of life; it helps your body work properly.

The respiratory system is made up of organs and tissues that help you breathe. The main parts of this system are the airways, the lungs and linked blood vessels, and the muscles that enable breathing.

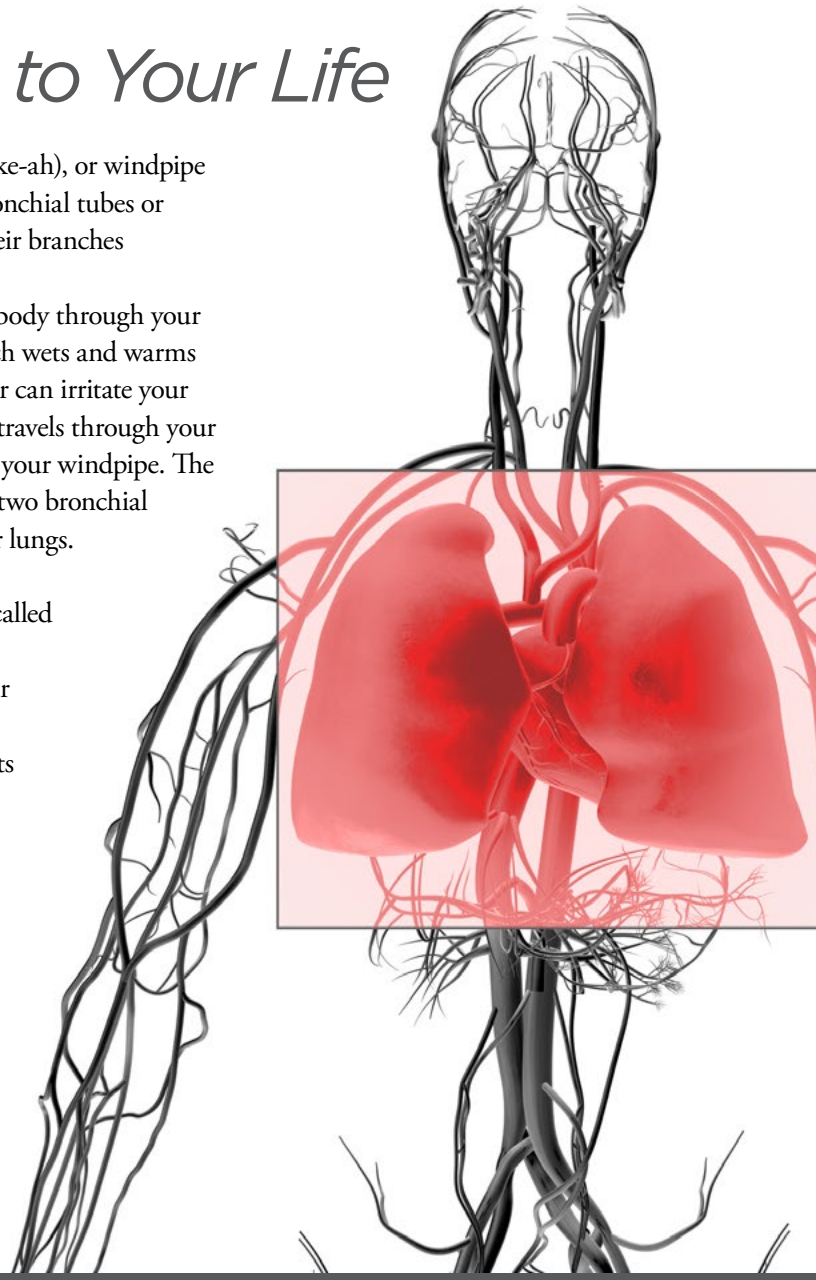
Your Airways

The airways are pipes that carry oxygen-rich air to your lungs. They also carry carbon dioxide, a waste gas, out of your lungs. The airways include your:

- Nose and linked air passages (called nasal cavities)
- Mouth
- Larynx (LAR-ingks), or voice box
- Trachea (TRA-ke-ah), or windpipe
- Tubes called bronchial tubes or bronchi, and their branches

Air first enters your body through your nose or mouth, which wets and warms the air. (Cold, dry air can irritate your lungs.) The air then travels through your voice box and down your windpipe. The windpipe splits into two bronchial tubes that enter your lungs.

A thin flap of tissue called the epiglottis (ep-ih-GLOT-is) covers your windpipe when you swallow. This prevents food and drink from entering the air passages that lead to your lungs.



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Except for the mouth and some parts of the nose, all of the airways have special hairs called cilia (SIL-e-ah) that are coated with sticky mucus. The cilia trap germs and other foreign particles that enter your airways when you breathe in air.

These fine hairs then sweep the particles up to the nose or mouth. From there, they're swallowed, coughed, or sneezed out of the body. Nose hairs and mouth saliva also trap particles and germs.

Muscles Used for Breathing

Muscles near the lungs help expand and contract (tighten) the lungs to allow breathing. These muscles include the:

- Diaphragm (DI-ah-fram)
- Intercostal muscles
- Abdominal muscles
- Muscles in the neck and collarbone area

The diaphragm is a dome-shaped muscle located below your lungs. It separates the chest cavity from the abdominal cavity. The diaphragm is the main muscle used for breathing.

The intercostal muscles are located between your ribs. They also play a major role in helping you breathe.

Beneath your diaphragm are abdominal muscles. They help you breathe out when you're breathing fast (for example, during physical activity).

Muscles in your neck and collarbone area help you breathe in when other muscles involved in breathing don't work well, or when lung disease impairs your breathing.

Lungs and Blood Vessels

Your lungs and linked blood vessels deliver oxygen to your body and remove carbon dioxide from your body. Your lungs lie on either side of your breastbone and fill the inside of your chest cavity. Your left lung is slightly smaller than your right lung to allow room for your heart.

Within the lungs, your bronchi branch into thousands of smaller, thinner tubes called bronchioles. These tubes end in bunches of tiny round air sacs called alveoli (al-VEE-uhl-eye).

Each of these air sacs is covered in a mesh of tiny blood vessels called capillaries. The capillaries connect to a network of arteries and veins that move blood through your body.

The pulmonary (PULL-mun-ary) artery and its branches deliver blood rich in carbon dioxide (and lacking in oxygen) to the capillaries that surround the air sacs. Inside the air sacs, carbon dioxide moves from the blood into the air. At the same time, oxygen moves from the air into the blood in the capillaries.

The oxygen-rich blood then travels to the heart through the pulmonary vein and its branches. The heart pumps the oxygen-rich blood out to the body.

The lungs are divided into five main sections called lobes. Some people need to have a diseased lung lobe removed. However, they can still breathe well using the rest of their lung lobes.