

## Our Health and Bodies

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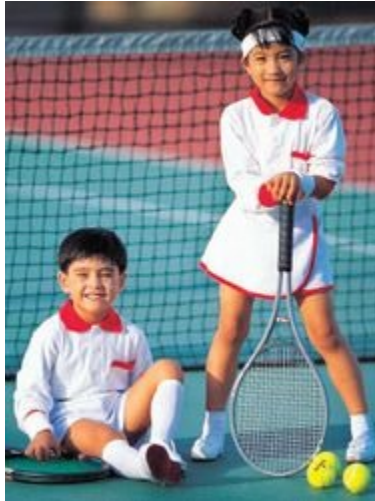
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# Game On!

Ready, Set, Go!

Scientists are keeping score on how many sports to play.



Jupiter Unlimited

Grab your tennis racket, bicycle, and soccer ball too! A study finds that playing more than one sport may be better for you than playing just one.

Scientists studied more than 500 kids who play tennis. Most of the kids began playing the sport around age 6. They practice for 16 to 20 hours each week. The scientists found that the kids who play more than one kind of sport are less likely to be **injured**. To be injured is to be hurt.



SW Production

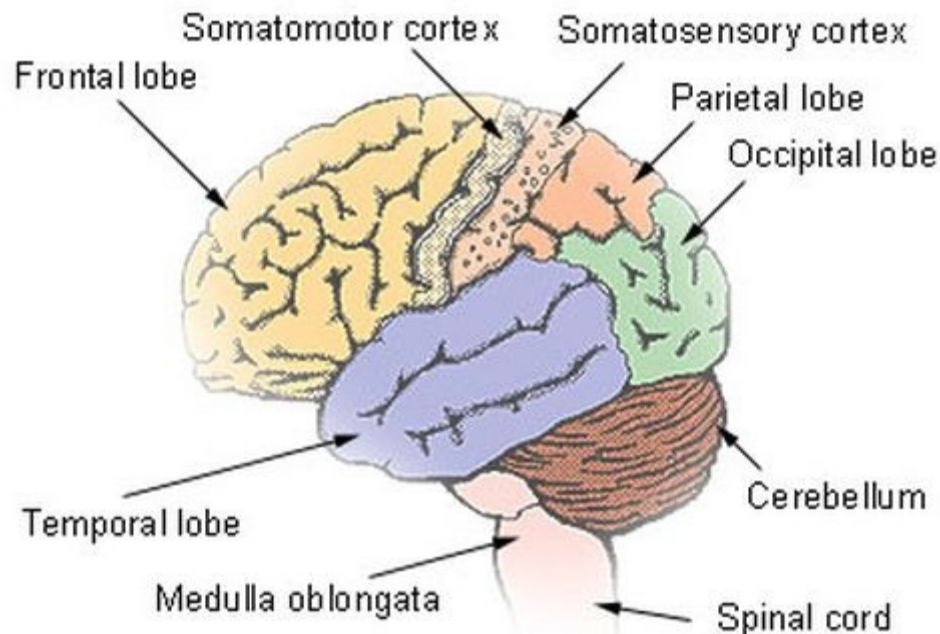
Why is playing more than one sport good for you? Each sport uses different muscle groups. Playing only one sport can put too much **strain** on the same muscle groups. Strain is the overuse of a body part. If you play tennis, you swing a tennis racket. That puts a lot of strain on your arm. If you switch to soccer, you give your arm a rest.



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The study was led by Dr. Neeru Jayanthi of Loyola University's Stritch School of Medicine. He gives this advice to kids: "Play lots of different types of sports to make sure you have fun. It might make it less likely that you'd get hurt."

## Focus: What's Inside



### Lobes of the cerebrum

Why is the brain so mighty? It has billions of *neurons* (nerve cells) to carry out its commands. Without the brain, you would not be able to think, feel, move, remember, or do all the things that make you the special person you are.

At birth, the brains of infants weigh the same. But by adulthood, that changes. The average male brain weighs about 11 to 12 percent more than a woman's brain. But brain weight and size have nothing to do with intelligence. What matters is what's *inside* the brain.

Despite its small size (about 3 pounds), the brain is able to receive and send an unlimited number of messages. It does this with the help of the spinal cord, the sense organs, and the autonomic (automatic) nervous system. The brain carries out this task by assigning jobs.

- It puts the *cerebellum* (sair-ah-BELL-um) in charge of balance and coordination.
- The *brainstem* regulates heartbeat, breathing, and blood pressure.
- And the largest parts of the brain, the *cerebral cortex* (suh-REE-brul CORE-tex) and the *cerebrum* (suh-REE-brum), control thoughts, feelings, and actions.

The cerebrum is divided into two halves. Each controls the muscles on the opposite side of the body. So if you usually eat with your right hand and kick with your right foot, then your

brain's left half is said to "dominate," and you're right-handed. When the opposite is true, your brain's right half takes the lead and you're left-handed.

People use both halves of the brain, but the left half is especially good at helping you with words and numbers and helping you read and speak. The right side is better at creative tasks, such as music and art. And your sense of humor develops there.

Each half has four sets of lobes (sections). The *frontal lobes* behind your forehead do a lot of the thinking and planning. The *parietal* (pa-RYE-ih-tul) *lobes* toward the back of your head sense pain. And the *occipital* (ock-SIP-ah-tul) *lobes* at the base of the brain allow you to see. The *temporal lobes* behind your ears store memories of music, taste, vision, and touch.

# It Feels Good to Laugh

by Eric Messinger

## No joke: Laughter is good for you.

At age 11 in sixth grade, Jason was a very good student and an accomplished athlete. But one of his favorite talents had nothing to do with either school or sports: He loved to tell jokes.

"If the red house is made out of red bricks, and the blue house is made out of blue bricks, what's the green house made out of?" he asked me.

"Green?" I wondered aloud, sensing that it was probably a wrong answer.

"Glass!" he responded. "Get it? It's a greenhouse, with plants and everything."

Jason told all kinds of jokes, from silly ones with stupid punch lines to others that had clever wordplays. "I like to make my friends laugh," he said, "and sometimes I like telling jokes because it makes people feel better, like if someone's a little sad."

Jason may even be a better friend than he realized. Making people laugh not only improves moods but may also improve health. Several studies have found that laughter has a positive effect. A good laugh boosts the *cardiovascular system*. That's your heart and blood. It also helps the *immune system*, your disease fighters. Laughter may even help you withstand pain.

## Health Screenings

Dr. Michael Miller has been studying laughter's influence on the heart and blood system. He teaches at the University of Maryland School of Medicine. In one of his studies, Miller had people watch two movies. One movie was very serious. The second was very silly. He then measured how much their blood vessels expanded after watching each kind of movie.



That is important information to know. When a blood vessel expands, it's often a sign that certain chemicals are being released into the blood. Those chemicals help a person maintain a healthy heart. They prevent blood from clotting where it shouldn't and arteries from becoming clogged with *plaque*. That's a sticky substance that can build up on artery walls.

Miller found that when people watched a funny movie, their blood vessels expanded and blood flow increased. How much? As much as it would have if they had gone to the gym for a 15- to 30-minute workout.

"Laughter should not replace exercise, but it certainly should be part of a healthy lifestyle," says Miller. "Everyone should try to get a good laugh in every day."

## Laugh to Feel Better

Like a multivitamin, laughter brings a range of health benefits into your daily life. Laughing boosts your immune system. Just look at the work of Dr. Lee Berk, of Loma Linda University in California. He is, by the way, a friend of Hunter "Patch" Adams's. If that name sounds familiar, it's because Adams is a funny doctor who became so famous that a movie was made about him. His interactions with his patients were like comedy routines.

Berk doesn't do bedside standup, but he does research humor. He has shown that laughing can lead to an increase in antibodies and other cells that fight bacteria, viruses, and other body "invaders."

Other studies show that laughter might be helpful for people in hospitals. An organization called Rx Laughter (*Rx* is the medical abbreviation for "prescription") sponsored a study about humor in the hospital. The results suggest that laughter might help children deal with painful medical treatments.

The study involved children between the ages of 8 and 14. The kids placed their hands in cold water for as long as they could while watching funny old TV shows, such as *I Love Lucy*.

Guess what happened? The kids were able to withstand pain for a longer period of time when they were watching a funny video than when watching no video. Those who laughed more felt less pain.

"This means that humor can distract you from thinking about a painful procedure but also has the potential to make it seem less painful," says Dr. Margaret Stuber, the main researcher for

the study. She works at the University of California at Los Angeles.

## Good Humor

As Stuber also points out, an "injection" of humor may even be good for your emotional health. Physical and emotional health are connected. "If you can say to yourself that [a medical treatment] wasn't as bad as you thought it would be, then you're less likely to have nightmares, fears about going to the doctor, and other related anxieties," she says.

No one is saying that laughter can cure a horrible disease. But given how much anxiety health problems can cause, researchers like Stuber are looking closer at laughter. They think laughter can almost always play a helpful role in someone's medical treatment. "Humor ... allows you to take a step back and relax," she says.

## You Think You're Funny?

Some people seem funnier than others. But you know what? Most people can improve their sense of humor with a little practice. How? Here are some tips.

- **Look for humor all around you.** Sometimes it is obvious, such as the jokes people tell. Other things are not necessarily intended to be funny but can be if you look at them in a slightly different way. Funny things can include newspaper headlines or something someone says that could be interpreted more than one way.
- **At dinnertime, share the funny things you observed or heard during the day with the rest of your family.**
- **Set up a humor center at home,** such as a bulletin board or the refrigerator, where you can post funny things you want to share.
- **Read a joke book.**
- **If something makes you laugh, think about what would have made it even funnier.**
- **Take photographs or pictures from magazines and make up your own funny captions.**
- **Hang around with people you think are very funny.**

The tips are from Louis Franzini. He's the author of *Kids Who Laugh: How to Develop Your Child's Sense of Humor*.



# Beating the Winter Blues

Does your mood change with the seasons?

Some people find that when the temperature goes down, so do their spirits. Those people sometimes feel sad for no reason. They eat more and gain weight. They have trouble sleeping. They can't think clearly.

Here are some ways you can beat the winter blues:

- Get out in the sun. Some experts say that winter blues happen because we get less sunlight in the winter than we do in other seasons. Some say that the decrease in sunlight can make us feel sad. Getting extra sunlight each day can help brighten your mood.
- Get some exercise. A brisk walk or other exercise will make chemicals called endorphins flow through your body. Endorphins are natural "feel good" chemicals.
- Eat more healthful foods. Avoid having too much sugar. If you crave sugary foods (like cookies or candy), it may be a sign that you need more protein (like meat, chicken, or fish).
- Avoid holiday stress. Cut back if you have too many things to do. Make sure you have some quiet time to yourself. Get some rest. Don't be so busy that you get run-down. Studies show that most teens need about nine hours of sleep each night. The average teen, though, gets only about six or seven hours of sleep per night.
- Get help. If you feel sad all the time and the feeling won't go away, you may have a bigger problem than the winter blues. Talk to an adult you trust. Get help from a doctor.

# Menacing Meningitis

by Guy Falotico



Courtesy of Lauren Leeber

You wouldn't know it now, but Lauren Leeber of New York was once very sick. She got sent home from day care on the day before Halloween, and by the next day, she was in the hospital with a type of the disease called *meningitis*, fighting for her life. It got so bad that she lost a hand, some fingers, and parts of her legs. Later, she needed a new kidney.

Although it's been years since Lauren came down with meningitis, she recalls enough from that time to know that what she went through was very difficult. "I would not wish meningitis on my worst enemy," she says.

## What Is It?

Meningitis is a disease that involves swelling of the meninges, which are tissues that cover your brain and spinal cord. The disease can be *contagious*. That means it can be passed from infected people to others. Meningitis can spread through contact with fluids from an infected person's mouth or throat. For example, you may get the disease if an infected person coughs or sneezes on or close to you.

Meningitis is hard to diagnose because its early symptoms are similar to those of the flu. They

include fever, headache, stiff neck, and throwing up. Rashes are also common. But if meningitis is not picked up on by a doctor quickly, serious problems—even death—can occur in just a few hours.

When meningitis is caught early enough, people have a greater chance of beating it. For example, take Kaeley Hamilton, of Florida, who was 8 when she got sick with meningitis.

"I had all the typical symptoms of the flu, but the fever was really high and made my mom nervous, so we went to the doctor," recalls Hamilton. "They caught the meningitis early."

There are different types of meningitis, but two types are more common. One, *viral meningitis*, is caused by a virus. There is no medicine to treat most viral meningitis cases, but viral meningitis is usually not as severe as the other common type. People sick with viral meningitis usually get better on their own. *Bacterial meningitis* is the more dangerous form, especially when it is caused by bacteria called *meningococcus*. It is treated with antibiotics. But those drugs can work only if the disease is caught early.

Meningococcal meningitis is rare. It strikes fewer than 5,000 Americans each year. Still, teens and young adults have a greater chance of getting the disease compared with many other people. That's because they are more often in crowded settings that can give this type of meningitis a chance to spread, such as schools, college dormitories, or summer camps.

Kayla St. Pierre, of Massachusetts, had meningococcal meningitis when she was 10. "One day I felt sluggish at school, and the nurse said I had the flu and sent me home," says St. Pierre. "The next morning I had a rash all over my body. I didn't know what it was, but my parents knew something was wrong, so we went to the emergency room."

Once she got there, they found out what was wrong. But the disease had already taken hold. Both of her legs needed to be *amputated*, or removed, at the knee. She lost a few fingers too. St. Pierre went through months of surgeries to repair the skin damage from the rash, and she was in physical therapy to strengthen her muscles.

About 15 percent of all of the people who survive meningococcal meningitis end up with other health problems, such as brain damage, kidney disease, or damaged arms and legs.

## Fighting Back

The good news is that meningococcal meningitis can be prevented with a vaccine. Health experts recommend that most people between the ages of 11 and 18 get the shot.

Not everyone should get vaccinated, however. Some people have allergies to the vaccine's ingredients. But for almost everyone else, the benefits of getting the vaccine far outweigh the risks.

"The most important message is to get vaccinated," says Dr. John Sinnott. He is an infectious disease specialist at the University of South Florida in Tampa. Vaccination against meningitis is "absolutely essential," he says, "and one of the greatest advances in medicine."

## Meningitis Signs

It can be hard to tell whether a person has meningitis. That's because the symptoms, or signs, of the disease can look similar to other illnesses. Meningitis symptoms are serious. They include:



Stiff neck



Headache



Fever



Light sensitivity



Drowsiness



Joint pain



Throwing up



Confusion



Rash

Jason Lee

## How to Protect Yourself

The best way to avoid meningitis is by getting the vaccine. Here are some other ways to try to keep from being infected.

- **Don't share water bottles**, drinking glasses, or eating utensils with friends.
- **Don't share lip balms** or lip glosses.
- **Wash your hands often**, especially before eating. Use warm water and soap, and lather for at least 20 seconds.
- **Eat healthy foods** for a strong immune system.
- **Get enough sleep each night** to help your immune system.

# What Is a Vaccine?

A vaccine is a shot that prevents a certain disease. It's made with very small parts of the germs it was created to fight. The vaccine teaches your body how to fight the disease for itself. Some types of vaccines need only one shot to protect you for the rest of your life. Other types, such as the one for seasonal flu, change from year to year and need to be given annually.



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## Couch Potato Central

In 2007, a report highlighted a "big" problem in the United States. People had been gaining weight-and they were getting larger at an alarming rate. According to the U.S. Centers for Disease Control and Prevention, approximately 100 million adults in the United States were **obese**, or severely overweight.

It wasn't just adults who had expanding waistlines. Over the previous 20 years, the percentage of overweight kids in the United States had doubled. When the report was released, about 25 million kids were overweight. That was one out of every three kids.



Chris Hondros/AFP/Getty Images

*Obesity became a serious dietary problem in the United States.*

Being overweight can lead to serious health problems, such as heart disease and diabetes, later in life. "Obesity...is now the most serious dietary problem affecting the health of American children," said nutrition expert Marion Nestle.

## Tipping the Scales

So why were so many people packing on the pounds? People gain weight when they take in

more **calories** than they use up through activity. A calorie is a measure of the amount of energy from food.

Exercise burns calories, but kids weren't moving as much as kids did in the past. Studies showed that kids were spending more time than ever before watching television, playing video games, and sitting at computers.

Some schools had also dropped recess in favor of more classroom time. Other schools had cut back on their physical education programs.

At the same time, portions at many fast-food restaurants had become supersized. In 1957, the average hamburger weighed 1 ounce and had 210 calories. In 2007, it had grown to 6 ounces and contained 618 calories.

Many people couldn't resist the larger portion sizes and had included more fries, burgers, and other fast foods in their diets. On average, it was estimated that an American kid ate a fast-food meal once every three days.

Megameals can't take all the blame. Kids are exposed to more than 10,000 television ads for candy, soft drinks, and other sugary snacks. Very few television ads promote healthful foods, such as fruits and vegetables.



Joe Raedle/Getty Images

*On average, an American kid ate a fast-food meal once every three days.*

## Battling the Bulge

To help fight the problem, the U.S. government has issued new guidelines for healthful eating. The guidelines recommend that kids exercise for at least 60 minutes a day and eat more fruits, vegetables, and whole grains.



Parents, schools, and health officials have also started to help kids battle the bulge. Even some fast-food restaurants have been working to make their meals more healthful.

Schools in California, Texas, and New York toughened their junk food policies. They have banned

soft drinks and other junk food. Candy and other sugary snacks in school vending machines have been replaced with more healthful choices, such as nuts, bottled water, and granola bars. Schools have also reworked their lunch programs to include more fruits and vegetables.

In addition, some schools have been motivating couch potatoes to get up and move. Those schools have found new ways of encouraging physical activity in students. In Hortonville, Wisconsin, gym classes have been teaching kids that exercise can be fun. Kids go in-line skating and dance to videos. One Hortonville school even raised money for a rock-climbing wall.

Are these fun programs working? Eleven-year-old Logan Beck from Wisconsin thinks so. He says that the mix of fun things makes him "more active."



USDA.gov

*Many schools have changed their lunch programs to include more fruits and vegetables.*