

HEALTH WISE

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Weather-Related Arthritis Symptoms: Medical Fact or Fiction?

Forty-six million Americans suffer from arthritis. Many feel that their arthritis pain is directly influenced by the weather.

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UNIVERSITY OF SOUTH CAROLINA
SCHOOL OF MEDICINE

The onset of cold weather or rain can be detected by joint pain—just ask a patient suffering from arthritis. Can medical science explain this mystery?

If you've ever had an eccentric family member predict the rain simply by the pain of an arthritic knee, you're probably not alone. As far as health-related myths go, there may not be one more infamous than the supposed connection between weather conditions and the onset of arthritic symptoms.

But from a scientific view, how does the theory hold up? According to Dr. James Fant, associate professor of medicine and director of rheumatology at the School of Medicine's University Specialty Clinics,

there appears to be a definite connection. "It's one of the most common questions that patients will ask," said Fant. "At first I doubted it because there was not a lot of scientific evidence to support the correlation between arthritic symptoms and the weather. But I've been practicing for nearly 20 years, and I've heard it so often from so many patients that I know there's something to it."

Although it remains a vague science, Fant explains the connection in simple terms. "I may not be able to explain the exact source—whether its humidity or differences in the barometric pressure and how they translate into causing

See Arthritis, p.3

Change your mind. Change the way you eat.

The key to eating healthy and long-term weight loss is not just about changing what's on your plate; it's also about changing your entire lifestyle.



Joyce Dunn went from a size 20 to a 12, while her husband, Al, reduced his waist size from 38" to 33".

LOSE weight. Eat healthier. As far as New Year's resolutions go, these are probably the two most popular—and most broken—promises we make to ourselves. The simple truth is that most of us want to look and feel better. But with the endless and, most typically, conflicting diet plans, meal schemes, and nutritional advice on the market, how do we really make healthy diet changes that can last a lifetime?

According to Alison Hanna, registered dietician with the University Specialty Clinics, most fad diets are not only temporary fixes, but are also exclusionary ones. "Most of the media-hyped diets you hear about have a narrow focus and are usually restrictive on calories, or they restrict certain food groups," said Hanna. "They are not well-rounded diets because you can miss out on a lot of essential vitamins or minerals. For example, if you are excluding too many types of meat, you are missing out on a lot of important vitamins or minerals. Or if you are excluding too many carbohydrates, you are missing out on some healthy things they provide."

As a specialist in pediatric nutrition, Hanna works with children and their families to establish healthy eating habits that can last a lifetime. Hanna says the key to eating healthy and long-term weight loss is not just about changing what's on your plate; it's also about changing your entire lifestyle.

"People are afraid of having to make big behavioral changes," said Hanna. "The fad diets make a lot of empty promises, and what's easy to do in a couple of weeks becomes very difficult in the long run." Typically, people will lose a

lot of weight in the beginning of a diet, but then, after a few weeks or months, they rebound and regain the weight plus some. "If everyone could just focus on changing their overall behavior, which is what we try and do in clinic, then they will have success in the long term," Hanna said.

According to Hanna, one of the easiest ways to learn about healthy eating habits is by looking at the U.S. Department of Agriculture's food pyramid. As many people might remember from grade school, the food pyramid suggests nutritional guidelines for each food group along with suggested servings for healthy eating.

"If you look at the food pyramid and then compare it to the key diets recommended by the American Diabetes Association or the American Heart Association, you'll see they are very similar," said Hanna. "The pyramid suggests high fiber, less refined carbohydrates, more whole grains, leaner meats, moderate fat—but healthy fat. If you're looking for the best way to lose weight and eat healthy, just follow the recommendations of the food pyramid," said Hanna.

"Let's say your recommendation is 2,000 calories a day. The food pyramid guide will tell you how to accomplish that," said Hanna. "The guidelines will tell you exactly how many servings of grains, fruit, vegetables, dairy, and proteins that you need and some very simple tips on how to achieve your goals. It's very basic and the most user-friendly way to teach people about eating healthier."

For more information on establishing lifelong healthy eating habits, check out the U.S. Department of Agriculture's food pyramid at www.mypyramid.gov. ■

LIFESTYLE CHANGE DUNN RIGHT

Joyce Dunn first noticed how out of shape she had become when she couldn't find the energy to play with her granddaughter. "She would ask me to play, and when she threw the ball past me, I would say, 'Brigit, go get it,'" Joyce recalled. "Grandma's tired. Can we do it sitting down?"

It was only one year ago when the Dunns decided to do something about their weight issues and joined a class that promoted the science and philosophy of weight loss. "The main thrust of the program was that by reducing 500 calories a day, you would lose 3,500 calories in seven days, or one pound a week," said Al. "The main example was an order of French fries. If you don't eat that order of French fries, you can save 500 calories for that day."

Al and Joyce, both employees with the School of Medicine, had slid into a self-described "sedentary lifestyle" and usually ate anything they wanted. But along with being unable to keep up with her granddaughter, Joyce also had some medical issues that spurred them into action.

"One of the keys to our weight loss was that we did it together. It was critical to our success," said Al. "We can inspire and compete with one another even though it's not really a competition." "Yes it is," Joyce interjected with a laugh, noting that she has gone from a size 20 to a size 12.

As their friends and coworkers started noticing their dramatic weight loss, Al, who went from a 38" to a 33" waist, soon came up with a slogan to encapsulate everything the two had learned: "Cook, cleanse, and share," said Al. "Cook meals more often with as many vegetables as you can. Cleanse and hydrate yourself by drinking 48–64 ounces of water a day, and, when out, share your meal whenever possible."

As frequent restaurant patrons, the Dunns learned to order only one entrée or cut the portions in half. "If you don't have a partner to share your food with, ask the restaurant server to only serve half the portion and put the other portion in a takeout box for later. If it's not on your plate, you won't eat it," said Al.

Along with drinking more water and learning to eat less and more healthy, the Dunns also discovered they didn't have to give up their favorite guilty pleasures like desserts. "Don't deprive yourself if there's something you really like," said Al. "Have it as a treat, have it as a reward. If we say we're going to try to lose 20 pounds over the next three to four months, when we hit that, we have a little celebration with something like a piece of cake."

But according to Joyce, their weight loss and dietary changes aside, there is a much more personal reason—besides new clothes—to celebrate their weight loss and new lifestyle. "Now when it comes to being active," said Joyce, "I'm the one that says to my granddaughter, 'Come on Brigit. Let's play.'" ■



Dr. James Fant,
Internal Medicine

symptoms," said Fant. "But I believe there is a connection simply because I've heard too many patients tell me that they are absolutely sure when it's going to rain because their knees will hurt more."

Fant explains that there are different theories about why weather would affect arthritic conditions—the most common theory concerning atmospheric pressure as indicated by a barometer. "Suppose you have an inflamed joint that is subject to swelling," said Fant. "If the barometric pressure is decreased, then that would allow the inflamed tissue to swell more, simply because there is less atmospheric pressure holding the tissue back. If there are nerves in that tissue, then those nerves would be stimulated by that swelling, and that would translate into pain."

Cold weather is another mechanism that could cause arthritic symptoms, according to Fant. In the same way that a decrease in barometric pressure decreases swelling of an inflamed joint, cold weather would have the opposite effect. Fant said that if cold temperatures shrink tissue down, it pulls on nerves, thereby causing pain.

Although there is still not a specific source that shows how weather affects arthritis, Fant says that cold weather tends to create lifestyle conditions that can lead to arthritic symptoms. "A lot of the rheumatic conditions I treat become worse with a sedentary lifestyle—a condition that is more prevalent in the winter months," said Fant. "During winter, many people lead a less active lifestyle, and their joints tend to stiffen up. This is commonly referred to as gelling, where your joints become 'gelled' because you are sitting in one position too long, and it causes pain and stiffness."

Beyond rheumatoid arthritis or osteoarthritis, Fant also says that the patients he sees for lupus can be directly affected by weather conditions. "I've treated lupus patients with a condition called Raynaud's syndrome," said Fant. "Raynaud's causes cold-induced vasospasms—or decreased blood supply in the hands—and it can definitely worsen in colder conditions."

Fant says the sun's warmth can provide some relief. "With the more prevalent arthritis types like osteoarthritis or rheumatoid arthritis, sun exposure, because it provides warmth, can make you feel better. There's no evidence that it actually changes the condition, but it can affect symptoms in a positive way."

Beyond weather-related symptoms, Fant says there are more than 120 diagnosed conditions that result in arthritis or joint pain. For more information, contact the University Specialty Clinic's Division of Rheumatology at 803-540-1000. ■

Brain Surgery Gives Teen a New Lease on Life

Misdiagnosed blackouts and seizures threatened to take away Omar's dreams and life at the tender age of 16. Dr. Sharon Webb performed life-saving surgery that gave him a chance to see his dreams fulfilled.

At 16 years old, Omar Oliphant of Columbia, S.C., was looking forward to many of the typical hallmarks associated with being a healthy teenage boy, such as playing high school football and learning to drive. But due to an unknown arterial venous malformation (AVM) in his brain, Omar's life would soon take a very different direction.

"I was on vacation with my family, and I was swimming in the pool when all of a sudden my arms locked up," Omar said. "Soon after, I started having a series of blackouts."

Omar and his parents sought immediate medical attention, but his condition was initially attributed to dehydration due to his active lifestyle. Ironically, while standing at his high school water fountain several weeks later, Omar had what would be the first of many unexplained seizures.

His physician at the time told him to watch his activities. But while training for the upcoming football season, Omar's seizures returned and were worse than ever. "That's when my parents knew there was something much more serious going on. But every time they took me to the doctor, they said I was fine," Omar said. Finally, after another seizure during football practice, Omar received a CT scan that helped diagnose the source of his seizures.

The results of his CT scan revealed that Omar had an arterial venous malformation in the back of his brain—something that he most likely had been living with his entire life. Relatively rare, arterial venous malformations, or AVMs, are masses of abnormal blood vessels that grow in the brain. They consist of a blood vessel "nidus," or nest, through which arteries connect directly to veins, instead of through the vessels called capillaries.

Some people, like Omar, are born with an AVM, but over time it tends to enlarge as the pressure of the arterial vessels cannot be handled by the veins that drain out of it. That pressure caused Omar's blackouts and seizures and, if left untreated, leads to a life-threatening hemorrhage.

Dr. Sharon Webb, a neurosurgeon with the School of Medicine's University Specialty Clinics who treated Omar, describes an AVM as a "big bag of worms." "An AVM is a triangular collection of abnormal vessels," said Webb. "Sometimes they can be associated with different diseases, but in most cases we believe people are born with them, and they are often found incidentally due to unrelated symptoms."

Webb explained that the choice of treating an AVM depends on its size and location in the brain. "If the AVM is



Dr. Sharon Webb gave Omar Oliphant something to smile about when she successfully removed the source of his life-threatening seizures.

accessible and in a relatively non-eloquent part of the brain that does not affect motor skills, speech, and sight, surgery is likely the best option," said Webb. "Omar's other option was Gamma Knife radiosurgery treatment, a more efficient treatment for deeper, smaller AVMs, but one that takes two to three years to take full effect."

Although frightened at the prospect of brain surgery, Omar and his parents felt that radiation therapy was not a viable option. "They said I couldn't exercise for two years or play sports, and I could have gotten cancer from the radiation," Omar said. As a family, Omar and his parents decided to take Webb's advice for a total surgical removal of his AVM.

"It's one of the most challenging surgeries we do," said Webb. "It's very meticulous and the main purpose is to stay outside of the AVM. Because once you get into it, there's a lot of bleeding," said Webb. "You're also dealing with abnormal vessels that don't want to stop bleeding in spite of the use of electrocautery."

Webb said that because Omar's AVM was still relatively near the eloquent part of his brain, she did have a slight concern that he may suffer from temporary side effects from his surgery. "Because of the area where his AVM was, I wasn't sure what we would be dealing with when he woke up," said Webb. "We were still looking at the possibility of weakness or some decrease in the coordination of his motor skills."

However, Omar pulled through with motor skills intact.

"I prayed to God that everything would be fine," Omar said. "I had a mindset that I would recover fast. They said I would be in recovery for a week, but I was out in less than three days. They were amazed I recovered so fast."

Today, Omar is not only free of seizures, but he is finally getting back to the typical life of a teenager. "It's so rewarding to help Omar, to know that we could help him get better and to see him go on to college," said Webb. "Now that his seizures are gone, he's getting back to a normal life and doing the things he wants to do—like driving." ■



"Chronic cough is typically multifactorial, so we often need to try several different medications and tests to pinpoint the cause of their cough."

Covering Your Cough Solutions for Chronic Coughing



Dr. Brandi Newsome, Pulmonary Critical Care

During these chilly winter months, a bothersome cough is often thought of as a simple symptom of a cold, sinus problem, or even the flu. But what if a persistent cough goes beyond the normal timeframe associated with these seasonal maladies?

According to Dr. Brandi Newsome, director of the nodule clinic at University Specialty Clinics, if a cough lasts for more than two months, it is typically categorized as a chronic cough. "Frequently, a patient comes to us after months of coughing," said Newsome. "They are frustrated, they can't sleep at night, and their coworkers think they have some sort of infectious disease."

The course of treatment varies for each condition, but Newsome advises that if someone is suffering from a persistent cough, they should consult with a pulmonary physician as soon as possible.

Occasionally, Newsome said a cough could be something more serious. "Typically,

cancers don't manifest as a cough, unless they are in the airways," she said. "There are also benign tumors that can cause coughing because they are obstructing the smaller airways, almost like asthma would."

But Newsome says the good news is that the majority of chronic coughing cases can be treated—as long as patients take the time to seek out advanced treatment and be patient as they are being diagnosed. "As doctors, we are taught to change only one variable at a time. Chronic cough is typically multi-factorial, so we often need to try several different medications and tests to finally pinpoint the cause of their cough," said Newsome. "But I would say that with 75 to 80 percent of our patients, we are able to find one or more diagnoses to explain their cough and have success with treatment," said Newsome.

For more information on the treatment of chronic coughing, contact University Specialty Clinics Pulmonary Critical Care at 803-799-5022. ■

TYPES OF CHRONIC COUGHS

UPPER AIRWAY COUGH SYNDROME:

What used to be considered a post-infectious, or "after a cold," cough, an upper airway cough syndrome can last two to three months after a bad cold. The condition is often lumped in with "postnasal drip" but can also be related to allergic rhinitis, hay fever, or chronic sinus disease.

GERD, OR GASTROESOPHAGEAL REFLUX DISEASE:

This condition, which causes stomach contents to irritate the esophagus, can cause heartburn and other symptoms like a chronic cough. GERD-related coughing is becoming more prevalent as the general population becomes more overweight. Caffeine overusage is another important cause of GERD.

CHRONIC BRONCHITIS: In the United States, this breathing disorder is almost always related to smoking.

ASTHMA: An inflammatory disorder of the airways, asthma causes attacks of wheezing, shortness of breath, chest tightness, and coughing.

COMBINATION COUGH: This occurs when you have more than one of the above conditions. For example, it's very common for patients to have postnasal drip and reflux disease at the same time.

MEDICALLY RELATED COUGHING: Some medicines, such as ACE inhibitors, have side effects that can cause coughing. Used to treat hypertension and congestive heart failure and as a preventative kidney disease treatment for diabetes patients, this group of medicines can cause an accumulation of bradykinin, a histamine-type substance that leads to a bothersome dry cough.

The Reconstructive Side of Plastic Surgery

Plastic surgery is not all about vanity, but is most often a necessity.

Many people tend to associate plastic surgery with vanity, or cosmetic procedures such as face-lifts, nose jobs, and breast enhancements. But when it comes to the reconstructive side of the business, plastic surgeons are charged with reshaping and remodeling the human body for reasons that go way beyond cosmetics.

Dr. Elliott Chen, assistant professor of surgery in the division of plastic and reconstructive surgery at University Specialty Clinics, said that although he performs many cosmetic procedures, the core of his work involves reconstructive surgery. “The reconstruction side of what I do involves everything from reshaping skulls due to diseases and genetic conditions to fixing children with cleft palates,” said Chen.

According to the American Society of Plastic Surgeons, there were nearly five million reconstructive surgeries done last year in the United States.

The top five procedures were tumor removal, laceration repair, hand surgery, scar revision, and breast reduction. In Chen’s practice, he typically performs many of the same procedures, including breast reduction and tumor removal, but he also specializes in treating a large number of cases involving birth defects, particularly those involving craniofacial surgery, pediatric plastic surgery, and cleft palate care.

“I serve as a medical director on all of our cleft palate cases,” said Chen. “But I’m just part of a large team of physicians that includes everyone from pediatricians to speech language pathologists, orthodontists, and audiologists. We all play a different role, but our main goal is to help make these children live as normal a life as possible.”

When it comes to the term “normal,” Chen said he operates under the philosophical question of “What is normal? For me, normal is whatever



Dr. Elliott Chen emphasizes the importance of cosmetic and reconstructive surgery.

the patient thinks it is. I try to ensure they have realistic expectations of what the result of their surgery will be,” said Chen. “Our goal is to help these patients get back to a normal appearance, with the concept of ‘normal’ being something that is unique to the individual patient.”

Although the types of surgery he performs are all challenging in their different ways, Chen emphasizes that his guiding surgical principle is one of maintaining simplicity and consistency. “As a plastic surgeon, it’s my job to improve both function and form,” said Chen.

Along with following the most cutting-edge technological advances, Chen also says he finds inspiration for his work from some decidedly nonmedical professions. “I often look at other aesthetic professions and see how they work,” said Chen. “For instance, I can look at interior design or engineering and see how the plumbing was designed to be hidden from view. I can look at a tailor and get inspiration on

something like body contouring to see what natural seams of the body you can use.”

Chen stresses the importance of both sides of plastic surgery—cosmetic and reconstructive—but he does admit to having a slight preference in his practice. “There’s nothing wrong with aesthetic surgery,” said Chen. “All cosmetic plastic surgeons do reconstructive surgery, and all reconstructive surgeons do aesthetic surgery. But I tend to get more satisfaction in helping someone who just needs a hand. When you are helping a child with a cleft lip, it doesn’t take that much time, but after you’re finished, you know you did something good.”

For more information on reconstructive or cosmetic surgery procedures, contact the University Specialty Clinic’s Division of Plastic and Reconstructive Surgery at 803-256-2657. ■

Expert Answers



Ali Rizvi, MD
Professor
Division of Endocrinology, Diabetes, and Metabolism

Q What are the major signs to look for to determine whether I have the onset of Type 2 diabetes, and how can it be treated?

A There is an epidemic of Type 2 diabetes and obesity sweeping our nation and the globe. One of the reasons this disease is so dangerous is that it can go undiagnosed for many years. The more commonly known symptoms that may be present are increased thirst, frequent urination, and blurred vision. Some individuals can feel general fatigue and tiredness that goes unnoticed or is blamed on stress, getting older, etc. You should be checked for diabetes if you have risk factors like being overweight, a family history of the disease, a sedentary lifestyle, previous diagnosis of pre-diabetes, gestational diabetes, or delivery of a large baby.

Proper treatment involves learning about diabetes from a team of professionals, self-monitoring of blood glucose, and long-term lifestyle changes of diet modification, weight loss, and regular physical activity. There are several classes of medications, including pills, insulin injections, or a combination of various medications supervised by a physician. Control of blood pressure and cholesterol and quitting smoking are all extremely important.



Augustine Agocha, MD, Ph.D., MBA
Professor
Chief, Division of Cardiovascular Medicine

Q What is metabolic syndrome, and how does that affect my cardiovascular health?

A According to the American Heart Association, the metabolic syndrome has become more and more common in the United States and is estimated to affect more than 50 million Americans. The metabolic syndrome results from derangement of normal metabolism leading to abdominal obesity and resistance to the effects of insulin by the liver and body’s muscles. This leads to weight gain, elevated blood sugars, increases in bad cholesterol and reduction of good cholesterol, as well as many other changes in metabolism.

Treatment begins with weight loss to achieve a desirable body weight (BMI less than 25 kg/m²). Both a healthy diet and increased physical activity are important steps to improve metabolism back toward normal. Medications to treat abnormal blood cholesterol levels and high blood pressure may also be needed to further reduce the risks for heart disease. The metabolic syndrome is both avoidable and treatable, but once the heart has been damaged or a stroke has occurred, it is too late because these conditions are irreversible.



James Stallworth, MD
Associate Professor
Director, Division of General Pediatrics

Q What are some of the dangers of lead poisoning in toys, and what is the best possible treatment?

A Lead is a toxic substance, especially to children. It interferes with the development of the nervous system and can lead to behavioral and learning problems. In addition, it can cause anemia, kidney problems, and stomachaches. Children can be exposed to lead from toys that are painted with lead-based paint. Regulatory agencies in the United States minimize this possibility; however, there have been reports of toys coated with lead paint imported from foreign countries and children being exposed to this toxin. In 2007, millions of toys made in China, including toy necklaces made partly with lead, were recalled from multiple countries due to safety hazards.

The best “treatment” for lead poisoning is prevention. Good hand washing, a diet rich in calcium and iron, and avoiding oral contact with lead-containing sources such as dirt or ceramic plates with a lead glaze are but a few of the recommended preventive strategies.



Brian Keisler, MD
Assistant Professor
Department of Family and Preventive Medicine
Department of Orthopaedic Surgery and Sports Medicine

Q I enjoy playing golf about three times a week. I have heard of golfer’s elbow. What exactly is that, and is it treatable?

A Golfer’s elbow is a common condition causing pain at the medial epicondyle, which is the bony prominence on the inner aspect of the elbow. The tendons of the muscles that help to bend (flex) your wrist attach on the medial epicondyle. Overuse of the wrist can cause tension and traction on these tendons, leading to irritation and inflammation at the elbow. Overuse commonly occurs with sports (such as golf) or repetitive work-related activities that involve the wrist. Tennis elbow is a similar condition that affects the outer aspect of the elbow.

Fortunately, this condition can commonly be treated with conservative measures. Typically, initial treatments include the use of ice and anti-inflammatory medication, such as ibuprofen. Activity modification is also important—if an activity causes pain, don’t do it! Also, a counterforce brace often helps. This is a strap that is worn around the forearm that helps to remove some of the tension from the medial epicondyle. A counterforce brace can generally be obtained from a medical supply store, often without a prescription.

“Expert Answers” features commonly asked questions and the responses of our expert physicians, scientists, and health care providers. For more information about concerns you may have, contact your health care provider.



University Specialty Clinics Welcome New Full-Time Clinical Faculty



Augustine Agocha, MD
Cardiology
Interest(s): Heart failure and management
803-540-1000



Chitra Lal, MD
Pulmonary, Critical Care, and Sleep Medicine
Interest(s): Sleep disorders, COPD and Asthma
803-799-5022



Meghan S. Arant, MD
Pediatrics
Interest: General Pediatrics
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Richard Lehman, MD
Neurosurgery
Interest(s): Surgery of the spine, peripheral nerves and brain tumors
803-434-8323



Elliott H. Chen, MD
Surgery
Interest(s): Craniofacial surgery, pediatric plastic surgery, cleft care, facial trauma, adult reconstruction, and wound healing
803-254-0821



Kristiana D. Neff, MD
Ophthalmology
Interest(s): Cornea, cataract, and refractive surgery
803-434-1561



James R. Howe, MD
Neurosurgery
Interest(s): Functional neurosurgery, deep brain stimulation for Parkinson's Disease and other movement disorders
803-434-8323



Andrea K. Mass, MD
Pulmonary, Critical Care, and Sleep Medicine
Interest(s): COPD, septic shock, pulmonary function and cardiopulmonary exercise testing
803-799-5022



Sylvia S. Kim, MD
Surgery
Interest(s): Anorectal disease, colorectal cancer, and laparoscopic colon surgery
803-929-0492



Andrew Sides, MD
General Internal Medicine
Interest(s): Medical education and general internal medicine
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