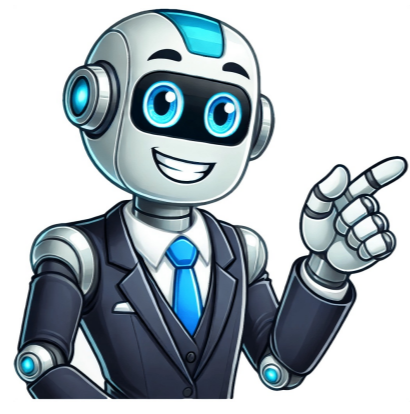


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[illegible]

breastfeeding, having a restrictive diet or food allergies. Other health conditions such as type 1 diabetes and inflammatory bowel disease. How common is scurvy? The rates of vitamin C deficiency around the world vary. In the U.S., 7.1% of people may develop a deficiency. In north India, the rate is 73.9%. However, severe deficiency (scurvy) is rare. In countries with low rates of food insecurity, vitamin C deficiency can occur from a diet low in vitamin C, but severe deficiency (causing scurvy) is uncommon. Not eating enough fresh fruits and vegetables can cause the deficiency. People feel tired, weak, and irritable. Severe deficiency, called scurvy, causes bruising, gums and dental problems, dry hair, and skin, and anemia. The diagnosis is based on symptoms and sometimes blood tests. Increasing consumption of fresh fruits and vegetables or taking vitamin C supplements by mouth usually corrects the deficiency. Vitamin C (ascorbic acid) is essential for the formation, growth, and repair of bone, skin, and connective tissue (which binds other tissues and organs together and includes tendons, ligaments, and blood vessels). It is also essential for the normal function of blood vessels. Vitamin C helps maintain healthy teeth and gums. It helps the body absorb iron, which is needed to make red blood cells. Vitamin C also helps burns and wounds heal. Good sources of vitamin C include citrus fruits, tomatoes, potatoes, broccoli, strawberries, and sweet peppers. (See also Vitamin C (ascorbic acid) is essential for the formation, growth, and repair of bone, skin, and connective tissue (which binds other tissues and organs together and includes tendons, ligaments, and blood vessels). It is also essential for the normal function of blood vessels. Vitamin C helps maintain healthy teeth and gums. It helps the body absorb iron, which is needed to make red blood cells. Vitamin C also helps burns and wounds heal. Good sources of vitamin C include citrus fruits, tomatoes, potatoes, broccoli, strawberries, and sweet peppers. (See also Overview of Vitamins.) Like vitamin E, vitamin C is an antioxidant: It protects cells against damage by free radicals, which are by-products of normal cell activity and which participate in chemical reactions within cells. Some of these reactions can cause damage over a person's lifetime. Adults feel tired, weak, and irritable if their diet is low in vitamin C. They may lose weight and have vague muscle and joint aches. The symptoms of scurvy develop after a few months of deficiency. Bleeding may occur under the skin (particularly around hair follicles or as bruises), around the gums, and into the joints. The gums become swollen, purple, and spongy. The teeth eventually loosen. The hair becomes dry, brittle, and coiled (like a corkscrew), and the skin becomes dry, rough, and scaly. Fluid may accumulate in the legs. Anemia may develop. Infections may develop, and wounds do not heal. Infants do not gain weight as they normally do. In infants and children, bone growth is impaired, and bleeding and anemia may occur. Vitamin C supplements A nutritious diet with increased consumption of fresh fruits and vegetables For scurvy, high doses of vitamin C supplements Scurvy is treated with high doses of daily vitamin C (ascorbic acid) supplements, followed by a nutritious diet that supplies 1 to 2 times the daily recommended amount of vitamin C. The diet should include increased consumption of fresh fruits and vegetables. Most symptoms disappear after 1 to 2 weeks. Gum problems may last longer. Vitamin C deficiency can be prevented by consuming the recommended amounts of fresh fruits and vegetables or by taking the recommended amount of vitamin C in daily supplements. People who smoke require more. Test your knowledge! Take a Quiz! Beginning of content Vitamin C deficiency happens when your body doesn't get enough vitamin C. The best way to prevent vitamin C deficiency is to include foods that contain vitamin C in your diet. Signs of vitamin C deficiency include a tendency to bruise or bleed easily, bleeding gums, wobbly teeth, poor wound healing, tiredness, anaemia, and small red spots on the skin. Severe vitamin C deficiency is called scurvy. If you meet your recommended daily intake (RDI) for vitamin C you are unlikely to need a vitamin C supplement. Vitamin C deficiency happens when your body doesn't get enough vitamin C. This may happen if you don't eat enough fruits and vegetables. Vitamin C is an essential vitamin, it helps to keep you healthy and your body functioning well. Persistent (chronic) vitamin C deficiency can lead to an illness known as scurvy. Read about vitamin C and your health to better understand how vitamin C affects your body. What are the symptoms of vitamin C deficiency? The most common signs of vitamin C deficiency are: fatigue (exhaustion) anaemia — due to less absorption of iron Symptoms of severe vitamin C deficiency are: bruising or bleeding easily bleeding gums and wobbly teeth poor wound healing skin spots — due to bleeding and bruising from broken blood vessels hair loss CHECK YOUR SYMPTOMS — Use the Symptom Checker and find out if you need to seek medical help. What causes vitamin C deficiency? Vitamin C is a water-soluble vitamin, which means it dissolves in water. It's absorbed from your gastrointestinal tract directly into your blood. Vitamin C is not stored in your body, so deficiency can happen quickly. Adults who eat less than 7 to 8mg of vitamin C a day are at risk of vitamin C deficiency. The Australian Government publishes a Recommended Dietary Intake (RDI) for all vitamins. This lists the amount of each vitamin you should try to eat as part of a healthy diet. Am I at risk of vitamin C deficiency? You may be more at risk of vitamin C deficiency if you: don't eat enough fruits and vegetables smoke abuse drugs or alcohol have a poor diet while pregnant or breastfeeding — your body needs more vitamin C at these times You are also at higher risk of vitamin C deficiency after having an illness or surgery. People who find it hard to eat healthily may also be more at risk of vitamin C deficiency. This includes: babies children older adults When should I see my doctor? If you think you are getting too little vitamin C in your diet, speak with your doctor. FIND A HEALTH SERVICE — The Service Finder can help you find doctors, pharmacies, hospitals and other health services. How is vitamin C deficiency diagnosed? Your doctor will ask you about your symptoms and examine you. They may also want to know about your diet, whether you drink alcohol and if you smoke. They may arrange for you to have some blood tests. Your doctor may give you nutrition advice or refer you to an accredited dietitian. How is vitamin C deficiency treated? Mild cases of vitamin C deficiency are easily treated by adding some vitamin C to your diet. This may be in the form of fresh fruits and vegetables. Your doctor may suggest that you take a vitamin C supplement (ascorbic acid) until you feel better. However, large doses are not needed and any excess vitamin C will leave your body in your urine (wee). Large doses of vitamin C can cause kidney stones. The Royal Australian College of General Practitioners (RACGP) does not recommend vitamin C infusions. This is due to a lack of good evidence. Your doctor may want to see you again after 3 months to see if the treatment has worked. Can vitamin C deficiency be prevented? Eating a healthy, balanced diet with plenty of fruit and vegetables, is the best way to prevent vitamin C deficiency. Boiling your vegetables can lower the amount of vitamin C available for your body. This is because vitamin C dissolves in water. Instead, try: eating more fresh fruit and vegetables lightly steaming your vegetables roasting your vegetables Complications of vitamin C deficiency Vitamin C deficiency can lead to scurvy (severe deficiency). Scurvy can be life-threatening if it's not treated. Resources and support See the Australian Guide to Healthy Eating, Health Translations has information about fruit and vegetables in languages other than English. The Dietitians Australia website allows you to search for an Accredited Practising Dietitian. You can also call the healthdirect helpline on 1800 022 222 (known as NURSE-ON-CALL in Victoria). A registered nurse is available to speak with 24 hours a day, 7 days a week. Learn more here about the development and quality assurance of healthdirect content. Last reviewed: March 2024 Vitamin C and your health These trusted information partners have more on this topic. Healthdirect Australia is not responsible for the content and advertising on the external website you are now entering. Vitamin C and your health Worried about your health? Select a symptom, answer some questions, get advice. Start Your Symptom Check Check your symptoms Find a health service Vitamin C is essential for health, supporting the immune system while helping to maintain skin, teeth, bones, and more. Fortunately, most healthy adults find it easy enough to get adequate levels of vitamin C through their diets by eating fruits like oranges, strawberries, and kiwis or vegetables like bell peppers and broccoli. However, some people may find that due to a poor diet, an underlying health condition, or certain lifestyle habits that limit absorption, they develop a vitamin C deficiency. "For short-term treatment, vitamin C supplements can be taken with a prescription," says Michael Chichak, MD, medical director at MEDvidi. "For a deficiency, a dose of 500-1,000 mg daily of Vitamin C supplements is recommended, but this will vary depending on the individual's overall health. Also, slight changes in lifestyle, such as not drinking or smoking or even reducing stress, all of which deplete vitamin C, can help as well." If you suspect a deficiency, your doctor can run a blood test to confirm if your vitamin C levels are low and offer personalized recommendations for moving forward. "With the right approach, vitamin C levels can often be restored quickly, and symptoms usually improve within weeks," says Pamela Tambini, MD, a double board-certified physician in internal medicine and addiction medicine and the medical director at Engage Wellness. Of course, the first step is recognizing the signs of a problem so you can alert your medical team. According to doctors, here are the top 10 surprising signs that you have a vitamin C deficiency. RELATED: 8 Surprising Vitamin D Side Effects, According to Doctors. Shutterstock Fluctuations in your energy levels could serve as an early indicator of a vitamin C deficiency. In fact, one of the earliest signs of vitamin C deficiency is persistent fatigue and general weakness. "Vitamin C plays a key role in energy production and reducing oxidative stress in the body. Without sufficient vitamin C, your body struggles to maintain energy levels, often feeling sluggish even after adequate rest," Tambini explains. Shutterstock Another common sign of vitamin C deficiency is frequent or unexplained bruising, which can occur when the blood vessel walls become weakened due to a lack of collagen. "Since vitamin C strengthens capillaries, low levels may cause blood vessels to break more easily, even with minor bumps or pressure," Tambini explains. Katherine Maslen, ND, a naturopathic doctor, nutritionist, author, and host of The Shift Podcast at The Shift Clinic, says there's another way that having low levels of vitamin C can cause bruising: "You need vitamin C to absorb iron so if you're not having enough your iron could become low - which leads to bruising more easily." RELATED: 7 Low Magnesium Symptoms to Watch Out For, According to Doctors. Shutterstock Similarly, your injuries may take longer to heal or develop more visible scarring if you're suffering from low levels of vitamin C. "Vitamin C is essential for collagen production, wound healing, and skin integrity. It also supports the immune system by helping white blood cells function efficiently," says Tambini. "A deficiency can lead to slower wound healing and increased susceptibility to infections." iStock Your oral health may also suffer when your vitamin C levels are low. "Your gums rely heavily on collagen; insufficient vitamin C can cause them to become inflamed, swollen, and prone to bleeding," says Tambini. "In severe cases, this can even lead to loose teeth. It may indicate a deficiency if you notice your gums bleeding while brushing or flossing." Chichak adds that vitamin C deficiency is linked to enhanced gum tissue destruction, which subsequently increases the risk of gum infections. RELATED: 5 Supplements That Can Damage Your Kidneys, Doctors Say. iStock Your dermatological health could also offer clues as to whether you're getting enough vitamin C—especially if you notice that your skin is looking rough, dry, or scaly. "Vitamin C is essential for collagen production, which helps keep your skin firm, hydrated, and resilient," Tambini notes. "A deficiency can result in dry, rough, or scaly skin. In advanced cases, tiny red or purple spots may appear, signaling weakened blood vessels just beneath the skin." Adding topical vitamin C to your skincare routine can also have a beneficial, anti-aging effect. It protects against sun damage and free radicals, which can harm your dermatological health on the cellular level. Shutterstock Maslen says that those with low levels of vitamin C may also notice that they develop varicose veins or spider veins as a result: "Vitamin C helps to keep vein walls strong and flexible, so if you are prone to spider veins or varicose veins vitamin C may be lacking." RELATED: 12 Supplements You Should Never Take Together. Medical Experts Say. iStock It's not uncommon for those with arthritis or other forms of joint and muscle pain to take a vitamin C supplement since it contains antioxidants that can help reduce inflammation, easing pain. It also helps produce collagen and proteoglycan, which are important for joint cartilage. "Collagen is also crucial for healthy cartilage, tendons, and ligaments. Low levels of vitamin C can weaken these connective tissues, leading to joint pain, muscle aches, and stiffness. Over time, this can limit mobility and physical activity," Tambini warns. Shutterstock Spoon-shaped nails can have a range of underlying causes, including autoimmune diseases, hyperthyroidism, and iron deficiency. However, severe vitamin C deficiency can also cause this surprising symptom. "If your nails are thin, brittle, or developing spoon-like indentations, this may be linked to a vitamin C deficiency. Poor collagen production can weaken nail growth," Tambini explains. RELATED: This Uncommon Supplement Can Improve Your Sleep and Mood, New Study Says. Shutterstock It's not uncommon for vitamin C to also impact mood and mental health. In fact, a 2013 study found that vitamin C supplementation successfully increased "plasma vitamin C concentrations to normal and was associated with a 71% reduction in mood disturbance and a 51% reduction in psychological distress" among hospitalized patients who had vitamin C and vitamin D deficiencies. "Vitamin C affects neurotransmitter production, which helps regulate mood," Tambini explains. "A deficiency can lead to irritability, anxiety, or even mild depressive symptoms." Shutterstock Finally, the texture of your body hair can also point to a vitamin C deficiency, especially if you notice that it's changed over time. You're most likely to notice these brittle, tightly wound hairs on your legs and arms, though they can also appear on the scalp, face, and other areas of the body. "Hair follicles depend on collagen to maintain healthy growth. In severe cases of vitamin C deficiency, hair can become brittle, dry, or even develop a corkscrew-like shape," says Tambini. You or your child have: a rash that does not fade when you press a glass against it - in scurvy, this may look like red or blue spots sudden, severe headache unlike anything you've experienced before, even if it's got a bit better now - it may have felt like you had been hit with something hard a stiff neck sensitivity to light blurred or double vision stroke-like symptoms - such as slurred speech and weakness on one side of the body loss of consciousness or uncontrollable shaking (convulsions) severe chest pain or difficulty breathing confusion or drowsiness Your child may appear limp, floppy or not respond like they normally do. Their head may fall to the side, backwards or forwards, or they may find it difficult to lift their head or focus on your face. Share — copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt — remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit , provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. Share Alike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Scurvy is a disease caused by a significant lack of vitamin C in your diet. The medical definition of scurvy is severe vitamin C (ascorbic acid) deficiency. Vitamin C deficiency can occur due to a diet low in vitamin C. But a deficiency severe enough to cause scurvy is rare in the U.S. because most people get enough of the nutrient in their diet. The condition is a problem in countries around the world where people are malnourished. What is vitamin C? Vitamin C (ascorbic acid) is a very important nutrient for your body. It's responsible for the development, growth and healing of your skin, bones and connective tissue. In addition, you need vitamin C for your blood vessels to function properly. Vitamin C helps maintain your teeth and gums. It helps your body absorb iron, which it needs to make red blood cells. Vitamin C also helps heal burns and other wounds. Vitamin C is an antioxidant, meaning it protects your cells against damage from free radicals. Free radicals are byproducts of normal cell activity which participate in chemical reactions within cells. Some of these reactions can cause damage over your lifetime. Who does scurvy affect? In the U.S., scurvy most commonly affects babies, children and older adults who don't get enough vitamin C in their diet. Risk factors for developing the condition include: Not having access to fresh fruits or vegetables. Eating very little due to medical treatments that make you feel sick (such as chemotherapy) or an eating disorder (such as anorexia). Smoking, which reduces the amount of vitamin C your body absorbs from food. Having a drug or alcohol dependency that affects your diet. Having a poor diet during your pregnancy or while breastfeeding. Having a restrictive diet or food allergies. Other health conditions such as type 1 diabetes and inflammatory bowel disease. How common is scurvy? The rates of vitamin C deficiency around the world vary. In the U.S., 7.1% of people may develop a deficiency. In north India, the rate is 73.9%. However, severe deficiency (scurvy) is rare. Vitamin C is a nutrient that's crucial to the health of your body. You need it for normal growth and development, as well as to keep up the health of your body's skin and bones and connective tissue. An immune-boosting nutrient, it helps with healing as well. No wonder then a deficiency can interfere with the optimal functioning of your body. [pullquote] Because it is an antioxidant vitamin, vitamin C helps counter free radical damage responsible for aging and may even help ward off or lower risk of heart disease, cancer, and arthritis. [pullquote] By getting in those recommended levels of vitamin C, you can sidestep many diseases. This could range from the seemingly harmless like brittle nails to the more severe like iron deficiency anemia. Typically very overt symptoms or problems because of a deficiency only appear after consistent inadequate intake over a prolonged period. As a rule of thumb, this will happen if daily intake is below 10 mg over several weeks. Here's a ready and detailed reckoner of the potential problems you could face from a prolonged vitamin C deficiency. 1. Gingivitis And Dental Problems Gingivitis or early stage gum disease can crop up if you are not getting enough vitamin C. It results in the tissues surrounding your teeth getting infected. Here are some symptoms to spot this problem: Easily bleeding gums Gums that are tender Swollen gums Bad breath A vitamin C deficiency may also cause your tooth enamel to weaken, putting you at increased risk of cavities. 2. Iron Deficiency Anemia Vitamin C, among other things, also helps your body better absorb iron. If you have a continued deficiency of the vitamin, you could also wind up with iron-deficiency anemia. Signs of this form of anemia include: Weakness or tiredness that is not usual Trouble with concentration/thinking Headaches Feeling lightheaded Pale skin Shortness of breath Brittle nails Pica or desire to eat non-food things like dirt, ice, or sand Soreness of the tongue 3. Skin Problems Like Petchiae Or Purpura Vitamin C plays such a central role in maintaining healthy connective tissue in the body, so not getting enough can start to show signs on your skin. You may develop blue or red spots on the shins or on other areas of your skin - these are called petchiae. You may also find purple patches or spots on the skin, in mucous membranes, and in the mouth - these are known as purpura. In addition, you may notice you develop bruises more easily than before. 4. Scurvy One of the most major diseases caused by iron deficiency is scurvy, though it is less common in the developing world where access to nutrition is not as much of a problem. But if you are someone who has food that's limited in its variety, you might be at risk. Symptoms of scurvy usually occur after inadequate vitamin C intake for at least 3 months. Here's what you should watch for: Weakness/tiredness all the time Joint/leg pain that's severe Being irritable Feeling sad Bruising easily Petchiae (blue/red spots) Purpura (purple patches/spots) Swelling or bleeding in the gums Loosening of teeth, loss of teeth Corkscrew hairs Poor wound healing Thickening of the skin (hyperkeratosis) which may result in warts, corns, or calluses 5. Osteoporosis And Bone Problems [pullquote] While scurvy causes joint pain in adults, it could lead to impaired bone development in babies and young children. They may experience symptoms like lower limb pain as a result of bleeding within the joints. [pullquote] Structural collagen alterations and greater breakdown of bone result in swollen and painful joints and muscular pain in those with a severe vitamin C deficiency or scurvy. It may also result in your developing osteoporosis or weak bones that are prone to fracture or breakage. There could also be a link to osteoarthritis though research in that area is still very much a work in progress. In addition to these diseases, you may also spot other problems that could even help you flag the problem early and ward off a more severe issue like scurvy or anemia. Here are some health issues that double up as signs of a vitamin C deficiency: Increased susceptibility to falling ill/catching infections Longer time for wounds to heal Splitting hair or dry hair Dry and scaly or rough skin Nosebleeds Sluggish metabolism resulting in weight gain People With Poor Nutrition, Digestive Disorders, Smokers, The Elderly And Very Young At Risk Those who are undergoing chemotherapy or have lost their appetite for other reasons, have anorexia, eat a poor diet with inadequate vitamin C, are pregnant or breastfeeding are more at risk of this particular problem. Smoking reduces your ability to absorb vitamin C from your diet, so smokers are at risk too. Also vulnerable are people with digestive disorders like Crohn's disease, the elderly, drug or alcohol addicts, and young children and babies who aren't getting enough vitamins. Avoid A Deficiency By Ensuring You Have 75-90 mg Of Vitamin C Daily Your body needs about 90 mg of vitamin C daily if you are an adult male and 75 mg if you are female. Pregnant women need 85 mg a day while lactating mothers require even more (120 mg). Anyone recovering from surgery or burns could also do with a little more vitamin C to aid healing. Smokers too can benefit from higher vitamin C intake. Get in your vitamin C easily from a wide range of foods including citrus fruit, tomatoes, green leafy vegetables, peppers, and even from fortified juices and cereals. Follow Us On Social Media