RAYNAUD'S SYNDROME

The normal blood shift toward the body's core to restrict heat loss when a person is exposed to cold is exaggerated in the extremities of people with Raynaud's phenomenon, also often called Raynaud's syndrome or disease. Small vessels that supply blood to the skin of the fingers, toes, ears and nose ***overreact*** **to cold**, developing spasms that greatly reduce or completely shut down blood flow to these areas.

The weather need not be cold to trigger an attack of Raynaud's. Moving into an airconditioned room to escape summer's heat will do it as well.

The same reaction can occur when a person with Raynaud's is under stress and the body undergoes the kind of fight-or-flight response that protects animals in danger by shunting blood to tissues needed to aid survival.

In a 2016 review of the disorder in The New England Journal of Medicine, two professors at Johns Hopkins University School of Medicine, Dr. Fredrick M. Wigley and Nicholas A. Flavahan reported that Raynaud's affects between 3 percent and 5 percent of the general population.

It occurs in two forms: **primary**, which is most common and **has no known underlying cause**; and **secondary**, in which it is **associated with another disorder**, usually a connective tissue or autoimmune disease like **scleroderma**, **rheumatoid arthritis** or **Sjogren's syndrome**. People who work with **certain chemicals**, like **vinyl chloride**, or **vibrating tools** like a jackhammer **are also susceptible to secondary Raynaud's**.

Primary Raynaud's **typically begins relatively early in life**, between the **ages of 15 and 30**, and **up to half of these individuals have a first-degree relative - parent, sibling or child - who also has the disorder**. Women are more often affected than men.

As uncomfortable as it can be, **primary** Raynaud's is not dangerous and is not as severe as **secondary** Raynaud's, which **has a later onset, usually starting after age 35 or 40**. In rare severe cases in which blood flow is chronically diminished, secondary Raynaud's **can result in skin ulcers and even gangrene that require surgery**.

One can distinguish between the two by putting a drop of oil in the skin at the base of the fingernail and examining the area under a microscope. The **presence of enlarged or malformed capillaries in this area, the nail fold, indicate an underlying connective tissue disease**. Two blood tests, the antinuclear antibody test and the erythrocyte sedimentation rate, can aid in diagnosing an underlying; cause of Raynaud's, which can then be treated.

Raynaud's affects parts of the body that have a characteristic circulatory pattern: a high density of direct connections between arterioles - small vessels that branch out from arteries - and venules, or small veins. These connections, called **arterio-venous anastomoses**, govern circulation in the non-hairy surfaces of the body, bypassing capillaries that normally bring blood to the skin, Dr. Flavahan explained in 2015 in Nature Reviews: Rheumatology.

When people with Raynaud's are exposed to cold or are under stress, normal nervous system-induced constriction of the arterioles in these anastomoses is enhanced and may temporarily cut off blood flow to the affected parts, causing them to turn white and feel cold and numb. When the areas are rewarmed and the spasm resolves, blood flow resumes, often causing tingling or throbbing.

There is no cure for Raynaud's, and remedies supported by solid scientific evidence are few. But there are well-established measures that can minimize its effects. Most important of these is to stay warm, wearing multiple insulating layers, especially on my arms and legs, so that any extra heat generated can transfer to my hands and feet.

If you smoke, don't. **Nicotine causes a drop in skin temperature** that adds to the problem. Certain medications that constrict blood vessels can also make matters worse. They include beta-blockers; many cold remedies, especially those that contain pseudoephedrine; some migraine remedies; and some blood pressure medications.

If undue stress triggers a Raynaud's attack, try to avoid stressful situations and routinely practice stress-reducing techniques like meditation, progressive muscle relaxation or the relaxation response.

Regular physical exercise, while good for everyone's well-being, is said to be especially helpful for those with primary Raynaud's. Any activity that increases heart rate fosters circulation of warm blood to the extremities.

Although there are no drugs approved to treat Raynaud's, calcium channel blockers, only used to treat high blood pressure can be helpful. They dilate small blood vessels by relaxing the smooth muscles around them.