

# RAYNAUD'S PHENOMENON?

## WHAT IS RAYNAUD'S PHENOMENON?

Raynaud's Phenomenon is a condition that causes some areas of the body – such as fingers, toes, tips of nose or ears – to feel numb and cool in response to cool temperatures, emotional upset or stress. During a Raynaud's attack, arteries that supply blood to the skin narrow, which results in limited blood circulation to affected areas. The digits go white, then either blue and/or red as they rewarm.

Raynaud's Phenomenon occurs as two main types:

- **Primary Raynaud's** – When Raynaud's occurs without an underlying disease or associated medical problem that could provoke vasospasm, it is known as primary Raynaud's or Raynaud's Disease. This is the most common form of this disorder and most typically affects both hands and both feet. In Raynaud's Disease, most attacks are not too painful and are reversible
- **Secondary Raynaud's** – When Raynaud's is caused by another underlying problem it is known as Secondary Raynaud's or Raynaud's Phenomenon. Although secondary Raynaud's is less common than the primary form, it is often a more complex and serious disorder

Raynaud's Phenomenon is probably the most common early symptom of systemic sclerosis (scleroderma), and occurs frequently in both the limited and diffuse forms of scleroderma.

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## WHO IT AFFECTS

Women are more likely than men to have this disorder, and it is more common in people who live in colder climates. Raynaud's Phenomenon is considered a relatively common disorder occurring in up to 5% of the general population and 10% of young women.

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## SIGNS AND SYMPTOMS

Raynaud's is more than simply having cold hands and feet. Some of its symptoms may resemble frostbite, however with Raynaud's the numb prickly feeling or stinging pain that comes with warming may also happen with the relief of stress. Signs and symptoms of Raynaud's depend upon the frequency, duration and severity of the blood vessel spasms that underlie the disorder.

During an attack of Raynaud's, affected areas of the skin usually turn white first. The areas then turn blue and feel cold and numb. Sensory perception is dulled. The affected skin may look slightly swollen. As circulation improves, the areas may turn red, throb, tingle and swell. The order of the changes of colour isn't necessarily the same for all people, and not everyone experiences all three colours. An attack may last less than a minute to several hours. Over time, attacks may grow more severe.

Occasionally, an attack affects just one or two fingers or toes. The digits affected are not necessarily always the same digits. Although Raynaud's most commonly affects the fingers and toes, the condition also can affect other areas of the body such as nose, cheeks, ears and even the tongue. The reduction of blood flow often leads to painful ulcers, sores and infection on fingertips and toes. In extreme cases, fingers and toes may develop gangrene and partial amputation may be required.

Symptoms which may suggest Raynaud's Phenomenon (secondary to a connective tissue disease) may include:

- Inflammatory arthritis
- Changes in skin texture
- Shortness of breath
- Rash
- Sun sensitivity
- Severely dry eyes
- Weight loss

## CAUSES

When the body is exposed to cool temperatures, extremities are the first to lose heat. The body slows down blood supply to fingers and toes to preserve the body's core temperature. It reduces blood flow by narrowing the small arteries under the skin of the extremities. In people with Raynaud's, this normal response to cold is exaggerated. Stress may also bring about this reaction.

Doctors don't completely understand the cause of Raynaud's attacks, but blood vessels in the hands and feet appear to respond abnormally to nerves that regulate them. The result is that the body overreacts to cold temperatures or stress. Although cold is often the trigger for a Raynaud's attack, changing temperatures is the prime cause even in a warm environment. This is probably caused by an exaggerated response of a normal mechanism, which maintains the central body temperature by shunting blood away from the hands and feet to the core. The cause of this exaggerated response is not known but is thought to be a failure of the normal chemical and neural control of the blood flow. Inflammation or vascular changes associated with scleroderma may also play a role.

With Raynaud's, arteries to the fingers and toes go into what is called a vasospasm. The vessels constrict temporarily, dramatically limiting blood supply. Over time, these same small arteries also may thicken slightly, further limiting blood flow. The result is that affected skin turns pale because of the lack of blood flow to the area. Once the spasms subside and blood returns to the area, the tissue may turn red before returning to a normal colour.

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## MANAGEMENT

For most people, Raynaud's is more a nuisance than a disability, and there are many common sense preventative measures. Most certainly the best is to minimize exposure to cold. Keep the extremities warm by wearing warm gloves and mitts especially when handling refrigerated or frozen items. Hats in the cold are helpful. It is important to keep the entire body warm as this prevents the onset of the Raynaud's episodes. Warming the body often relieves an attack better than warming the hands or feet.

Smoking and cigarette smoke should be avoided as nicotine decreases blood flow to the fingers and toes.

Learn relaxation and stress management techniques as they have been shown to be effective for many people.

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## TREATMENT

Treatment of Raynaud's depends on its severity and the presence or absence of associated conditions. While there is no cure for Raynaud's, it can be controlled and symptoms reduced by some medications that have been prescribed by physicians. Most common of these are channel blockers and vasodilators (drugs to dilate the blood vessels). These can be used intermittently or regularly with patients with severe manifestations. Sometimes nitroglycerine paste may be prescribed to open blood vessels. Mild blood thinners or drugs that decrease the stickiness of platelets may help to improve circulation. If gangrene or loss of a finger or toe is a danger, the physician may prescribe prostaglandin infusions. If skin ulcers become infected, they may require antibiotic therapy or local drainage. Many ulcers that develop are painful, so medication may be required.

We would like to thank **Dr. Evelyn Sutton, MD, FRCPC, FACP** for her assistance with this information pamphlet.

**DISCLAIMER:** This pamphlet is meant to provide information on scleroderma and is not meant to be used as a diagnostic tool or to suggest treatment or medications. Always consult your physician regarding details of symptoms, diagnosis, and treatment.



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