

COLLAGEN CONNECTION

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Raynaud Phenomenon

by Robyn T. Domsic, MD, MPH

In 1865, a French medical student, Maurice Raynaud, described this condition, in which an individual experiences repeated episodes of color changes in the fingers (and sometimes the toes) during cold exposure or emotional stress. It is normal for blood vessels supplying the skin or extremities to narrow (constrict) in response to cold temperatures, and this is termed "vasoconstriction". In Raynaud phenomenon, the body's blood vessels constrict in an exaggerated way to cold or stress, resulting in color changes. Typically this may be experienced as "blanching" where the fingers are "dead white", followed by bluish/purplish discoloration and possibly redness when rewarming occurs. Occasionally, patients will experience only 2 of these 3 phases.

What is the difference between primary and secondary Raynaud Phenomenon?

Primary Raynaud, or Raynaud disease, refers to individuals who experience Raynaud phenomenon, but do not have an underlying disease. Primary Raynaud is common, occurring in up to 10% of otherwise normal persons, most often women. Raynaud disease can also occur in more than one person in a family (familial Raynaud disease). There is nothing abnormal about the blood vessels except their excessive response to cold. These patients do not develop fingertip ulcerations, are not disabled by the condition, and respond well to medications.

In secondary Raynaud, the anatomy of the blood vessels is abnormal. There

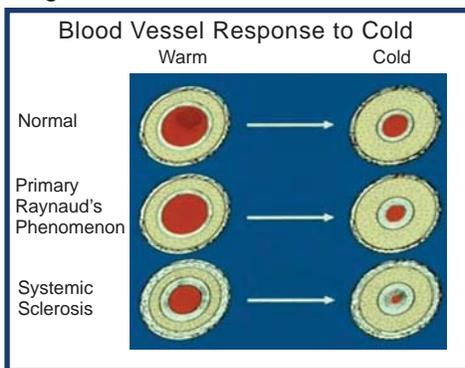


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Dr. Domsic's primary clinical and research focus is improving the care of the patient with Scleroderma.

She has worked in the Scleroderma Clinic since 2007. She is currently attempting to develop easy tools to assess and score a patient's risk of poor outcome when they develop diffuse scleroderma. She has additional studies investigating early blood vessel changes in patients with diffuse cutaneous scleroderma, and how this relates to later complications. She is actively involved as an investigator in all of the current observational and clinical drug trials at the Scleroderma Center.

is most often an associated connective tissue disease (CTD), such as scleroderma or Sjogren syndrome. In scleroderma, more than 95% of patients experience Raynaud symptoms, and for many it is the first symptom of the disease. CTD patients develop thickening of the inner lining of the blood vessels that leads to reduced size of the vessels. Then, when vasoconstriction occurs in response to cold, the blood vessel is very narrow and leads to the Raynaud episode. These differences are illustrated in the diagram below.



In patients with scleroderma there may be pits or indentations that develop on the fingertips, which are referred to as "digital pitting" scars. Some patients may develop ulcers of the fingertips and less commonly there is blockage of a larger finger artery resulting in major tissue loss (gangrene).

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