

Raynaud's Disease

Raynaud's disease is a condition whereby the blood vessels constrict and the fingers become purple in response to cold. This condition of vasospasm is mediated by the sympathetic nervous system. The condition is treated by avoiding exposure to cold and wearing

gloves. If necessary, a vasal dilator medication such as Nifedipine is added. In cases where the fingers are beginning to die or where the pain is disabling an operation called a digital sympathectomy may provide excellent results in those patients who are candidates.

Reflex Sympathetic Dystrophy

Reflex sympathetic dystrophy (RSD) refers to a vasomotor dysfunction following injury. This may occur following a minor cut, mashed finger, a severe crush or even a surgical procedure. A model for understanding RSD can be explained as follows: There is a source of pain in the hand and nerve fibers carry those pain impulses toward the brain. The impulses are interrupted at the spinal cord level and sympathetic fibers are activated sending impulses back to the hand causing the blood vessels to constrict depriving the muscles of blood and causing more pain which once again stimulates the pain fibers toward the

brain. This causes a vicious cycle resulting in severe pain, swelling, redness and sweating in the hand. The goal of treating RSD is to reduce the pain to a tolerable level and control the edema (swelling) to the point where the fingers can be moved. There is no treatment that can eliminate the RSD but rather it runs its course and resolves usually in six months to a year. If the patient is able to keep the fingers moving during this time then when the RSD resolves the hand has excellent function. However, if the patient's hand is not kept moving during this period when the RSD resolves severe contractures ensue requiring sometimes multiple

operations never achieving a perfect result. Treatment includes medication, nerve blocks, therapy and often psychotherapy to deal with the severe emotional aspects of this very frustrating disease. It is most important for the patient to understand what RSD is, and the nature of it, specifically that it can't be avoided and nothing can be done that will immediately stop the RSD. The patient may become extremely frustrated with this condition but working together as a team the patient, the hand surgeon and the therapist can satisfactorily treat RSD resulting in a functional hand.