Reflex Sympathetic Dystrophy: (Complex Regional Pain Syndrome Type I):

Causalgia If Hell were a clinical medical condition, it might look something like reflex sympathetic dystrophy or RSD.Tom Haederle, Johns Hopkins University.

There are several cases in which arachnoiditis and RSD have both been diagnosed.

RSD is a disease of the nervous system that begins with involvement of the sympathetic nervous system in a limb, generally after relatively minor trauma, including surgery. Onset is typically within days or weeks of the event.

CRPS Type II (causalgia) is a more widespread phenomenon. (see above : Sympathetically-maintained pain)

The Online Pain Journals (http://www.pain.com/onlinepainjournal) include the following causative factors:

Trauma: injury*/surgery*/surgical scar*/damage to nerves by needles* (injection therapy/analgesic block)/ injections near or into nerves* with irritants e.g. oils/alcohol (often used as a preservative), neurolytic agents/repetitive microtrauma (typists etc.)

2. Diseases: cardiac disease/thoracic* or pelvic diseases/neurological conditions: including subarachnoid bleed*/ diseases of spinal cord e.g. poliomyelitis, syringomyelia*/ diseases of spinal nerves or their roots(obviously including arachnoiditis*)/disorders of nerve plexuses/infection/vascular disease including peripheral vascular disease/musculoskeletal disorders: postural defects*/myofascial syndromes*

3. Idiopathic: cause unknown.

The * indicates conditions associated with arachnoiditis. Indeed, by these criteria, arachnoiditis is clearly a type of Complex Regional Pain Syndrome Type II.

Major reflex dystrophies include:

- Causalgia
- Phantom limb pain
- Central pain*
- Thalamic syndrome
- Cerebral lesions
- Brain stem lesions
- Spinal cord lesions*

CRPS of both Type I and II is characterised by:

- Severe burning pain: spontaneous and disproportionate to the trigger event; continuous and made worse by movement and touch
- Allodynia (pain from non-painful stimuli such as light touch)/hyperaesthesia (hypersensitivity)
- Localised swelling (oedema) which may cause nerve compression which is similar to and can be confused with carpal tunnel (at the wrist) or tarsal tunnel (foot) syndrome or indeed, thoracic outlet syndrome, which affects the whole arm and hand (pain, pins and needles, weakness, numbness
- Sweating/absence of sweating (sudomotor changes)
- Changes in skin colour/ temperature (later stages affect skin tone): initially warm, red and dry, later cyanotic (bluish), cold and sweaty, later still, in Stage III, it may be cool, glossy, pale or bluish. This is due to neurogenic inflammation.
- Later: hair growth changes
- Muscle spasms
- Dystonia (abnormal muscle tone); tremor
- Later stages: loss of bone density may occur (Sudek's Atrophy)
- Joint tenderness and swelling; later, reduced mobility
- Skin rashes (including neurodermatitis) and nodules
- Affected part may not feel 'part of the body any longer'; tendency to 'neglect' (inattention

to) affected part and therefore may drop objects if hand affected or trip over if foot affected.

- Development of secondary problems such as headaches
- Later stages may involve myoclonic jerks as well as atonic falling attacks
- Bouts of unexplained fever
- Interstitial cystitis
- Depression

There is some continuing debate as to the physiological mechanisms involved.

After some time, the pain, initially mediated by the sympathetic nervous system (Sympathetically Maintained Pain: SMP), becomes 'centralised' and is now Sympathetically Independent Pain (SIP) and much harder to treat.

There are various stages in CRPS. Stage I is the acute stage and may last a few weeks.

At Stage II/III, it is not uncommon for CRPS to spread to other extremities and it may become generalised. The likelihood of developing CRPS in another site after a trivial injury is increased.

Sympathetic dysfunction in all extremities as well as headaches, vertigo, poor memory/concentration is common.
3 patterns of spreading symptoms in RSD/CRPS have been described:

a. A "continuity type" of spread where symptoms spread upward from the initial site, e.g. from hand to shoulder.

b. A "mirror-image type" spread was to the opposite limb.

c. An "independent type" where symptoms spread to a distant part of the body;

this may be related to a second trauma

In Stage IV, there may be an impact on the immune system; other features include: postural hypotension, intractable generalised oedema (fluid retention) : involving abdomen, pelvis, lungs, extremities; and ulcerative skin lesions. Note that multiple surgical procedures seem to be precipitating factors for Stage IV.