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MADISON NEUROLOGY LLC

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Neurology Care 7 days a Week. Because Your Brain Matters.

Complex Regional Pain Syndrome (CRPS)

Patient education guide · Headache & Facial Pain · Madison Neurology LLC

What is it?

Complex regional pain syndrome is severe, persistent pain — usually in a hand, arm, foot, or leg — that develops after an injury, surgery, stroke, or immobilization and is disproportionate to the original event. The affected limb often shows changes in color, temperature, sweating, hair or nail growth, and swelling. The nervous system has essentially become stuck in an amplified pain state.

How does it happen?

CRPS follows a trigger — fracture, sprain, surgery, or sometimes a stroke (when it is called shoulder-hand syndrome) — that sets off abnormal inflammation and rewiring of pain processing in both the peripheral nerves and the brain. It is not malingering; the changes are measurable and real. Why one person develops it and another does not is not fully understood.

Common symptoms

- Constant burning, throbbing, or aching pain out of proportion to any injury
- Extreme sensitivity to touch or cold (allodynia)
- Skin color changes (red, purple, pale), temperature differences, swelling
- Abnormal sweating, and changes in hair and nail growth
- Stiffness, tremor, or abnormal posturing of the limb; guarding and disuse

How is it diagnosed?

Diagnosis is clinical (Budapest criteria) — based on the pattern of pain plus sensory, skin, temperature, and movement changes. Tests (bone scan, MRI, thermography, nerve studies) support the diagnosis or exclude mimics. Early diagnosis matters: treatment works best in the first months.

How is it treated?

The cornerstone is early, persistent movement — physical and occupational therapy that gradually retrains the limb despite pain ('desensitization' and graded motor imagery/mirror therapy have specific evidence). Medications target nerve pain and inflammation (gabapentinoids, antidepressants, bisphosphonates early on). Sympathetic nerve blocks can open a window for therapy, and spinal cord stimulation helps refractory cases. Treating sleep and mood is integral.

What does the future hold?

Many patients — especially those treated early — improve substantially or recover fully over 12-18 months. Long-standing CRPS is harder to reverse but still manageable, and function can be rebuilt even when some pain persists. Avoiding immobilization and staying active in therapy are the strongest predictors of recovery.

Questions patients commonly ask

Q: Is the pain real even though tests look normal?

A: Yes — CRPS produces measurable changes in blood flow, bone, and brain pain processing; normal X-rays do not mean the pain isn't real.

Q: Why is movement the treatment when moving hurts?

A: Disuse feeds the abnormal pain circuitry; carefully graded movement is the strongest therapy and literally rewires the brain's representation of the limb.

Q: Can it spread?

A: Occasionally CRPS extends beyond the original limb; early active treatment reduces this risk.

National support groups & resources

- **RSDSA — CRPS support** — rsds.org
- **American Chronic Pain Association** — theacpa.org
- **American Academy of Neurology — Brain & Life patient resources** — brainandlife.org

(Organization contact details were current at the time of compilation; please verify online.)

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