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

Brachial Plexopathy

Patient education guide · Nerve & Muscle · Madison Neurology LLC

What is it?

The brachial plexus is the network of nerves running from the neck through the shoulder to the arm — the arm's wiring harness. Brachial plexopathy is injury to this network, causing shoulder pain, weakness, and numbness in the arm. Causes include trauma (stretch injuries, motorcycle accidents), inflammation (Parsonage-Turner syndrome), radiation, and thoracic outlet compression.

How does it happen?

Traumatic stretch or compression injuries are commonest (sports, motorcycle collisions, birth injuries in newborns). Neuralgic amyotrophy (Parsonage-Turner syndrome) is an autoimmune inflammation causing sudden severe shoulder pain followed days later by weakness and muscle wasting. Radiation therapy to the chest can damage the plexus years later; tumors and thoracic outlet anatomy can compress it.

Common symptoms

- Weakness of shoulder, arm, or hand muscles in the plexus's territory
- Numbness or tingling of the shoulder, arm, or hand
- In neuralgic amyotrophy: abrupt, severe shoulder pain lasting days, then weakness as pain fades
- Winging of the shoulder blade or a hanging, weak arm depending on which nerves are hit
- Burning neuropathic pain in some cases

How is it diagnosed?

Examination maps which parts of the plexus are involved; EMG/nerve conduction studies confirm the location and severity. MRI of the plexus looks for compression, inflammation, or structural lesions, and distinguishes plexopathy from cervical radiculopathy (a crucial fork in the road).

How is it treated?

Treatment depends on cause. Neuralgic amyotrophy is managed supportively — pain control early (steroids are sometimes used acutely), then physical therapy; most recover substantially over 1-3 years. Traumatic injuries are assessed for surgical repair (nerve grafts/transfers, best done within months of injury). Compressive causes are relieved; radiation plexopathy is managed symptomatically. Neuropathic pain medications and occupational therapy support function throughout.

What does the future hold?

Inflammatory plexopathy (neuralgic amyotrophy) has a good long-term outlook — most regain substantial strength, though over 1-3 years. Traumatic injuries vary with severity; early surgical evaluation improves options. Chronic pain, when present, is manageable.

Questions patients commonly ask

Q: Why did my shoulder hurt terribly and then go weak?

A: That sequence — severe pain, then weakness as pain resolves — is the signature of neuralgic amyotrophy, an inflammatory plexopathy.

Q: Will my arm strength come back?

A: In inflammatory cases, usually yes over 1-3 years; traumatic injuries depend on whether nerves were stretched or torn, which EMG and MRI clarify.

Q: Is it my neck or my shoulder nerves?

A: Radiculopathy and plexopathy overlap clinically; EMG and MRI precisely localize the problem, and the answer determines treatment.

National support groups & resources

- **American Academy of Neurology — Brain & Life patient resources** — brainandlife.org
- **National Organization for Rare Disorders** — rarediseases.org — 1-800-999-6673
- **American Chronic Pain Association** — theacpa.org

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

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