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NEW

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1111 LEFFINGWELL

AVE., NE

Suite 200

Grand Rapids, Michigan

49525

Tele: 616/957-4263

SHOULDER  
IMPINGEMENT  
SYNDROME



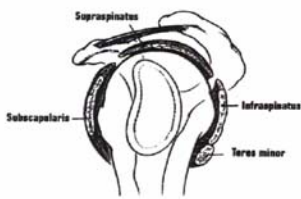
BY RALPH M. COSTANZO, MD

**DEFINITION:** Impingement syndrome is caused by pressure upon the rotator cuff tendons from the surrounding bone and soft tissue structures. Over time, this process can lead to inflammation of the underlying bursa (bursitis), tendons (tendonitis), or even frank tendon rupture.

**SYMPTOMS:** Patients describe a deep, aching pain along the anterolateral aspect of the shoulder, which may radiate distally along the arm. The pain is worsened with overhead motion, lateral abduction, and internal rotation. Complaints of catching, weakness, and nighttime discomfort are also common.

**SIGNS:** Patients often have focal tenderness along the biceps tendon and lateral shoulder beneath the edge of the acromion. Pain and weakness can be reproduced with the *impingement maneuver* (Neer) and resisted external rotation.

**DIAGNOSIS:** In most cases, a detailed history and physical examination along with plain radiographs will provide the diagnosis. In select cases, adjunct studies such as a dye injection (arthrogram) or magnetic resonance imaging (MRI scan) can be helpful in visualizing the rotator cuff tendons directly.



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The Shoulder: Rockwood and Packer's Matson pages 624, 625 Saunders Publishing

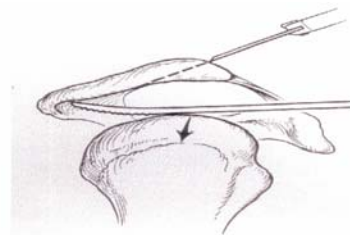


Fig. 1 A demonstration of the Neer impingement sign. (Copyright © 1997 Kevin D. Plancher, MD, Bronx, NY.)

**TREATMENT:** The goal of treatment is pain reduction or elimination along with improvement in shoulder motion and strength.

Unless a rotator cuff tear is identified, the first intervention is usually a supervised physical therapy program. Adjunct treatment such as anti-inflammatory medication and/or a single subacromial corticosteroid injection can be useful to hasten the recovery process.

In cases of failed conservative management (usually 3 months of consistent therapy) or in the presence of a rotator cuff tear, surgical alternatives are available. Surgical treatment involves enlargement of the narrowed space surrounding the rotator cuff tendons via bone and soft tissue removal (acromioplasty) along with repair of torn rotator cuff tissue, if necessary. The surgery can be performed as a direct, open approach through the front of the shoulder or as an arthroscopic procedure via smaller incisions. The choice is dictated by the nature of the problem as well as physician and patient preference.



**REHABILITATION:** The success of any shoulder surgery depends on the design and consistent participation in a physical therapy program. Most patients begin motion exercises within 24 – 48 hours of their surgery and progress into formal therapy at two weeks. Strengthening usually begins at 6-8 weeks, postoperatively. At 3 months, patients with an isolated decompression may attempt return to unrestricted activity while patients requiring a rotator cuff repair may not return to full activity for at least 6 months. Motion, strength, and endurance may continue improvement up to one year after surgery. In most clinical series, 85%-90% of patients experience improvement in pain, motion, and strength following primary rotator cuff surgery.