

**Institute Director and Founder, Dr Nath,** specializes in reconstructive microsurgery and is Board-certified by the American Board of Plastic and Reconstructive Surgery. He has extensive experience with nerve reconstruction surgery techniques, and regularly publishes his surgical techniques and outcomes in medical journals. During his 12 years of practice he has treated several thousand children and adults with problems due to nerve injury.

One of the most important questions to ask your doctors is how much experience they have with brachial plexus and nerve injuries. If the answer is vague or they don't know how many of these cases they see or operate on each week, this should be cause for concern. It is well established that the more experienced the surgeon, the better the patient's outcome, with fewer deaths and complications.

#### **The World Comes to Houston**

The Institute is located in the Texas Medical Center in Houston, and surgeries are performed at Memorial Hermann Hospital. Patients from all 50 states and several countries around the world have been treated at the Texas Nerve & Paralysis. Dr. Nath provides consultation for surgical options as well as more conservative management of nerve injuries before patients travel to meet him in person.

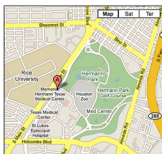
#### **Dr. Nath Travels to Meet Patients and Therapists**

Dr. Nath travels to several cities every year, providing outreach visits to old and new patients and their therapists. To see the latest schedule or to reserve a slot at an outreach visit see: <http://www.drnthclinics.com>.



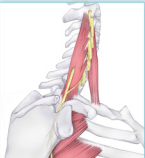
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TEXAS  
NERVE & PARALYSIS  
INSTITUTE

### WINGING SCAPULA



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ONE OF  
"AMERICA'S TOP DOCTORS"  
2001 - 2008

Medical Degree from  
Northwestern University  
Chicago, USA

Offices in: Dubai, UAE  
Houston Texas, USA

Medical Licenses in Texas and Dubai

## Winging Scapula

Winging of the scapula due to long thoracic nerve injury is a common diagnosis and can become a significant functional problem. The compensatory muscle activity required to maintain shoulder stability in the absence of serratus anterior function is associated with pain, spasm, and tendonitis around the shoulder joint. The long thoracic nerve itself is small in diameter and fragile-appearing, making it susceptible to injury. Perhaps the most important anatomic feature associated with injury is its course through the fibers of the middle scalene muscle. Several patients sustain an insult to the nerve through direct compression by the middle scalene muscle while weight lifting or exercising. Other patients sustain a direct extrinsic crush to the nerve.

## Long Thoracic Nerve Decompression

- Compression of the nerve is released by a partial resection of the middle scalene muscle.
- Scar tissue that may have built up around the nerve itself is surgically removed to further relieve pressure on the nerve.
- The forces pinching the nerve are surgically removed, and like a garden hose that has been unknicked, the flow of power to the serratus anterior improves and results in return of function and shoulder stability.

## Records Needed for Treatment Planning

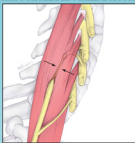
- EMG of the serratus anterior (should also include testing for biceps, supraspinatus, infraspinatus, and deltoid muscles).
- Therapist reports of active range of shoulder movement and current function.
- Medical records pertaining to the injury and treatment.

## Recovery and Results

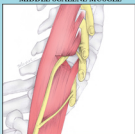
- Stay in Houston is 3-4 days.
- Return to work in 1-2 weeks (although heavy lifting and weight bearing activities are off-limits for several months).
- Function returns immediately in some cases

## WINGING SCAPULA SURGICAL STEPS

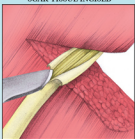
THORACIC NERVE COMPRESSED THROUGH MIDDLE SCALENE MUSCLE



PARTIAL RESECTION OF MIDDLE SCALENE MUSCLE



SCAR TISSUE INCISED



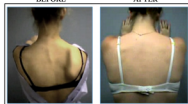
and over a few months in others.

- Aqua therapy will be prescribed to help rebuild the serratus anterior and rebalance the shoulder muscles.
- The majority of patients have decreased winging after surgery.

## WINGING SCAPULA SURGERY

BEFORE

AFTER



BEFORE

AFTER



## For More Information

- Nath RK, & Melcher SE. (2007). Rapid recovery of serratus anterior muscle function after microneurolysis of long thoracic nerve injury. *J Brachial Plex Peripher Nerve Inj*, 2: 4. (Available at: <http://dx.doi.org/10.1186/1749-7221-2-4>).
- Nath RK, Lyons AB, & Bietz G. (2007). Microneurolysis and decompression of long thoracic nerve are effective in reversing scapular winging: long-term results in 50 cases. *BMC Musculoskelet Disord*, 8: 25. (Available at <http://dx.doi.org/10.1186/1471-2474-8-25>).
- <http://www.drnatwingingscapula.com>
- Contact our offices and ask to speak with the patient liaison.