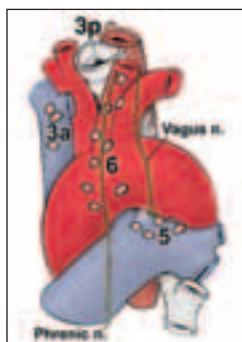
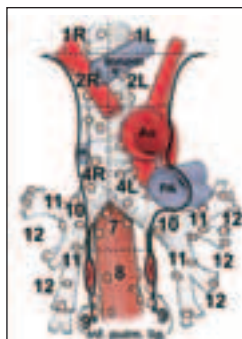




# CLINICAL UPDATE

SUPPLEMENT

CURRENT TRENDS IN THE PRACTICE OF MEDICINE



**Lymph node station map common in use in the United States.**

## Mediastinal Lymph Node Dissection vs Lymph Node Sampling in Early-Stage Lung Cancer

The main determinant of lung cancer survival is lymph node status at the time of staging. A complete mediastinal lymph node dissection (LND) has long been the gold standard to help stage cancers. To ensure the best possible outcomes, the procedure should be performed by experienced general thoracic surgeons. In recent years, a less extensive lymph node evaluation—lymph node sampling (LNS)—has been done. LNS was advocated as an alternative approach that might have lower morbidity and mortality. However, the question of whether LNS was comparable to LND had never been formally answered.

A multicenter analysis was conducted of 30-day postoperative data from 1,111 patients undergoing pulmonary resection. Patients were enrolled from July 1999 to February 2004 in a randomized trial comparing mediastinal LND with LNS for early-stage lung cancer. Coordinated by the American College of Surgeons Oncology Group and funded by National Cancer Institute grants, the study showed that when the surgical procedures were performed by experienced general thoracic surgeons:

- Adverse effects such as pneumonia, hoarseness, or increased chyle drainage did not occur more frequently in patients who had complete mediastinal LND compared with those who underwent LNS.

- Patient hospital stay was the same for both groups.
- Bleeding was not greater with LND than with LNS.
- Operating time was about 15 minutes longer for LND, but for a procedure that can take 2 hours, this was not considered significant.
- The operative mortality rate for lung resection in both groups was 1.4%.

Results suggest that, although LNS is a helpful staging mechanism, complete LND yields more information with greater confidence about the invasiveness of the cancer. Importantly, in the hands of experienced thoracic surgeons, LND does not represent added risk. General thoracic surgeons at Mayo Clinic in Rochester continue to use full LND and frozen-section pathology examination because of the consistently excellent outcomes.

LND is the surest way to eliminate all possibility of misreading the stage of lung cancer. Staging errors can have dire consequences for a patient, such as failure to receive appropriate postoperative chemotherapy if the cancer is staged too low as a result of limited information from an inadequate lymph node analysis.

For more information about lung cancer surgery at Mayo Clinic or to refer a patient for evaluation, call 507-284-2808.

## Esophageal Motility Group Is Major Referral Center for Achalasia Surgery

Achalasia is a disorder of the esophagus characterized by swallowing difficulties and episodic regurgitation. Symptoms range from inconvenient—unusually long mealtimes—to life endangering if food is aspirated into the lung and

causes pneumonia. Although achalasia can occur at all ages, it is most commonly diagnosed in patients between the ages of 20 and 60 years old.

Patients with disabling forms of achalasia who

*Continued*

## Benefits and Limitations of Minimally Invasive Surgery for Achalasia

### Advantages

Reduced hospital stay

Reduced postoperative pain

Excellent functional outcome, equivalent to open approach

For the surgeon, affords easy opportunity to add fundoplication

### Disadvantages

May not be appropriate when an extended myotomy up to the aortic arch is indicated

Not suitable in the presence of midthoracic pulsion diverticulum

have not found lasting treatment through medications, botulism toxin injections, or balloon dilatation may be helped by surgery. Minimally invasive surgical techniques available at medical centers that specialize in esophageal surgery make this option more effective and easily tolerated than in the past.

Mayo Clinic is major referral center for achalasia treatment. Although the disorder is rare, thoracic surgeons at Mayo Clinic in Rochester have performed more than 250 surgical procedures to relieve severe achalasia in the past 8 years. In more than 90% of cases, the patients' symptoms were greatly improved and results were durable.

Although the cause of achalasia is unknown, 2 pathologies are usually involved. The first is loss of normal peristaltic function. This results in inability of the esophagus to push food through its

length. The second is a hypertensive lower esophageal sphincter that fails to relax, thus trapping food. The surgical solution for a hypertensive sphincter involves 5 small (<1 cm) incisions through the abdominal wall so the sphincter can be divided with scissors or cautery to disable the hypertensive muscle. A partial fundoplication may be performed to help minimize problems with reflux after surgery.

Both the patients' tolerance of the procedure and the results are excellent. Most patients can swallow on the night after surgery and go home the next day. Median length of hospital stay has been 2 nights. Patients resume normal activities in a week or two.

For more information about achalasia or other esophageal motility disorders, contact 507-284-8462.

## Minimally Invasive Transcervical Thymectomy, an Excellent Alternative to Sternotomy for Removal of Thymus Gland

For patients with myasthenia gravis, surgical removal of the thymus gland has been a frequently used treatment for decades. Traditionally, the thymus has been removed through a full sternotomy in which the entire sternum is split vertically. Although results were excellent, morbidity and prolonged recovery from this sternal splitting maneuver was not uncommon for patients.

Mayo Clinic was one of the first centers to advocate use of a less invasive mini-sternotomy, and for the past decade, this has been the standard procedure. Within the past 3 years, Mayo Clinic thoracic surgeons have further improved the procedure to reduce patient discomfort, while maintaining excellent results. Mayo Clinic thoracic surgeons now perform minimally invasive transcervical thymectomy preferentially for removal of the thymus gland.

Because of the special training required, Mayo Clinic is one of only a few medical centers in North America to offer this procedure. Using a small incision in the neck, a customized retractor, and the videoscope, the thoracic surgeon is able to visualize and remove the entire thymus gland.

Because of its effectiveness and potential for quick recovery, transcervical thymectomy is now the treatment of choice for removing the thymus gland and small thymomas.

### Benefits of Transcervical Thymectomy

The great advantage of transcervical thymectomy over mini-sternotomy is that it reduces pain and disability for the patient. The hospital stay is also reduced to 1 day vs 3 to 5 days after mini-sternotomy. In addition, patients are able to resume work and normal activities quickly, with no restrictions on lifting.

### Contraindications

Transcervical thymectomy is best suited for patients with myasthenia gravis without tumors of the thymus. If tumors are present, they should be relatively small (usually less than 2 cm in diameter); patients with tumors larger than 2 cm still need to undergo a sternotomy.

For more information about transcervical thymectomy or to refer a patient to Mayo Clinic Thoracic Surgery for evaluation, contact 507-266-0911.



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