Thoracoscopic transdiaphragmatic approach for ventral decompression and reconstruction of metastatic spine disease

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The management of metastatic spine disease is complex, but usually involves radiation therapy and/or surgical treatment. Surgery followed by radiation has a significant role in select patients presenting with metastatic spinal cord compression. Ventral decompression can be achieved through several surgical approaches including posterior, posterolateral, and anterior surgical approaches. Although open thoracotomy is the most common approach for ventral decompression, it is associated with significant spinal access morbidity. This video illustrates a thoracoscopic transdiaphragmatic approach for symptomatic L-1 metastatic spinal cord compression. This approach allows for a minimal incision in the diaphragm to expose the thoracolumbar junction and allows for corpectomy, spinal canal decompression, vertebral body replacement, and spinal stabilization via four small incisions along the chest wall. The step-by-step technique illustrates operative nuances and surgical pearls to safely perform this approach in a patient with thoracolumbar L-1 metastatic spinal cord compression.


**Key Words** • metastatic spine disease • ventral • decompression • thoracoscopic • transdiaphragmatic approach • video