Lymph Nodes and Lymphadenopathy in Cancer

Lymph nodes and the lymphatic system provide a critical filtration process for the body that is important for cancer staging and management.

What Are the Lymphatic System and Lymph Nodes?
Lymph nodes are kidney bean–shaped organs that are arranged in clusters around the body, concentrated around the neck, armpits, groin, and also up and down the middle portions of the chest and abdomen. Lymph nodes are connected to each other by lymphatic channels. Lymphatic fluid drains from all of the tissues of the body through lymphatic channels to nearby lymph nodes that serve as a form of a filter. When the immune system is activated, such as with infections or cancer, immune cells within the lymphatic system known as lymphocytes can multiply. This leads to enlargement of 1 or several lymph nodes, which is known as lymphadenopathy.

Lymph Nodes and Lymphadenopathy in Cancer Diagnosis and Staging
In a person with cancer, lymphadenopathy can occur when cancer cells travel through the filtration system of lymphatic vessels to lymph nodes. Cancer cells can travel through the lymphatic system to a new site of cancer apart from the where the primary cancer first developed. The drainage pathway for a cancer follows a predictable pattern within the body.

Lymphadenopathy can be detected either by being felt during a physical examination, or by imaging studies, such as a computed tomographic (CT) scan. Enlarged lymph nodes may be biopsied to look for cancer cells within them under a microscope.

Staging a cancer is a process of determining the size and extent of spread of a cancer from its initial location. In some cases, lymph nodes from areas that are located near the main cancer may be removed and carefully evaluated under a microscope to look for cancer cells. Detecting cancer cells in the lymph nodes means there is a higher chance that cancer cells may have escaped into the blood stream as well, which means they are more likely to lead to spread of distant metastases to other parts of the body.

Though recommendations depend on the specific type of cancer, in general, when lymph nodes are involved, additional treatment with radiation and/or chemotherapy are often recommended.

Cancer Complications Related to Lymphadenopathy
Enlarged lymph nodes may lead to several complications:
• Pain
• Hoarseness or cough for lymphadenopathy in the chest
• Numbness and tingling for lymphadenopathy affecting the spinal cord or nerves coming out of it
• Compression of blood vessels, leading to an increased risk of a blood clot
• Compression of an airway, leading to difficulty breathing
• Obstruction of lymphatic drainage from a part of the body, leading to swelling of that area

Although systemic therapies can shrink enlarged lymph nodes along with other areas of cancer, radiation therapy to an area of bulky lymphadenopathy will often lead to a more reliable and dramatic shrinkage and improvement of related symptoms.

FOR MORE INFORMATION
• Lymphadenopathy [http://www.drugs.com/cg/lymphadenopathy.html](http://www.drugs.com/cg/lymphadenopathy.html)