

**HEMATOLOGY/ONCOLOGY COURSE
LYMPH NODE LABORATORY DIAGNOSES**

- Slide 1:** Illustrates lymph node structure. B-cells in the follicles are contrasted with T-cells in the paracortex. Follicular hyperplasia would represent a predominantly B-cell immune response, whereas paracortical hyperplasia would be predominantly a T-cell, or cell-mediated, immune response. Note that the lymph node sinuses are more easily identified on slide #7.
- Slide 2:** NHL, small cell cleaved, follicular. This is a low-grade lymphoma. Since all follicular lymphomas are B-cell neoplasms, this tumor must represent a proliferation of neoplastic B-cells. A clinical work-up for staging the patient should include a bone marrow exam and probably a CT of the abdomen.
- Slide 3:** NHL, small lymphocytic. The lymph node is diffusely replaced by small lymphocytes. 98% of small lymphocytic lymphomas have a B-cell phenotype. This is another low-grade lymphoma. Most patients have a positive bone marrow. If the patient has a lymphocytosis, then the diagnosis would be chronic lymphocytic leukemia.
- Slide 4:** NHL, large cell, diffuse. This is an aggressive lymphoma as evidenced by large cell size, numerous mitoses, and a diffuse pattern. An aggressive lymphoma such as this would best be treated with multi-agent chemotherapy. Radiation therapy is occasionally considered for localized disease. Complete surgical excision is rarely indicated for a lymphoma.
- Slide 5:** Hodgkin's disease, nodular sclerosis. Note thickened capsule and wide bands of collagen subdividing the node into nodules. Numerous Reed-Sternberg cells and their variants can be identified.
- Slide 6 & 7 illustrate other causes of lymphadenopathy.**
- Slide 6:** Granulomatous inflammation. Epithelioid histocytes and multinucleated giant cell ("Langhans' type" giant cells) characterize granulomatous reactions. These granulomas are non-caseating. They may occur in a variety of conditions, including tuberculosis and fungal infections. This is actually a case of sarcoidosis, an idiopathic, systemic granulomatous disease which commonly affects the lungs and hilar lymph nodes of young women.
- Slide 7:** Metastatic melanoma. This illustrates early involvement of a lymph node by metastatic disease. The melanoma cells are large and have prominent nucleoli. They are in the sinuses, where they must be distinguished from sinus histiocytes.