

Understanding Diagnostic Tests

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Lymphomas Diagnosis and workup

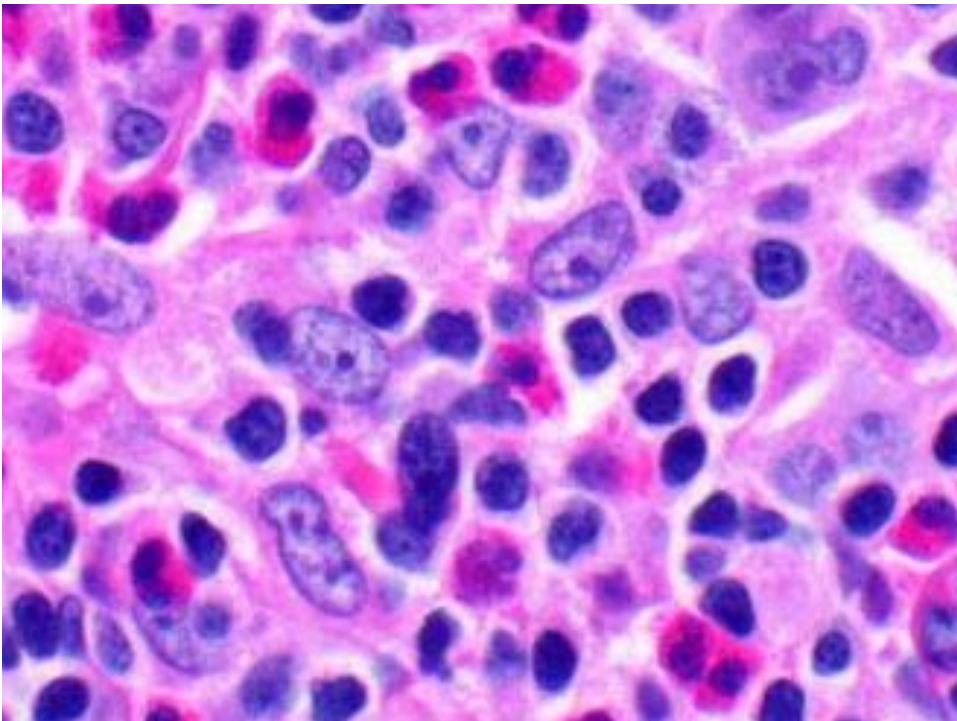
- 2 of the most important initial questions
 - What do you have?
 - Where do you have it?

- Other important question
 - What are you going to do about it?

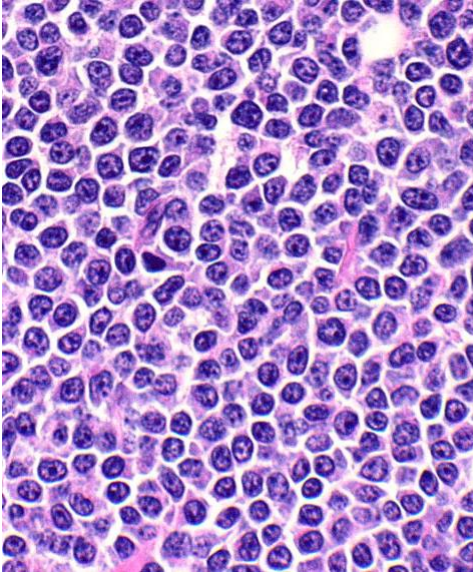
Lymphomas

Diagnosis

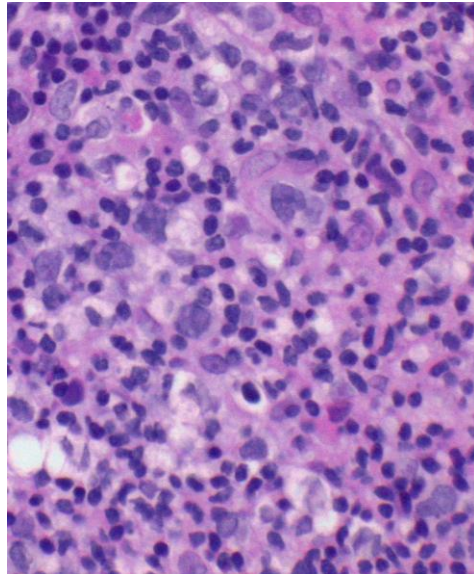
- Biopsy of suspicious lymph nodes or masses (extranodal)
- Routine histology
- Immunophenotyping
 - CD2, CD3, CD4, CD5, CD7, CD8, CD20, CD30, CD56, etc



Large Cells

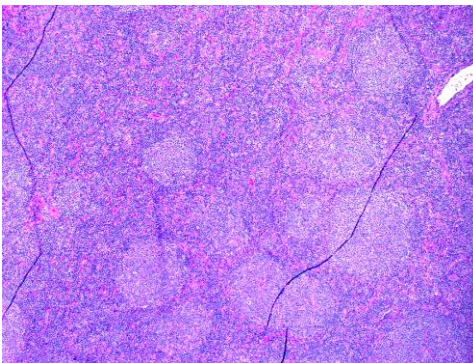


Small Cells

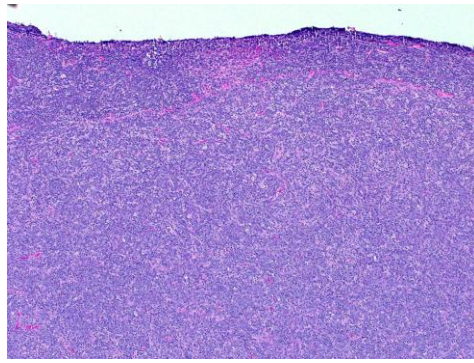


Architecture

Follicular



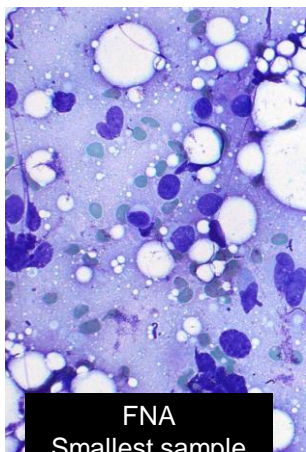
Diffuse



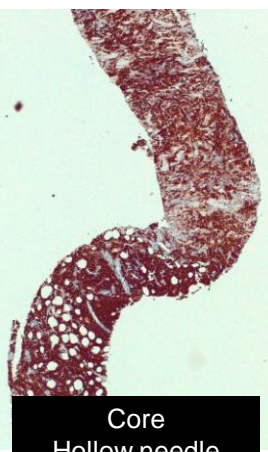
Types of Biopsies

- Fine needle aspirate (FNA)
- Core Needle Biopsy
- Surgical: Incisional or excisional

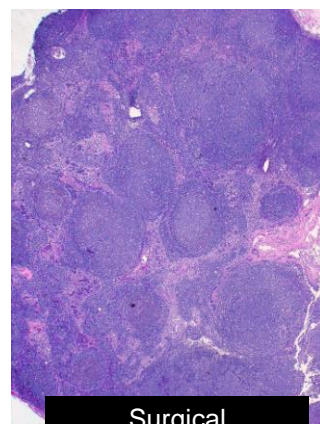
Types of Biopsies



FNA
Smallest sample
Bedside or hard to reach
No Architecture



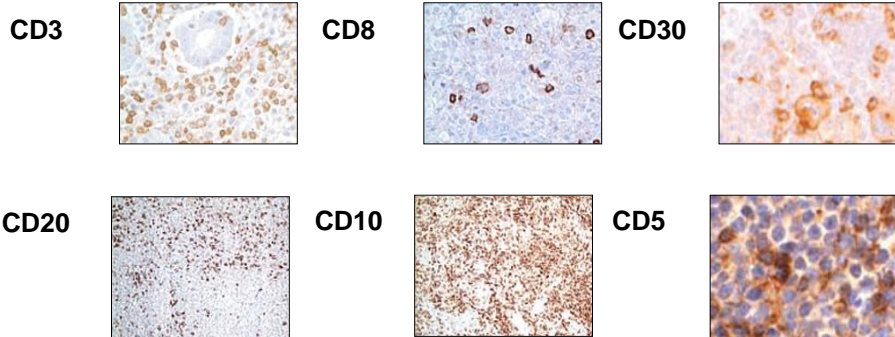
Core
Hollow needle
Less invasive
CT guided
Small Sample



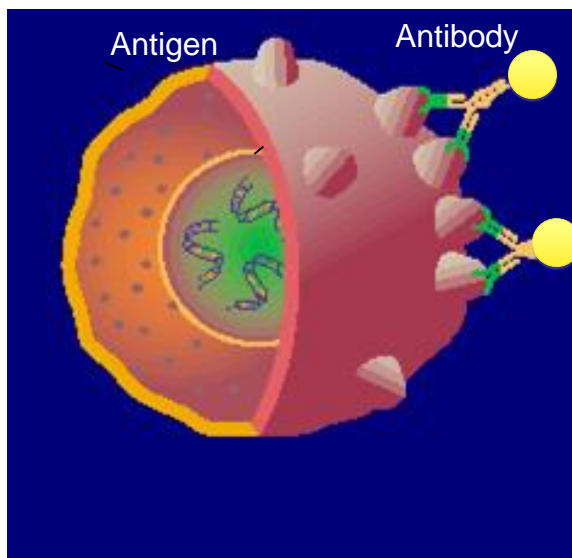
Surgical
Best sample
Most information
Most tissue
Requires an incision

Immunophenotyping

- Tells what kind of cell it is
- B cell vs T cell (CD whatever)
- Patterns of markers lead to diagnosis

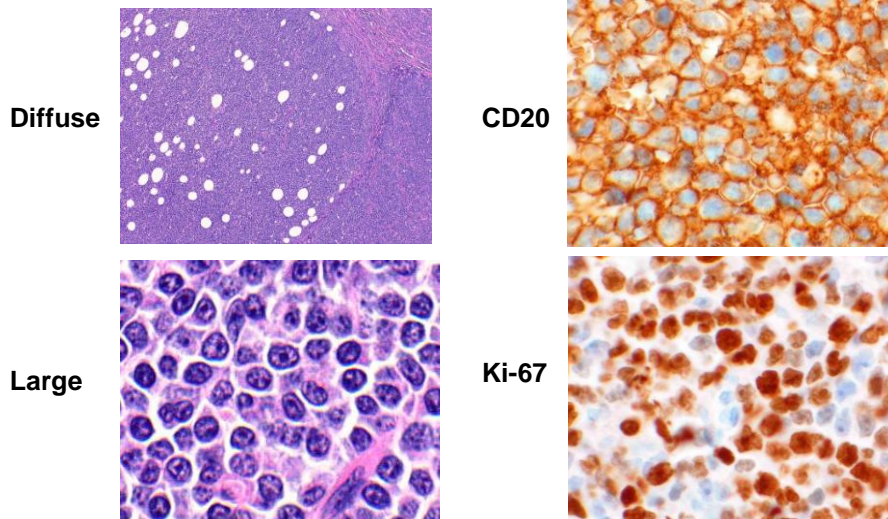


Immunohistochemistry

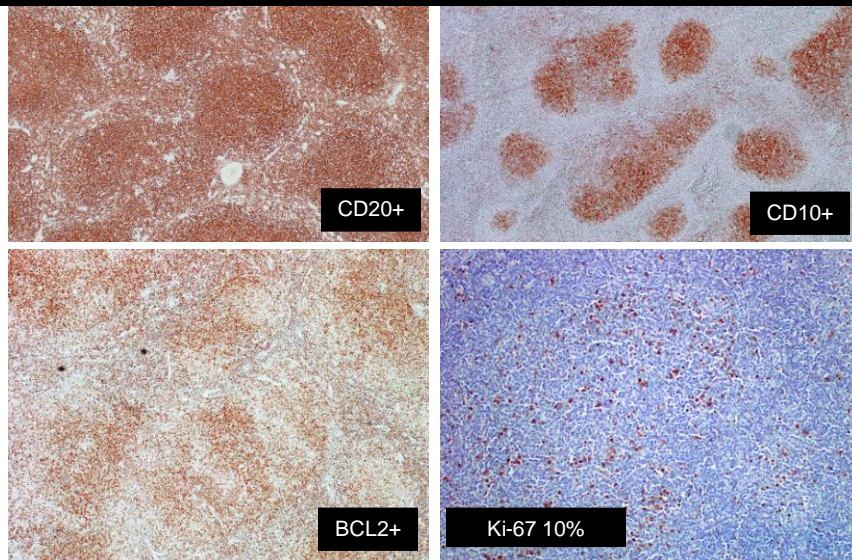


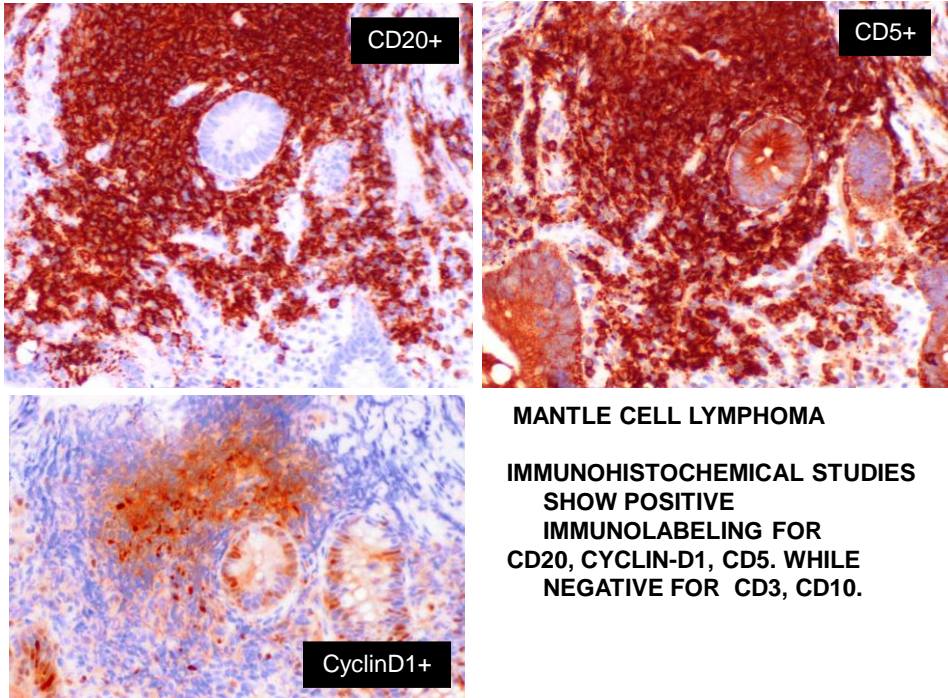
“Stain”
 Enzyme-color
 Fluorescence
 Pattern can
 lead to the
 diagnosis

DIFFUSE LARGE B CELL LYMPHOMA.
- IMMUNOHISTOCHEMICAL STUDIES SHOW THAT THE B CELLS
ARE POSITIVE FOR CD20
AND HIGH PROLIFERATIVE RATE

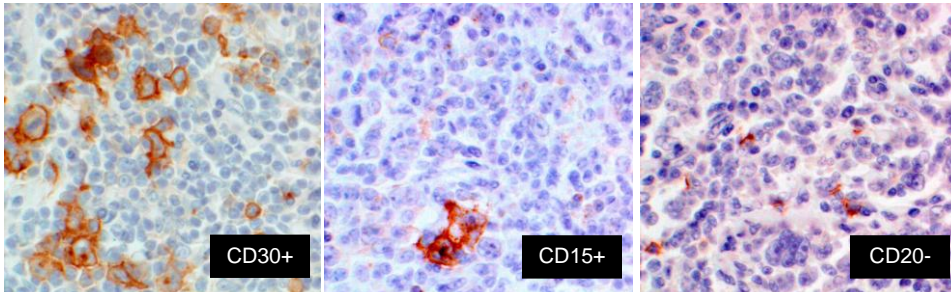
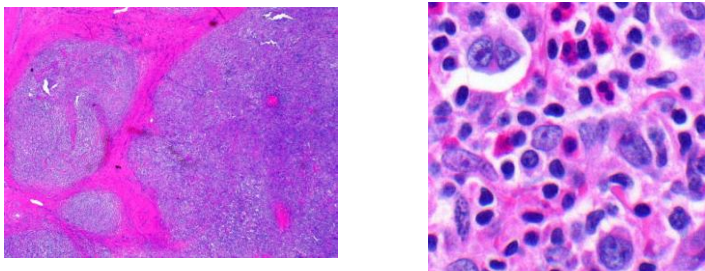


FOLLICULAR LYMPHOMA: IMMUNOHISTOCHEMICAL STUDIES
DEMONSTRATES NEOPLASTIC CELLS TO BE POSITIVE
FOR CD20, CD10, BCL2. THE PROLIFERATIVE INDEX WITH KI-67 IS
10%.





CLASSICAL HODGKIN'S LYMPHOMA, NODULAR SCLEROSIS TYPE.
 - IMMUNOHISTOCHEMICAL STAINS FOR CD15 AND CD30 LABEL SCATTERED REED-STERNBERG CELLS , CD 20 IS NEGATIVE



Lymphomas

Diagnosis and workup

- 2 of the most important initial questions
 - What do you have?
 - Where do you have it?

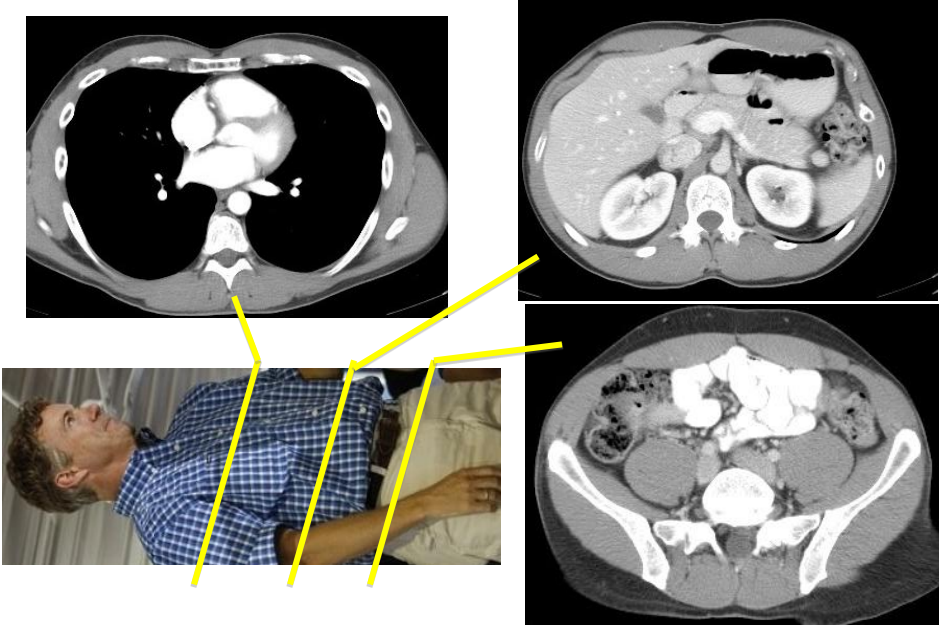
- Staging
 - CT scan
 - PET scan
 - Bone Marrow Biopsy

CT Scan

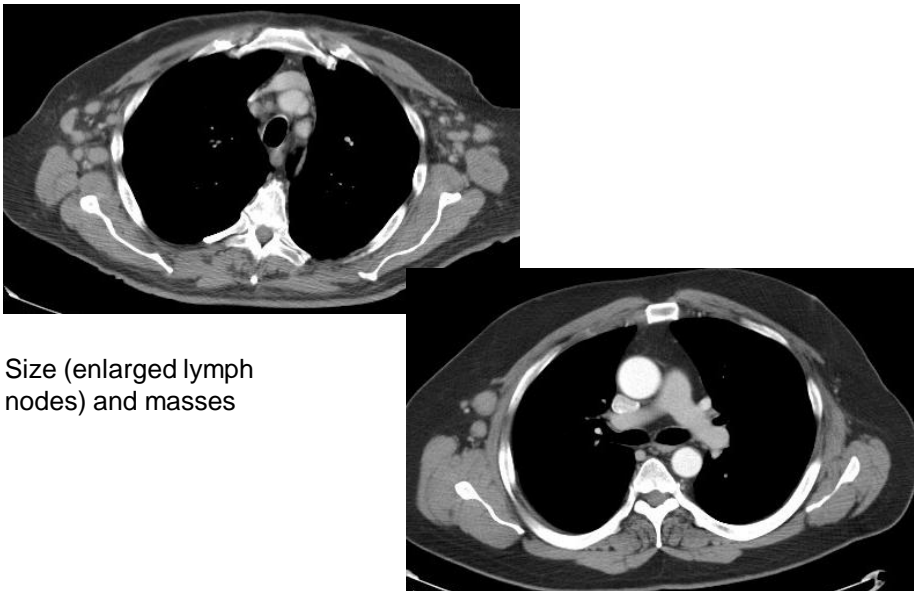


Oral contrast
IV contrast

CT Scan

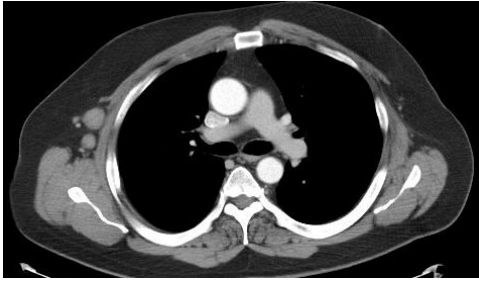


CT Scan: Axillary (under the arms) Lymph Nodes



Size (enlarged lymph nodes) and masses

CT Scan, Before and After



Enlarged lymph nodes under right arms



Complete remission after chemotherapy.

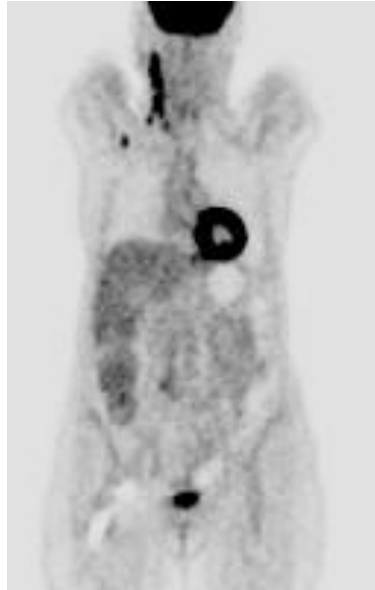
PET (CT) Scan



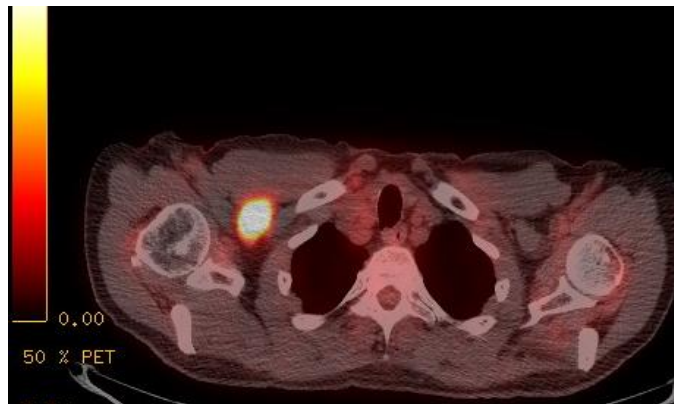
Oral contrast
IV contrast-Sometimes

PET (CT) Scan

Metabolic Activity
PET Shows areas with
increased uptake of
FDG: suggestive but
not diagnostic of some
cancers including
lymphoma

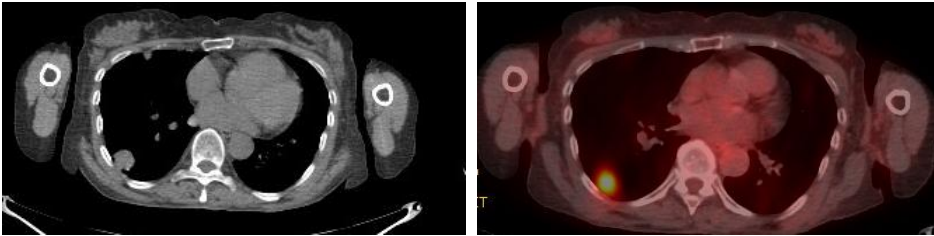


PET (CT) Scan, Fusion Images



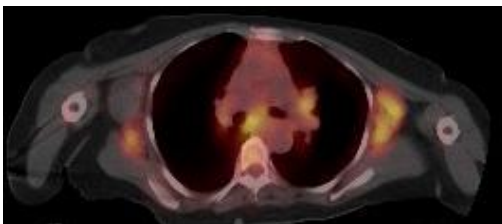
Size (enlarged lymph nodes) and masses and increased metabolic activity

PET (CT) Scan, Fusion Images

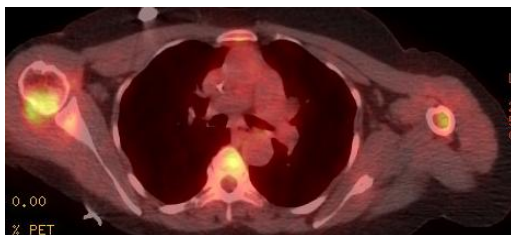


Nodule in the lung seen on CT scan. PET fusion images show that it is metabolically active and therefore more likely to be cancer-this requires a biopsy

PET (CT) Scan, Fusion Images Before and After



T-cell lymphoma with PET avid lymph nodes under arms and in chest



Complete remission after chemotherapy. PET activity in bones from Neulasta.

Lymphomas

Diagnosis and workup

- What do you have?
 - Biopsy
 - Histology
 - Immunohistochemistry

- Where do you have it?
 - Staging
 - Scans, CT and PET
 - Bone marrow