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*New Era in the Diagnosis and Treatment of Breast Cancer*

Lecturer,  
Course Director



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Supported by Ikonopedia

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## *Course outline in a nutshell – Video I*

May, 2026

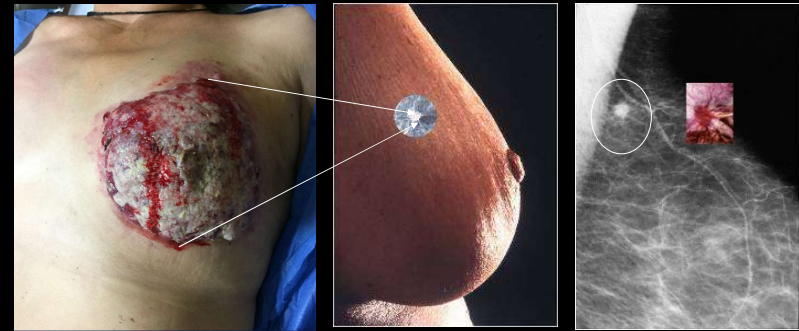
### *Our aim is to*

- Increase your confidence in diagnostic skills through understanding the process causing the pathologic lesions seen on the mammogram, US and MRI
- Provide immediate and unique histopathologic feedback using large format thick and thin section histopathology
- Improve communication with your peers

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## **A New Era in the Diagnosis and Treatment of Breast Cancer**

Clinical practice has been modified considerably to diagnose and treat early breast cancers appropriately.



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Early detection of breast cancer and treatment in early phase is the most important control mechanism for breast cancer deaths ever invented



Cady, Blake June 2014

*Screening trial results*



There is no substitute for finding breast cancer early in its natural history.



*William Osler*, one of the founders of modern medicine from late 19th century said that 'our clinical practice will be only as good as our understanding of Pathology'.

As in other branches of radiology, we need to understand the details of normal anatomy of the organ we are imaging.



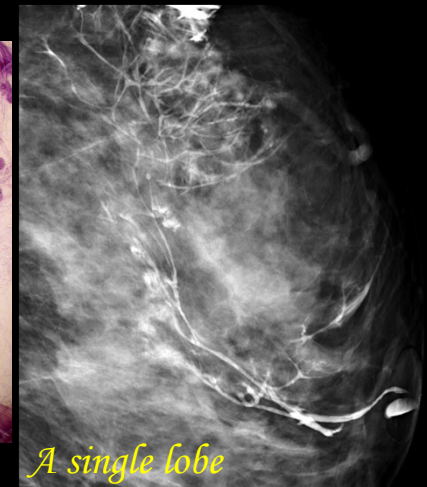
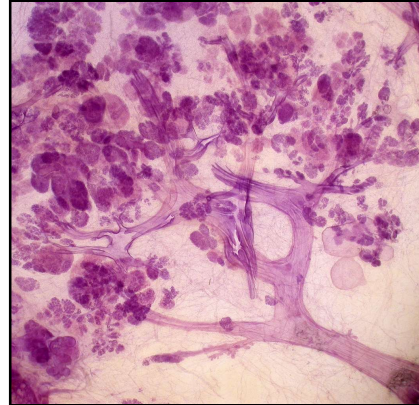
It is our firm belief that competence in breast image interpretation can be best achieved by correlating the 3D histopathology of the normal and abnormal breast tissue with

- Mammograms
- Ultrasound, MRI and
- Other imaging methods.



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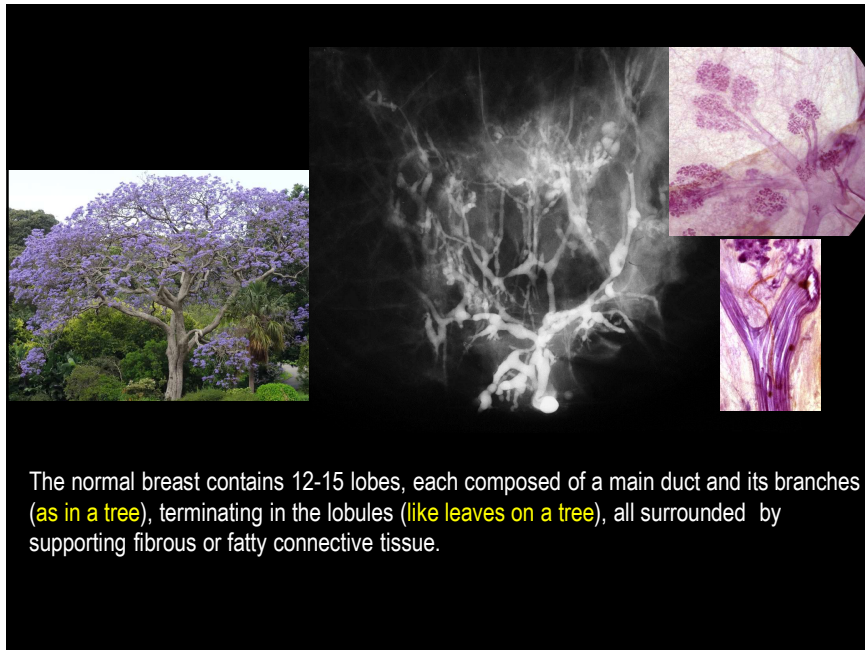
Radiologists have to be specially trained to maximize the benefits of screening, while minimizing over *and* underdiagnosis.



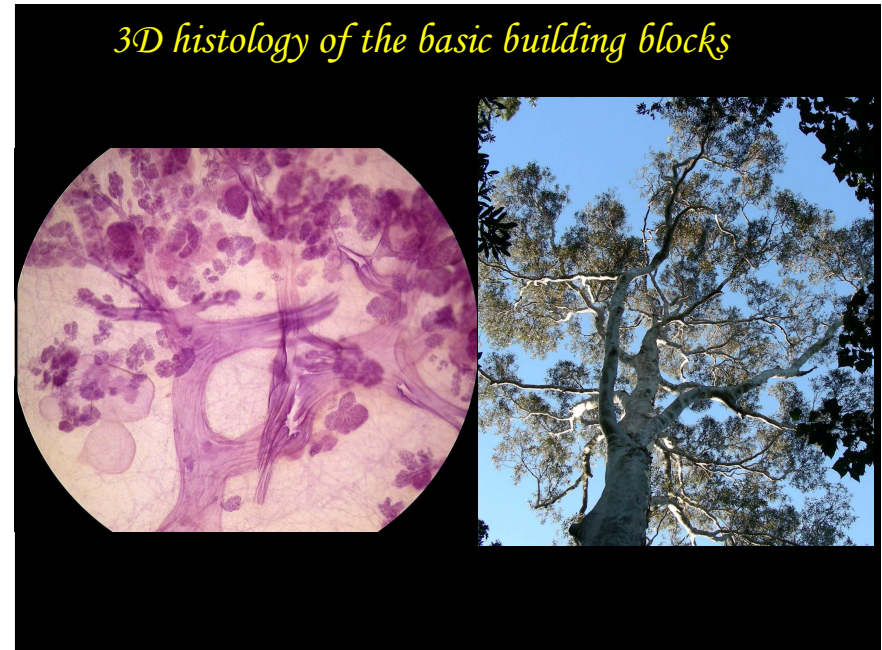
*A single lobe*

Large format thick section histopathologic-mammographic correlation

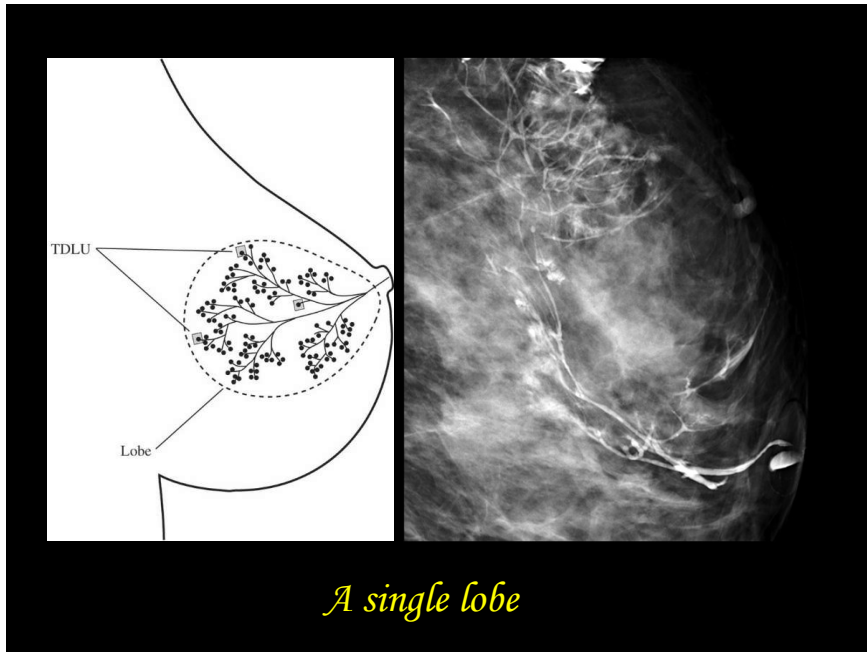
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### NORMAL BREAST ANATOMY

Three of the four basic building blocks (TDLU, ducts and adipose tissue) are discernible on this 3D histology slice.

A lobule consists of 40-60 ductules / acini. This is the site of milk production and also 75% of breast cancers originate from the cells lining the acini (AAI, acinar adenocarcinoma of the breast).

TDLUs on 3D histology and on a galactogram. Terminal duct illustration of subgross breast anatomy using 3D histologic-mammographic comparison.

Large format thick section (subgross, 3D) histology image of neighboring TDLUs. The lobule and the terminal duct combined are termed "terminal Ductal Lobular Unit" (TDLU).

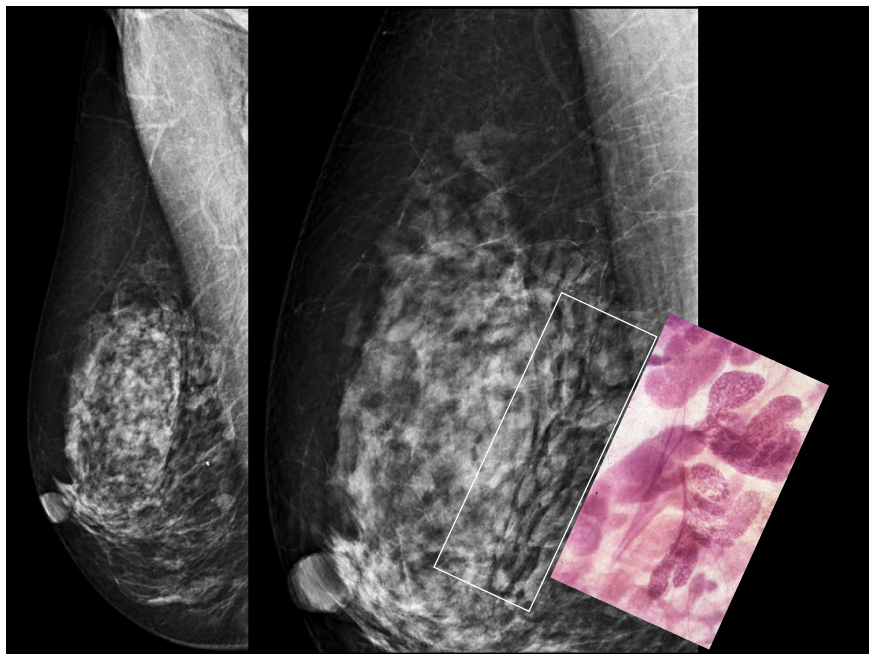
Three of the four basic building blocks (TDLU, ducts and adipose tissue) are discernible on these mammograms.

TDLUs

Milk ducts

The size of a normal TDLU varies between 0.7 - 1.5 mm.

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