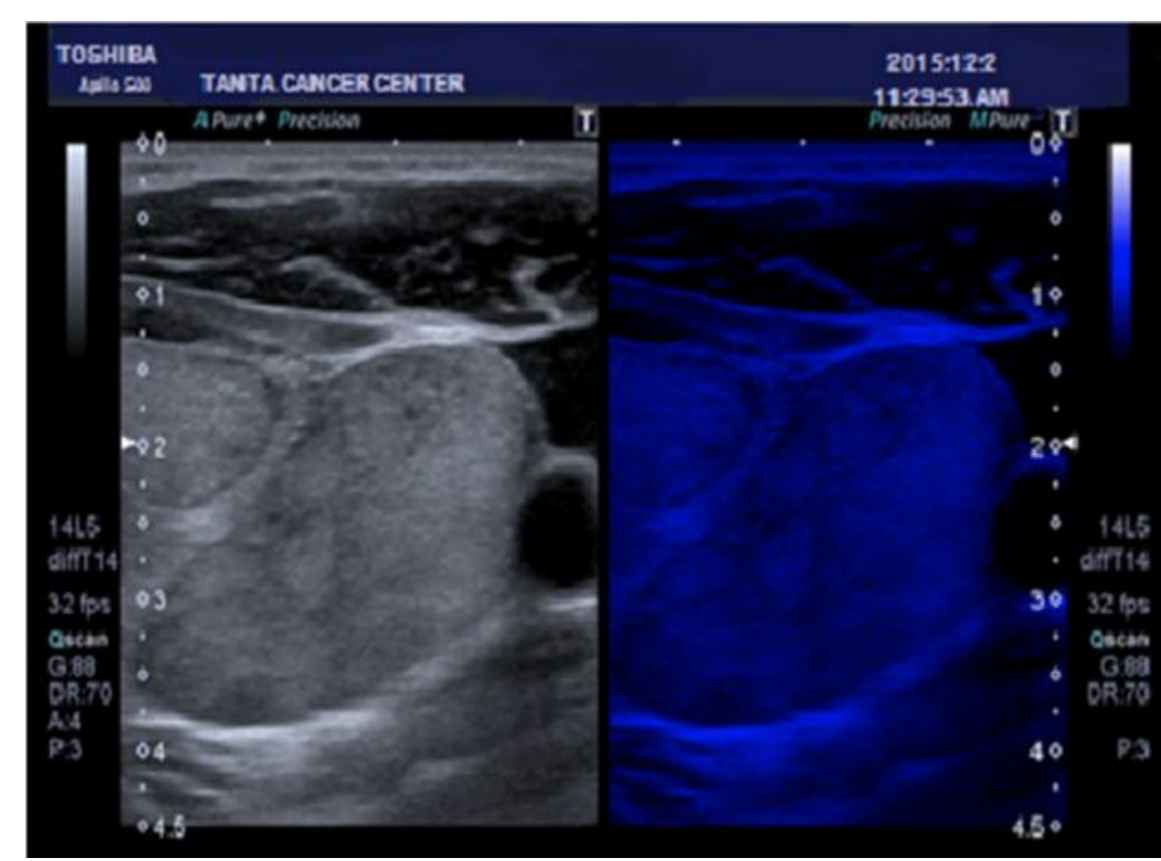


### Introduction

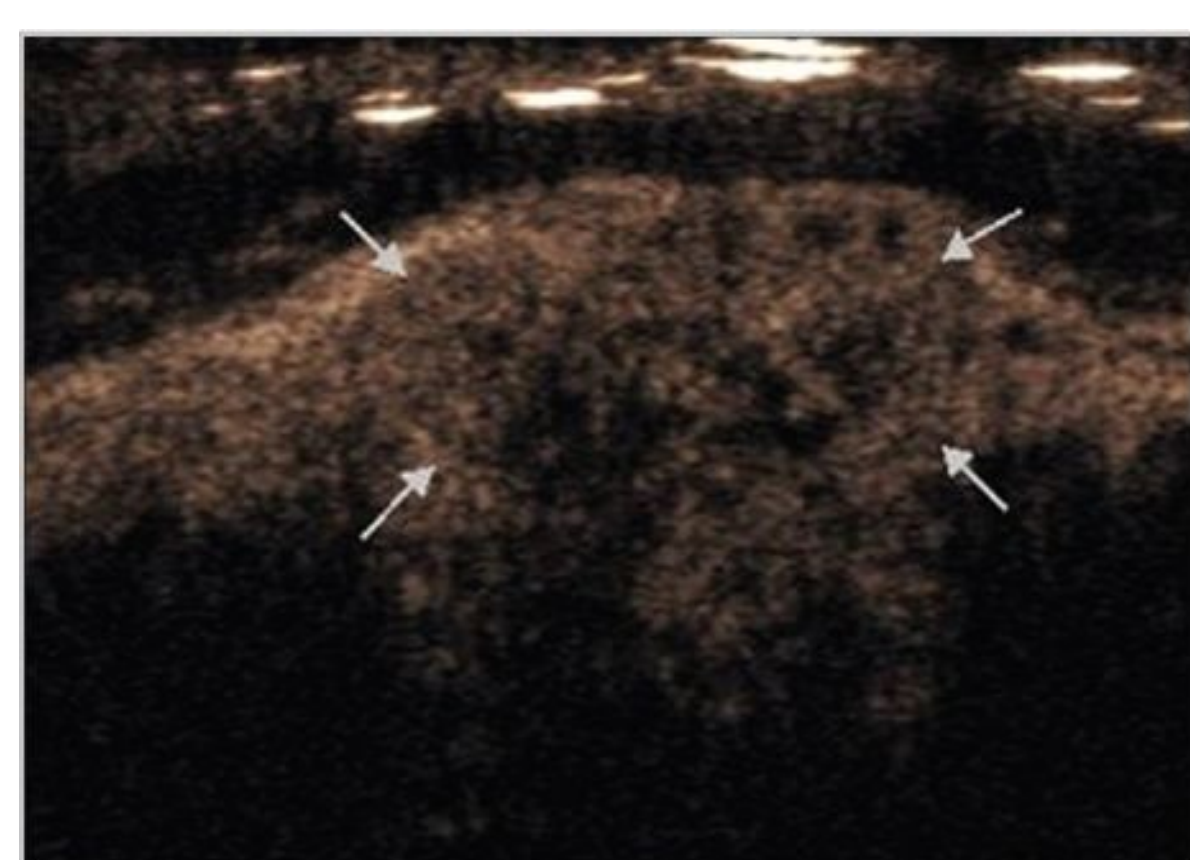
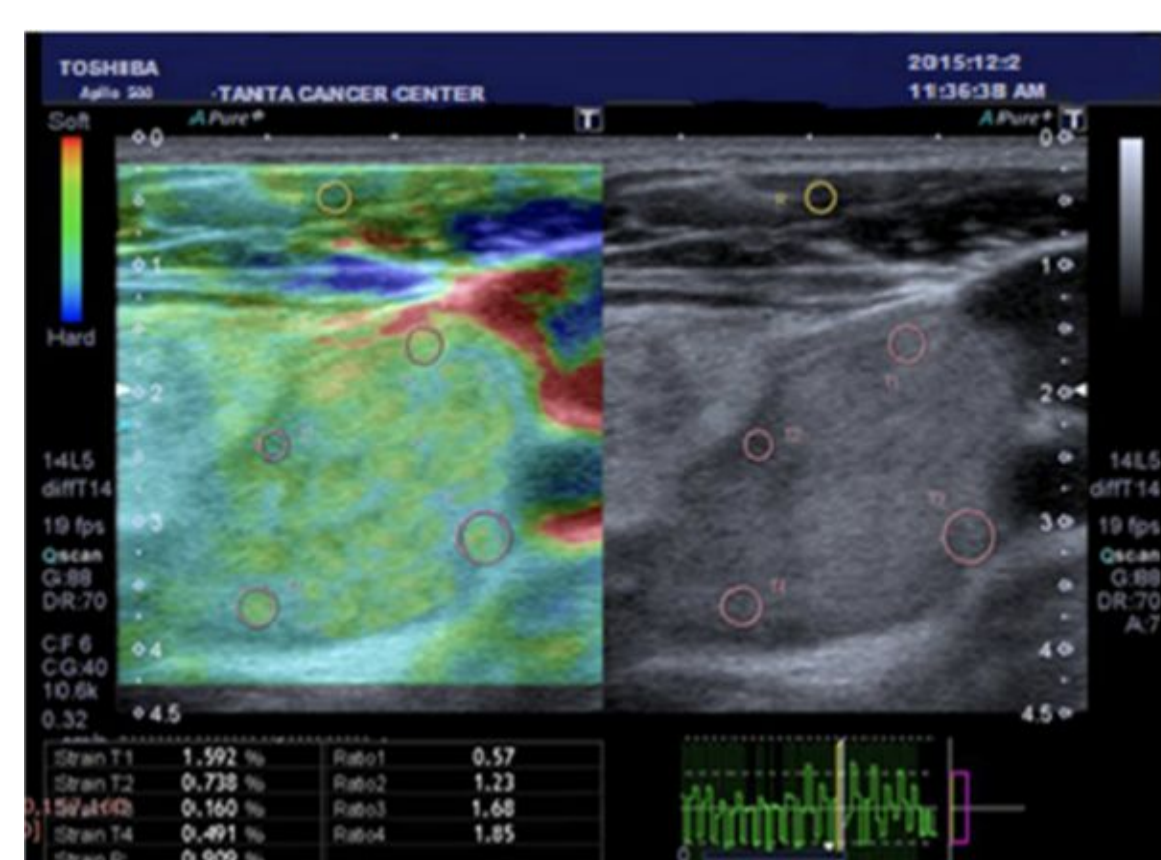
Thyroid nodules are common in adults, and the prevalence of thyroid cancer has been increasing. It can be challenging to distinguish between benign and malignant thyroid nodules. Ultrasound is a non-invasive and straightforward imaging technique that is an excellent initial diagnostic tool for assessing thyroid nodules. Different ultrasound methods are used to detect thyroid nodules, each with its own benefits and drawbacks.

### Examples of Types of Modalities



Left Image: Normal Ultrasound  
 Right Image: Micropure Imaging Modality

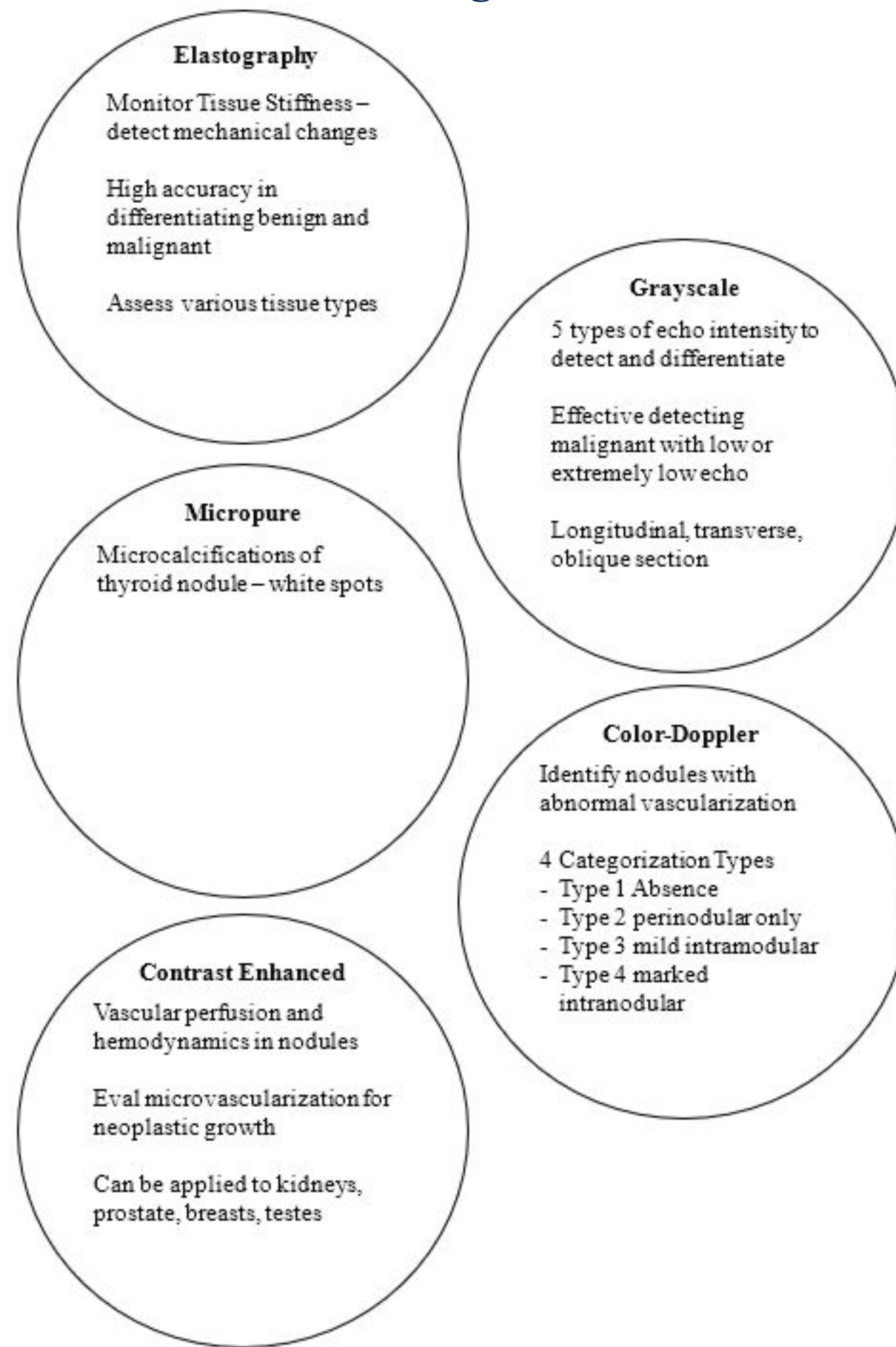
Color Doppler



Left Image: Elastography

Contrast Enhanced

### Background



### Methods

- The data was collected from a compilation of systematic reviews published on pubmed.
- To refine the results, an advanced search featuring "thyroid ultrasound detection" with systematic review selected as the sole article type and a publication date limit of the past ten years.
- This yielded a total of 55 systematic reviews.
- From there, search terms such as "thyroid nodules," "ultrasound," and "detection" were employed, reducing the number to 20.
- These were analyzed to evaluate various ultrasound modalities

### Going Forward

Each modality serves a specific purpose in diagnosing thyroid nodules as benign or malignant, and numerous studies have been conducted to compare these modalities.

One characteristic not discussed in these studies was the timing between the development of the nodules and when ultrasound scans were performed. While many of these studies were conducted over months or years, only one scan was performed on each patient, followed by fine needle aspiration for definitive diagnosis, without providing information on the progression of the disease.

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### References



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