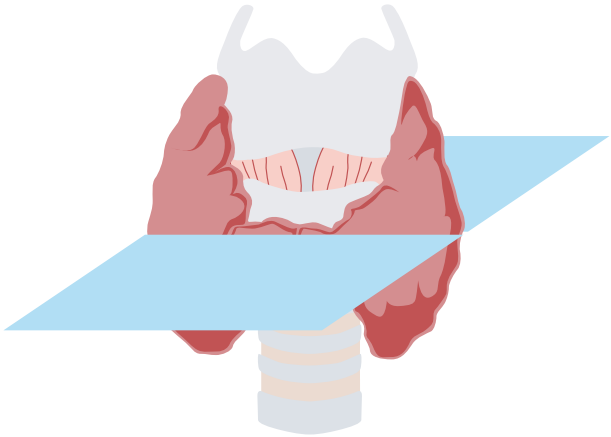
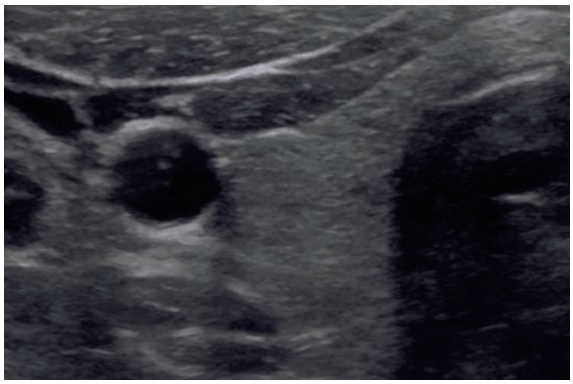
THYROID IMAGING

Interpeting a normal thyroid ultrasound

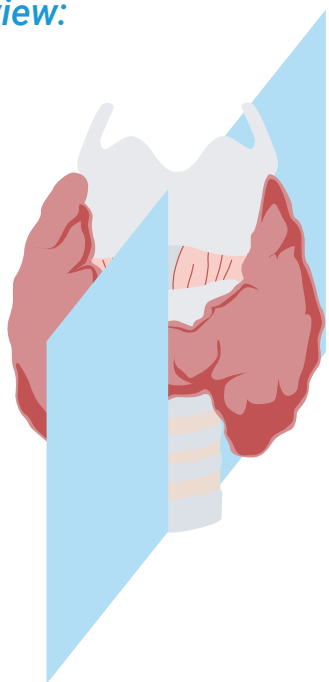
Ultrasound is a very useful tool for evaluating the thyroid. The thyroid can be viewed in the transverse or sagittal view.

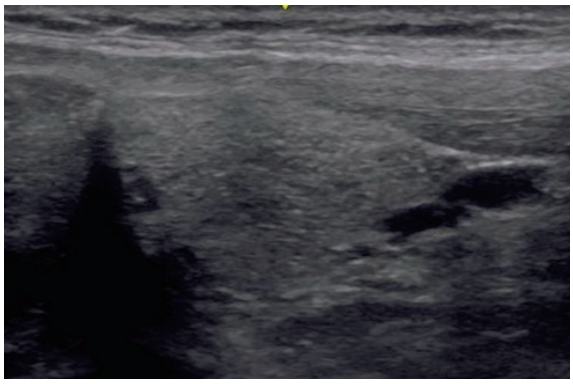
Transverse view:





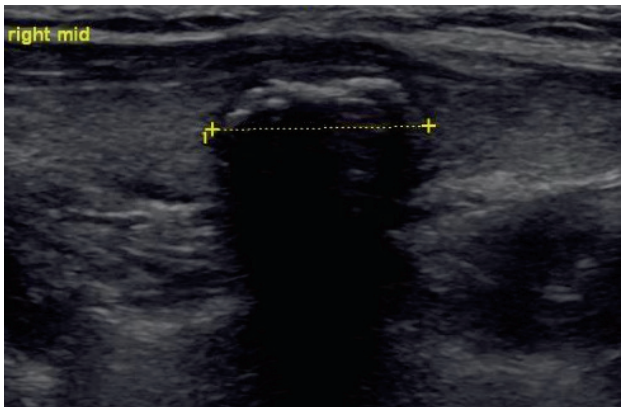
Sagittal view:



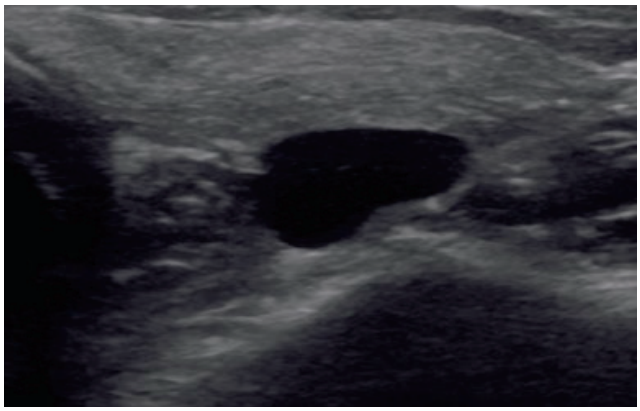


Different tissue densities appear differently on ultrasound. Calcifications reflect back nearly 100% of US waves and appear very bright (hyperechoic) with posterior shadowing.

Cystic structures reflect virtually no waves and appear black on ultrasound.



Hyperechoic—calcified structures



Hypoechoic—cysts

Using these differences in ultrasound wave reflection properties, we are able to identify various abnormalities on thyroid exam, including nodules, inflammation, and changes in vascularity.

Further reading

Levine RA. Thyroid Ultrasound Physics. *Thyroid Ultrasound and Ultrasound-Guided FNA.* Eds. Baskin HJ, Duick DS, Levine RA. New York: Springer. 2013. p. 9–27.

Treadwell DR. Normal Neck Anatomy and Method of Performing Ultrasound Examination. *Thyroid Ultrasound and Ultrasound-Guided FNA.* Eds. Baskin HJ, Duick DS, Levine RA. New York: Springer. 2013. p. 49–64.