

GUNDERSEN HEALTH SYSTEM ULTRASOUND DEPARTMENT POLICY AND PROCEDURE MANUAL

SUBJECT: Thyroid Ultrasound Exam
SECTION: Radiology Ultrasound
ORIGINATOR: Deborah L. Richert, BSVT, RDMS, RVT
REVISED DATE: April 9, 2019

APPROVED BY: _____
Jody Riherd, MD

Dave Clayton, RDMS, RVT

Scheduling: One every half hour

Prep: None.

Equipment: Ultrasound unit with at least a 5 MHz liner or curved linear transducer. It may be necessary to have a unit with a 7.5 MHz or higher transducer.

Exam Protocol: With ultrasound the thyroid gland will be thoroughly evaluated.

Documentation: Even though only specific images are documented; all soft tissues of the neck will be scanned in detail. The following images will represent the thyroid ultrasound exam (additional images may be necessary for proper documentation). *The four largest thyroid nodules (> 1 cm.) are measured regardless of which lobe they are in. Subcentimeter nodules do not need to be measured unless they contain suspicious characteristics as described on the worksheet.*

- Image the right lobe of the thyroid transversely from superior to inferior (at least three images – upper, mid, lower – should be obtained). As thyroid nodules are seen measure the nodule in the transverse orientation first, then immediately measure the nodule in the longitudinal orientation. **Use a split screen format when measuring thyroid nodule volume. A color Doppler image should also be obtained of each thyroid nodule.** Continue imaging the thyroid transversely until completely evaluated. The maximum transverse measurement of the right lobe should be obtained.
- Three representative longitudinal images of right lobe of thyroid: medial, mid, lateral (one with maximum length and AP measurements).
- Transverse image of thyroid isthmus.

- Image the left lobe of the thyroid transversely from superior to inferior (at least three images – upper, mid, lower – should be obtained). As thyroid nodules are seen measure the nodule in the transverse orientation first, then immediately measure the nodule in the longitudinal orientation.
- Continue imaging the thyroid transversely until completely evaluated. The maximum transverse measurement of the left lobe should be obtained.
- Three representative longitudinal images of left lobe or thyroid: medial, mid, lateral (one with maximum length and AP measurements).
- Transverse color Doppler image of the entire thyroid gland.
- Longitudinal image of the RT lobe of the thyroid.
- Longitudinal image of the LT lobe of the thyroid.
- **When multiple thyroid nodules are seen cineclips should be obtained in the axial/transverse plane of each thyroid lobe.**

The TI RADS scoring for thyroid nodules is listed below. Please refer to the revised thyroid worksheet attached to this protocol for the descriptions of the TI RADS characteristics and scoring. **If this is the patient's FIRST thyroid ultrasound do NOT fill in the TI RADS scoring on the worksheet – the reading radiologist will determine the score and dictate it in the report.**

TI RADS SCORING:

- 0-1: TI RADS 1
- 2: TI RADS 2
- 3: TI RADS 3
- 4-6: TI RADS 4
- 7+: TI RADS 5

ACR Thyroid Imaging, Reporting and Data System (TI-RADS) FNA recommendation:

Points	TI RADS	FNA
0-1	1	No FNA recommended
2	2	No FNA recommended
3	3	FNA if >2.5 cm
4-6	4	FNA if >1.5 cm
>7	5	FNA recommended

Name: _____

Sonographer: _____ Date: _____

MRN: _____

Previous US date: _____

Previous FNA? Yes/No History _____

Nodule #: _____ TI-RADS _____ prev _____

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Size: _____ cm _____ cc. Previous _____ cc

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Composition: Cystic(0)/Spongiform(0)/Mixed(1)/Solid(2)

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Echogenicity: Anechoic(0)/Hyper(1)/Iso(1)/Hypo(2)/

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Very Hypo(3)

Very Hypo(3)

Shape: Wider than tall(0)/Taller than wide(3)

Shape: Wider than tall(0)/Taller than wide(3)

Margin: Smooth(0)/Ill defined(0)/Lobular (2)/irregular(2)/ETE(3)

Margin: Smooth(0)/Ill defined(0)/Lobular (2)/irregular(2)/ETE(3)

Echogenic Foci: None(0)/Macro(1)/Peripheral(2)/Punctate(3)

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Nodule #: _____ TI-RADS _____ prev _____

Size: _____ cm _____ cc. Previous _____ cc

Composition: Cystic(0)/Spongiform(0)/Mixed(1)/Solid(2)

Echogenicity: Anechoic(0)/Hyper(1)/Iso(1)/Hypo(2)/

Very Hypo(3)

Shape: Wider than tall(0)/Taller than wide(3)

Margin: Smooth(0)/Ill defined(0)/Lobular (2)/irregular(2)/ETE(3)

Echogenic Foci: None(0)/Macro(1)/Peripheral(2)/Punctate(3)

Nodule #: _____ TI-RADS _____ prev _____

Size: _____ cm _____ cc. Previous _____ cc

Composition: Cystic(0)/Spongiform(0)/Mixed(1)/Solid(2)

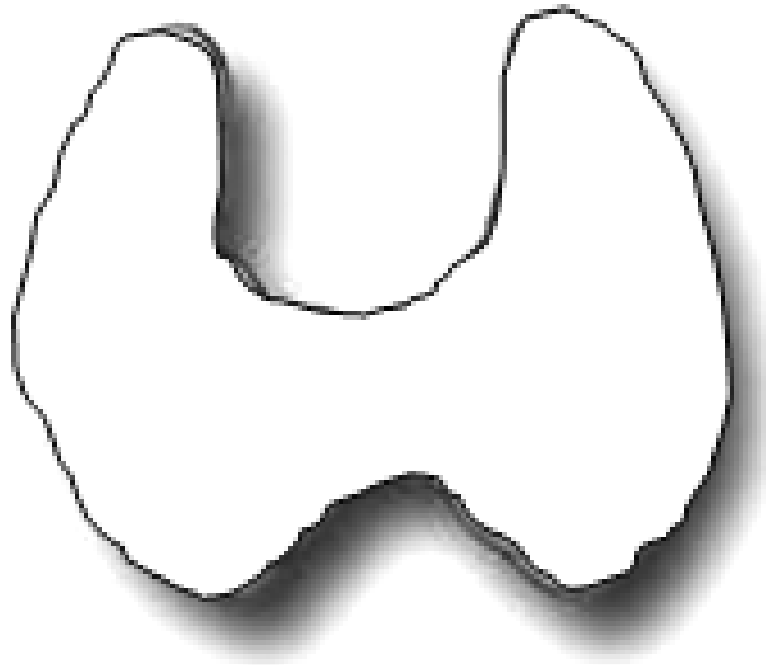
Echogenicity: Anechoic(0)/Hyper(1)/Iso(1)/Hypo(2)/

Very Hypo(3)

Shape: Wider than tall(0)/Taller than wide(3)

Margin: Smooth(0)/Ill defined(0)/Lobular (2)/irregular(2)/ETE(3)

Echogenic Foci: None(0)/Macro(1)/Peripheral(2)/Punctate(3)



Right Thyroid: _____ cm

Left Thyroid: _____ cm

Isthmus: _____ cm

Notes: _____

**ETE: extra thyroid extension*

**Composition: compare to thyroid*

Very hypoechoic: more than strap muscle

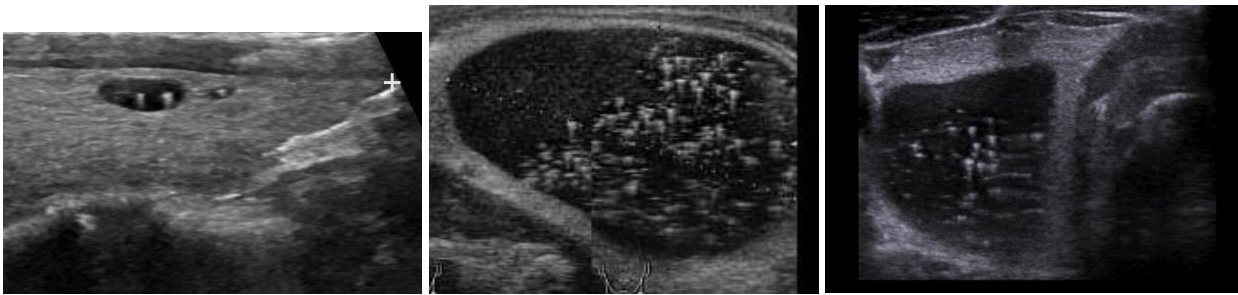
**Taller than wide: axial plane*

TI RADS SCORING

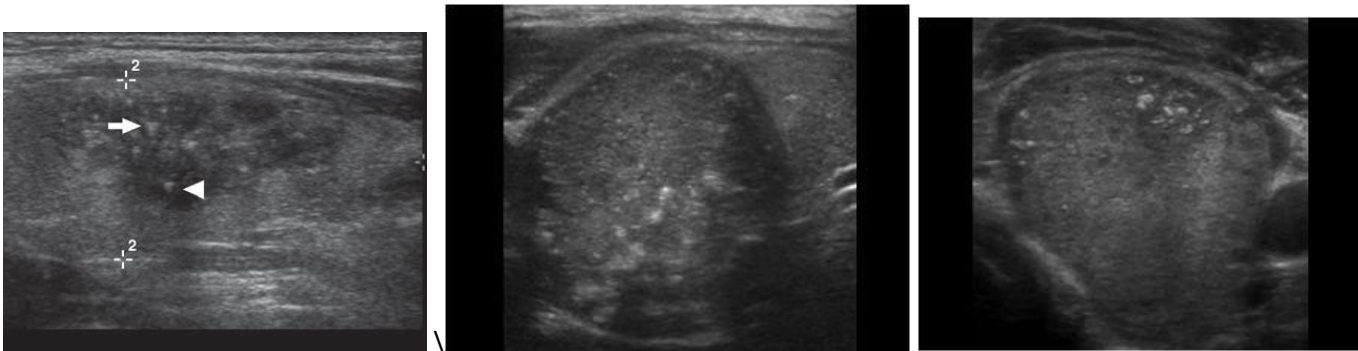
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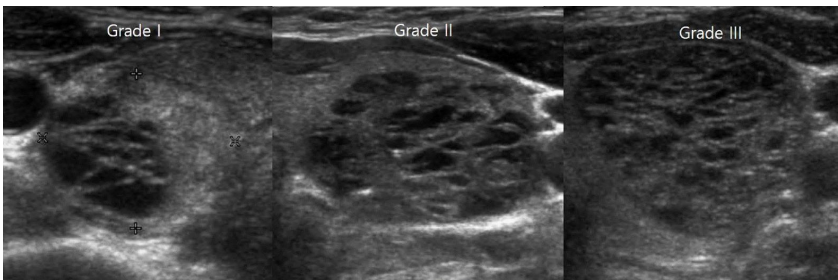
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Colloid: Echogenic focus with large (2 mm) comet tail artifact in a cyst



Microcalcification/Punctate echogenic foci: found in a solid lesion/solid component, can occasionally have small comet tail



Spongiform nodules: microcystic spaces with multiple septations