THYROID ULTRASOUND

Patient Prep: There is not patient prep for this exam.

Survey:

Perform a real-time survey of the thyroid and neck.

Use Doppler or color flow to distinguish vessels and on any abnormalities.

Image Documentation:

Each image must be labeled with the patient's full name, medical record number, accession number, initials of the imaging technologist, organ/area identification, scanning plane and patient orientation if different from supine.

General Procedure description:

1. Evaluate the thyroid lobes bilaterally and the isthmus for size and echogenicity.
2. Evaluate the thyroid and neck for any abnormalities.
3. A high frequency linear transducer needs to be utilized.
4. Patient in the supine position with the neck slightly hyper extended. A pillow may be utilized to help position the neck.
5. Obtain patient history (prior cancer, thyroid surgery, thyroid meds and etc.).
6. Obtain any prior studies with report for comparison.
7. Measure each lobe in three planes.
8. Color Doppler images of each lobe and isthmus.
9. Color Doppler images of each nodule.
10. If the thyroid has been surgically removed or abnormal lymph nodes are seen refer to the Thyroidectomy-Neck Protocol.

THYROID:

Images of both thyroid lobes needed (right and left).

1. Two longitudinal lateral images.
2. Two longitudinal midline images.
3. Two longitudinal medial images.
4. Images longitudinal with and without color Doppler.
5. Images longitudinal with and without measurements.
6. Two transverse superior images.
7. Two transverse midline images.
8. Two transverse inferior images.
9. Images transverse with and without color Doppler.
10. Images transverse with and without measurement.
11. Image and measure the isthmus.

PATHOLOGY:

1. Provide measurements of the four (4) most suspicious nodules in the thyroid gland.
    a. Measurements of less suspicious (for malignancy) nodules are not required and should not be routinely done unless there is a question about what the most suspicious nodule is.
    b. If it is not entirely clear if a nodule is solid/cystic/spongiform or calcified take cine clips through the nodule (in both planes).
2. Image any pathology visualized outside the thyroid with special attention given to abnormal lymph nodes. Include longitudinal and transverse images with and without measurements. Provide images with and without color Doppler.
3. If no pathology is visualized outside the thyroid, take one image of the right and left neck in longitudinal and transverse plane to show
4. that the neck was evaluated.
5. Document all findings on the technologist worksheet.

NODULES SUSPICIOUS FOR MALIGNANCY:

1. All cyst or < 50 % cystic (not suspicious) < mixed solid and cystic < mostly solid to solid (most suspicious)
2. Hyper or Isoechoic (least suspicious) < Hypoechoic < Very Hypoechoic (most suspicious)
3. Taller than wide
4. Margins: lobulated or irregular or tumor extends beyond thyroid gland
5. Echogenic Foci: Large (macro) calcifications (least suspicious) < rim (peripheral) calcifications < punctate (tiny) calcifications (most suspicious).
6. Please be aware of what is called a Spongiform nodule (complex cystic nodule that looks like a cut pastry) that often contains tiny echogenic foci (with comment tail artifacts) ➔ these are benign colloid nodules and sometimes confused for more serious nodules. Cine clips can help tell the difference between these benign echogenic foci and the concerning other type (microcalcifications).