

**Audit Title:** Clinical Audit of Thyroid Biopsy Adequacy

**Descriptor:** This audit assesses whether the diagnostic yield of thyroid biopsies meets that of published research studies.

**Background:**

Ultrasound guided fine needle aspiration cytology is a principal method to characterize thyroid nodules. Commonly the Bethesda system (1) is used to classify aspirates. Samples classified as “non-diagnostic or unsatisfactory” can be a source of frustration for referring clinician, patient, radiologist and pathologist.

**The cycle:**

**The Standard:**

An inadequacy rate (non-diagnostic or unsatisfactory) of 13% has been cited in the literature for fine needle aspiration cytology of thyroid nodules (2).

**Target:**

1. The inadequacy rate should meet or exceed the published standard of 13%.

**Assessment of local practice:**

**Data items to be collected**

- Obtain list from pathology department of the last 100 patients undergoing an ultrasound guided thyroid biopsy.
- Review the radiology and pathology reports.
- Classify reports as either diagnostic or non-diagnostic/unsatisfactory. Determine the number of cases that were labeled as “non-diagnostic/unsatisfactory” by Bethesda system criteria. Of the non-diagnostic subgroup, determine which cases had benign cyst fluid, acellular specimens or other (eg. clotting artifact). Review ultrasound findings to determine which samples are sonographically consistent with a benign cyst.

**Suggestions for change if the target is not met:**

- Note that under the Bethesda classification system cyst fluid samples are classified as “non-diagnostic” and may be a source of confusion to the referring physician. Engage the pathology department to include language in their report that reflects when a sonographically benign cyst has been sampled. For example, “cyst fluid only, not evidence of thyroid malignancy”.
- Optimize collection of samples by using different storage buffers.
- Optimize collection of samples with a cytology technician present at the time of biopsy.
- Audit of variability between radiologists undertaking the procedure.

**Resources:**

- Compilation of pathology and radiology reports with 2-3 audit participants (~6h-12).
- Analysis (~2h)

REFERENCES:

1. Cibas, ES and Ali, SZ. The Bethesda System for Reporting Thyroid Cytopathology. *American Journal of Clinical Pathology* (2009) 132, 658-665.

2. Ohori NP, Schoedel KE. *Variability in the atypia of undetermined significance/follicular lesion of undetermined significance diagnosis in the Bethesda system for reporting thyroid cytopathology: sources and recommendations. Acta Cytol* (2011) 55:492–8.

Submitted by:

Michael Kozoriz, MD-PhD, Dipinder Keer, MD, Tiwari Pari, MD and Patrick Vos, MD.