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Increasing Ultrasound-Guided Thyroid Biopsy Yield

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Obtaining adequate biopsies can impact patient care. The rate of inadequate biopsy varies widely despite ultrasound guidance (59.3%-99.6%). Two modifiable factors are consistently identified, which improve thyroid biopsy yield: operator experience and cytology involvement.

Methods and Materials

Unsuccessful biopsies reviewed for underlying causal factors:
- 2 major factors: lack of cytology availability and operator variability.
- Schedule adjusted to accommodate all patients into thyroid clinic conducted by single subspecialist.
- Coordination with TJUH pathology department to provide tele-cytology services for review of all ultrasound guided thyroid biopsies.
- Resident team member collects and analyzes inadequate thyroid biopsies for future improvement events (PDSA).

Results

In the first two quarters of FY 2016, there were 1 and 0 inadequate biopsies, respectively. The Fallout was unexpected lack of tele-cytology findings affecting patient care.

Future Direction

- Continue to analyze adequate biopsy rates to verify improvement (PDSA).
- Periodically review failures to identify common causes to implement future improvements (PDSA).

Graph 1. Thyroid Biopsy Successful Sample Rate.

Graph 2. MHD Thyroid Biopsy Volume.

Significance/Lessons Learned

In the first two quarters since quality improvement measures have been implemented, there has been improvement in the rate of successful biopsies.
- Leveraging provider experience can provide improved care.
- Standardizing the approach improves team performance.
- Support staff better understand their role with less variability on the part of the proceduralist.
- Inter-disciplinary collaboration and technology leveraging allow involvement of cytopathology increases adequate biopsy yield.

Graph 2. MHD Thyroid Biopsy Volume.