



[Single versus sequential fine-needle aspiration biopsy in the management of thyroid nodular disease.](https://arctichealth.org/en/permalink/ahliterature175814)

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Abstract:

Fine-needle aspiration biopsy (FNAB) is considered a safe, reliable and cost-effective means of selecting thyroid nodules with risk for malignancy. However, there are limitations of this method including false positive/negative and "nondiagnostic" results that may be reduced by repeating FNAB.

To evaluate accuracy, sensitivity, specificity and costs of sequential FNAB in the management of thyroid nodular disease.

Charts of all patients who underwent thyroidectomy at a university teaching hospital in Toronto from 1998 to 2000 were reviewed. FNAB reports of "suspicious for malignancy," "follicular lesion" and "cellular atypia" were considered to be positive. Data were analyzed with chi2 and z tests.

There were 268 patients (225 women and 43 men; age range 18-89 yr; mean age 47 yr) who underwent a total of 449 FNABs (mean 1.7 FNABs/patient) within a year before thyroidectomy. Accuracy (63.8%), sensitivity (73.8%) and specificity (69%) were determined for single FNABs. Sequential FNAB increased the accuracy of method by 22.6%, sensitivity by 13.8% and specificity by 6.2%, with reduction of false positive/negative results by 14.2% and "nondiagnostic" results by 100%. However, the costs of sequential cytology per patient were 70% higher than single FNAB.

Multiple FNABs are unpleasant for patients, but useful in the selection for treatment of patients with thyroid nodular diseases. Although sequential FNAB increases the costs of method, the improvement of precision of FNAB may imply a reduction in overall health-care costs.

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