Comparing ROSEs: A Comparison of Telecytology ROSE with Traditional ROSE

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ABSTRACT

Introduction: Traditional rapid on-site evaluations (ROSE) for cytology fine needle aspirations and touch preparations can constrain pathologist time and decrease their productivity. Our aim was to compare the use of telecytology for remote ROSE evaluations with traditional ROSE evaluations, and assess the impact on performance and cytopathologist time.

Materials & Methods: A total of 440 cases (220 traditional ROSE and 220 telecytology ROSE) were reviewed from two comparable three-month time periods, pre- and post-telecytology implementation. Telecytology was performed using Remote Medical Technologies (RMT) telecytology system (iMedHD2, Melville, NY). Data was extracted from final reports generated in the laboratory information system (CoPath v. 2014).

Results: Table 1 summarizes pre-and post-implementation evaluated parameters. The implementation of telecytology decreased cytopathologists' work time per ROSE case from an average of 20.95 min per case to 2.91 min per case (% 86.1% time savings). The non-diagnostic rate for traditional ROSE was 7.7%, compared with 4.1% after the implementation of telecytology, and the deferral rate went from 43.6% for traditional ROSE to 44.1% with telecytology. Traditional ROSE diagnoses correlated with final diagnoses in 91.8% cases, compared to 95.5% with telecytology.

Conclusion: The implementation of telecytology for ROSE resulted in a significant time savings for the cytopathologist, without causing a significant change in diagnostic performance. This demonstrates that an upfront investment in telecytology can maximize efficiency for cytopathologists performing ROSE and offers a way to more easily expand services to more remote locations.

INTRODUCTION

- Traditional rapid on-site evaluations (ROSE) for cytology fine needle aspirations and touch preparations can constrain pathologist time and decrease their productivity.
- Our aim was to compare the use of telecytology for remote ROSE evaluations with traditional ROSE evaluations, and assess the impact on performance and cytopathologist time.

MATERIALS AND METHODS

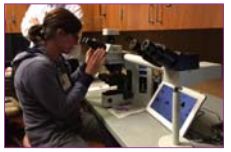
- A total of 440 cases (220 traditional ROSE and 220 telecytology ROSE) were reviewed from two comparable three-month time periods, pre- and post-telecytology implementation.
- Telecytology was performed using the Remote Medical Technologies (RMT) telecytology system (iMedHD2, Melville, NY).
- Data was extracted from final reports generated in the laboratory information system (CoPath).

Parameter	Pre-Implementation (Traditional ROSE)	Post-Implementation (Telecytology ROSE)
Time period (3 months)	November 2016-January 2017	November 2017-January 2018
Number of cases	220	220
Time		
Cytopathologists' work time/ROSE	Avg. 20.95 min	Avg. 2.91 min
Range of procedure time per case	2-75 min	1-71 min
Read time during ROSE (total)	642 min	642 min
Range of Read time per case	1-11 min	1-16 min
Wait time during ROSE (total)	1627 min	979 min
Range of Wait time per case	0-56 min	0-48 min
Diagnostic Performance		
% Non-diagnostic cases	7.7%	4.1%
% Deferred diagnoses	43.6%	44.1%
Concordance with final diagnosis	91.8%	95.5%
Discordance with final diagnosis	8.2%	4.5%

Table 1. Comparison of Diagnostic Performance and Work time Pre- and Post-Telecytology

RESULTS

- Table 1 summarizes the pre-and post-implementation evaluated parameters.
- The implementation of telecytology decreased cytopathologists' work time per ROSE case from an average of 20.95 min per case to 2.91 min per case (86.1% time savings).



- The non-diagnostic rate for traditional ROSE was 7.7%, compared with 4.1% after the implementation of telecytology, and the deferral rate went from 43.6% for traditional ROSE to 44.1% with telecytology.
- Traditional ROSE diagnoses correlated with final diagnoses in 91.8% cases, compared to 95.5% with telecytology.

CONCLUSIONS

- The implementation of telecytology for ROSE resulted in a significant time savings for the cytopathologist, without causing a significant change in diagnostic performance.
- This demonstrates that an upfront investment in telecytology can maximize the efficiency for cytopathologists performing ROSE and offers a way to more easily expand services to more remote locations.

No relationship exists that represents a possible conflict of interest with regard to the content of this presentation.