on the need for admission, agreement on the DST's prediction of disposition was 88.2% (expected 70.6%) κ 0.585 p< 0.001. Where the reviewer and end user disagreed on disposition, agreement was 61.7% (expected 62.6%) κ -0.026 p=NS. There was only fair agreement on the value of explanation case provided by the software (observed 69.5% (expected 56.7%) κ 0.296 p <0.001). Agreement on the usefulness of the explanatory dialogue was poor of 61.6% (expected 55.4%), κ 0.139 p=0.07.
Conclusions: A single reviewer had moderate agreement with end users when evaluating a DST's predicted disposition. Agreement decreased as the subjectivity of the components being evaluated increased.

7 Pediatric Respiratory Infectious Disease Analysis: UTM-RT versus Flocked Swab Nasal Collections

Paul Walsh[1], Christina Lim Overmyer[2], Larisa Gofman[2], Tuan Anh Nguyen[1], Scott Michaelson[1], James Pusavat[1], Lisa DeSalvia[2], Diana Gonzalez[2], Melanie Feola[2], K. Anthony Nguyen[1], Kathryn T. Iacono[2], Eli Mordechai[2], Martin E. Adelson[2]
[1] Kern Medical Center, Department of Emergency Medicine Bakersfield, CA; [2]Department of Research and Development, Medical Diagnostic Laboratories, LLC, Hamilton, NJ 08690

Background: The collection of anterior nasal washings using saline and a suction bulb has become a standard method for obtaining specimens. Nasopharyngeal swabs and washings are invasive. We measured the agreement for pathogen RNA/DNA detection by PCR between anterior nasal swabs and anterior nasal washings.
Methods: Informed consent was obtained. Children up to 18 months of age with a clinical indication for RSV antigen testing were enrolled. A flocked swab was placed in 25 mm inside the nares and immediately placed in a tube containing 1 ml of UTM-RT. Nasal washings were obtained from the opposite nostril of which 0.5 ml was placed in 0.5 ml of UTM-RT. The side and order in which these were obtained was randomly assigned. The samples were stored at 4°C prior to being frozen to –20°C. Aliquots of the UTM-RT were extracted for DNA (Corbett Robotics X-Tractor Gene System) and RNA (Qiagen QIAmp Viral RNA Isolation Kit). DNA extractions were assayed for *Bordetella pertussis* (B. para) and *Bordetella parapertussis* (B. pert) by Real-Time PCR; RNA was assayed for RSV A, human metapneumovirus (hMPV), Influenza A (INF A), and Influenza B (INF B) by reverse transcriptase PCR (either conventional or real-time). Agreement between collection methods was measured with the kappa statistic using Stata 9.2 statistical software.
Results: Ninety-eight patients were enrolled. Agreement between swab and washing for the for RSV-A, hMPV and the detection of any pathogen was substantial at 90.8% (expected 72.0%, κ 0.67, p<0.001) and almost perfect at 99.0% (expected 77.7%, κ 0.95, p<0.001) respectively. The agreement for the presence of any agent was substantial at 88.5% (expected 55.3% κ 0.74, p<0.001). The results of the testing are summarized below:

	hMPV	RSV A	INF A	INF B	B para	B pert
Washings (%)	13 (13.3)	15 (15.3)	2 (2.0)	2 (2.0)	0	0
Swab (%)	12 (12.2)	18 (18.4)	2 (2.0)	6 (6.0)	0	0

Conclusion: We found substantial agreement between anterior nasal washings and swabs for pathogen detection by PCR in this small sample of infants and toddlers taken early in our bronchiolitis season. Flocked swab collection method appears to yield greater detection for INF B and RSV A. However, a larger sample size will be required for a more thorough evaluation of the efficacy of the specimen collection methods.

8 Predicting Complications in Older Adults with Blunt Chest Trauma

S. Kaku, M. Menchine, C. Patel, F. Vaca, C. Anderson M. Lekawa, M. Dolich, S. Lotfipour
University of California, Irvine, Orange, CA

Background: Pulmonary complications increase morbidity and mortality in elderly trauma patients. Little is known about the incidence or variables associated with these adverse events in elderly trauma patients with blunt thoracic injury.
Objective: To determine the prevalence of adverse events in elderly trauma patients with blunt thoracic trauma and to identify variables associated with these adverse events.
Methods: We performed an explicit chart review of 160 trauma patients over age 65 with significant blunt thoracic trauma. Cases were identified from the UCI trauma registry, a prospective data collection instrument. From this registry charts were systematically reviewed using an explicit data extraction tool. We excluded patients with serious injury to other body areas (abbreviated injury score ≥ 3) as this confounds the cause of the adverse events. This left a total of 99 patients for analysis. Data collected included patient historical information, physical examination features, radiologic exam findings, length of hospital stay, and clinical outcomes. Adverse events of interest were the development of ARDS or pneumonia, unanticipated intubation, transfer to the ICU for hypoxemia, or death. Data were analyzed with Stata 9.0.
Results: Sixteen of the 99 patients developed one of the five pre-defined adverse events of interest (16.2% CI 9.5-24.9%) including two deaths. 19.2% of those 65-74 experienced an adverse outcome, 6.1% of those 75-84 experienced an adverse outcome, and 28.6% of those over 85 experienced an adverse outcome. All patients were admitted. The mean LOS was 5.8

days in patients without an adverse outcome and 14.6 days in the group with an adverse outcome. Post hoc data analysis revealed that the presence of any one or more of the following: age≥85, initial systolic blood pressure < 90, hemothorax, pneumothorax, three or more unilateral rib fractures, or pulmonary contusion on chest radiograph identified all 16 cases that developed an adverse outcome (sensitivity 100% CI 79.4100%, specificity 38.6% CI 28.1-49.9%).

Conclusion: Adverse events from isolated thoracic trauma in elderly patients complicate 16% of cases in our sample. A simple set of criteria based on advanced age, vital signs and CXR findings was 100% sensitive and 38.5% specific at predicting the development of these adverse events. Absence of these findings may identify patients at sufficiently low risk for serious adverse outcome that they do not require admission. Further prospective studies will be required to validate these criteria and they should not be used to change routine clinical practice at this time.

Index to Abstracts