

## The Use of a Quick Reference Card to Improve the Documentation of the Physical Exam by a Collegiate BLS EMS Organization

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**Objective:** To determine if the use of a physical exam quick reference card for an undergraduate all volunteer basic life support (BLS) emergency medical service (EMS) organization improved documentation of the physical exam. This documentation served as a proxy for performance of the physical exam. **Background:** There are 125 registered collegiate BLS EMS organizations with high turnover in membership (National Collegiate EMS Foundation, 2010). Georgetown University has a student run emergency medical technician EMS organization with over 100 EMT-Basic members. Most research dealing with improved documentation uses personal feedback to individual providers (O'Connor & Megargel, 1994; Joyce, Dutkowski, & Hynes, 1997; Kiefer, Schwartz, & Jacobs, 1993). **Methods:** For this study a novel pocket reference card was created (Figure 1, see online supplementary material). The card included physical exam components pertinent to respiratory, cardiovascular, neurologic or abdominal chief complaints. The card was distributed in both electronic and paper form. This study evaluated documentation of physical elements included in the quick reference card before and after the introduction of the card. Fifty charts involving a chief complaint that was primarily respiratory in nature, neurological in nature, or both were evaluated from the period after the implementation of the reference cards. Fifty charts of matching categories of chief complaint from before the implementation of the reference cards were also evaluated. Each chart was reviewed for the percent completion of the physical exam components on the reference card. The mean percentage completed after the implementation of the reference card was compared to that of before with a null hypothesis that it was not increased by 10 percent. A kappa value was

calculated for the two investigators. **Results:** There was not a significant increase in percentage completion. A two tailed unpaired t-test of data was performed. The difference in mean completion was 2.3% (54% before and 51.7% after implementation of reference card) with a 95% confidence interval of (-10.3%-14.8%), and a p value of .72. To evaluate interrater reliability of the chart reviewers a kappa value was calculated. Weighted kappa of .880 showed very good agreement. **Conclusions:** The study was limited by the fact that the organization began a computerized PCR system 3 months after distribution of the card, and only 50 charts were eligible. The results indicate the reference card was not sufficient to improve documentation. Further research into methods of improving physical exam documentation for this organization should be pursued.

### References

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