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In-car Airway Options for NASCAR Drivers

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The 24 medical students that completed a clerkship in EM at UCSF-Fresno during the 2006 academic year rated their experience of receiving adequate feedback higher than the 20 medical students that rotated in 2005 (mean of 5.96 versus 5.15,  $p=.010$ ). The 2006 students stated that they were highly satisfied with their standardized daily written evaluations (94.1%) and the entire feedback process (94.1%).

**Conclusions:** The use of daily written evaluations and a mid-rotation formal constructive feedback session improves student perception of receiving adequate feedback. Evaluation and feedback in emergency medicine are perceived as problems by a significant number of both medical students and clerkship directors.

### 3 Utilization of the Rapid HIV Test in the Emergency Department

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**Overview:** A patient's HIV status can be critical to the quality of their care in the Emergency Department (ED). A majority of hospitals utilize the standard Enzyme Immunoassay (EIA), with confirmation by the Indirect Fluorescent Antibody (IFA). Both of these tests are time consuming and expensive. A rapid HIV test is currently available for use. Many studies have proven sensitivity and specificity of the test, its cost efficiency and preference by patients, resulting in increased testing, early detection and improved patient care. An extensive literature review was completed utilizing the resources from the Centers for Disease Control (CDC) and PubMed, the database for the National Library of Medicine and the National Institutes of Health. In current research, no studies have assessed whether ED physicians are aware of the test, utilize it, or would utilize it if it were available. It is also unknown whether the availability of this test would change their treatment of a patient in the ED, and if so, what cases.

**Objectives:** 1. Determine the availability of an ED rapid HIV test. 2. Ascertain whether ED physicians would utilize a rapid HIV test. 3. Identify the most common situations in which an ED physician would utilize the rapid HIV test. 4. Determine reasons an ED physician may not use a rapid HIV test in appropriate patients.

**Methods:** Study Design: Survey sent via electronic mail.

**Participants:** Emergency physicians and midlevel providers practicing in emergency departments in California. Timeline: March, 2007. Data Collection and Analysis: SurveyMonkey electronic survey service.

**Results:** Approximately 1200 practitioners were surveyed with 214 responses for an 18% response rate. The geographical variables showed 72% of the respondents were physicians, 25% physician assistants. The size of the ED was

well distributed; half of the EDs reported an annual census of less than 50,000 and the other half a census of 50,000 or longer. Private hospitals were more strongly represented than county facilities at 82% of respondents. A majority of respondents, 84%, do not have the rapid HIV test available to them in the ED. In response to the survey questions, 73% of respondents said they would use a rapid HIV test if it were available, and 53% stated it was difficult to follow up on positive results after the patient is discharged. Currently, 80% said it takes greater than 24 hours to get HIV results. Over half of the respondents stated availability of a rapid HIV test would change their treatment of sexually transmitted diseases, headache, pneumonia and late presentation pregnancy. When asked why they might not use the test, 77% chose post-test counseling.

**Conclusions:** In our study, a majority of emergency medicine practitioners do not have a rapid HIV test available to them. The test currently available to them does not give results within a 24-hour time frame, and it is difficult to follow up on positive results in their patient population. Practitioners would use the test if it was available to them, and they would consider testing patients with pneumonia, sexually transmitted diseases, headache and late presentation pregnancy.

### 4 In-car Airway Options for NASCAR Drivers

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**Background:** "Stock car" drivers may require an emergency airway while still helmeted in their vehicle.

**Objective:** Determine the feasibility of various airway methods utilizing a trapped, helmeted, and apneic stock car driver simulation model.

**Methods:** Using a NASCAR race vehicle a manikin (Laerdel's Sim-Man) was placed in the driver's seat with a HANS device and typical closed face helmet. Airway options included: bag-valve-mask, laryngeal mask airway, intubating LMA, Combitube, digital intubation, Melker® cricothyrotomy kit, Quicktrach® kit, Pertrach® kit, open cricothyrotomy and a "trumpet airway device" (TAD - a nasal trumpet airway with a 5.5 endotracheal tube lodged in the lumen of the nasal trumpet and used as an extension to a bag valve mask device). Two board certified emergency physicians experienced in motorsports medicine and one senior emergency medicine resident physician attempted to implement each airway method. Each physician independently attempted to use each airway method while accessing the manikin via the driver's side window without removing the helmet or HANS device. The physicians were given 20 minutes to determine if each method was possible. If none of the physicians could implement a method

it was considered non-feasible. If any of the physicians could implement the technique it was considered feasible. Implementation was defined as creating chest rise during a ventilation attempt.

**Results:** No method other than the TAD could be implemented due to a lack of access to the oropharynx. The TAD could be placed but did not produce significant chest rise.

**Conclusion:** Most standard airway techniques are not viable in trapped drivers with closed face helmets. The trumpet airway device may help oxygenate such drivers, however, adequate ventilation using this device should be further studied. Motorsports medical personnel should focus on basic airway maneuvers and rapid extrication with helmet removal rather than wasting valuable time attempting more advanced airways in drivers with full face helmets trapped in their race cars.

This project was supported by a grant from the Glen Helen Raceway/Chaparral Motorsports Emergency Trauma Care Fund. Special thanks to Richard Petty Driving Experience and California Speedway for use of the car and venue for this important study.

## 5 Survey of State Licensure Boards Regarding Inter-state Practice of Sports Medicine

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**Purpose:** State licensure boards assure the public health, safety, and welfare of their state by providing licensure and regulation of physicians. In the field of sports medicine, duties of team physicians may include traveling out of state with their teams and practicing medicine. Currently, the certification of sports medicine does not address inter-state practice of medicine. The purpose of this study is to see if state licensure boards have addressed this inter-state practice of medicine which is inherent in sports medicine.

**Methods:** This is an observational study using survey forms sent to each of the 50 state licensure boards. The primary question was whether the state had a provision which addresses the ability of an out-of-state physician to assess and treat a contracted athlete, club, or team while they are in that state. Additional questions addressed the type of provision, limitations and regulations, and means of access. Three separate mailings were made over a total of six months.

**Results:** Thirty-five out of 50 states responded; 20 states have no provision and require full state licensure for the practice of medicine within their state. One State had no provision, but specifically stated the allowance of visiting team physicians

as a courtesy. Fourteen States have some form of provision: within their licensure statute (6), a temporary or emergency license (4), a special event license (2), or a temporary license requiring in-state-physician supervision (2). Thirteen of these states provided further information through websites. **Conclusion:** This survey demonstrates that there is no uniform policy regarding the practice of inter-state sports medicine since there are both states with licensure provisions allowing for out-of-state team physicians, as well as states which strictly require in-state licensure. Since only 28% of states have confirmed they allow out of state practice of sports medicine, this is a significant problem. It will only grow worse if not addressed as interstate travel becomes increasingly necessary due to the expansionary nature of national sporting leagues and rise in popularity of younger leagues. This study also reveals that states without provisions in their original medical practice act have in recent years created addendums allowing for event licensure and temporary licensure. These findings encourage us to push for legislative action to allow sports medicine physicians the privilege of inter-state practice of medicine. In the words of our honorable colleagues in North Carolina, "a bill may be proposed in legislative session."

## 6 Comparing the Evaluations of a Case-Based Reasoning Decision Support Tool by a Single Expert Reviewer with Those of End Users.

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**Background:** The development of decision support tools (DST) requires end-users feedback. This is labor intensive and logistically difficult. These difficulties would be eased if the evaluation of a single expert evaluator accurately reflected that of the end users.

**Objective:** To determine the agreement between physician evaluation of the performance of a case-based reasoning (CBR) DST with that of a single expert reviewer

**Methods:** Ten EPs and three midlevel providers were presented with the results of a CBR-based DST designed to predict disposition of children presenting to the ED with bronchiolitis. Each evaluated the predicted disposition, explanatory case, and explanatory dialogue generated by the software using a five-point descriptive scale. The expert reviewer relied on case notes and was blinded to actual disposition. Agreement was measured using the kappa statistic.

**Results:** The case notes and DST output of 109 patients were evaluated. Where the end user and expert evaluator agreed