

limited by small sample size, use of highly trained and experienced sonographers, and referral bias. Our primary objective was to assess the test characteristics of POCUS performed by a large heterogeneous group of emergency physicians (EPs) for the diagnosis of RD. **Methods:** This was a prospective diagnostic test assessment of POCUS performed by EPs with varying ultrasound experience on a convenience sample of ED patients presenting with the complaint of flashes or floaters in one or both eyes. Participating EPs completed a one hour didactic lecture and were expected to demonstrate appropriate performance of one practice scan before enrolling patients. After standard ED assessment, patients underwent an ocular POCUS scan targeted to detect RD. EPs recorded the presence or absence of RD on the data collection instrument based on their POCUS scan. After completing their ED visit, all patients were assessed by a retina specialist who was blinded to the results of the POCUS scan. We calculated sensitivity and specificity with associated exact binomial confidence intervals (CI) using the retina specialist's determination of the final diagnosis as the criterion standard. **Results:** A total of 30 EPs, consisting of 21 staff physicians and 9 residents, participated in this study. These EPs performed a total of 128 POCUS scans. Of these scans, 13 were excluded. Of the remaining 115 enrolled patients, median age was 60 years, and 64% were female. The retina specialist diagnosed RD in 16 (14%) cases. The sensitivity and specificity of POCUS for detecting RD was 75% (95% CI 48% to 93%) and 94% (95% CI 87% to 98%), respectively. The positive likelihood ratio was 12.4 (95% CI 5.4 to 28.3), and negative likelihood ratio was 0.27 (95% CI 0.11 to 0.62). **Conclusion:** In a heterogeneous group of EPs with varying ultrasound experience, POCUS demonstrates high specificity but only intermediate sensitivity for the detection of RD. A negative POCUS scan is not sufficiently sensitive to rule out RD in a patient with new onset flashes or floaters.

Keywords: point of care ultrasound, retinal detachment, emergency physician

P048

Profiling the burdens of working nights. Traditional 8-hour nights vs staggered 6-hour casino shifts in an academic emergency department

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Introduction: Emergency physicians (EP) often work at undesirable hours. In response to deleterious effects on quality of life for EPs, traditional 2300-0700 night shifts have been replaced at some centres with staggered 6-hour casino shifts (22:00-04:00 and 04:00-10:00). Though purported to allow for better sleep and recovery patterns, no evidence exists to support the benefits on sleep or quality of life that is used to justify a casino shift model. Using a before and after survey model, this study examines the impact of overhauling night work from a traditional 8-hour shift to casino shifts on the quality of life and job satisfaction of EPs working in an academic emergency department (ED). **Methods:** In 2010, an initial online, 37-item survey, was sent to all EPs working in the ED, just prior to the transition to casino shifts. 6 years following the transition, a slightly modified 37-item survey was again distributed to all current EPs working at that same centre. Participants rated their level of agreement on a 7-point Likert scale regarding questions related to night work. Results from the two surveys were compared. **Results:** 43 2010- and 47 2016-surveys were completed. In 2016, recovery to baseline function after a single early shift (22:00-04:00) was most common after 1 day at 52.4%, and after multiple early shifts was ≥ 2 days at 66.7%. Recovery after a single late shift (04:00-10:00) was most common at 1 day at 54.8%, and after multiple

late shifts was ≥ 2 days at 59.5%. This was in contrast to 2010, when 55.8% recovered from a single traditional night shift after 1 day, and 95.3% required ≥ 2 days to recover from multiple traditional night shifts. In relation to casino shifts, 40.5% of respondents stated that night shifts are the greatest drawback of their job, compared to 79.1% previously. A minority of respondents felt that teaching (36.5%), diagnostic test interpretation (23.2%), and quality of handover (33.5%) were inferior on early and late night shifts compared to other shifts (74.4%, 58.1%, and 60.5% for traditional night shifts respectively). 95.0% of respondents preferred casino over traditional night shifts. **Conclusion:** There were self-reported improvements in all domains following the implementation of casino shifts.

Keywords: casino shifts, night shifts, scheduling

P049

Modelling and manufacturing of a 3D printed trachea for cricothyroidotomy simulation

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Introduction: Most current cricothyroidotomy simulation models are either expensive or low fidelity and limit the learner to an unrealistic simulation experience. The goal of this project is to innovate current simulation techniques by 3D printing anatomically accurate trachea models. By doing so emergency cricothyroidotomy simulation can be accessible, high fidelity, cost effective and replicable. **Methods:** 3D modelling software was used in conjunction with a desktop 3D printer to design and manufacture an anatomically accurate model of the cartilage within the trachea (thyroid cartilage, cricoid cartilage, and the tracheal rings). The initial design was based on dimensions found in studies measuring the dimensions of tracheal anatomy. This ensured an appropriate anatomical landmark design was achieved. Several revisions of the model were designed and qualitatively assessed by medical and simulation professionals to ensure anatomical accuracy that exceeded that of the currently used, low cost, cricothyroidotomy simulation model in St. John's. **Results:** Using an entry level desktop 3D printer, a low cost tracheal model was successfully designed that can be printed in under 3 hours. Due to its anatomical accuracy, flexibility and durability, this model is ideal for use in emergency medicine simulation training. Additionally, the model can be assembled in conjunction with a membrane to simulate tracheal ligaments and skin for appearance. **Conclusion:** The end result is a high fidelity simulation that will provide users with an anatomically correct model to practice important skills used in emergency airway surgery, specifically landmark marking, incision and intubation. This design is a novel, easy to manufacture, replicable, low fidelity trachea model that can be used by educators with limited resources such as those in rural and remote areas.

Keywords: 3D printing, simulation, cricothyroidotomy

P050

A prospective cohort study to evaluate discharge care for patients with atrial fibrillation and flutter (AF/AFL)

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Introduction: Atrial fibrillation and flutter (AF/AFL) are the most common arrhythmias encountered in the emergency department (ED); however, little information exists regarding the preventive management of patients with AF/AFL by emergency physicians (EPs). This study explored whether patients with AF/AFL received the recommended thrombo-embolic (TE) prophylaxis at discharge from the ED; patients'