Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Conclusion: Development and testing of interventions at a national scale to reduce emergency nursing burnout is warranted, including staffing and work environment policies.

Impact of Presenting Vital Signs on Outcomes of Patients Hospitalized with Coronavirus
Juarez J, Smith C, Loo G, Nestor N/Mount Sinai Hospital, New York, NY

Study Objectives: Among patients admitted with coronavirus, vital signs recorded at initial emergency department (ED) presentation may inform outcomes. Our objective was to assess the impact of presenting vital signs on discharge after hospitalization, neurological sequelae, and hospital length of stay.

Methods: We conducted a retrospective investigation at Elmhurst Hospital (Queens, New York) recognized as “the epicenter of the epicenter” of the 2020 coronavirus pandemic. Included were 2216 adult patients who tested positive for coronavirus. We studied vital signs recorded upon initial ED presentation including oxygen saturation, respiratory rate, temperature, heart rate, and blood pressure. We used multivariable logistic regression models to test for associations between presenting vital signs and discharge after hospitalization, neurological sequelae (cognitive/sensory/motor changes, new emotional instability, new onset seizures), and hospital length of stay.

Results: Upon abstract submission, data abstraction was still ongoing. Preliminary analysis suggested an association between higher initial oxygen saturation and increased odds of discharge after hospitalization (OR 1.108, 95% CI 1.004-1.223). It also suggested an association between higher initial respiratory rate and increased odds of neurological sequelae (OR 1.156, 95% CI 1.008-1.327). No association was observed between presenting temperature, heart rate, blood pressure, and outcomes.

Conclusion: Among patients hospitalized with coronavirus, initial vital signs obtained at ED presentation provide useful prognostic information on short term outcomes.

Pediatric Airway Procedures Skill Retention with Standard Simulation, the Peyton Method, or Self-Directed Learning
Jeanmonod R, Rammoohan G, Grimaldi M, Minor M, Stankewiecz H, Patterson R, Pester J, Baker K, Melanson S, Jeanmonod D/St. Luke’s Hospital, Bethlehem, PA; St. Luke’s University Health Network, Bethlehem, PA

Study Objectives: The optimal method for teaching procedures is not known. For uncommonly performed procedures such as pediatric airway procedures, practical learning is often supplemented with simulation (sim) or digital platforms. In this study, we compare residents’ performance of pediatric bag valve mask (BVM) and endotracheal intubation (ETI) after undergoing training using (1) Standard sim, (2) The Peyton method, or (3) Self-directed learning with free access to sim mannikins.

Methods: 32 residents at a single academic program were randomized to one of the three study arms. Residents then underwent a previously standardized pre-test (the ARMY CSC) using a Laerdal infant sim model to assess their current skill set. Residents were tested by a pair of investigators who were blinded to the residents’ training assignment. Investigators were trained in the assessment and had standardized assessment sheets with narrative cues for scoring performance. These scores were pooled for each resident. Residents subsequently underwent training sessions according to their randomization. Residents randomized to Peyton method (a method of observation, deconstruction, reconstruction, and operation) were trained by investigators trained in Peyton method working from a standardized script to ensure reproducibility. Residents randomized to standardized sim were oriented to the goal of the sim (running a case of infant respiratory arrest) and then debriefed by an investigator utilizing the check-list from the pre-test to provide feedback from the session. Residents randomized to self-directed learning were provided with online resources and had access to the sim materials, but no other formalized procedural training. Residents were retested at 4-6 months by investigators who were blinded to their training assignment.

Results: Prior to undergoing their training session, residents in each group reported similar prior experience with pediatric BVM and ETI (p=0.11 and 0.63 respectively), had similar levels of training (p=0.82), and felt similarly familiar with the procedures (p = 0.24 and 0.25, respectively). 25 residents were able to complete both study sessions. The remainder had their reassessments disrupted by social distancing measures.

Conclusion: Residents showed improvement in pediatric BVM and ETI skills over a 6-month training period regardless of method used to teach them these skills.

Residents’ Perceptions of Effective Features of Educational Podcasts
Riddell JC, Brown A, Robins L, Lin M, Sherbino J, Igen J/Keck School of Medicine of the University of Southern California, Los Angeles, CA; Virginia Mason Medical Center, Seattle, WA; University of Washington, Seattle, WA; University of California San Francisco, San Francisco, CA; McMaster University, Hamilton, Ontario, Canada

Study Objectives: Educational podcasts are used by emergency medicine trainees to supplement clinical learning and to foster a sense of connection to broader physician communities. Yet residents report difficulties remembering what they learned from listening, and the features of podcasts that residents find most effective for learning remain poorly understood. We aim to describe residents’ perceptions of effective features of educational podcasts.

Methods: We performed a thematic analysis using a constructivist grounded theory approach to explore emergency medicine trainees’ perceptions about effective podcast structures. We conducted 16 hour-long semi-structured interviews with residents from three institutions from March 2016 to August 2017. Narrative transcripts were coded line-by-line using constant comparative analysis to organize data into focused codes, key conceptual categories, and then major themes.

Results: We identified 3 major themes with 9 sub-themes (Table 1). In podcast design, residents preferred explicit learning points, focused content, relevance, and repetition. In podcast delivery, residents valued entertainment, multiple perspectives, and storytelling. In podcast production, residents favored production quality and short segments.

Conclusions: This exploratory study describes features that residents perceived as effective for learning from educational podcasts. While limited by self-assessment, these themes provide a foundation for ongoing research into the most effective ways to structure medical education podcasts and provides guidance to podcast producers about how to create the most compelling and effective listening experiences for trainees.

Table 1. Residents’ perceptions of effective features of educational podcasts

| Theme                  | Definition                                                                 |
|------------------------|-----------------------------------------------------------------------------|
| Design                 | Explicit learning points Residents valued brief statements about the main points of a podcast |
|                        | Focused content Residents preferred podcasts that provide information efficiently |
|                        | Relevance Residents desired podcasts that were closely aligned with their clinical experiences |
|                        | Repetition Residents appreciated when podcasters emphasized key points multiple times |
| Delivery               | Entertainment Residents value podcasts that provide amusement and enjoyment |
|                        | Multiple Perspectives Residents appreciated dialogue between podcasters that highlighted variation in diagnosis, management approaches, or treatments |
|                        | Storytelling Informal and personalized accounts of clinical cases enhanced residents’ perceived engagement with podcast content |
| Production             | Production quality Residents liked podcasts that appear to have high technical qualities |
|                        | Short segments Residents valued short podcast segments                      |