



FOAM & Education Newsletter September 2021 Volume 12



Welcome to Rez's #FOAM Newsletter

This is a monthly newsletter brought to you by the Education Committee with the latest in the EM and FOAMed world, ranging from trials, news, and pearls. We will also share the best podcasts & blog posts recently published in FOAM. If you have an interesting image or EKG to share, let us know!

Your 21-22 Education Committee:
Lola Reingold (chair)
Walid Malki
Colton Weisner
Jake Cihla
Yalan Vu
Will Noel
Omar Ahmed



SEPTEMBER UPDATES:

PODCAST OF THE MONTH:
EM:RAP Critical Care: [Perfusion Index](#)

BLOGPOST OF THE MONTH:
Inside Medicine: [Delta vs Breakthrough Covid](#)

PROCEDURE OF THE MONTH:
EMCrit: [Pigtail Catheter Insertion](#)

Research Quick Hits

- Over June 25th-30th the Pacific Northwest reached temperatures of up to 116 F; in the affected reporting region, **there were 1,038 heat-related ED visits** on 6/28/21, compared to 9 heat-related ED visits on 6/28/19. *Schramm et al*
- Using retrospective data from 05/2017-05/2021, researchers in India described “human-wildlife conflicts” that lead to emergency department visits; the vast majority (90.9%) were from snakebites, followed by **elephants, wild boars, monkeys, and bears**. *Singh et al*
- A retrospective chart review from 2012-2019 across 3 tertiary care centers in the Northeast found that ED volumes fall, although not significantly (2.6-4.3%), **on days when the Patriots are playing**. *Antkowiak et al*

Seasonal Update: Tree Stand Injuries

Where: Henry Ford Allegiance Health trauma registry in Michigan

Who: Retrospective chart review of 33 patients presenting to the ED 2014-2019 with hunting-related injuries

- 5-8% of Americans >16yo hunt; deer hunting is the major form of hunting in the US
- A tree stand is a platform to elevate the hunter, typically 10-30 feet off the ground
- Hunters may receive some education on tree-stand safety, typically as part of the permitting process

Unlike firearm injuries, other kinds of hunting-related injuries are not required to be reported, so data is limited

- The typical tree-stand related injury involves a 45yo man who fell approximately 17 ft
- Lumbosacral spinal injuries are most common, followed by lower extremity injuries, t-spine injuries, and lacerations/abrasions
- 66% of patients in this cohort were admitted; 40% to the SICU
- Injury occurs more often among archers, and most often when ascending or descending the stand
- Contributing factors may time of day, BMI, alcohol consumption, and use of a safety harness

Erector Spinae Plane Block: the Poor Man's Epidural by Yalan

What: US-guided block for pain control, covering many pathologies like

- posterior rib fractures¹ (can cover six to eight rib levels)
- renal colic²
- pancreatitis³
- appendicitis⁴.

Technique: <https://www.coreultrasound.com/esb/>

Where: determine the level of block desired

Patient Complaint	Spinal Level of Block
Pancreatitis	T7
Renal colic	T8
appendicitis	L1
Rib fractures	Spinal level of middle fracture if multiple ribs affected

How: Anesthetic choice

- Ropivacaine 0.5% has been cited as equally effective but with less cardiac depression and fewer CNS effect when injected IV, and is thought to be safer to use than 0.5% bupivacaine⁵
- The Safe Local App is helpful to determine weight-based dosing of anesthetic.
- The Ultrasound Crew tends to use half the max dosage for the block and filling the rest of 30 cc or 50 cc syringe with normal saline.

WELLNESS UPDATE: Emergency Medicine Shift Factors Causing the Most Stress Among Emergency Medicine Residents

Who: 573 residents, 57% male, 43% female, 88% between ages 25-34 (sorry TJ!!), PGY-1 through PGY-4, representing 44 out of 50 states

How: Anonymous survey in 2018 sent to EMRA's resident member list

Limitations: Selection bias (since optional survey), suboptimal response & completion rate of survey, male >> female response rate, non-ED related stress factors (family, financial stress, health status) not assessed.

Top 6 factors that cause higher reported stress responses:

- 1) Working with a nurse who is perceived to be **inefficient**.
- 2) Working with **no inpatient beds** available for patient admission
- 3) Working with a colleague who is perceived to be **inefficient**
- 4) Working with many patients **waiting to be seen**
- 5) Caring for **high** acuity patients
- 6) Managing **agitated** patients

Intrinsic Stress Factor	Stress Response Score		
	Male	Female	Overall
EMS phone interruptions ^a	0.61	0.76	0.68
Patients to be seen in the waiting room	1.30	1.41	1.35
Working with a colleague who you perceive to be inefficient ^a	1.31	1.46	1.38
Working with a nurse who you perceive to be inefficient ^a	1.59	1.77	1.67
Providing care to high acuity patients ^a	1.26	1.44	1.34
Providing care to low acuity patients	0.82	0.73	0.78
Managing agitated patients	1.15	1.27	1.20
Shift that begins in the morning	0.49	0.60	0.54
Shift that begins in the afternoon	0.66	0.73	0.69
Shift that begin at night	0.76	0.88	0.81
Working in a setting with no open inpatient beds available ^a	1.42	1.57	1.48
Using an electronic medical record system	0.76	0.71	0.74
Evaluating patients in the hallway ^a	0.86	1.01	0.92
The practice of having EKGs interrupt you during a shift	0.63	0.72	0.67
Pharmacy phone calls interrupting your workflow	0.53	0.63	0.58
Personal cell phone texts, calls, and alerts	0.25	0.29	0.27
Teaching while on a standing work shift	0.70	0.83	0.75

Threats to efficiency, such as working with a nurse or colleague who is perceived to be inefficient, produced high reported stress response scores!

Team-based models (i.e., physicians, nurses, & techs working together) have been shown to decrease self-reported burnout, demonstrating that staff cohesiveness is essential for reducing stress

Further reading:

Erector Spinae Plane Block:

1. May L, Hillermann C, Patil S. Rib fracture management. *BJA Educ.* 2016;16(1):26-32.
2. Erector spinae plane block vs non-steroidal anti-inflammatory drugs for severe renal colic pain: A pilot clinical feasibility study. *Int J Clin Pract.* 2020 Oct 25:e13789. doi: 10.1111/ijcp.13789. Epub ahead of print.
3. Mantuani D, Josh Luftig PA, Herring A, Mian M, Nagdev A. Successful emergency pain control for acute pancreatitis with ultrasound guided erector spinae plane blocks. *Am J Emerg Med.* 2020;38:1298.e5–1298.e7.
4. Mantuani, D., Luftig, J., Herring, A., Dreyfuss, A., & Nagdev, A. (2019). A Novel Technique to Reduce Reliance on Opioids for Analgesia from Acute Appendicitis: The Ultrasound-guided Erector Spinae Plane Block. *Clinical practice and cases in emergency medicine*, 3(3), 248–251. <https://doi.org/10.5811/cpcem.2019.4.42117>
5. Klein, Stephen M. MD; Greengrass, Roy A. MD, FRCP; Steele, Susan M. MD; D'Ercole, Fran J. MD; Speer, Kevin P. MD; Gleason, David H. CRNA; DeLong, Elizabeth R. PhD; Warner, David S. MD A Comparison of 0.5% Bupivacaine, 0.5% Ropivacaine, and 0.75% Ropivacaine for Interscalene Brachial Plexus Block, *Anesthesia & Analgesia: December 1998 - Volume 87 - Issue 6 - p 1316-1319* doi: 10.1213/00000539-199812000-00019

Research Topics:

- Vaidyanathan, A., Malilay, J., Schramm, P., & Saha, S. (2020). Heat-Related Emergency Department Visits During the Northwestern Heat Wave — United States, June 2021. *MMWR. Morbidity and Mortality Weekly Report*, 69(24), 729–734. <https://doi.org/10.15585/mmwr.mm6924a1>
- Singh, P. K., Ali, S. M., Radhakrishnan, R. V., Mohanty, C. R., Sahu, M. R., Patro, B. P., ... Panda, S. K. (2021). Pattern of injuries due to wild animal attack among patients presenting to the emergency department: A retrospective observational study. *Chinese Journal of Traumatology*. <https://doi.org/10.1016/i.cjtee.2021.09.004>
- Antkowiak, P. S., Stenson, B. A., Strout, T. D., Stack, C. D., Joseph, J. W., Chiu, D. T., ... Antonwiak, S. (2021). The Practice of Emergency Medicine A retrospective multistate analysis: Do regional football games impact emergency department patient volume? <https://doi.org/10.1002/emp2.12551>
- Lazzara, A., Ditmer, B., Doughty, K., & Reynolds, K. (2021). Tree Stand-Related Injuries in Nonadmitted and Admitted Patients at a Level 2 Trauma Center in Michigan: 2015-2019 | Elsevier Enhanced Reader. Retrieved September 30, 2021, from Wilderness and Environmental Medicine website
- Moussa, Mohamad; Hayden, Kristen; Shih, Chia-Hao; Khuder, Sadik; Safadi, Zayd; and Parsell, Connor (2021) "Emergency Medicine Shift Factors Causing the Most Stress Among Emergency Medicine Residents," *Journal of Wellness: Vol. 3 : Iss. 2 , Article 8.*