A Newsletter for the Members of the Wyoming ACEP Chapter

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Table of Contents

From the President-Elect
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An Extremely Acute Abdomen in a Toxic Pediatric Patient

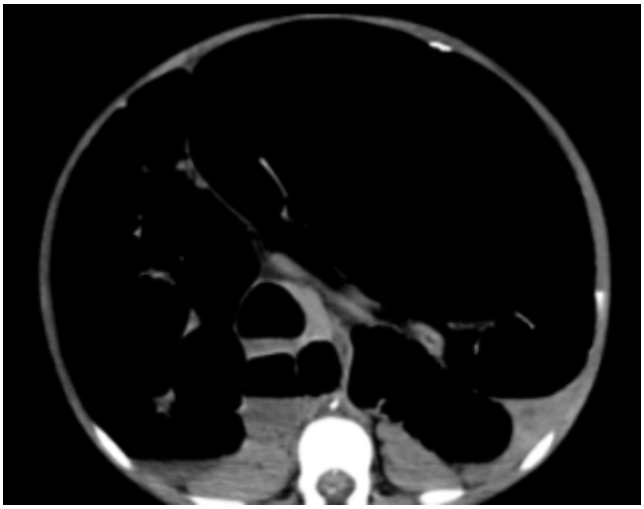
There are times when you walk into a room and you know you will remember the case for the rest of your life. An eight year old female presents with a profoundly distended abdomen and mottling to both of her legs. You no more than look at her and send her straight to CT.

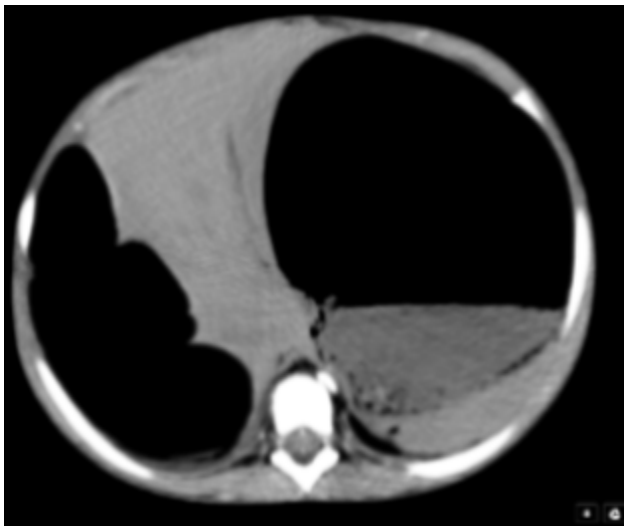
She has a history of feeding difficulties, ADHD, GERD, bowel obstruction, developmental delay and hypertrophic cardiomyopathy. Family reports that she has had abdominal pain for four hours and has been having difficulty walking. At home they tried an enema without relief. She had a normal bowel movement earlier in the day and she had normal intake.

On exam her vitals are as follows: blood pressure 178/118 mmHg, heart rate 100 bpm, respirations 22 bpm, temperature 98.0 F, O2 saturations 100% on room air.

She appears awake but in distress, her abdomen is firm and diffusely tender, both of her lower extremities are mottled, cool and cyanotic appearing with decreased sensation throughout and weakness but is able to move them.

You get her CT back and are not surprised:





You phone the local surgeon on call who recommends transfer to a facility with pediatric intensive care.

You order NS and pain medications. At this time your basic labs start to roll back:

CBC: 23/17/50/504
CMP: 140/4.8/101/16/28/0.7/56
ABG: 6.9/41/8.3/67

You get a call from the radiologist who reports:
"High grade small bowel obstruction without clear transition point. Pneumatosis within posterior wall of the stomach with gas noted within adjacent venous vessels."

She is now starting to become hypoxic and her sats drop to the mid 70's. Decision is made to intubate the patient. After the airway is secured, several attempts to place an NG tube have been difficult and unsuccessful secondary to her extreme abdominal distention. In addition to this, this factor makes it difficult to ventilate the patient, even with a secure ETT in place.

The NG just wont pass despite utilizing a plethora of sizes, procuring the tube in ice water prior to insertion, and even trying to pass the NG tube through the ET tube in esophagus. The patient remains hypoxic and physically demanding to ventilate.

Due to the continued decompensation of the patient without the clear resolution of an OR in sight, a decision was collectively made to make an attempt to decompress the stomach via an LP needle. The needle was placed near the site of her prior G tube scar with ultrasound guidance and reassurance. There was a prolonged hiss of air similar to decompressing a tension pneumothorax following the insertion of the needle.

Her saturations began to improve on the ventilator, however, she promptly became hypotensive. Orders for steroids, Levophed and broad spectrum antibiotics were given. The flight team for the PICU was bedside at this time and preparing her for transfer to the proper care facility but now...

The patient's heart rate doubles on the monitor. Additionally, you notice that the morphology has changed on the tele leads.

The flight crew feels that she is now no longer safe for transport. This just leaves the local general surgeon to tackle the issue emergently. She is left with no choice but to make an attempt at a pediatric abdominal decompression procedure. The patient is hastily prepped and whisked away to the operating room.

In the mean time, repeat labs resolve and her potassium is greater than nine. While in the OR, once that blade hits the abdomen and the fascia is severed, she has immediate extravasation of bowel. In an instant, pulses are lost. CPR is started immediately. Patient is given a nebulizer treatment, insulin, calcium gluconate, glucose, bicarb and even an experimental lipid emulsion bolus. An attempt to reach the nephrologist on call was made without success. An arduous effort was made for

about an hour, however, it was clear that she had succumbed to her hyperkalemic state. All that was left was to pronounce and call official time of death.

Discussion

When the patient initially presented to ER staff, she had compression of her aorta (confirmed by CT) secondary to the finite pediatric abdominal cavity being occupied by a significant amount of dilated bowel and air. After review of the case it is almost certain that the child suffered from abdominal compartment syndrome. The clear course of treatment at the time was to decompress the abdomen with the LP needle as well as in the OR, however, this also could have lead to her demise. By attempting to solve the problem, this also allowed for the vessels that were previously cutoff in her lower extremities to become patent. This patency relieved the previously hypoperfused extremities and allowed for toxic potassium to rush back into the primary regions of the body, similar to that of an exogenous crush injury. The only possible savior in this case may have lied in the hands of the adult nephrologist and their ability to perform emergent dialysis in a coding pediatric patient. Unfortunately, the chain of events prior to and during patient care did not permit for this and other optimal factors, including transport to a specialized pediatric care facility. Though it was a valiant fight against father time, may we choose to learn from these moments and grow as not only individuals but practitioners.

Composed with parent permission and with the collaboration of Whitney Gifford BS, EMT.

NEWS FROM ACEP

American College of Emergency Physicians
ADVANCING EMERGENCY CARE

ACEP eCME

Updates in Reimbursement and Coding - 2018

Reimbursement and coding can be an ongoing challenge for the emergency physician. This **collection of courses on ACEP eCME** will give you the latest information on reimbursement, quality measures and common documentation errors to help ensure you receive appropriate reimbursement for your skilled procedural work.

New ACEP Policy Statements and Information Paper

During their June meeting, the ACEP Board of Directors approved the following new or revised policy statements:

- **Access to 9-1-1 Public Safety Centers, Emergency Medical Dispatch, and Public Emergency Aid Training** - New
- **Appropriate Use Criteria for Handheld/Pocket Ultrasound Devices** - New
- **Coverage for Patient Home Medication While Under Observation Status** - New
- **Delivery of Care to Undocumented Persons** - Revised
- **Disaster Medical Services** - Revised
- **Financing of Graduate Medical Education in Emergency Medicine** - Revised
- **Guideline for Ultrasound Transducer Cleaning and Disinfection** - New
- **Impact of Climate Change on Public Health and Implications for Emergency Medicine** - New
- **Interpretation of Diagnostic Imaging Tests** - Revised
- **Interpretation of EMTALA in Medical Malpractice Litigation** - New
- **Non-Discrimination and Harassment** - Revised
- **Patient Autonomy and Destination Factors in Emergency Medicine Services (EMS) and EMS-Affiliated Mobile Integrated Healthcare Community Paramedicine Programs** - New
- **Prescription Drug Pricing** - New
- **Relationship between Clinical Capabilities and Medical Equipment in the Practice of Emergency Medical Services Medicine** - New
- **Resident Training for Practice in Non-Urban/Underserved Areas** - Revised

The Board also approved the following information papers and PREP:

- **Electronic Health Record (EHR) Best Practices for Efficiency and Throughput (PDF)** - New
- **Initiating Opioid Treatment in the Emergency Department (ED) - Frequently Asked Questions (FAQs)** (PDF) - New
- **Emergency Department Physician Group Staffing Contract Transition** (PDF)
- **Emergency Physician Contractual Relationships - PREP** (PDF) - Revised

Articles of Interest in *Annals of Emergency Medicine*

Sam Shahid, MBBS, MPH
Practice Management Manager, ACEP

ACEP would like to provide you with very brief synopses of the latest articles in ***Annals of Emergency Medicine***. Some of these have not appeared in print. These synopses are not meant to be thorough analyses of the articles, simply brief introductions. Before incorporating into your practice, you should read the entire articles and interpret them for your specific patient population.

Duber HC, Barata IA, Cioe-Pena E, Liang SY, Ketcham E, Macias-Konstantopoulos W, Ryan SA, Stavros M, Whiteside LK. **Identification, Management and Transition of Care for Patients with Opioid Use Disorder in the Emergency Department**

In this clinical review article, they examine the current body of evidence underpinning the identification of patients at risk for OUD, ED-based symptomatic treatment of acute opioid withdrawal, medication-assisted treatment (MAT) of OUD upon discharge from the ED, and transition to outpatient services. In this article they also present options for targeted opioid withdrawal and management, as well as a variety of other medications to consider for symptomatic opioid withdrawal treatment for patients that do not require opioids for acute pain. **Full text available here**.

Klein LR, Driver BE, Miner JR, Martel ML, Hessel M, Collins JD, Horton GB, Fagerstrom E, Satpathy R, Cole JB. **Intramuscular Midazolam, Olanzapine, Ziprasidone, or Haloperidol for Treating Acute Agitation in the Emergency Department**

In this prospective observational study of 737 patients, medications were administered based on an a priori protocol where the initial medication given was predetermined in the following 3-week blocks: haloperidol 5mg, ziprasidone 20mg, olanzapine 10mg, midazolam 5mg, haloperidol 10mg. The primary outcome was the proportion of patients adequately sedated at 15 minutes, assessed using the Altered Mental Status Scale (AMSS). Results showed that Intramuscular midazolam achieved more effective sedation in agitated ED patients at 15 minutes than haloperidol, ziprasidone, and perhaps olanzapine. Olanzapine provided more effective sedation than haloperidol. No differences in adverse events were identified. **Full text available here.**

Brenner JM, Baker EF, Iserson KV, Kluesner NH, Marhsall KD, Vearrier L. **Use of Interpreter Services in the Emergency Department**

This paper highlights the importance of effective communication in the provider-patient therapeutic relationship and how language barriers have the potential to compromise all aspects of medical care. The authors identify that in the US, as of 2013, more than 25 million persons had limited English proficiency, making quality medical interpreter services an

important public health issue that affects a large proportion of our diverse population. They recommend that a professional interpreter should be offered if practical and available when a patient has either limited English proficiency or hearing impairment and that a modality of interpretation should be chosen between in-person, video, or telephone based on what best suits the clinical situation. **Full text available here**.

Nowak RM, Gandolfo CM, Jacobsen G, Christenson RH, Moyer M, Hudson M, McCord J. **Ultra-Rapid Rule-Out for Acute Myocardial Infarction Using the Generation 5 Cardiac Troponin T Assay: Results from the REACTIONUS Study**

The objective of this study was to determine how well a new FDA approved single cardiac troponin T Generation 5 (cTnT Gen 5) below the level of quantification (6 ng/L) baseline measurement and a novel study derived baseline/30 minute cTnT Gen 5 algorithm might adequately exclude acute myocardial infarction (AMI) in patients with suspected acute coronary syndrome (ACS) in a United States (US) Emergency Department (ED). They enrolled patients presenting with any symptoms suspicious of ACS. Baseline and 30 minute blood samples were obtained, the cTnT Gen 5 levels later batch analyzed in an independent core laband the AMI diagnosis was adjudicated by a cardiologist and an emergency physician. They found that a single baseline cTnT Gen 5 measurement <6 mg/L and values at baseline <8 ng/L and a delta 30 minute < 3 ng/L ruled-out AMI in 28.8% and 41.0% of patients respectively. The authors did identify limitations such as single center ED, selection bias and the exclusion of patients with life-threatening illness, cardioversion or defibrillation within 24 hours of presentation, STEMI patients requiring immediate reperfusion or those who were pregnant or breast feeding, and highlighted that additional multi-center US studies evaluating these ultra-rapid AMI ruleout guidelines are needed.

Friederich A, Martin N, Swanson MB, Faine BA, Mohr NM. **Normal Saline and Lactated Ringer's have a Similar Effect on Quality of Recovery: A Randomized Controlled Trial**

The purpose of this single-site participant- and evaluator-blinded, 2-arm parallel allocation (1:1), comparative effectiveness randomized controlled trial study was to test the hypothesis that balanced crystalloids improve quality of recovery more than normal saline (0.9% sodium chloride, NS) in stable Emergency Department patients. 157 Patients allocated to receiving IV fluids in the ED before discharge to were randomized to receive 2 L of Lactated Ringer's (LR) or NS. The primary outcome was symptom scores measured by the validated Quality of Recovery-40 (QoR-40) instrument (scores 40-200) 24 hours after enrollment. Results showed that there was no difference in post-enrollment QoR scores between NS and LR groups. Although pre-enrollment scores were higher in the LR group, adjusting for pre-survey imbalances did not change the primary outcome. The authors concluded that NS and LR were associated with similar 24-h recovery scores and 7-day health care utilization in stable ED patients.

Preorder the Title that Celebrates the Depth and Diversity of EM

Explore the side of emergency medicine few see - the emotional, the heartbreaking, the thrilling, the heroic - the human side of EM. ACEP's 50th Anniversary Book, *Bring 'Em All*, reveals how far the specialty has come in its short, vibrant life. Famed photographer Eugene Richards captures the breathtaking moments that make the lives & careers of American emergency physicians. **Reserve your copy today**.

Interested in GED Accreditation?

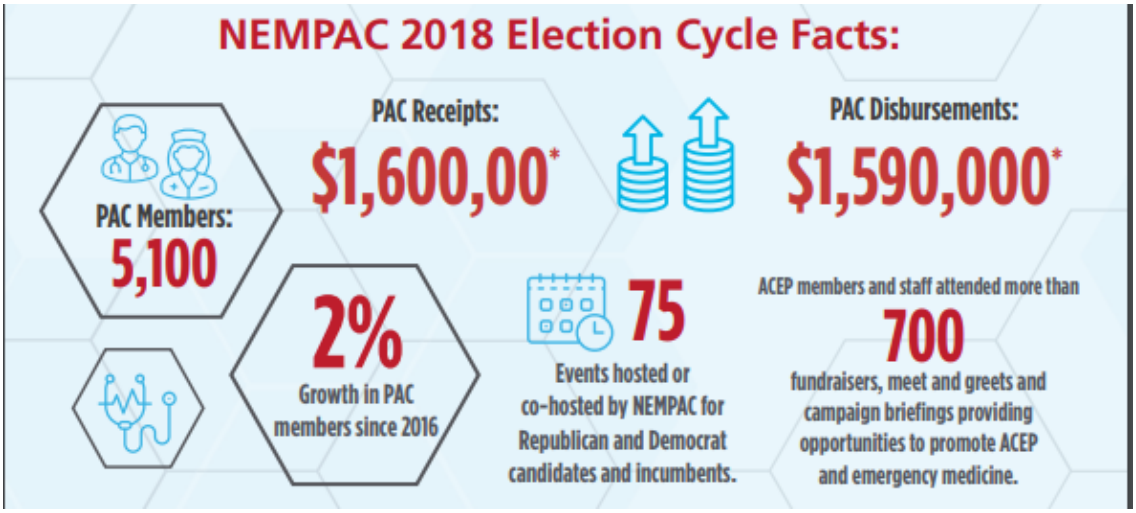
Learn how to develop a Geriatric Emergency Department (GED) with this three-hour **geriatric pre-conference** during ACEP18. Hear from the geriatric experts who will walk you through the increasing need for geriatric medicine focusing on GED clinical workflows, training and staff development, geriatric-focused policies and protocols, and achieving **GED accreditation**. Panel discussions include institutions who have been awarded accreditation.

Clinical Ultrasound Accreditation

Emergency Ultrasound Tracker

Emergency physicians regularly apply for hospital credentials to perform emergency procedures including emergency ultrasound. Theoretically, ultrasound training, credentialing and billing should be no different than other emergency procedures where training occurs in residency and an attestation letter from the residency is sufficient for local credentialing. When such training occurs outside of residency, “proctored pathways” often serve to assure competency. There is still a lack of understanding and awareness in the general medical community that emergency physicians routinely train in and perform point-of-care ultrasound.

The **Emergency Ultrasound Tracker** was created to assist members in achieving official recognition of ultrasound skills. This tool allows you to easily keep track of ultrasound scans you have performed over the course of your career in emergency medicine. It also allows you to upload relevant documents that attest to your training. After inputting and self-attesting to your ultrasound information you may download a letter of recognition from ACEP so long as you have attested to meeting the recommendations for emergency ultrasound training put forth in the **ACEP Ultrasound Guidelines**. We hope you find this tracker tool helpful and useful in your practice.



NEMPAC Mid-Term Election Update

With the mid-term elections just months away, ACEP and the National Emergency Medicine Political Action Committee (NEMPAC) are focused on electing candidates who will work on bi-partisan solutions to address emergency medicine's most pressing issues. The NEMPAC Board and staff rely on input from ACEP state chapters and local ACEP members when evaluating support for incumbent legislators and new candidates - **we want to hear from you!** NEMPAC is the 4th largest medical PAC and will continue to grow with your support. Learn more about NEMPAC today by visiting **our website** or contact **Jeanne Slade**. Keep an eye on your inbox for additional details about NEMPAC's activities as we get closer to the elections.

ED ICU Development and Operations Workshop Pre-Conference

San Diego Convention Center, Upper Level, 7B
Sunday, September 30, 2018 | 12:30 pm to 5:00 pm

If you have ever considered developing an ED ICU this workshop is for you. Participants will learn about staffing, reimbursement, collaborations, and business plan development, with the goal of developing and running their own ED-ICU. This program is directed at those along the entire continuum of ED-ICU development from conceptual to operational phases. **Register here**. For more information, contact **Margaret Montgomery, RN MSN**.

NEWS FROM THE AMERICAN BOARD OF EMERGENCY MEDICINE - JULY 2018

American Board of Emergency Medicine

Subspecialty Certification in Neurocritical Care

The American Board of Medical Specialties (ABMS) has approved subspecialty certification in Neurocritical Care (NCC). NCC is co-sponsored by the American Board of Anesthesiology (ABA), the American Board of Emergency Medicine (ABEM), the American Board of Neurological Surgery, and the American Board of Psychiatry and Neurology (ABPN). Physicians certified by these four boards who meet the eligibility criteria for NCC will have the opportunity to become certified in NCC.

There will be two pathways to certification in NCC: a training pathway and a time-limited

practice pathway. The practice pathway will start at the time the first exam is offered. Eligible pathway criteria will be posted on the ABEM website by the end of 2018. ABPN will develop and administer the examination; physicians will submit applications to their primary certifying board. The first examination is expected to take place in either 2020 or 2021.

Letter Available Refuting Merit Badge Requirements

ABEM provides a letter of support that may be submitted to hospital administrators to forego the mandatory completion of short courses or additional certifications ("merit badges") often needed for hospital privileges. Physicians must be participating in the ABEM MOC Program to obtain the letter.

The letter, signed by each representative of the Coalition to Oppose Medical Merit Badges (COMMB), details specific activities that board-certified physicians perform to maintain certification. ABEM-certified physicians can now download the letter from their Personal Page on the ABEM portal by doing the following:

- Sign in to the ABEM portal at **www.abem.org**
- On the left navigation, click "Print Verification of ABEM Status"
- Under letter type, click "General Coalition ABEM"
- Click "Continue to Next Step"

Take the ConCert™ Early - Retain Your Current Certificate Date

You can take the ConCert™ Examination during the last five years of your certification (during the annual testing window). If you pass the exam early, you will still retain your certification until the expiration date on your current certificate. This is also true even after you complete all of your MOC requirements. When your current certification expires, you will be issued a new, ten-year certificate. If you take the ConCert™ Examination early and do not pass, you still retain your certification and have another chance(s) to pass it. ABEM only reports whether a physician is board certified and participating in MOC.

In 2017, 44 percent of ConCert™ test takers registered to take the exam early; that is, in a year prior to their final year of certification.

Welcome New Member

Isaac N. Hayward (Medical Student)

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