

EPIC

THE MAGAZINE OF THE GEORGIA
COLLEGE OF EMERGENCY PHYSICIANS

In this issue...

02

Legislative Update

04

Financial Review

05

Emory Updates

08

Emory Toxicology

12

Emory Resident
Case Report

13

MCG Updates

15

MCG PEM Updates



17

Northeast GA Updates

18

Kennestone Updates

21

GCEP Events



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Expected 2024 Legislation

We anticipate the following legislation to be introduced in the 2024 session and will be monitoring all pre-filings as we move into the Fall.

- Tort Relief
- Death Certificate Reform
- Network Adequacy – ER Services
- Workforce
- Prior Authorization Reform

State Department Leadership Updates

Governor Brian Kemp recently announced 3 state agency leadership changes:

- Rick Dunn will be the Director of the Office of Planning and Budget effective July 1, 2023.
- David Dove was appointed as Interim Director of the EPD while continuing to serve as Governor Kemp's Executive Counsel. Also, effective July 1, 2023.
- Russell Carlson will serve as the Commissioner of the Department of Community Health effective August 1, 2023.

Department of Behavioral Health and Developmental Disabilities

At the request of DBHDD Commissioner Kevin Tanner, a workgroup has been formed to work in concert with the departments Executive Leadership, Dr. Brenda Fitzgerald, and stakeholder groups. The group has been deemed the Enhancing Psychiatric Resources Workgroup. Key focuses of the group include:

- Workforce Shortage
- Improve the timeliness to psychiatric care for patients in need of emergent evaluation
- Population to be served: Georgia patients of all ages who present to the emergency department and require specialty evaluation and/or inpatient psychiatric placement at an external facility

Stakeholder groups include: Georgia Psychiatric Physicians Association, Medical Association of Georgia, Georgia College of Emergency Physicians, Georgia Association of Community Service Boards.

The first meeting was held on June 21, 2023 with Commissioner Tanner and his team to discuss these matters off a regimented agenda put together by the Government Affairs team.

Insurance/Billing Issues

If you experience any issues related to billing, please reach out to Devin Krecl at devin@capitolstrategy.us. Please include all pertinent details, and redacted PHI so they we can best determine the state agency to reach out to.

Contact Your Legislators

It makes a difference if you contact your Representatives and Senators. Discuss the issues that are important to your practice, your patients, and your community.

If you have personal relationships with any state elected officials, please help us by making us aware of these crucial relationships. If you need assistance finding your legislator, please click the link below.

Find My Legislator**Georgia Emergency Medicine Legislative and Advocacy Conference Update**

We are on track to have the highest legislator and constitutional officers' turnout for our GEMLAC conference yet.

Register for GEMLAC: <https://gcep.wildapricot.org/event-5351795>



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Be a part of the action! Join the PAC!

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& support our friends Please renew your membership today!

Looking Ahead

Keep an eye out for an email from the GCEP legislative team for a 2024 Pre-Legislative Session update. We will provide regular updates as the 2024 session gets underway.

More information: Please reach out to our office at 770.435.5586 or reach out to us personally via our cell phones.

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The penalty for missing the market

There is always a reason why not to invest. You may hold off investing due to market volatility, uncertainty over the economy, unrest abroad, or other concerns. However, as you can see here, just missing a few days of strong market returns over a 16-year period could really put a dent in the returns you could have achieved.¹

Average Annual Return Comparison¹

December 31, 2006 – December 31, 2022

Period of Investing	Growth of \$10,000	Annual Return
Fully invested	\$35,46	8.81%
Miss the best 10	1	3.29%
days Miss the best	\$16,24	-0.17
20 days Miss the	6	%
best 30 days	\$9,748	-2.93
	\$6,399	%

Navigating financial pitfalls

Talk to your Financial Advisor about ways you can avoid falling into common pitfalls, such

as:

- waiting for the “perfect” time to invest

- chasing last year’s top performers
- panicking during periods of market volatility

The bottom line

If you sit on the sidelines, you could be seriously jeopardizing long-term performance. Ask your Financial Advisor about the potential benefits asset allocation, diversification, and rebalancing may have on your investment portfolio over the long term.

¹Source: Standard & Poor’s 500® Index, 12/31/22. Average annual returns are based on the S&P 500 Index from 12/31/06-12/31/22. Large-capitalization stock performance is measured by the S&P 500 Index, an unmanaged index considered to be representative of the U.S. stock market. Prices of common stocks will fluctuate with market conditions and may involve loss of principal when sold. Results assume reinvestment of all distributions, including dividends, earnings, and expenses, and are not indicative of any past or future returns of any investment. It is not possible to invest directly into an index. Past performance is no guarantee of future results.



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SMRU 5515640.1 Exp 03/31/2025 ES.PenaltyMissingMarket

Not FDIC/NCUA Insured Not a Deposit May Lose Value No Bank Guarantee Not Insured by Any Government Agency



Emory University School of Medicine Department of Emergency Medicine

The Emory EM Residency

The residency team has been busy during the past three months celebrating graduation, welcoming the new interns, participating in the Grady Resident Research Day (Drs. Girgis Fahmy and Marshall Howell won First Place for Oral Presentation), and volunteering in the medical tents for the AJC's Peachtree Road Race. The team is excited to introduce the new Chiefs for this academic year:



Apply for Open Positions on the Emory EM Team

We are thankful for Dr. Jeff Siegelman's leadership as the interim residency director as the team conducts a national search for a new [residency program director](#).

Additional open positions include:

- [Medical Director, Grady Emergency Care Center](#)
- [Vice Chair, Innovation and Discovery in the Acute and Emergent Sciences](#)

AJC Peachtree Road Race Medical Support

The Emory EM team provides medical support for the AJC's annual Peachtree Road Race. Thank you to Dr. Lekshmi Kumar who serves as the medical director for the event and everyone that assisted in the medical tents including our awesome new interns, Dr. Matt Gittinger, Dr. Esther Hwang, Dr. Jeff Siegelman, Dr. Trey Robinson, Dr. Jessica O'Sullivan, Dr. Brad Wallace, Emory EM's EMS fellow Dr. Kennen Less, and third year resident Dr. Alyka Fernandez.



Recent Promotions to Associate Professor

Dr. Melissa Gittinger, Dr. Josh Guttman, and Dr. Katherine Nugent have been promoted to Associate Professor in the Department. Dr. Nugent was also promoted in the Department of Anesthesiology.

Annual SAEM Conference

During the May SAEM Conference this year, the Emory EM team led 20 presentations and participated in SimWars and Sonogames. Congratulations to all of the honorees that were chosen for awards at the conference. The Emory EM team is especially thankful for the SAEM Outstanding Department Award for Excellence and Innovation in DEI.

Congratulations, Emory EM Faculty and Residents! Society for Academic Emergency Medicine Honorees

- ◆ Dr. Sheryl L. Heron, SAEM ADIEM Legacy Award
- ◆ Dr. Megan Henn, Clerkship Director of the Year, the Clerkship Directors in Emergency Medicine (CDEM)
- ◆ Dr. Kim Herard, AWAEM Travel Grant
- ◆ Dr. Kristen Grabow Moore, AWAEM Early Career Educator Award and SAEM FOAMed Excellence in Education Award
- ◆ Dr. Jamaji Nwanaji-Enwerem, Society for Academic Emergency Medicine RAMS Excellence in Research Award
- ◆ Dr. Amy Zeidan, AEUS Health Equity Award
- ◆ SAEM Outstanding Department Award for Excellence and Innovation in Diversity, Equity, and Inclusion



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2023 Top Docs

Emory EM's Dr. Katrina Gipson and Dr. Nataisia Terry were selected as Atlanta Magazine's Top Docs for Emergency Medicine:

<https://atlantamagazine.mydigitalpublication.com/publication/frame.php?i=794879&p=&pn=&ver=htm5>

Atlanta Medicine Journal EM Edition

Dr. Daniel Wu, Chief of Emergency Services at Grady, served as editor for the Atlanta Medicine Journal's EM edition <https://mdatl.com/past-issues/> from the Medical Association of Atlanta. The Emory EM team wrote six articles for the publication. Dr. Rahel Gizaw designed the front cover and inside illustrations.

Early MiNimally-invasive Removal of ICH Study leads to Successful Trial

The ENRICH (Early MiNimally-invasive Removal of ICH) study leads to first positive surgical trial finding minimally invasive surgery to be effective and better than medical management alone in intracranial hemorrhage. At Emory, the ENRICH cross-disciplinary research team from the Neurosciences & Emergency Medicine included: Gustavo Pradilla, MD; Jonathan Ratcliff, MD, MPH; Alex Hall, DHSc, MS; Benjamin Saville, PhD; Jason Allen, MD, PhD; Michael Frankel, MD; David Wright, MD; Daniel Barrow, MD:

https://news.emory.edu/stories/2023/04/som_bhc_enrich_trial/story.html

LINCS UP or Linking Individuals Needing Care for Substance Use Disorders in Urban

Emergency Departments to Peer Coaches is a three-year, \$2.2 million grant from the Centers for Disease Control and Prevention (CDC). The grant is being led by Dr. Joe Carpenter and creates a new peer recovery coaching program that is being offered to patients with substance use disorder (SUD)-related conditions to learn more about recovery resources following treatment.

https://news.emory.edu/stories/2023/06/hs_emory_grady_peer_recovery_coaching_for_substance_use_disorders_28-06-2023/story.html

Stigmatizing Language in Medical Charts

Dr. Joe Carpenter et al. also published on June 7 in the Journal of Hospital Medicine on stigmatizing language in medical charts. "Stigmatizing language was common in this study of patients hospitalized for infectious complications of OUD. Best-practice language was uncommon, but when used was associated with increased odds of addiction treatment and specialty care referrals."

<https://shmpublications.onlinelibrary.wiley.com/doi/10.1002/jhm.13146>

Two references can be found here:

- [NIDA's "Words Matter" resources](#)
- [ASAM](#)

The Emory EM team wishes everyone a safe and happy summer!

Spider bite in the U.S.

Brent W. Morgan

**Department of Emergency Medicine, Emory University School of Medicine
Georgia Poison Center**

A 27-year-old female was brought to the Emergency Department by EMS. The patient reported she was bitten by a spider on her lower left arm around an hour ago. The EMT reported the patient has had an indurated area at the bite site and developed muscle fasciculations at the involved extremity.

Q1. How many kinds of significant venomous spiders are in the U.S.?

A1. The annual reports of the American Association of Poison Control Centers' National Poison Data System (NPDS) showed that there are 3 major venomous spiders in the U.S. Black widow spiders account for the great majority of the bites around 2,500 cases/year which is followed by Brown recluse spiders around 1,500 cases/year, and, far less important, Tarantulas with around 100 cases/year. Although these venomous spiders can cause moderate to severe outcome, no deaths were reported in these reports.

In the ED. (4 hours after the bite)

The patient complained severe pain at bilateral thighs with muscle spasm.

PE:

VS: BP 120/74, HR 102, RR 16, Temp 36.4, pain score 9/10

General: Good consciousness

CVS: Tachycardic, regular pulses, radial pulses 2+ bilaterally, no cardiac murmur

Lungs: Normal breath sounds bilaterally

Abdomen: Normoactive bowel sounds, soft, not tender, no distention

Extremities: Tenderness and rigidity on palpation at bilateral thighs, very minimal area of erythema over posterior left forearm with no induration

Neuro: Awake and alert, CN II-XII intact, sensation intact.

Q2. What kind of spider envenomation can cause the signs and symptoms in our patient?

A2. The following are clinical pictures of U.S. venomous spiders.

- **Black widow spiders:**

Currently there are 4 recognized black widow species native to North America. Clark RF, et al. reviewed 163 cases bitten by the black widow spider and reported the onset of symptoms ranged from immediately to 12 hours after envenomations. The most common presenting symptoms and signs were generalized muscular abdominal or back pain (78%), local or extremity pain (38%), and some patients had hypertension, tachycardia, diaphoresis, chest pain, shortness of breath, nausea, vomiting, and headache.

Muscular cramping explains the muscular pain in these patients and mostly involves large skeletal muscle groups such as thighs, abdomen, and back. Sometimes patients present with severe abdominal pain with rigidity. There were reported cases that were misdiagnosed as having surgical conditions and undergone surgical exploration.

Additionally, some case reports showed that the envenomation can cause priapism in children, and may cause uterine contractions, spontaneous abortion, and premature delivery in pregnancy. Myocardial infarction was reported in 2 patients, 16-year-old patient in Rome, and, the other, 22-year-old man in Turkey. Both of them were envenomated by *Latrodectus tredecimguttatus*. A fatal case of toxic myocarditis from the bite of the same species mentioned above was also reported from Greece. In the U.S., there was a 32-year-old patient who suffered chest pains in the ED after the black widow spider bite and had ECG changes suggestive of lateral wall ischemia. These changes resolved quickly and the patient was discharged with no evidence of myocardial injury.

- **Brown recluse spiders:**

Local reactions: The bite initially may be painless or have a stinging sensation but then blisters and bleeds, and ulcerates 2-8 hours later. Then the lesion develops violaceous necrosis, surrounded by ischemic blanching of skin and outer erythema and induration over 1-3 days. Necrosis of the central blister occurs in 3-4 days, with eschar formation between 5 and 7 days. After 7-14 days, the wound becomes indurated and the eschar falls off.

Systemic reactions: Uncommonly occur in the first 24-48 hours and may not correlate with the severity of local reactions. The manifestations include fever, chills, malaise, nausea, and myalgias. Rarely, intravascular hemolysis, rhabdomyolysis, hemoglobinuria, disseminated intravascular coagulopathy, and death may occur.

- **Tarantulas:**

Rarely cause significant envenomation but can produce a painful bite because of their large size. Tarantulas also have thrashing hairs that they can flick at predators and cause mucosal irritation. Ophthalmia nodosa can be developed when Tarantulas' hairs embed in the cornea.

Diagnosis:

The patient's clinical presentations consisted of muscle fasciculations at the involved extremity followed 4 hours later by severe bilateral lower extremity pain without obvious local inflammation at the bite site. These manifestations correlate well with the black widow spider bite.

Q3. What is the mechanism of the black widow spider envenomation?

A3. The black widow spider venom contains at least 86 unique proteins, including several homologous Latrotoxins (LTX) which play a role in its toxicity to insects and crustaceans, with only one, α -LTX, targeting vertebrates specifically; reviewed by Rosenthal and Meldolesi. α -LTX causes opening of nonspecific cation channels, leading to an increased influx of calcium and indiscriminate release of acetylcholine (at the motor endplate) and norepinephrine which can lead to vasoconstriction and hypertension. The release of acetylcholine at the neuromuscular junction induces frequent end-plate potentials causing muscle spasm and pain. Symptoms usually begin one to eight hours after envenomation, but appear to be related to the size of the spider, the number of bites, the time of year and the amount of venom injected.

Q4. Is the antivenom recommended to treat this patient? If not, what are the recommendations for administration the antivenom?

A4. Antivenom has long been recognized as an effective treatment since 1942. After that period there have been many reports demonstrated its efficacy. The largest retrospective 163-case reviews in the U.S. of *Latrodectus* envenomations revealed all 58 patients receiving antivenom had complete resolution of symptoms in a mean time of 31 +/- 26.7 minutes (immediately to 120 minutes) from the end of the infusion.

No relapses in symptoms were recorded. 86% of 58 patients were recorded as describing relief of pain after only 1 vial and required no further pain medication, whereas 12% required an additional vial. No patient required more than 2 vials. Moreover, a significant difference was found in duration of symptoms in the antivenom group (8.7 +/- 22.7 h) versus the non-antivenom group (22.1 +/- 24.9 h), and the patients receiving antivenom fewer required admission (12% VS 52%).

Early use of antivenom for prompt relief of severe envenomation has been suggested. Even so, there were at least 2 reports demonstrated the efficacy of the antivenom after envenomation 30 hours and 90 hours by regression of toxic symptoms within 30 and 10 minutes, respectively, of the infusion.

However, the antivenom is equine-derived. The great concern has been raised due to the potential risk of allergic reactions which can be acute, ranging from urticaria to anaphylactic shock and death, or delayed as the form of serum sickness. Nevertheless, a recent retrospective review of the black widow antivenom use in 96 patients showed very low incident of such reactions which urticarial rash occurred in 2 out of 96 patients, and no one had shortness of breath or shock. Neither serum sickness nor death was reported.

A slow infusion of 1 vials of antivenom in 50-100 ml of 5%DW or NSS over 30-60 minutes is recommended which may help limit hypersensitivity reactions.

Despite the recent safety profile and high efficacy of antivenom, currently many experts and existing clinical evidences suggest the antivenom for the black widow spider bite is recommended in the severe (intractable pain), the very young, the very old, the hypertensive, pregnancy, and priapism. Prospective controlled trials on safety and cost-effectiveness may be needed to determine the exact role of antivenom administration.

Q5. Is there a role of calcium administration on the treatment of the black widow spider bite?

A5. The administration of calcium in an attempt of providing pain relief was originally postulated from the mechanism of increasing calcium level may counteract the effect of the black widow spider venom acting on nerve endings. However, existing data demonstrated intravenous calcium solution administration is not effective as shown in the study of Clark et al, 96% of patients reported no pain relief after calcium administration and continued to experience severe pain, requiring the addition of antivenom or some combination of parenteral opioids and benzodiazepines.⁴ Due to lack of efficacy and risks of adverse effects, calcium administration is no longer recommended.

Q6. How to treat this patient?

A6. A large retrospective case series revealed 55% and 70% of patients who were treated with parenteral opioids and a combination of parenteral opioids and benzodiazepines, respectively, obtained symptomatic relief. As a result, the mainstay of treatment is supportive care by administering opioids for pain control, and benzodiazepines for controlling muscle spasm. Using a visual analog pain scale (VAS) may help improve the reliability and objectivity of pain assessment in the black widow spider envenomation.

Progression:

In the ED, the patient was managed with morphine for pain and valium for muscle spasm. Her BP was never elevated, and she did not require antivenom. She was admitted to the medicine service and continued to receive opioids and benzodiazepines. She did well and was discharged home the next day.

References:

1. Bronstein AC, Spyker DA, Cantilena LR, Jr., Green JL, Rumack BH, Giffin SL. 2008 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS): 26th Annual Report. *Clin Toxicol (Phila)*. 2009; 47(10): 911-1084.
2. Bronstein AC, Spyker DA, Cantilena LR, Jr., Green JL, Rumack BH, Heard SE. 2007 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS): 25th Annual Report. *Clin Toxicol (Phila)*. 2008; 46(10): 927-1057.
3. Bronstein AC, Spyker DA, Cantilena LR, Jr., Green J, Rumack BH, Heard SE. 2006 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS). *Clin Toxicol (Phila)*. 2007; 45(8): 815-917.
4. Clark RF, Wethern-Kestner S, Vance MV, Gerkin R. Clinical presentation and treatment of black widow spider envenomation: a review of 163 cases. *Ann Emerg Med*. 1992; 21(7): 782-7.
5. Kirby-Smith HT. Black widow spider bite. *Ann Surg*. 1942; 115(2): 249-57.
6. Kobernick M. Black widow spider bite. *Am Fam Physician*. 1984; 29(5): 241-5.
7. Miller TA. Latrodectism: bite of the black widow spider. *Am Fam Physician*. 1992; 45(1): 181-7.
8. Bush SP. Black widow spider envenomation mimicking cholecystitis. *Am J Emerg Med*. 1999; 17(3): 315.
9. Quan D, Ruha AM. Priapism associated with *Latrodectus mactans* envenomation. *Am J Emerg Med*. 2009; 27(6): 759 e1-2.
10. Hoover NG, Fortenberry JD. Use of antivenin to treat priapism after a black widow spider bite. *Pediatrics*. 2004; 114(1): e128-9.
11. Sherman RP, Groll JM, Gonzalez DI, Aerts MA. Black widow spider (*Latrodectus mactans*) envenomation in a term pregnancy. *Curr Surg*. 2000; 57(4): 346-8.
12. Russell FE, Marcus P, Streng JA. Black widow spider envenomation during pregnancy. Report of a case. *Toxicon*. 1979; 17(2): 188-9.
13. Pulignano G, Del Sindaco D, Giovannini M, Zeisa P, Faia M, Soccorsi M, et al. Myocardial damage after spider bite (*Latrodectus tredecimguttatus*) in a 16-year-old patient. *G Ital Cardiol*. 1998; 28(10): 1149-53; discussion 54-6.
14. Erdur B, Turkcuier I, Bukiran A, Kuru O, Varol I. Uncommon cardiovascular manifestations after a *Latrodectus* bite. *Am J Emerg Med*. 2007; 25(2): 232-5.
15. Pneumatikos IA, Galiatsou E, Goe D, Kitsakos A, Nakos G, Vougiouklakis TG. Acute fatal toxic myocarditis after black widow spider envenomation. *Ann Emerg Med*. 2003; 41(1): 158.
16. Moss HS, Binder LS. A retrospective review of black widow spider envenomation. *Ann Emerg Med*. 1987; 16(2): 188-92.
17. Hahn I-H. Arthropods. In: Nelson LS, Lewin NA, Howland MA, Hoffman RS, Goldfrank LR, Flomenbaum NE, editors. *Goldfrank's Toxicologic Emergencies*. 9th ed. China: The McGraw-Hill Companies, Inc.; 2011. p. 1561-81.
18. Suchard JR. Spiders. In: Olson KR, Anderson IB, Benowitz NL, Blanc PD, Clark RF, Kearney TE, et al., editors. *Poisoning & Drug Overdose* 5th ed: The McGraw-Hill Companies, Inc; 2007. p. 347-50.
19. Duan ZG, Yan XJ, He XZ, Zhou H, Chen P, Cao R, et al. Extraction and protein component analysis of venom from the dissected venom glands of *Latrodectus tredecimguttatus*. *Comp Biochem Physiol B Biochem Mol Biol*. 2006; 145(3-4): 350-7.
20. Rosenthal L, Meldolesi J. Alpha-latrotoxin and related toxins. *Pharmacol Ther*. 1989; 42(1): 115-34.
21. Maretic Z. Latrodectism: variations in clinical manifestations provoked by *Latrodectus* species of spiders. *Toxicon*. 1983; 21(4): 457-66.
22. Timms PK, Gibbons RB. Latrodectism--effects of the black widow spider bite. *West J Med*. 1986; 144(3): 315-7.
23. Keegan HL, Hedeem RA, Whittemore FW, Jr. Seasonal variation in venom of black widow spiders. *Am J Trop Med Hyg*. 1960; 9: 477-9.
24. Rauber A. Black widow spider bites. *J Toxicol Clin Toxicol*. 1983; 21(4-5): 473-85.
25. Handel CC, Izquierdo LA, Curet LB. Black widow spider (*Latrodectus mactans*) bite during pregnancy. *West J Med*. 1994; 160(3): 261-2.
26. Merck&Co. I. Antivenin (*Latrodectus mactans*). 2005 [cited 2010 November 30]; Prescribing information]. Available from: http://www.merck.com/product/usa/pi_circulars/a/antivenin/antivenin_pi.pdf
27. Suntorntham S, Roberts JR, Nilsen GJ. Dramatic clinical response to the delayed administration of black widow spider antivenin. *Ann Emerg Med*. 1994; 24(6): 1198-9.
28. O'Malley GF, Dart RC, Kuffner EF. Successful treatment of latrodectism with antivenin after 90 hours. *N Engl J Med*. 1999; 340(8): 657.
29. Clark RF. The safety and efficacy of antivenin *Latrodectus mactans*. *J Toxicol Clin Toxicol*. 2001; 39(2): 125-7.
30. Nordt SP, Lee A, Sasaki K, Clark R, Cantrell FL. Retrospective review of Black widow antivenom use. *Clinical Toxicology* 2010; 48(6): 627.
31. Gonzalez F. Black widow bites in children. *J Am Osteopath Assoc*. 2001; 101(4): 229-31.
32. Pardal JF, Granata AR, Barrio A. Influence of calcium on 3H-noradrenaline release by *Latrodectus antheratus* (black widow spider) venom gland extract in arterial tissues of the rat. *Toxicon*. 1979; 17(5): 455-65.

Emory Resident Case Report

*Authors: Emily D. Geyer, MD; John Lewis, MD***Introduction**

Patients with viral illnesses commonly complain of generalized weakness. Often, such symptoms are secondary to poor nutrition, dehydration, or malaise associated with the virus. In some cases, however, a thorough history and physical exam may reveal an insidious cause requiring escalation of care.

Case

A 50-year-old male with a history of hypothyroidism, chronic back pain, radiculopathy, sciatica, and right foot drop unvaccinated against COVID-19 presented to the emergency department (ED) with three days of generalized weakness accompanied by headache, vomiting, gait disturbance and inability to dress himself. At baseline, he cared for himself and was ambulatory without assistance. On presentation, his vitals were unremarkable. Physical exam was notable for 4/5 strength in all extremities, bilateral patellar areflexia, and inability to ambulate. Diagnostic workup in the ED included a CT head which revealed volume loss, mild periventricular white matter abnormalities, and a positive SARS-CoV-2 antigen test; the remainder of the workup was unremarkable. Neurology was consulted due to concern for Guillain-Barre Syndrome (GBS) and the patient was admitted. Inpatient MRI lumbar spine demonstrated cauda equina enhancement. Lumbar puncture revealed slightly elevated protein levels and a normal cell count suggestive of acute inflammatory demyelinating polyneuropathy (AIDP), a subtype of GBS. The patient was treated with intravenous immunoglobulin (IVIG) and methylprednisolone for five days while being closely monitored. At no point in his clinical course did he develop respiratory complications and he remained stable on room air throughout hospitalization. The patient experienced a full recovery during his admission and was discharged home after seven days.

Throughout the COVID-19 pandemic, numerous neurologic complications of COVID-19 have been recognized; most commonly, these manifestations are mild and include headache, dizziness, and anosmia.¹ However, severe sequelae such as GBS have been reported.²

GBS typically occurs as a post-infectious complication, often following infection with *Campylobacter jejuni*, cytomegalovirus, or Epstein-Barr virus.³ Similarly, GBS related to COVID-19 has most commonly been observed as a post-infectious complication with a latency period after viral illness ranging from 5-21 days with a mean latency period of 12.2 days between viral symptoms and onset of neurological manifestations.^{2,4} This case, however, is an example of AIDP during an acute infection with COVID-19 with nearly concurrent onset of viral and neurologic symptoms. In a systematic review of 99 cases of GBS associated with COVID-19, the most commonly observed neurological symptoms were ascending motor weakness, diminished DTRs, sensory disturbances, and facial palsy. Respiratory failure occurred in 30% of patients and dysautonomia in 20% of patients.² In this systematic review, the majority of patients were treated with IVIG while a small number were treated with plasma exchange therapy (PLEX) or IVIG in conjunction with PLEX.² As such, these patients require close monitoring as they can become critically ill and require ICU-level care.

Complications and sequelae of COVID-19 continue to emerge as the range of disease presentations manifests over time. In this case, the patient's gait disturbance and generalized weakness could have been mistakenly attributed to his chronic conditions exacerbated by a viral syndrome. However, the clinical finding of areflexia, a hallmark of GBS, was pivotal to making the diagnosis and initiating prompt, appropriate care. Neurologic sequelae such as AIDP are rare but life threatening; as such, appropriate diagnosis and management requires high clinical index of suspicion for these conditions.

References

1. Mao, L, Wang M, Chen S, et al. Neurological manifestations of hospitalized patients with COVID-19 in Wuhan, China: a retrospective case series study. *JAMA Neurol.* 2020;77(6):683-90.
2. Aladawi M, Elfil M, Abu-Esheh B. Guillain Barre syndrome as a complication of COVID-19: a systematic review. *Can J Neurol Sci.* 2022;49(1):38-48.
3. Nachamkin I, Allos BM, Ho T. *Campylobacter* species and Guillain-Barre syndrome. *Clin Microbiol Rev.* 1998;11:555-67.
4. Trujillo Gitterman LM, Valenzuela Feris SN, von Oettinger Giacomani A. Relation between COVID-19 and Guillain-Barre syndrome in adults. Systematic review. *Neurologia.* 2020;35(9):646-654.

MCG EMS Fellowship

MCG EM Residency Update:

Summer GCEP MCG Update

The Medical College of Georgia Emergency Medicine Residency has many exciting changes this new academic year. Nick Musisca joined faculty as the new Residency Program Director in June. He comes with five years of experience as Assistant Program Director from Brown University in Providence, Rhode Island. He trained in residency at Washington University in St. Louis and medical school at Wake Forest University School of Medicine. Nick's professional interests include advanced airway education, mass casualty incident simulation, procedural video production and wilderness medicine.

Also joining the team this July as our third Assistant Program Director is Dr. Elizabeth Olson. Lizz recently completed her residency in Emergency Medicine and fellowship in Pediatric Emergency Medicine at Carolinas Medical Center in Charlotte. She went to medical school at Wake Forest University School of Medicine. Having an early interest in medical education in residency, as well as clinical informatics and simulation, Lizz will be a great addition to the team.

We have a fantastic team of chief residents this year to include Jordan Cramer, Ashlyn Herman, Ryan Hodgeman and Nick Tannenbaum. They have hit the ground running with new initiatives in simulation, wellness, curriculum development and clinical shift accommodations to truly make MCG a wonderful place to learn Emergency Medicine and concurrently pursue extracurricular professional interests and personal investment in well being.

Lastly, we welcome our newest class of interns. We have a versatile mix of local talent from the Medical College of Georgia and from all regions of the US. Burgeoning interests include operational medicine, rural medicine, wilderness medicine, global health, diversity equity and inclusion and more.

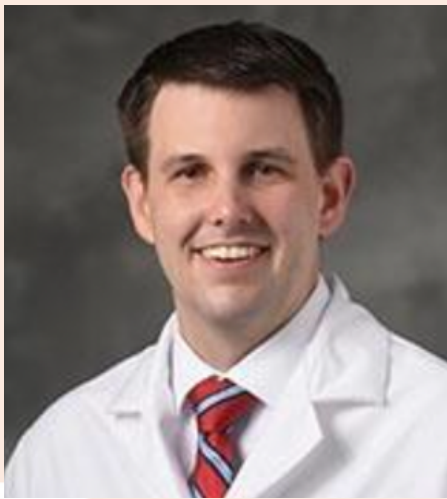
MCG Highlights

Jordan Cramer, Karly Flemmons, Charlotte Todd and Nick Tannenbaum will compete in the simulation competition in the Joint Services Symposium in San Antonio in September.

JR Barret will be presenting about “Emergency medicine residency program leadership well-being: Results from a national survey” at the ACEP Academic Assembly in Philadelphia.

Nick Musisca will continue his service as CORD Senior Track Chair for the 2024 Academic Assembly.

Dan McCollum recently appeared on EMRAP for topics on the history of the opioid epidemic, Pearls and Pitfalls with Ketamine, as well as an STI update.

MCG EMS Fellowship

Brian Conner, D.O.
EM Residency, Henry Ford
Hospital, Detroit
DO, Campbell University School
of Osteopathic Medicine BS,
North Carolina State University



Joseph Endemano, D.O.
EM Residency, Texas A&M
Corpus Christi
DO, Pacific Northwest
University of Health Sciences
BS, Brigham Young University

Nick Musisca, M.D.
MCG EM Residency Program Director

Pediatric Emergency Medicine at the Children's Hospital of Georgia Highlights and Updates**Clinical Highlights**

- Clinical space includes 16 designated patient beds with a flexibility to 19. Considering proximity site for fast-track patients for the Winter 2023.
- Received ACS reverification as a Pediatric Level II Trauma Center in April 2023
- New ultrasound process encounter-based workflow using ExoWorks with the Sonosite PX, Sonosite S II, Philips Lumify and Philips Affiniti ultrasound machines allows improved POCUS documentation and quality review. A much-needed change to enhance and recognize care provided.
- Plan double attending coverage starting in October during peak hours of the day.
- Dr. George Hsu, Associate Professor of Emergency Medicine, a PEM faculty wins best clinical PEM faculty by the graduating 2023 EM Class. Heather Glover, RN wins best CHOG ED nurse by the graduating 2023 EM class. Congratulations!
- Makenzie Barbour, RN and new CHOG ED Assistant Nurse Manager wins the Rising Star Award. This is well deserved as she has almost single handedly rebuilt the nursing pool after significant attrition due to COVID.

Academic Highlights

- Faculty retreats were incorporated this past year in Fall and Spring. One to enhance and engage faculty in their research pursuits and one to focus on developing autonomous practice for fellows.
- Addition of two new attendings to our existing 11. (see below)
 - Dr. Megan Musisca, transitioning from PEM faculty at Harvard University, Boston Children's. She has a passion for ultrasound and will focus on faculty proficiency in ultrasound.
 - Dr. Elizabeth Olson, transitioning from PEM fellowship at Carolinas Medical Center, Atrium Health in Charlotte, NC. She is both EM- trained and PEM fellowship trained. She will be joining as an assistant EM residency director. She has received several awards during residency for outstanding teaching.
- Welcoming EM residents from Piedmont, Macon, North Georgia, and FM medicine residents from Eisenhower Army Medical Center to complete their rotations in pediatric emergency medicine right here at the Children's Hospital of Georgia Emergency Department beginning in August 2023.
- Successfully graduated Ohmed Khilji, MD and Fatima (Tiff) Ramirez Cueva. Both were PEM fellows and now heading to Chicago Northwell Health System as an attending PEM faculty and the other as the first ever pediatric wilderness fellow at Augusta University, respectively.
- Welcomed Joe Holjencin, MD (MCG) and Anna Rees, MD (LSU) as our new PEM fellows
- Month- long bootcamp addresses resuscitative, procedural, and teaching skills as well as preparation for research for our new fellows during the month of July.
- 13th and final Annual Emergency Medical Services for Children Conference held on May 24, 2023. Kids Count ... On You. An in-person conference for the pre-hospital providers in all things pediatric emergency care. First installment of Pediatric Sim Wars was a success.
- Gary Prusky, MD (PGY5) will be entering the PEM US fellowship here at MCG and complete it along with his PEM fellowship.

Research Updates

- Areas of expertise include POCUS PEM ultrasound, infectious disease, simulation, pre-hospital care and disaster medicine as well as quality initiatives.
- Recent national presentations
 - Ohmed Khilji, MBBS, and Deborah Huang, MD et al: Does IV Fluid Resuscitation Improve Ultrasound Visualization of the Appendix? PAS, SSPR 2023
 - Eilan Levkowitz, MD and Desiree Seeyave, MD et al: Optimizing Triage: Assessing Age-Adjusted Shock Index as an Adjunct to Improve Emergency Severity Index Mis-Triage, PAS, SSPR 2023
- Recent / pending publications
 - Pediatric ED Saves: Analyzing the ED Screen of Direct Admissions Fatima Ramirez Cueva, DO, Gary Prusky Grinberg, DO, Ann Marie Kuchinski, Ph.D., Robert Gibson, Ph.D., Hongyan Xu, Ph.D., Li Fang Zhang, MS, Desiree Seeyave, MBBS, Pediatric Quality and Safety (accepted)

Interested in more about our program or services? Please see the website
<https://www.augusta.edu/mcg/em/ed/fellowships/pediatric/index.php>



L to R: George Hsu, MD; Fatima (Tiff) Ramirez Cueva, DO; Ohmed Khilji, MBBS; Heather Glover, RN



Elizabeth (Lizz) Olson, MD
EM/PEM Faculty
Assistant Director EM

New Faculty
CHOG ED



Megan Musisca, MD
PEM Faculty

Natalie E. Lane, MD
 Section Chief, Pediatric Emergency Medicine Fellowship
 Director, Pediatric Emergency Medicine Medical
 Director, Children's Hospital of Georgia ED Department
 of Emergency Medicine
 Augusta University

Northeast Georgia Health Systems

Quarterly Update Q2 2023

This has been a busy quarter at NGHS. Our second class of residents started with us this past month and is already deep into their orientations. We matched a great, diverse group of 12 residents, many from Georgia or the surrounding states all in support of our mission to provide more physicians to our state. Our new PGY2s are turning into wonderful mentors and preparing to start looking for jobs later this year.

We continue to hire new members to our team at Georgia Emergency Department Services (GEDS). Our two most recent additions are Jason Swaby, MD who is fellowship trained in hyperbaric medicine and Daniel Baquet, MD who joins our ultrasound division. We look forward to welcoming three more new physicians later this summer as well.

In clinical news, our department recently received PACED accreditation, spearheaded. Much of the advocacy, training, and treatment of patients with opioid use disorder has been led by GCEP leadership fellow, Alison Ruch, MD.

Also, as of 7/1 Hall County Fire & EMS has moved to a two EMS Medical Director system to meet the demands of a growing population and to provide improved patient care. Doubling physician oversight and provider engagement is something that's highly anticipated by the county response system. Immediate changes include updated treatment guidelines, more rigorous QA/QI processes, and increases in oversight of the new paramedic training program. We continue our search for more faculty who are EMS fellowship trained with the goal of developing an EMS fellowship of our own at our site. If anyone knows a great EMS candidate who is looking for a job in Georgia, they can contact Josh Mugele (jmugele@geds-emergency.com) and Mohak Davé (mohak@geds-emergency.com).

Finally, kudos to Dr. Ziad Faramand, one of our new PGY2 residents, who just got published in Nature Medicine. His article, Machine Learning for ECG Diagnosis and Risk Stratification of Occlusion Myocardial Infarction explores using AI to help diagnose occlusion MIs that don't necessarily meet the STEMI criteria. Getting published in Nature is a once in a career accomplishment. We're very proud of him – check his paper out here: <https://www.nature.com/articles/s41591-023-02396-3>.

Joshua Mugele, MD
Program Director, Emergency Medicine Residency
Northeast Georgia Medical Center
Georgia Emergency Department Services (GEDS)

Kennestone Residency Updates

July is always a time of transition, and this year is no different. Our departing class of 2023 was truly a remarkable group, with more fellowships and wider geographic job placement than in any year thus far. We could not be any prouder of their success:

Thomas Cole Baker, MD

Kessler Air Force Base, Biloxi, MS

Haley Cabiness, MD

*Upson Regional Medical Center,
Thomaston, GA*

Destiny Horton, MD

Huntsville Hospital, AL

Khadijah Jihad, DO

Piedmont Rockdale, Conyers, GA

Mahtab Parham, DO

Cape Cod Health – Hyannis, MA

Charles Poon, DO

Glendale Memorial, Glendale, CA

Tally Sharp, MD

Prisma Health, Greenville, SC

Luke Bishop, MD

*Point-of-Care Ultrasound in Resource Limited Settings
Fellowship, University of Alabama*

Aleksandra Degtyar, MD

Research Fellowship, Mt. Sinai Health, NY

James Infanzon, MD

EMS Fellowship, Orlando Health, FL

Ellen Pappas, DO

*Emergency Physicians Professional Association,
Minneapolis, MN*

Hana Park, DO

St Mary Medical Center, Langhorne, PA

Luke Prudich, MD

CaroMont Regional Medical Center, Gastonia, NC

Gary Blake Young, DO

Blount Memorial Hospital, Maryville, TN

While we are sorry to see them depart, we know that they are well prepared to continue providing outstanding emergency care and changing the future of emergency medicine. Well done, class of 2023!

But their departure brings our next group of amazing interns, with an incredible breadth of experience and backgrounds.

Wellstar Kennestone Regional Medical Center Graduate Medical Education Emergency Medicine Residency Program 2023 - 2024



Clarie Belay, MD
Mercer University
School of Medicine
PGY-1



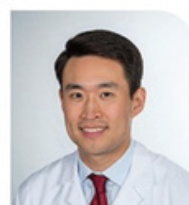
Blake Callahan, MD
University of Central Florida
College of Medicine
PGY-1



Sydney James, MD
University of Mississippi
School of Medicine
PGY-1



Eun "Kevin" Sung Kim, MD
University of Queensland
School of Medicine
PGY-1



Andrew Na, DO
Philadelphia College of
Osteopathic Medicine
PGY-1



Crystal Pierce, DO
University of New England College
of Osteopathic Medicine
PGY-1



Russell Puckett, MD
Mercer University
School of Medicine
PGY-1



Nathan Robinson, DO
Edward Via College of
Osteopathic Medicine
PGY-1



Holli Spikes, DO
Philadelphia College of
Osteopathic Medicine
PGY-1



James Williams, MD
Howard University
College of Medicine
PGY-1



Jessica Yeager, DO
Touro University Nevada
College of Osteopathic Medicine
PGY-1



Alaa Alghalayini, DO
PGY-2

They are already off to a strong start, having made a seamless transition from student to resident in only a few days. Unforeseen circumstances have left us one intern short of our goal, but we are actively recruiting and interviewing and plan to have our class complete soon.

We are also welcoming four new faculty hires, one of whom is a making a return to us having completed his residency at Kennestone last year. They are fantastic additions to our team and will help us continue to grow the program.

Daniele Bourget, MD is returning to Atlanta from Philadelphia, where she attended Penn and worked as Temple EM faculty. Her professional interests include patient advocacy, education, and mentorship. Outside of medicine, she enjoys dancing and traveling with her family.

Alan Rice, MD is returning to Kennestone as an attending after having graduated from residency here in 2022. We are excited to have him and his musical skills back at the rock. Good to have you back home!

Jordan Leumas, MD is joining us after finishing his Ultrasound Fellowship at Emory, residency at Emory and medical school at Louisiana State University.

Kristin Amoloran, MD complete her residency at Emory University and medical school at New York University and will be joining Kennestone in the fall. She enjoys baking and slam poetry in her free time.

New Simulation Center:

Our newly built Education and Simulation center is now open and allows for cutting edge hands-on resident and medical student education. The center is designed to accommodate all levels of experience and training and includes multiple spaces for high-fidelity education.



Clinical updates:

As we continue to emerge from the COVID pandemic, our volumes are dramatically on the rise. During the past fiscal year we saw over 132,000 patients, a roughly 10% increase over the prior year. This is especially true of our trauma census, as the addition of the surgery and orthopedic residencies from Atlanta Medical Center have greatly expanded our clinical capacity and scope. We have engaged in both clinical and educational collaboration with these services and look forward to partnering in our mission to expand our healthcare reach. We have also broken ground on our new state of the art inpatient tower which will open in a couple of years.

Medical Student education:

Mike Nitken, our new Director of Student education, has done an incredible job revising our Acting Internship rotation – we have more than 30 visiting students this year (a Kennestone record!) with likely more to be scheduled. We look forward to recruiting many of our next class of interns from this strong group. We are also finally listed in VSAS, which provides for a much broader student pool.

Division of EMS:

In addition to successfully matching in his EMS Fellowship, Dr. Infanzon is beginning the process of transitioning to our new EMS Director. He will officially take over this role in July 2024, but for now is working alongside Dr. Eric Nix to revise and grow our pre-hospital education program.

Dr. Charity Ruth Bray, EM2 has begun serving as an Assistant Medical Director for Cobb County Fire & Emergency Services. Dr. Bray will be focusing on protocol development and quality assurance with the goal of developing her own EMS expertise and career focus.

We recently had a successful deployment of ECPR for out of hospital cardiac arrest allowing intervention in the cath lab. This was only possible with close coordination between air EMS, the ED team, and our interventional cardiology team. Our ECMO program continues to expand and has had many successful outcomes.

Division of Toxicology:

We continue to refine our clinical and educational tox program. During their second year of residency, the Emergency Medicine resident will spend one month rotating on the Medical Toxicology service. During this rotation, they will take call and see consults in real time. These consults can range from common acetaminophen overdoses to calcium channel blocker toxicity that require VA-ECMO and ICU management. In addition, residents receive one on one teaching with a medical toxicologist as they review a curriculum of cases designed to encompass the breadth of the toxicological issues that EM residents should master. Residents are also exposed to multiple national virtual conferences through the American College of Medical Toxicology, such as the National Case Conference held once a month, as well as a four-hour introductory course on medication assisted therapy (MAT) for opiate use disorder. At the end of the month the resident educates the entire department by writing up a unique "Case of the Month", which is distributed to residents, faculty, and APPs.

Coming next quarter:

There is so much more to say about the amazing things happening at Kennestone, but for now I'd like to leave a hint as to what is to come. Next time, we will share some updates on:

- Resident and faculty scholarship
- Our new Ultrasound Case of the Quarter
- Educational curriculum updates
- A Featured Faculty Profile
- and so much more....



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CONFERENCE**

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GREENSBORO, GA

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