**AMERICAN COLLEGE OF EMERGENCY PHYSICIANS**

ACEP'22 Toxicology Section
Wednesday, November 2, 2022
Virtual Zoom meeting
1:00 - 3:00 PM CDT

**MINUTES**

**Section officers participating in the meeting included:**

**Chair:** Gerald (Gerry) O'Malley, DO, FACEP
**Secretary/Newsletter Editor**: Maricel Dela Cruz, DO
**Councillor:** Jennifer Hannum, MD, FACEP
**ACEP Staff Liaison:** Kathryn Mensah

**Attendees**: Kim Villaroel, Mark Merrill, Carlos Cabrera, Georgianne Stoukides, Paul Orcutt, Joseph Palomba, Jodie Craig, Laura Waltrip, Alisha Fujita, Chimone Chalton, Jessica Schulman, Ronan Murphy, Benedicte L'Heureux, Elmarie Pineda-Diaz, Mohammed Al-Tairy, Sarah Watkins, Spencer Greene, Jamie Johnson, Fadl Al-Tairy, Michael Weaver, Sedigueh Arzili Moguim, Mcgiguere, OM Hastings, Ameen Hyder, Christina Hantsch, Melissa Lai-Becker, Howard Wayne Harris, Daria Fackowilz, Mark Giese, Caro Z, Andre Rodrigues, Gloria Orozco, Mary Anne Kolar, Maud Lebel, Mark Merrill

**Call to Order**
Dr. O'Malley called the meeting to order at 1:00PM CT. Introductions of attendees were made.

**Educational Program:** 1:02PM-11:37PM CT

"In Hospital Buprenorphine Inductions: Unsettled Science Demands Empiricism" Serge-Emile Simpson, MD, Emergency Medicine Division of Medical Toxicology Director at Albert Einstein Medical Center, Philadelphia, PA

Overview of critical points of the presentation:

- Buprenorphine: opioid receptor agonist at delta receptors, partial agonist at mu receptors, and antagonism at kappa receptors (opioid agonist-antagonist), important for the treatment of opioid withdrawal
- Continued increased deaths secondary to opioid overdose, especially due to fentanyl in the supply chain, making medication assisted treatment for opioid use disorders
- Illicit fentanyl use, 50-300x more potent than morphine, but also short acting compared to illicit heroin, leading to the need for continuous use to maintain a desired effect and the need to inject more often than usual

- Hospitalization required for medical conditions associated with intravenous drug use, such as skin and soft tissue infections at injection sites, infectious diseases like HIV and HCV rising, osteomyelitis and endocarditis as examples
- While hospitalized, patients requiring medical treatment for said conditions then go into withdrawal and inpatient teams have a difficult time managing patients as they want to leave against medical advice due to their withdrawal symptoms
- Buprenorphine found to be useful in the management of hospitalized patients in withdrawal as well as patients in the emergency department
- Pharmacokinetics vary depending on formulation and dose and there is a plateau effect regarding the agonist/antagonist mechanism of action
- Sample dosing includes 2-4 mg tablets every half hour to hour and a half in order to prevent precipitated withdrawal (PW)
- Treatment may need more fine tuning when it comes to heavy fentanyl users who may require smaller doses more frequently, i.e. it may be difficult to induce an individual with buprenorphine without causing PW if fentanyl was used within the last 48 hours. Classically, for morphine and heroin, it has been taught that buprenorphine can be used 12-24 hours after short acting opioid use.
- Additionally, fentanyl may follow three compartment kinetics, leading to a buildup and saturation in the third compartment over time.
- Due to a ceiling effect of buprenorphine, mu-receptors may become desensitized after massive use of fentanyl, leading to precipitated withdrawal, making macro-dosing with 8-24 mg of buprenorphine difficult in fentanyl users.
- The Bernese method, published in Switzerland in 2016 noted a microdosing method, a low and slow method, which may be more useful for heavy fentanyl users.
- The microdose induction protocol would require special dosing and a different formulation, such as a buprenorphine injection or buccal film that is available in microdose quantities (i.e. 75, 150, 300, 450, 600, 750 and 900 mcg).
- Other facilities have practiced an anecdotal three day protocol which appears to be successful.
- Others may use a rapid detoxification method, utilizing naloxone and subsequent buprenorphine in the emergency department.
- Additionally, alternative treatments such as clonidine, benzodiazepines and naltrexone may assist the patient into withdrawal before induction with buprenorphine to prevent PW. Naltrexone may compress the withdrawal experience. This can improve the subjective withdrawal experience.
- Rapid opioid detoxification and ultrarapid opioid detoxification techniques may include a alpha-2-adrenergic receptor agonist like clonidine, to counteract the excitatory tone imbalance and restless legs. Massive doses of benzodiazepines may be needed for muscle relaxation and control anxiety. Additionally, antiemetics may be used for GI symptoms and can also control anxiety. May also use the serotonin modulator trazodone for sleep.
- Patients are often afraid of the naloxone component in Suboxone, may be useful to have strictly buprenorphine formulations in pharmacy to avoid this concern altogether.
- From the nursing side, may be more beneficial to have standing doses rather than utilizing as needed doses adjusted to a COWS score as patients may be stigmatized as being “needy” when they are actively withdrawing.

- Likely more beneficial to allow the patient to withdraw naturally, without mu-opioid receptor antagonists, supporting patients with adjuncts such as clonidine, benzodiazepines and trazodone, avoid PW and then induce with buprenorphine as warranted.

**Old Business: 1:37-1:38PM CT**

The October 25, 2021, meeting minutes were reviewed. Dr. Maricel Dela Cruz recommended a change to the Virtual Attendees list, removal of the duplicate name Melisa Lai-Becker. After said change the October 25, 2021, meeting minutes were unanimously approved.

**New Business: 1:38-1:45PM CT**

- Councilor Report:
    - Dr. Jen Hannum, Councillor, provided the following Council report:
        - (Add any brief comments about new business here).
        - 6 resolutions relevant to the ACEP Toxicology Section
        - 4 were approved
            - Resolution 29: buprenorphine titled an essential medicine, due to difficulty getting this medication stocked in emergency departments, this wound now advocate for buprenorphine as an essential medication – approved
            - Resolution 32: safe injection sites, analyze efficacy, not enough data regarding these sites, controversial resolution – approved
            - Resolution 33: lower the barrier to telehealth treatment for opioid use disorder treatment – approved
            - Resolution 43: support integration of buprenorphine training in emergency medicine residencies – approved
        - 2 were not approved
            - Resolution 30: compassionate access to medical cannabis act, "Ryan's Law" (Larry A Bedard, MD, FACEP and Dan K Morhaim, DO, FACEP) – not approved
            - Resolution 31: decriminalizing use of all illicit drugs (Larry A Bedard, MD, FACEP and Dank K Morhaim, DO, FACEP), found to be not in the arena for ACEP – not approved
        - Other topics discussed: pregnancy related care, workplace violence.

**Other New Business / Open Floor: 1:45-1:56PM CT**

- Dr. Gerald O'Malley:
    - Discussed additional toxicology opportunities, including submissions for the publication Visual Diagnosis, currently soliciting toxicology related content. There was a recent publication regarding black widow spider venom.
    - On the ACEP Toxicology Newsroom Site, there are toxicology related book reviews, music reviews and movie reviews that have been added by the chair, Dr. Gerald O'Malley.

- Kathryn Mensah:
    - Recently received approval for a toxicology simulation library. Currently in the process to accept new toxicology simulation information on the ACEP website. Dr. Stella Wong will be managing and reviewing this endeavor for approvals.
- Dr. Jennifer Hannum:
    - Currently working on a toxicology resource project with Dr. Jason Hack.
    - Recommended to set a meeting a few weeks before ACEP council next year to discuss Toxicology related resolutions before voting so that she can best represent the ACEP Toxicology section. Section leaders and anyone interested parties can go over toxicology related resolutions. Consider Wednesday, September 20, 2023 at 1PM CT. Date and time will depend on when ACEP resolutions come out. Kathryn Mensah to keep everyone updated regarding said meeting, likely will be virtual. ACEP council will be held on Saturday, October 7, 2023 in Philadelphia, Pennsylvania.
- Dr. Gerald O'Malley:
    - Recommended medical student outreach, to encourage medical students to participate in this section. Will reach out to leadership of the medical student section of ACEP to see if there is any common ground to develop some interest in toxicology among medical students. This will be a goal for the end of the year, to increase awareness of medical toxicology among medical students.

**Adjourn**

The meeting was adjourned at 1:56 PM CT.