



**BASE STATION PHYSICIANS COMMITTEE**  
**Evidence Based Medicine (EBM) Presentation**  
**January 16, 2024**  
**12:00-12:55 pm**

**Join by Computer**

<https://us06web.zoom.us/j/87814760770?pwd=aa5slo84wSvbxJKhqmAizqVsuZxZdT.1>

Join by phone	Meeting ID	Passcode
1-408-638-0968	878 1476 0770	698928

**Key Controversies in Prehospital Treatment:**  
**What is the Evidence?**



Andy Fischer, MD, FACEP, BHMD, Tri-City Medical Center  
➤ Topic: Sedation medications in the prehospital setting



Christopher Kahn, MD, MPH, FAEMS, UCSD Medical Center  
➤ Topic: Best practices for PEEP in the prehospital setting



Christian Sloane, MD, FACEP, UCSD Medical Center  
➤ Topic: Use of blood products in the prehospital setting



Veer Vithalani, MD, FACEP, FACEMS, BHMD, Palomar Medical Center  
➤ Topic: Use of amiodarone and lidocaine for VF/VT in the prehospital setting

## References

### Topic: Sedation medications in the prehospital setting

1. Jon B. Cole, Jamie L. Stang, Paige A. DeVries, Marc L. Martel, James R. Miner, Brian E. Driver, A Prospective Study of Intramuscular Droperidol or Olanzapine for Acute Agitation in the Emergency Department: A Natural Experiment Owing to Drug Shortages, *Annals of Emergency Medicine*.
2. Pompili M, Ducci G, Galluzzo A, Rosso G, Palumbo C, De Berardis D. The Management of Psychomotor Agitation Associated with Schizophrenia or Bipolar Disorder: A Brief Review. *Int J Environ Res Public Health*. 2021 Apr 20;18(8):4368. doi: 10.3390/ijerph18084368. PMID: 33924111; PMCID: PMC8074323.
3. Brown LH, Crowe RP, Pepe PE, Miller ML, Watanabe BL, Kordik SS, Wampler DA, Page DI, Fernandez AR, Bourn SS, Myers JB. Adverse events following emergent prehospital sedation of patients with behavioral emergencies: A retrospective cohort study. *The Lancet Regional Health-Americas*. 2022 May 1;9:100183.
4. Garriga M, Pacchiarotti I, Kasper S, Zeller SL, Allen MH, Vazquez G, Baldacara L, San L, McAllister-Williams RH, Fountoulakis KN, Courtet P. Assessment and management of agitation in psychiatry: expert consensus. *The world journal of biological psychiatry*. 2016 Feb 17;17(2):86-128.
5. Williams AM. Coadministration of intramuscular olanzapine and benzodiazepines in agitated patients with mental illness. *Ment Health Clin*. 2018;8(5):208-213. doi: 10.9740/mhc.2018.09.208. PMID: 30206503.
6. Khorassani F, Saad M. Intravenous olanzapine for the management of agitation: review of the literature. *Ann Pharmacother*. 2019;53(8):853-859. doi: 10.1177/1060028019831634. PMID: 30758221.
7. Chan EW, Taylor DM, Knott JC, Phillips GA, Castle DJ, Kong DCM. Intravenous droperidol or olanzapine as an adjunct to midazolam for the acutely agitated patient: a multicenter, randomized, double-blind, placebo-controlled clinical trial. *Ann Emerg Med*. 2013;61(1):72-81. doi: 10.1016/j.annemergmed.2012.07.118. PMID: 22981685.
8. Cole JB, Moore JC, Dolan BJ, et al. A prospective observational study of patients receiving intravenous and intramuscular olanzapine in the emergency department. *Ann Emerg Med*. 2017;69(3):327-336.e2. doi: 10.1016/j.annemergmed.2016.08.008. PMID: 27823873.
9. Martel ML, Klein LR, Rivard RL, Cole JB. A large retrospective cohort of patients receiving intravenous olanzapine in the emergency department. *Acad Emerg Med*. 2016;23(1):29-35. doi: 10.1111/acem.12842. PMID: 26720055.
10. Wilson MP, MacDonald K, Vilke GM, Feifel D. Potential complications of combining intramuscular olanzapine with benzodiazepines in emergency department patients. *J Emerg Med*. 2012;43(5):889-896. doi: 10.1016/j.jemermed.2010.04.012. PMID: 20542400
11. Wilson MP, MacDonald K, Vilke GM, Feifel D. A comparison of the safety of olanzapine and haloperidol in combination with benzodiazepines in emergency department patients with acute agitation. *J Emerg Med*. 2012;43(5):790-797. doi: 10.1016/j.jemermed.2011.01.024. PMID: 21601409.
12. Williams AM. Coadministration of intramuscular olanzapine and benzodiazepines in agitated patients with mental illness. *Ment Health Clin*. 2018 Aug 30;8(5):208-213. doi: 10.9740/mhc.2018.09.208. PMID: 30206503; PMCID: PMC6125121.

## **Topic: Best practices for PEEP in the prehospital setting**

1. Stephens RJ, Siegler JE, Fuller BM. Mechanical Ventilation in the Prehospital and Emergency Department Environment. *Respir Care*. 2019 May;64(5):595-603. doi: 10.4187/respcare.06888. PMID: 31023880.
2. Daniel P. Davis, Nichole Bosson, Francis X. Guyette, Allen Wolfe, Bentley J. Bobrow, David Olvera, Robert G. Walker & Michael Levy (2022) Optimizing Physiology During Prehospital Airway Management: An NAEMSP Position Statement and Resource Document, *Prehospital Emergency Care*, 26:sup1, 72-79, DOI: 10.1080/10903127.2021.1992056
3. Manzano F, Fernández-Mondéjar E, Colmenero M, Poyatos ME, Rivera R, Machado J, Catalán I, Artigas A. Positive-end expiratory pressure reduces incidence of ventilator-associated pneumonia in nonhypoxemic patients. *Crit Care Med*. 2008 Aug;36(8):2225-31. doi: 10.1097/CCM.0b013e31817b8a92. PMID: 18664777.

## **Topic: Use of blood products in the prehospital setting**

1. Equitable and Ethical Access to Care: The Case of Pre-Hospital Blood Administration
2. Prehospital Hemorrhage Control and Treatment by Clinicians: A Joint Position Statement
3. THOR-AABB Working Party Recommendations for a Prehospital Blood Product Transfusion Program
4. Transport Time and Preoperating Room
5. Hemostatic Interventions Are Important: Improving Outcomes After Severe Truncal Injury
6. Prehospital Blood Transfusion Initiative Coalition
7. Pro-Con Debate: Prehospital Blood Transfusion—Should It Be Adopted for Civilian Trauma?

## **Topic: Use of amiodarone and lidocaine for VF/VT in the prehospital setting**

1. Part 3: Adult Basic and Advanced Life Support: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care; 0000000000000916 *Circulation*. 2020;142:S366–S468
2. Amiodarone, Lidocaine, or Placebo in Out-of-Hospital Cardiac Arrest; *N Engl J Med* 2016; 374:1711-1722
3. Daya MR, Leroux BG, Dorian P, Rea TD, Newgard CD, Morrison LJ, Lupton JR, Menegazzi JJ, Ornato JP, Sopko G, Christenson J, Idris A, Mody P, Vilke GM, Herdeman C, Barbic D, Kudenchuk PJ Resuscitation Outcomes Consortium Investigators. Survival After Intravenous Versus Intraosseous Amiodarone, Lidocaine, or Placebo in Out-of-Hospital Shock-Refractory Cardiac Arrest. *Circulation*. 2020; 141:188–198
4. Antiarrhythmic Drugs for Cardiac Arrest in Adults and Children Consensus on Science and Treatment Recommendations [Internet] Brussels, Belgium: International Liaison Committee on Resuscitation (ILCOR) Advanced Life Support Task Force, 2018 May 30.
5. Antiarrhythmic drugs for cardiac arrest - Pediatric (PLS): Systematic Review [Internet] Brussels, Belgium: International Liaison Committee on Resuscitation (ILCOR) American Heart Association Get With The Guidelines-Resuscitation Investigators. Outcomes associated with amiodarone and lidocaine in the treatment of in-hospital pediatric cardiac arrest with pulseless ventricular tachycardia or ventricular fibrillation. *Resuscitation*. 2014; 85:381–386
6. Get With The Guidelines-Resuscitation Pediatric Research Task Force. Lidocaine versus amiodarone for pediatric in-hospital cardiac arrest: an observational study. *Resuscitation*.