



Pharmacy Grand Rounds

200 First Street SW
Rochester, Minnesota 55905
<https://ce.mayo.edu/node/86028>

Once in a Blue Moon: Methylene Blue for Catecholamine-Refractory Shock in Pediatric Patients

ACPE Universal Activity Number (UAN):

JA0000238-0000-20-028-L01-P

Session Date: 12/22/2020

Session Time: 11:00 – 11:45 AM (CST)

Session Type: Knowledge-based

Session Fee: Free for Mayo Clinic staff

CE Credit Types: A maximum of 0.75 contact hour (0.075 CEU) for the following:

- AAPA Category 1 CME Credits
- ACPE
- *AMA PRA Category 1 Credits™*
- ANCC

Target Audience

This continuing education (CE) session was planned to meet the needs of professional staff who deal with the selection and monitoring of medication(s) as part of their patient care duties, including: pharmacists, RNs, APRNs, PAs, MDs.

Activity Overview

Guideline-recommended treatment options for catecholamine-refractory shock have shown mixed results in the adult population and have scarce data in use in the pediatric population. Methylene blue is one of the more recent treatment options that has not quite been recognized in guidelines for various types of shocks, but has shown promise in adult studies and in pediatric studies on a smaller scale. This presentation will review recent evidence regarding the use of methylene blue in catecholamine-refractory shock in pediatric patients and its clinical utility.

Learning Objectives

At the conclusion of this knowledge-based CE session, participants should be able to:

1. Describe the mechanism of action of methylene blue in the context of shock
2. Review literature supporting the use of methylene blue for refractory shock in pediatric patients
3. Identify clinical factors in which methylene blue can be considered for treatment of refractory shock

Faculty Information

Mai Uyen Alissa Le, PharmD

PGY-1 Pharmacy Resident (Pediatrics-Focused)

Mayo Eugenio Litta Children's Hospital, Rochester, MN

Mai received a Doctor of Pharmacy degree from Temple University School of Pharmacy in Philadelphia, PA. She is a current PGY-1 Pharmacy Resident at Mayo Eugenio Litta Children's Hospital with clinical practice interests in general pediatrics and critical care.



Approved Provider Statement



JOINT ACCREDITATION™
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, this activity is planned and implemented by Mayo Clinic College of Medicine and Science. Mayo Clinic College of Medicine and Science is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

Credit Statements

AMA

Mayo Clinic College of Medicine and Science designates this live activity for a maximum of 0.75 *AMA PRA Category 1 Credits*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ACPE

Mayo Clinic College of Medicine and Science designates this educational activity for a maximum of 0.75 ACPE Knowledge-based contact hours. Participants should claim only the credit commensurate with the extent of their participation in the activity.

ANCC

Mayo Clinic College of Medicine and Science designates this activity for a maximum of 0.75 ANCC contact hours. Nurses should claim only the credit commensurate with the extent of their participation in the activity.

AAPA



Mayo Clinic College of Medicine and Science has been authorized by the American Academy of PAs (AAPA) to award AAPA Category 1 CME credit for activities planned in accordance with AAPA CME Criteria. This activity is designated for 0.75 AAPA Category 1 CME credits. PAs should only claim credit commensurate with the extent of their participation.

Educational Format and CE Requirements

This CE session is available as a live presentation, including live webcast.

Participants must complete the following to record attendance and obtain CE credit:

1. Attend the entire session.
2. Text the session code to 507-200-3010 within 48 hours of the live presentation to record attendance.
 - a. This number is only used for receiving text messages related to tracking attendance
 - b. Employees are encouraged to create a contact in their mobile phone, as the same number is used to record attendance for every session
3. Complete the online evaluation for the respective session within 2 weeks of live presentation.

Pharmacist CE credit is electronically transferred to the National Association of Boards of Pharmacy CPE Monitor. To track CE, please go to [NABP CPE Monitor](#).

Non-pharmacist attendees can print out a record of attendance at ce.mayo.edu after completing the evaluation and claiming credit.

[Live Webcast](#) - access during presentation times

[Video Recording](#) - access two weeks after session date

Disclosure Statement

As a provider accredited by Joint Accreditation Interprofessional Continuing Education, Mayo Clinic College of Medicine and Science (Mayo Clinic School of CPD) must ensure balance, independence, objectivity and scientific rigor in its educational activities. Course Director(s), Planning Committee Members, Faculty, and all others who are in a position to control the content of this educational activity are required to disclose all relevant financial relationships with any commercial interest related to the subject matter of the educational activity. Safeguards against commercial bias have been put in place. Faculty also will disclose any off label and/or investigational use of pharmaceuticals or instruments discussed in their presentation. Disclosure of these relevant financial relationships will be published in activity materials so those participants in the activity may formulate their own judgments regarding the presentation.

Listed below are individuals with control of the content of this program:

The faculty report the following relationships:

- Mai Uyen Alissa Le, PharmD
 - Declares no financial relationship(s) pertinent to this session
 - Declares off-label use of devices and medications will be discussed during this presentation, including:
 - Methylene blue

Course Director and Planning Committee Members declare no relevant financial relationship(s) pertinent to this session. Members include:

- | | |
|-------------------------------------|-------------------------------------|
| • Brenda Amaris | • Wayne Nicholson, MD, PharmD, BCPS |
| • Mary Ellen Cordes, APRN, CNS, MS | • Garrett Schramm, PharmD, BCPS |
| • Jennifer Elmer, DNP, APRN, CCNS | • Lee Skrupky, PharmD, BCPS |
| • Michael Huckabee, MPAS, PA-C, PhD | |

For additional disclosure information regarding Mayo Clinic School of Continuous Professional Development accreditation review committee members visit ce.mayo.edu, About Us, Disclosures - or -

<https://ce.mayo.edu/content/disclosures>

System and Technical Requirements

For participants viewing the webcast, sessions are delivered via Mayo Clinic intranet web browser and Adobe® PDF. For participants viewing outside the Mayo Clinic firewall, a VPN connection is required for remote access. Recommended web browsers include: Google Chrome, Firefox, Internet Explorer 10 or 11.

This session is planned and coordinated by **the Department of Pharmacy, Mayo Clinic.**