

Red or Blue: Which One for You? Hydroxocobalamin or Methylene Blue for Refractory Vasoplegic Shock

ACPE Universal Activity Number (UAN):

JA0000238-0000-21-004-L01-P

Session Date: 02/02/2021

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

Refractory vasoplegic shock is a complication of cardiac surgery and a concerning problem with an incidence of 20-30%. Vasoplegia is a physiologic state defined by low systemic vascular resistance and blood pressure in the presence of normal to increased cardiac output. Vasoplegia can be present in different scenarios including cardiac surgery, sepsis, and anaphylaxis. Currently there is no standard of care for treatment of refractory vasoplegic shock, and it is associated with poor outcomes. This presentation will review the current treatment pathways of refractory vasoplegic shock with off-label use of available medications.

Learning Objectives

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

1. Describe the pathophysiology of refractory vasoplegic shock
2. Examine literature detailing use of methylene blue and hydroxocobalamin for refractory vasoplegic shock
3. Identify appropriate use of methylene blue or hydroxocobalamin in refractory vasoplegic shock

Faculty Information

Courtney T. Matthews, PharmD

PGY1 Pharmacy Resident

Mayo Clinic Health System- Eau Claire, WI

Courtney received a Doctor of Pharmacy degree from University of Minnesota- Twin Cities. She is a current PGY1 at Mayo Clinic Health System- Eau Claire Hospital with practice interests in critical care, emergency medicine, and infectious diseases.



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:

- Courtney L. Matthews, 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:
 - Hydroxycobalamin
 - Methylene blue

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

- | | |
|-------------------------------------|---------------------------------------|
| • Jennifer Elmer, DNP, APRN, CCNS | • Garrett Schramm, PharmD, FCCP, BCPS |
| • Michael Huckabee, MPAS, PA-C, PhD | • Lee Skrupky, PharmD, FCCM, BCPS |
| • Sarah Jane Kotval, BSW | • Brenda Stellmaker |
| • Wayne Nicholson, MD, PharmD, BCPS | |

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**.