



Pharmacy Grand Rounds

200 First Street SW
Rochester, Minnesota 55905
<https://ce.mayo.edu/pharmacy-grandrounds2023>

What's the Best for CRS?

Session Date: 04/11/2023

Session Time: 11:00 – 11:45 AM (CST)

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

Tocilizumab has remained the mainstay for treatment of cytokine release syndrome (CRS) after receipt of chimeric antigen receptor T-cell (CAR T-Cell) therapy since its advent. However, the recent emergence of drug shortages and data in refractory CRS has sparked interest in alternative agents such as siltuximab and anakinra for management of these side effects. These agents target different pathways in CRS pathophysiology, presenting a possible advantage over tocilizumab. In this discussion, we will delve into the pathophysiology of CRS and immune effector cell-associated neurotoxicity syndrome (ICANS) to investigate the role of these alternative agents in treatment.

Learning Objectives

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

1. Describe the pathophysiology of cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS)
2. Analyze primary literature on the use of tocilizumab, siltuximab, and anakinra for management of CRS and ICANS
3. Discuss the advantages and disadvantages of using siltuximab and anakinra as alternative agents to tocilizumab for CRS management.

Faculty Information

Devon S. Stonerock, PharmD
PGY2 Pharmacy Resident
Mayo Clinic Hospital - Rochester, MN

Devon received a Doctor of Pharmacy degree from the University of Michigan College of Pharmacy and is a current PGY2 oncology pharmacy resident at Mayo Clinic Hospital – Rochester. His practice interests include acute leukemias, bone marrow transplant, and benign hematology.



Divya A. Khandekar, PharmD, MS
PGY2 Pharmacy Resident
Mayo Clinic Hospital - Rochester, MN

Divya received a Doctor of Pharmacy degree from the Midwestern University Chicago College of Pharmacy and is a current PGY2 oncology pharmacy resident at Mayo Clinic Hospital – Rochester. Her practice interests include hematology, bone marrow transplant, and clinical research.



Uzoamaka (Uzo) C. Abajue, PharmD
PGY2 Pharmacy Resident
Mayo Clinic Hospital - Rochester, MN

Uzo received a Doctor of Pharmacy degree from Texas Southern University College of Pharmacy and Health Sciences and is a current PGY2 oncology pharmacy resident at Mayo Clinic Hospital – Rochester. Her practice interests include multiple myeloma, acute leukemias, and lymphoma.



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



ACPE Universal Activity Number (UAN): JA0000238-0000-23-007-L01-P

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

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AAPA



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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 attendance: Rochester, Saint Mary's Campus, ALF_MN_459

Live virtual attendance via [Zoom link](#)

Disclosure Summary

As a provider accredited by Joint Accreditation for Interprofessional Continuing Education, Mayo Clinic College of Medicine and Science must ensure balance, independence, objectivity and scientific rigor in its educational activities. All who are in a position to control the content are required to disclose all financial relationships with any ineligible company. Faculty will also identify any off-label and/or investigational use of pharmaceuticals or instruments discussed in their content for FDA compliance.

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

The faculty report the following relationships:

- Devon S. Stonerock, PharmD
 - Declares no financial relationship(s) pertinent to this session
 - Declares off-label use of medications will be discussed during this presentation, including:
 - Siltuximab
 - Anakinra
 - Dexamethasone
- Divya A. Khandekar, PharmD
 - Declares no financial relationship(s) pertinent to this session
 - Declares off-label use of medications will be discussed during this presentation, including:
 - Tocilizumab

- Anakinra
 - Siltuximab
- Uzoamaka C. Abajue, PharmD
 - Declares no financial relationship(s) pertinent to this session
 - Declares off-label use of medications will be discussed during this presentation, including:
 - Tocilizumab
 - Anakinra
 - Siltuximab

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

- Jennifer Elmer, DNP, APRN, CCNS
- Andrew Herber, PA-C
- Sarah Jane Kotval, BSW
- Scott Nei, PharmD, BCPS, BCCCP, FCCM, FMSHP
- Wayne Nicholson, MD, PharmD, BCPS
- Garrett Schramm, PharmD, FASHP, FCCP

All relevant financial relationships have been mitigated.

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