

# Multiple Sclerosis and Autoimmune Neurology Update Online Course

## Activity Description

This state-of-the-art update on multiple sclerosis and autoimmune neurology is designed to provide evidence-based strategies that focus on practical multidisciplinary clinical care. We welcome a variety of specialists and primary care physicians who have a specific interest in this field.

## Target Audience

The target audience includes allied health professional, nurse, nurse practitioner, physician, physician assistant, resident/fellow, physical and occupational therapists, social workers, and anyone with an interest in multiple sclerosis and autoimmune neurology.

## Learning Objectives

Upon conclusion of this activity, participants should be able to:

- Analyze the range of therapeutic options for aquaporin-4-IgG seropositive neuromyelitis optica spectrum disorders.
- Interpret strategies for selecting first and subsequent disease-modifying therapies for patients with relapsing or progressive MS.
- Summarize how to diagnose autoimmune encephalitis and the risk factors for misdiagnosis
- Differentiate the clinical, laboratory and neuroimaging characteristics of myelin oligodendrocyte glycoprotein-associated disorders.
- Recognize appropriate management of common MS symptoms.
- Attendance at this Mayo Clinic course does not indicate nor guarantee competence or proficiency in the performance of any procedures which may be discussed or taught in this course.

## Accreditation Statement



In support of improving patient care, 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 Statement(s)

### AMA

Mayo Clinic College of Medicine and Science designates this enduring material for a maximum of 10.00 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

### Other Healthcare Professionals:

A record of attendance will be provided to all registrants for requesting credits in accordance with state nursing boards, specialty societies or other professional associations.

## 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 who have disclosed...**

**Relevant financial relationship(s) with ineligible companies:**

<b>Name</b>	<b>Nature of Relationship</b>	<b>Company</b>
Jonathan L. Carter, M.D.	Consultant	General Dynamics Information Technology; Lundbeck Pharma A/S
Gregg S. Day, M.D.	Consultant	Collective Acumen; DynaMed; inThought; Parabon Nanolabs, Inc.; Texas Neurological Society; Trinity Life Sciences
	Board of Directors	Anti-NMDA Receptor Encephalitis Foundation
Divyanshu Dubey, M.B.B.S.	Consultant	Immunovant; UCB; Argenx; Astellas; AAN
	Intellectual Property	Chan Zuckerberg Biohub, Inc.
Eoin P. Flanagan, M.B, B.Ch. (Faculty 2023)	Consultant	Genentech, Inc.; Horizon Therapeutics USA, Inc.
	Research Grant	UCB
Eoin Flanagan, M.B., B.Ch.	Honoraria	Chugai Pharmaceutical Co., Ltd.
Eoin Flanagan, M.B., B.Ch.	Honoraria	Roche Pharmaceuticals
Eoin Flanagan, M.B., B.Ch.	Honoraria	UCB Biopharma SPRL
Eoin Flanagan, M.B., B.Ch.	Honoraria	UCB, Inc.
Eoin Flanagan, M.B., B.Ch.	Intellectual Property	Merck Sharp & Dohme LLC
Eoin Flanagan, M.B., B.Ch.	Research Grant	UCB
A. Sebastian Lopez Chiriboga, M.D.	Consultant	Genentech, Inc.; Horizon Pharmaceuticals, Inc.; Horizon Therapeutics USA, Inc.
Iris V. Marin Collazo, M.D.	Consultant	Genentech, Inc.; Horizon Therapeutics USA, Inc.
Sean J. Pittock, M.D.	Consultant	Astellas Research Institute of America, LLC; EVOQ Therapeutics; F. Hoffmann-La Roche, Ltd.; FCB Health; Genentech, Inc.; Horizon Therapeutics USA, Inc.; Merck Serono International SA; Prime Therapeutics; Sage Therapeutics; UCB Biopharma SPRL; UCB Pharma GmbH; Venture Capital Firms
	MIRC Approved Consulting	Alexion Pharmaceuticals, Inc.
	Intellectual Property	Euroimmun Medizinische Labordiagnostika AG; Chan Zukerberg Biohub, Inc.; Euroimmun AG; Ravo

		Diagnostika GmbH; Alexion Pharmaceuticals, Inc.; RSR Limited
Dean M. Wingerchuk, M.D.	Consultant	Alexion Pharmaceuticals, Inc.; Bristol-Myers Squibb Company; EMD Serono, Inc.; Frictionless Solutions, Inc.; Genentech, Inc.; Guthy-Jackson Charitable Foundation; Hoffmann-La Roche, Ltd.; Horizon Therapeutics USA, Inc.; IMCYSE; Medimmune Ltd.; Mitsubishi Tanabe Pharma America, Inc.; Reistone Biopharma (Hong Kong) Limited; Syneos Health; UCB Biopharma SPRL; UCB Biosciences Inc.; Viela Bio; The Neurologist; Wolter Kluwers
Anastasia Zekeridou, M.D., Ph.D.	Grant/Research Support	Roche/Genentech

**All relevant financial relationships listed for these individuals have been mitigated.**

**No relevant financial relationship(s) with ineligible companies:**

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Naga Pradyumna (Naga) Kothapalli, M.B.B.S.	Burcu Zeydan, M.D.
Jiwon Oh, M.D., Ph.D.	Corinne Irish
Jan-Mendelt Tillema, M.D.	Michelle Cooper

**References to off-label and/or investigational usage(s) of pharmaceuticals or instruments in their presentation:**

Name	Manufacturer/Provider	Product/Device
Jonathan L. Carter, M.D.	Multiple	Cyclophosphamide; rituximab
Eoin P. Flanagan, MBBCh.	Multiple	A variety of immunotherapies in MOGAD
Sean Pittock, M.D.	Variety of off-label	Variety of products and vendors

For disclosure information regarding Mayo Clinic School of Continuous Professional Development accreditation review committee member(s) please visit: <https://ce.mayo.edu/content/disclosures>.

## Disclaimer

Participation in this Mayo Clinic educational activity does not indicate nor guarantee competence or proficiency in the performance of any procedures which may be discussed or taught in this course. You should be aware that substantive developments in the medical field covered by this recording may have occurred since the date of original release.

Prospective attendees, please note that the content for this online activity has been repurposed from the live education activity 2023 Multiple Sclerosis and Autoimmune Neurology Update 2/3/2023-2/4/2023. If you attended the live activity, you have already received credit for these educational sessions.

## **Prerequisites for Participation**

There are no prerequisites needed prior to participating in this education activity.

## **Method of Participation**

Participation in this activity consists of reviewing the educational material, completing the learner assessment and evaluation.

## **How to Obtain Credit**

To obtain credit, complete the assessment, evaluation and submit.

## **Release and Expiration Dates**

Release Date:	May 8, 2023
Renewal Date:	May 8, 2026
Expiration Date:	May 7, 2027

## **Acknowledgement of Commercial Support**

No commercial support was received in the production of this activity.

## **Faculty and Course Director Listing and Credentials**

### **Course Directors**

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## **Bibliographic Resources**

Derfuss T, Mehling M, Papadopoulou A, Bar-Or A, Cohen JA, Kappos L. Advances in oral immunomodulating therapies in relapsing multiple sclerosis. *Lancet Neurol.* 2020 Apr;19(4):336-347. doi: 10.1016/S1474-4422(19)30391-6. Epub 2020 Feb 11. PMID: 32059809

Graus F, Vogrig A, Muñiz-Castrillo S, Antoine JG, Desestret V, Dubey D, Giometto B, Irani SR, Joubert B, Leypoldt F, McKeon A, Prüss H, Psimaras D, Thomas L, Titulaer MJ, Vedeler CA, Verschuuren JJ, Dalmau J, Honnorat J. Updated Diagnostic Criteria for Paraneoplastic Neurologic Syndromes. *Neurol Neuroimmunol Neuroinflamm*. 2021 May 18;8(4):e1014. doi: 10.1212/NXI.0000000000001014. Print 2021 Jul. PMID: 34006622

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