

Ocrelizumab (Ocrevus, Ocrevus Zunovo)

Disclaimer

Clinical guidelines are developed and adopted to establish evidence-based clinical criteria for utilization management decisions. Clinical guidelines are applicable according to policy and plan type. The Plan may delegate utilization management decisions of certain services to third parties who may develop and adopt their own clinical criteria.

Coverage of services is subject to the terms, conditions, and limitations of a member's policy, as well as applicable state and federal law. Clinical guidelines are also subject to in-force criteria such as the Centers for Medicare & Medicaid Services (CMS) national coverage determination (NCD) or local coverage determination (LCD) for Medicare Advantage plans. Please refer to the member's policy documents (e.g., Certificate/Evidence of Coverage, Schedule of Benefits, Plan Formulary) or contact the Plan to confirm coverage.

Ocrelizumab (Ocrevus, Ocrevus Zunovo)	1
Summary	1
Definitions	2
Clinical Indications	4
Medical Necessity Criteria for Initial Clinical Review	4
Initial Indication-Specific Criteria	4
Multiple Sclerosis	4
Medical Necessity Criteria for Subsequent Clinical Review	5
Subsequent Indication-Specific Criteria	5
Multiple Sclerosis	5
Experimental or Investigational / Not Medically Necessary	6
Applicable Billing Codes	6
References	7
Clinical Guideline Revision / History Information	10

Summary

Multiple sclerosis (MS) is a chronic, inflammatory, demyelinating disease of the central nervous system. It typically presents in young adults (generally diagnosed before 50 years of age) with symptoms such as vision problems, muscle weakness, numbness, and difficulty with balance and coordination. The most

common form is relapsing-remitting MS (occurring in about 85% of patients), characterized by acute attacks followed by periods of remission. Treatment goals include reducing relapses, slowing disability progression, and managing symptoms. Disease-modifying therapies (DMTs) are the primary treatment approach and include injectable medications (e.g., interferons, glatiramer acetate), oral medications (e.g., dimethyl fumarate, fingolimod, teriflunomide, etc.), and infusion therapies (e.g., natalizumab, ocrelizumab).

MS is a progressive disease, meaning that symptoms tend to worsen over time, and it can be classified into several types, including relapsing-remitting MS (RRMS), primary progressive MS (PPMS), and secondary progressive MS (SPMS).

Currently, there is no cure for MS, but various treatment options are available to manage symptoms, slow the progression of the disease, and improve quality of life.

- Disease-modifying therapies (DMTs) are a class of medications that target the immune system to reduce inflammation and slow down the progression of the disease. The type of DMT prescribed will depend on the type and severity of MS, as well as the individual's medical history and preferences. Some common DMTs include interferon beta, glatiramer acetate, dimethyl fumarate, and fingolimod.
- High dose corticosteroids, such as high dose intravenous methylprednisolone or oral prednisone can be prescribed to reduce inflammation during acute MS relapses.
- Symptomatic treatments are also available to manage specific symptoms of MS, such as muscle spasms, bladder problems, and depression. Physical therapy, occupational therapy, and speech therapy can help individuals with MS maintain mobility, independence, and communication skills.

Ocrevus (ocrelizumab) is a humanized monoclonal antibody that selectively targets CD20-positive B cells. It is approved for:

- Relapsing forms of MS (including clinically isolated syndrome, relapsing-remitting disease, and active secondary progressive disease).
- Primary progressive MS (PPMS). Ocrevus (ocrelizumab) is the only DMT approved for PPMS.

Ocrevus (ocrelizumab) is available in two formulations:

1. Ocrevus (ocrelizumab): Intravenous (IV) formulation.
2. Ocrevus Zunovo (ocrelizumab and hyaluronidase-ocsq): Subcutaneous (SC) formulation containing ocrelizumab and hyaluronidase-ocsq.

Definitions

"Clinically isolated syndrome" refers to a first episode of neurologic symptoms lasting at least 24 hours caused by inflammation or demyelination in the central nervous system.

"Compendia" are summaries of drug information and medical evidence to support decision-making about the appropriate use of drugs and medical procedures. Examples include, but are not limited to:

1. American Hospital Formulary Service Drug Information
2. Clinical pharmacology
3. National Comprehensive Cancer Network Drugs and Biologics Compendium
4. Thomson Micromedex DrugDex
5. United States Pharmacopeia-National Formulary (USP-NF)

"Disease-modifying therapy" is a medication that modifies the course of MS by reducing relapses and slowing disability progression.

"Documentation" refers to written information, including but not limited to:

- Up-to-date chart notes, relevant test results, and/or relevant imaging reports to support diagnoses; or
- Prescription claims records, and/or prescription receipts to support prior trials of formulary alternatives.

"EDSS" or "Expanded Disability Status Scale" refers to the most widely utilized MS assessment tool that consists of an ordinal clinical rating scale with half point increments ranging from 0 (normal neurologic examination) to 10 (death due to MS).

"Multiple sclerosis" is a chronic autoimmune disease of the central nervous system characterized by inflammation, demyelination, and neurodegeneration.

"No evidence of" indicates that the reviewer has not identified any records of the specified item or condition within the submitted materials or claims history. In the absence of such evidence, the member is considered eligible. If any evidence of the item or condition is present upon review of the request, the member does not qualify.

"Primary Progressive MS (PPMS)" is a form of MS characterized by worsening neurologic function from the onset of symptoms, without early relapses or remissions.

"Relapse" is defined as the appearance of new symptoms or the worsening of existing symptoms lasting at least 24 hours in the absence of fever or infection.

"Relapsing-remitting MS" refers to a disease course characterized by clearly defined attacks of new or increasing neurologic symptoms followed by periods of partial or complete recovery.

"[s]" indicates state mandates may apply.

"Secondary progressive MS" is a disease course following relapsing-remitting MS that is characterized by a progressive worsening of neurologic function over time with or without relapses.

Clinical Indications

Medical Necessity Criteria for Initial Clinical Review

Initial Indication-Specific Criteria

Multiple Sclerosis

The Plan considers Ocrelizumab (Ocrevus, Ocrevus Zunovo) medically necessary when recent (within the last 3 months) clinical chart documentation provided indicates the member meets ALL of the following:

1. Prescribed by or in consultation with a neurologist or physician who specializes in the treatment of multiple sclerosis; *AND*
2. Is 18 years of age or older; *AND*
3. Patient has ONE (1) of the following diagnoses:
 - a. Relapsing form of multiple sclerosis (including relapsing-remitting MS, active secondary progressive MS, or clinically isolated syndrome); *or*
 - b. Primary progressive multiple sclerosis (PPMS); *AND*
4. The member meets ONE (1) of the following criteria:
 - a. For relapsing forms of MS the member meets ONE (1) of the following:
 - i. Documentation of highly active or aggressive disease, as demonstrated by at least ONE (1) of the following:
 1. Frequent relapses (≥ 2 in the past year); *or*
 2. At least 1 relapse with incomplete recovery and MRI activity; *or*
 3. Rapidly advancing disability or cognitive impairment; *or*
 4. Disabling relapse with suboptimal response to corticosteroids; *or*
 5. MRI findings showing high disease activity (e.g., new/enlarging T2 lesions, enhancing lesions); *or*
 - ii. Is unable to use, or has tried and failed at least ONE (1) of the following:^[5]
 1. Dimethyl Fumarate (generic Tecfidera); *and/or*
 2. Fingolimod (generic Gilenya); *and/or*
 3. Teriflunomide (generic Aubagio); *or*
 - b. For primary progressive MS the member meets ALL of the following:
 - i. Evidence of disability progression independent of relapses over the past year;
and
 - ii. Expanded Disability Status Scale (EDSS) Score of ≤ 6.5 ; *AND*
5. Has been screened for hepatitis B virus *AND* has no evidence of active hepatitis B infection;
AND

6. Ocrelizumab (Ocrevus, Ocrevus Zunovo) will be used as monotherapy for multiple sclerosis (i.e., member is not using and will not use other disease-modifying MS therapies while on Ocrelizumab); *AND*
7. Ocrelizumab (Ocrevus, Ocrevus Zunovo) is being prescribed within the manufacturer's published dosing guidelines or falls within dosing guidelines found in a compendia of current literature.
 - o *For Ocrevus (IV):*
 - o *Initial doses: 300 mg IV infusion, followed two weeks later by a second 300 mg IV infusion.*
 - i. *Initial authorization: Up to 600 mg in the first 28 days.*
 - o *Subsequent doses: 600 mg intravenous infusion every 6 months.*
 - i. *Up to 600 mg every 6 months.*
 - o *For Ocrevus Zunovo (SC): 920 mg ocrelizumab/23,000 units hyaluronidase administered as a single 23 mL subcutaneous injection in the abdomen every 6 months.*

If the above prior authorization criteria are met, the requested medication will be approved for up to 12 months.^[s]

Continued Care

Medical Necessity Criteria for Subsequent Clinical Review

Subsequent Indication-Specific Criteria

Multiple Sclerosis

The Plan considers Ocrelizumab (Ocrevus, Ocrevus Zunovo) medically necessary when recent (within the last 6 months) clinical chart documentation provided indicates the member meets BOTH of the following:

1. The requested medication is prescribed by or in consultation with a neurologist or a physician who specializes in the treatment of multiple sclerosis; *AND*
2. The member has experienced at least ONE (1) of the following:
 - a. Improvement in at least ONE (1) objective measure, such as:
 - i. Reduced disease activity on MRI; *and/or*
 - ii. Improved or stable disability scores; *and/or*
 - iii. Reduced relapse rate; *and/or*
 - iv. Improved fatigue or walking assessments; *AND/OR*
 - b. The member has shown stabilization or improvement in at least ONE (1) MS symptom, such as:
 - i. Motor function; *and/or*
 - ii. Fatigue; *and/or*
 - iii. Vision; *and/or*
 - iv. Bowel/bladder function; *and/or*

- v. Spasticity; *and/or*
- vi. Walking/gait; *and/or*
- vii. Pain/numbness/tingling.

If the above reauthorization criteria are met, the requested medication will be approved for up to 12 months.^[s]

Experimental or Investigational / Not Medically Necessary^[s]

Ocrelizumab (Ocrevus, Ocrevus Zunovo) for any other indication or use is considered not medically necessary by the Plan, as it is deemed to be experimental, investigational, or unproven. Non-covered indications include, but are not limited to, the following:

- Use in combination with other disease-modifying therapies for MS.
- The treatment of other autoimmune conditions not specified in the FDA-approved indications (e.g., lupus nephritis, autoimmune encephalitis).
- Use in pediatric members (under 18 years of age). Ocrelizumab (Ocrevus, Ocrevus Zunovo) has only been studied in adults with multiple sclerosis. Active studies (NCT05123703) are evaluating the safety and efficacy of Ocrelizumab (Ocrevus, Ocrevus Zunovo) in pediatrics, however study results have not yet been published or evaluated by the FDA.

Applicable Billing Codes

Table 1	
CPT/HCPCS Codes for multiple sclerosis considered medically necessary if criteria are met:	
<i>Code</i>	<i>Description</i>
96365	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); initial, up to 1 hour
96366	Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); each additional hour (List separately in addition to code for primary procedure)
96372	Therapeutic, prophylactic, or diagnostic injection (specify substance or drug); subcutaneous or intramuscular
J2350	Injection, ocrelizumab, 1 mg
J2351	Injection, ocrelizumab, 1 mg and hyaluronidase-ocsq

Table 2	
ICD-10 diagnosis codes considered medically necessary for multiple sclerosis with Table 1 (CPT/HCPCS) codes if criteria are met:	
<i>Code</i>	<i>Description</i>
G35	Multiple sclerosis
G35.A	Relapsing-remitting multiple sclerosis
G35.B0	Primary progressive multiple sclerosis, unspecified
G35.B2	Non-active primary progressive multiple sclerosis
G35.C1	Active secondary progressive multiple sclerosis
G35.D	Multiple sclerosis, unspecified

References

1. Arnold DL, Kolind S, Assemlal HE, et al. Short- and long-term effects of early versus delayed treatment with ocrelizumab on cerebellar volume loss in patients with RMS and PPMS. *Mult Scler*. 2025 Jun;31(7):821-832. doi: 10.1177/13524585251325086. Epub 2025 Apr 16.
2. Bainbridge JL, Miravalle A, Wong PS. Multiple Sclerosis. In DiPiro JT, Yee GC, Posey LM, et al, eds. *Pharmacotherapy: A Pathophysiologic Approach*. 11th ed. New York, NY: McGraw-Hill; 2019.
3. Burt RK, Balabanov R, Burman J, Sharrack B, Snowden JA, Oliveira MC, Fagius J, Rose J, Nelson F, Barreira AA, Carlson K, Han X, Moraes D, Morgan A, Quigley K, Yaung K, Buckley R, Alldredge C, Clendenan A, Calvario MA, Henry J, Jovanovic B, Helenowski IB. Effect of Nonmyeloablative Hematopoietic Stem Cell Transplantation vs Continued Disease-Modifying Therapy on Disease Progression in Patients With Relapsing-Remitting Multiple Sclerosis: A Randomized Clinical Trial. *JAMA*. 2019 Jan 15;321(2):165-174. doi: 10.1001/jama.2018.18743. PMID: 30644983; PMCID: PMC6439765.
4. Cerqueira JJ, Berthele A, Cree BAC, et al,. Long-Term Treatment With Ocrelizumab in Patients With Early-Stage Relapsing MS: Nine-Year Data From the OPERA Studies Open-Label Extension. *Neurology*. 2025 Feb 25;104(4):e210142. doi: 10.1212/WNL.0000000000210142. Epub 2025 Jan 30.
5. FDA approves Ocrevus Zunovo as the first and only twice-a-year 10-minute subcutaneous injection for people with relapsing and progressive multiple sclerosis. News release. Genentech. September 13, 2024. Accessed November 14, 2024. <https://www.gene.com/media/press-releases/15036/2024-09-13/fda-approves-ocrevus-zunovo-a-s-the-first>
6. Freedman MS, Devonshire V, Duquette P, Giacomini PS, Giuliani F, Levin MC, Montalban X, Morrow SA, Oh J, Rotstein D, Yeh EA; Canadian MS Working Group. Treatment Optimization in Multiple Sclerosis: Canadian MS Working Group Recommendations. *Can J Neurol Sci*. 2020 Jul;47(4):437-455. doi: 10.1017/cjn.2020.66. Epub 2020 Apr 6. PMID: 32654681.
7. Ghajarzadeh M, Rastkar M, Mowry EM, Nourbakhsh B. Clinical and radiological activity after extended interval and standard interval dosing of ocrelizumab in multiple sclerosis: A systematic review and meta-analysis. *Neurol Sci*. 2025 Aug;46(8):3469-3476. doi: 10.1007/s10072-025-08098-7. Epub 2025 Apr 4.

8. Hartung HP, Benedict RHB, Berger T, et al. Ocrelizumab in Early-Stage Relapsing-Remitting Multiple Sclerosis: The Phase IIIb ENSEMBLE 4-Year, Single-Arm, Open-Label Trial. *Neurology*. 2024 Dec 24;103(12):e210049. doi: 10.1212/WNL.0000000000210049. Epub 2024 Dec 3.
9. Hauser SL, Bar-Or A, Comi G et al. Ocrelizumab versus Interferon Beta-1a in Relapsing Multiple Sclerosis. *N Engl J Med*. 2017; 376:221-234.
10. Hauser, S., & Cree, B. (2020). Treatment of Multiple Sclerosis: A Review.. *The American journal of medicine*. <https://doi.org/10.1016/j.amjmed.2020.05.049>.
11. He A, Merkel B, Brown JW, et al. Timing of high-efficacy therapy for multiple sclerosis: a retrospective observational cohort study. *Lancet Neurol*. 2020 Apr;19(4):307-316. doi: 10.1016/S1474-4422(20)30067-3. Epub 2020 Mar 18.
12. Köhler M, Paul F, Janke K, et al. Comparative effectiveness of disease-modifying therapies for highly active relapsing-remitting multiple sclerosis despite previous treatment - a systematic review and network meta-analysis. *BMC Neurol*. 2025 Aug 9;25(1):328. doi: 10.1186/s12883-025-04338-7.
13. Li H, Hu F, Zhang Y, Li K. Comparative efficacy and acceptability of disease-modifying therapies in patients with relapsing-remitting multiple sclerosis: a systematic review and network meta-analysis. *J Neurol*. 2020 Dec;267(12):3489-3498. doi: 10.1007/s00415-019-09395-w. Epub 2019 May 25.
14. Lublin FD, Reingold SC, Cohen JA et al. Defining the clinical course of multiple sclerosis: the 2013 revisions. *Neurology*. 2014; 83:278-86.
15. Lublin FD, Reingold SC, Cohen JA et al. Defining the clinical course of multiple sclerosis: the 2013 revisions. *Neurology*. 2014; 83:278-86.
16. Mar S, Valeriani M, Steinborn B, et al. Ocrelizumab dose selection for treatment of pediatric relapsing-remitting multiple sclerosis: results of the OPERETTA I study. *J Neurol*. 2025 Jan 15;272(2):137. doi: 10.1007/s00415-024-12879-z.
17. McGinley MP, Goldschmidt CH, Rae-Grant AD. Diagnosis and Treatment of Multiple Sclerosis: A Review. *JAMA*. 2021;325(8):765–779. doi:10.1001/jama.2020.26858
18. Mohammadi I, Rajai Firouzabadi S, et al. Efficacy of alternative vs. standard dosing strategies of anti-CD20 monoclonal antibodies in multiple sclerosis: A systematic review and meta-analysis. *Mult Scler Relat Disord*. 2025 Nov;103:106668. doi: 10.1016/j.msard.2025.106668. Epub 2025 Aug 8.
19. Montalban X, Hauser SL, Kappos L et al. Ocrelizumab versus Placebo in Primary Progressive Multiple Sclerosis. *N Engl J Med*. 2017; 376:209-220.
20. Montalban X et al:ECTRIMS/EAN guideline on the pharmacological treatment of people with multiple sclerosis. *Eur J Neurol*. 25(2):215-37, 2018
21. Montalban X, Lebrun-Frénay C, Oh J, et al. Diagnosis of multiple sclerosis: 2024 revisions of the McDonald criteria. *Lancet Neurol*. 2025 Oct;24(10):850-865. doi: 10.1016/S1474-4422(25)00270-4. Erratum in: *Lancet Neurol*. 2025 Nov;24(11):e13. doi: 10.1016/S1474-4422(25)00355-2.
22. Multiple Sclerosis Society of Canada. Disease-modifying therapies. <https://mssociety.ca/managing-ms/treatments/medications/disease-modifying-therapies-dmts>.
23. National Institute for Health and Care Excellence [NICE]. Multiple sclerosis in adults: management. NICE Guidelines [NG220]. 22 June 2022. Available at: <https://www.nice.org.uk/guidance/ng220/chapter/Recommendations#ms-symptom-management-and-rehabilitation>. Accessed 20 January 2026.
24. National MS Society. Disease-modifying therapies for MS (updated March 2022). Available from National MS Society website: <https://nms2cdn.azureedge.net/cmssite/nationalmssociety/media/msnationalfiles/brochures/brochure-the-ms-disease-modifying-medications.pdf>.
25. Nawaz A, Bakhtiyar A, Khan MI, et al. Comparative efficacy and safety of ocrelizumab in relapsing-remitting and primary progressive multiple sclerosis: A systematic review and meta-analysis. *BMC Neurol*. 2025 Nov 21;25(1):514. doi: 10.1186/s12883-025-04519-4.

26. Newsome S, Krzystanek E, Selmaj K, et al. OCARINA II, phase III study: results of subcutaneous ocrelizumab administration in patients with multiple sclerosis (S31.006). *Neurology*. Published online April 9, 2024. doi:10.1212/WNL.000000000020524
27. Newsome SD, Krzystanek E, Selmaj KW, et al. Subcutaneous Ocrelizumab in Patients With Multiple Sclerosis: Results of the Phase 3 OCARINA II Study. *Neurology*. 2025 May 13;104(9):e213574. doi: 10.1212/WNL.0000000000213574. Epub 2025 Apr 17. Erratum in: *Neurology*. 2025 Aug 12;105(3):e213909. doi: 10.1212/WNL.0000000000213909.
28. Ocrevus Zunovo (ocrelizumab and hyaluronidase) [prescribing information]. South San Francisco, CA: Genentech Inc; August 2025.
29. Panahi P, Mirzohreh ST, Zafardoust H, Habibi P, Ghojzadeh M, Shoaran M. Pediatric Multiple Sclerosis: A Systematic Exploration of Effectiveness in Current and Emerging Therapeutics. *Pediatr Neurol*. 2025 Jul;168:23-59. doi: 10.1016/j.pediatrneurol.2025.04.003. Epub 2025 Apr 16.
30. Rae-Grant A, Day GS, Marrie RA, et al. Practice guideline recommendations summary: Disease-modifying therapies for adults with multiple sclerosis: Report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology. *Neurology*. 2018;90(17):777-788.
31. Rashid W, Ciccarella O, Leary SM, et al. Using disease-modifying treatments in multiple sclerosis: Association of British Neurologists (ABN) 2024 guidance. *Pract Neurol*. 2025 Jan 16;25(1):18-24. doi: 10.1136/pn-2024-004228.
32. Reich DS, Lucchinetti CF, Calabresi PA. 2018. Multiple sclerosis. *New England Journal of Medicine* 378(2):169-180.
33. Rindi LV, Zaçe D, Braccialarghe N, et al.,. Drug-Induced Progressive Multifocal Leukoencephalopathy (PML): A Systematic Review and Meta-Analysis. *Drug Saf*. 2024 Apr;47(4):333-354. doi: 10.1007/s40264-023-01383-4. Epub 2024 Feb 7.
34. Sahraian MA, Emami S, Ataei S, Nasr Esfahani F, Ghalandari N. Secondary Autoimmune Dermatological Disorders Induced by Multiple Sclerosis Biological Immunotherapy Agents: A Systematic Review of Case Reports. *Iran J Pharm Res*. 2025 Dec 2;24(1):e166426. doi: 10.5812/ijpr-166426.
35. Samjoo IA, Drudge C, Walsh S, et al.,. Comparative efficacy of therapies for relapsing multiple sclerosis: a systematic review and network meta-analysis. *J Comp Eff Res*. 2023 Jul;12(7):e230016. doi: 10.57264/cer-2023-0016. Epub 2023 Jun 2.
36. Scavone C, Cagnotta C, Sportiello L, et al. Hypogammaglobulinemia and infections in patients with multiple sclerosis treated with anti-CD20 monoclonal antibodies: a systematic review and meta-analysis of observational studies. *Expert Opin Drug Saf*. 2025 Oct 24:1-21. doi: 10.1080/14740338.2025.2574668. Epub ahead of print.
37. Śladowska K, Kawalec P, Holko P, Osiecka O. Comparative safety of high-efficacy disease-modifying therapies in relapsing-remitting multiple sclerosis: a systematic review and network meta-analysis. *Neurol Sci*. 2022 Sep;43(9):5479-5500. doi: 10.1007/s10072-022-06197-3. Epub 2022 Jun 17.
38. Sui Z, Zhu H, Luo J, Yu J, Li L, Zheng Q. Quantitative comparison of the efficacy of clinical drug treatments for primary progressive multiple sclerosis. *J Clin Neurosci*. 2023 Jul;113:45-53. doi: 10.1016/j.jocn.2023.04.003. Epub 2023 May 11.
39. The use of disease-modifying therapies in multiple sclerosis: principles and current evidence summary. Multiple Sclerosis Coalition. Available from the National MS Society Website: <https://www.nationalmssociety.org/>.
40. Tramacere I, Del Giovane C, Salanti G, et al. Immunomodulators and immunosuppressants for relapsing-remitting multiple sclerosis: a network meta-analysis. *Cochrane Database Syst Rev* 2015;9:CD011381.
41. Vermersch P, Oreja-Guevara C, Siva A, et al.,. Efficacy and safety of ocrelizumab in patients with relapsing-remitting multiple sclerosis with suboptimal response to prior disease-modifying therapies: A primary analysis from the phase 3b CASTING single-arm, open-label trial. *Eur J Neurol*. 2022 Mar;29(3):790-801. doi: 10.1111/ene.15171. Epub 2021 Nov 25.

42. Wolinsky JS, Vermersch P, Hartung HP, et al. Sustained reduction in 48-week confirmed disability progression in patients with PPMS treated with ocrelizumab in the ORATORIO OLE: 8-year follow-up. *Multiple Sclerosis Journal*. 2021;27:2S(101-102).
43. Wolinsky JS, Arnold DL, Brochet B et al. Long-term follow-up from the ORATORIO trial of ocrelizumab for primary progressive multiple sclerosis: a post-hoc analysis from the ongoing open-label extension of the randomised, placebo-controlled, phase 3 trial. *Lancet Neurol*. 2020; 19:998-1009.
44. Wu X, Tan X, Zhang J, et al,. The Efficacy and Safety of Anti-CD20 Antibody Treatments in Relapsing Multiple Sclerosis: A Systematic Review and Network Meta-analysis. *CNS Drugs*. 2022 Nov;36(11):1155-1170. doi: 10.1007/s40263-022-00961-x. Epub 2022 Oct 16.
45. Yang, J., Rempe, T., Whitmire, N., Dunn-Pirio, A., & Graves, J. (2022). Therapeutic Advances in Multiple Sclerosis. *Frontiers in Neurology*, 13. <https://doi.org/10.3389/fneur.2022.824926>.

Clinical Guideline Revision / History Information

Original Date: 06/27/2024

Reviewed/Revised: 8/29/2024, 12/02/2024, 10/01/2025, 04/01/2026