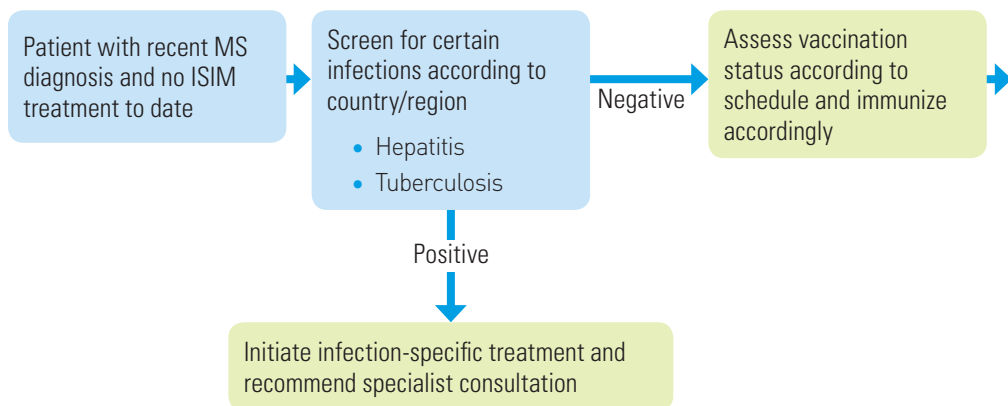


AAN Clinical Decision Algorithm for Practice Guideline Update: Vaccine-preventable Infections and Immunization in Multiple Sclerosis

Start



MS = multiple sclerosis; VZV = varicella zoster virus; ISIM = immunosuppressing/immunomodulating; CDC = US Centers for Disease Control and Prevention; Tdap = tetanus–diphtheria–pertussis vaccine; Td = tetanus–diphtheria vaccine; MMR = measles–mumps–rubella vaccine; VAR = varicella; RZV = recombinant zoster vaccine; ZVL = zoster vaccine live (5-valent); HPV = human papilloma virus; PCV13 = pneumococcal conjugate vaccine (13-valent); PPSV23 = pneumococcal polysaccharide vaccine (23-valent); HepA = hepatitis type A; HepB = hepatitis type B; MenACWY = meningococcal conjugate vaccine (quadrivalent); MenB = serogroup B meningococcal vaccine; Hib = *Haemophilus influenzae* type b.

Medication-specific vaccination recommendations¹

Alemtuzumab

- No live vaccines six weeks before treatment; no live vaccines during or after treatment
- If no history of disease, or negative serology, or both, VZV immunization earlier than six weeks before treatment initiated
- Complete vaccine schedule at least six weeks before treatment initiation

Fingolimod

- If no history of chicken pox, or negative serology, or both, VZV immunization at least one month before treatment initiated
- No live vaccines until two months after treatment discontinued

Ocrelizumab

- Complete vaccine schedule at least four weeks for live or live-attenuated vaccine, and at least two weeks for non-live vaccine, before treatment initiated
- No live vaccines during treatment and until B-cell recovery

Teriflunomide

- No live vaccines until six months after treatment discontinued

General recommendations²

- Assess or reassess vaccination status of patients with MS before prescribing ISIM therapy and vaccinate accordingly, at least four to six weeks before initiating ISIM therapy, as advised by specific prescribing information
- Discuss the advantage of vaccination with patients as soon as possible after MS diagnosis, regardless of initial therapeutic plans, to prevent future delays in ISIM therapy initiation
- Recommended CDC vaccines for adults (adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection)
 - Influenza (one dose annually)
 - Tdap or Td (one dose Tdap, then Td booster every 10 years)
 - MMR (one to two doses, depending on indication)
 - VAR/RZV or ZVL
 - HPV (two to three doses, depending on age at series initiation)
 - PCV13 or PPSV23 (one to two doses)
- Recommended by CDC in specific situations
 - HepA (two to three doses)
 - HepB (three doses)
 - MenACWY or MenB (two to three doses, depending on vaccine)
 - Hib

1 Sources: AAN Practice Guideline “Update: Vaccine-preventable Infections and Immunization in Multiple Sclerosis,” published in *Neurology*® online on August 28, 2019, and in print on September 24, 2019; manufacturer package inserts.

2 Source: CDC; cdc.gov/vaccines/schedules.

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