REBELLIOUS MEDIC · NEUROLOGY ALGORITHM SERIES

Disease-Modifying Therapies for MS

Starting, switching, and stopping disease-modifying therapy (DMT), plus reproductive and pregnancy counseling, for adults with multiple sclerosis.

2018 AAN Practice Guideline
Disease-Modifying Therapies for Adults with Multiple Sclerosis
AAN Guideline Development Subcommittee · Neurology
2018;90:777–788

LEVEL — A · Must / High Confidence — B · Should (Moderate) — C · May (Lower)

1 Starting — Shared Decision-Making

B	**Treatment visit:** counsel on DMT options at a dedicated treatment visit.
A	**Preferences:** must ascertain/incorporate patient preferences (safety, route, lifestyle, cost, efficacy, tolerability); maintain ongoing dialogue.
A/B	**Expectations:** counsel that DMTs reduce but don't eliminate relapses/MRI activity and may still need symptomatic treatment; must counsel to report new/worsening symptoms.
B	**Comorbidity/adherence:** counsel on comorbid disease, adverse health behaviors, drug interactions, and adherence barriers before starting.

2 Starting — Who to Treat

B	**CIS:** discuss risks/benefits and offer DMT for a single demyelinating event with ≥2 brain lesions characteristic of MS.
C	**Low-risk/inactive:** may recommend serial imaging (≥annually × 5y) and close follow-up instead of DMT if no relapses in ≥2y and no active MRI activity.
B	**Relapsing MS:** offer DMT for relapsing forms of MS with recent clinical relapses or MRI activity.
B	**Highly active MS:** prescribe alemtuzumab, fingolimod, or natalizumab for highly active disease.

3 Starting — PPMS & High-Risk Agents

B	**PPMS:** offer ocrelizumab (only DMT shown to alter progression) to appropriate ambulatory PPMS patients unless risks outweigh benefit.
B	**Mitoxantrone:** do not prescribe unless benefit greatly outweighs risk (cardiomyopathy, leukemia).
C	**JCV-positive/natalizumab:** may initiate in JCV-antibody-positive patients (index >0.9) only when benefit clearly outweighs PML risk.
C	**Access barriers:** may direct to support programs; may consider azathioprine or cladribine if no access to approved DMTs.

4 Starting — Monitoring & Reproductive Counseling

B	**Monitoring:** monitor adherence, AEs, tolerability, and effectiveness; follow up annually or per medication-specific REMS.
B	**Women:** monitor reproductive plans; counsel on risks and contraception during DMT use in women of childbearing potential.
B	**Men:** counsel on reproductive implications before teriflunomide or cyclophosphamide (teratogenic sperm risk up to 2y).

5 Switching — Triggers & Monitoring

B	**Breakthrough activity:** discuss switch after ≥1 relapse, ≥2 new MRI lesions, or increased disability over 1y on an adequate, adherent trial.
B	**Choosing next DMT:** evaluate disease activity, adherence, AE profile, and mechanism of action when switching.
B	**Injection burden:** discuss switch to noninjectable/less-frequent options for intolerable discomfort or injection fatigue.
B	**Labs:** monitor required labs; discuss switch or dose/frequency reduction for persistent abnormalities.

6 Switching — PML & Safety

B	**Counsel:** discuss PML risk with natalizumab, fingolimod, rituximab, ocrelizumab, and dimethyl fumarate.
B	**JCV-positive:** discuss switch to a lower-PML-risk DMT if JCV antibody positive, especially index >0.9.
B	**Antibodies/infection:** check natalizumab antibodies after infusion reactions or breakthrough activity; switch if persistent, or after a serious DMT-linked infection.
B	**Natalizumab stop:** rebound activity risk within 6 months of discontinuation; consider fingolimod 8–12 weeks after stopping to reduce rebound.

7 Stopping DMT

B	**Stable RRMS:** if discontinuing, counsel on need for ongoing follow-up/reevaluation; otherwise advocate continuing unless a trial off therapy is jointly decided.
B/C	**SPMS:** assess relapse likelihood by age, disease duration, relapse history, MRI activity; may discontinue if no relapses/MRI activity and nonambulatory (EDSS ≥7) for ≥2y.
B	**CIS:** review risks of continuing vs stopping DMT in undiagnosed CIS patients on therapy.

8 Pregnancy & DMT

B	**Preconception:** counsel to stop DMT before planned conception unless MS-activity risk outweighs the specific drug's risk.
B	**Accidental exposure:** discontinue DMT if accidental exposure occurs, unless MS-activity risk is greater.
B	**Initiation:** do not start DMT during pregnancy unless MS-activity risk outweighs the drug's risk.

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 AAN. *Neurology*. 2018;90(17):777–788.