



# Living with MS

## Multiple Sclerosis Disease Modifying Therapies (DMTs)

In 1993, Betaseron was approved becoming the first DMT available for MS. Now, we have over 20 options. Below is an overview of the currently available DMTs. This list is constantly changing as clinical trials are always investigating new DMTs. For further information on any of the listed medications you can discuss with your provider or see the National MS Society website which has links to more information <https://www.nationalmssociety.org/Treating-MS/Medications>.

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- Injectable medications
    - Interferons
      - Avonex® (interferon beta-1a)
      - Betaseron® (interferon beta-1b)
      - Extavia® (interferon beta-1b)
      - Plegridy® (peginterferon beta-1a)
      - Rebif® (interferon beta-1a)
    - Glatiramer Acetate
      - Copaxone® (glatiramer acetate)
      - Glatiramer Acetate Injection (glatiramer acetate -generic equivalent of Copaxone)
      - Glatopa® (glatiramer acetate - generic equivalent of Copaxone)
    - Monoclonal Antibody
      - Kesimpta® (ofatumumab)
  - Oral medications
    - Pyrimidine synthesis inhibitor
      - Aubagio® (teriflunomide)
    - Fumarates
      - Bafiertam™ (monomethyl fumarate)
      - Dimethyl Fumarate (dimethyl fumarate - generic equivalent of Tecfidera)
      - Tecfidera® (dimethyl fumarate)
      - Vumerity® (diroximel fumarate)
    - Sphingosine 1-phosphate receptor modulators
      - Gilenya® (fingolimod)
      - Mayzent® (siponimod)
      - Ponvory™ (ponesimod)
      - Zeposia® (ozanimod)
    - Purine Antimetabolite
      - Mavenclad® (cladribine)
  - Infused medications
    - Monoclonal Antibodies
      - Lemtrada® (alemtuzumab)
      - Ocrevus® (ocrelizumab)
      - Tysabri® (natalizumab)

**All of the listed medications are approved for relapsing forms of MS including: clinically isolated syndrome, relapsing-remitting disease and active secondary progressive disease except for Mavenclad which has not been approved for clinically isolated syndrome. In addition to being approved for relapsing forms of MS, Ocrevus has been approved for primary progressive MS.**

## Vaccinations

The National MS Society convened an expert panel to provide recommendations for the COVID-19 Vaccine. You can see the list of experts if you click on the link provided below. The following guidance is endorsed by the National MS Society, Consortium of MS Centers, Accelerated Cure Project for Multiple Sclerosis, Americas Committee on Treatment and Research in Multiple Sclerosis, International Organization of Multiple Sclerosis Nurses, MS Views and News, Multiple Sclerosis Association of America, Multiple Sclerosis Foundation and United Spinal Association.

**The Pfizer BioNTech, Moderna and Janssen/J&J vaccines are safe for people with MS, and they are safe to use with MS DMTs.** The vaccines are not likely to trigger an MS relapse or have any impact on long-term disease progression. The risks of COVID infection far outweigh any potential vaccine risk, and persons with MS are encouraged to get the vaccine as soon as possible. Most DMTs are not expected to affect the responses to these vaccines, though some may make the vaccines less effective. Coordinating the timing of vaccine administration with these DMTs may provide the best vaccine response.

While the Johnson & Johnson COVID vaccine was paused it has been approved to use again. Out of the more than 8 million doses given there have been 15 reports of women who received the J&J vaccine and later developed thrombosis with thrombocytopenia syndrome (TTS), a rare condition that involves blood clots with low platelets. All cases occurred in women between 18 and 59 years old.

Risk of this type of blood clot:

- General population	3 to 15 per 1 million per year	0.0003% - 0.0015%
- COVID-19	4.5 to 20 per 100,000 cases	0.0045% - 0.02%
- Pregnancy	10 to 12 per 100,000 deliveries	0.01% - 0.012%
- Birth Control Pill	2.7 to 40 per 100,000 people	0.0027% - 0.04%
- J&J vaccine women 18-49	7 per 1 million vaccinations	0.0007%
- J&J vaccine women 50+	0.9 per 1 million vaccinations	0.00009%

**Given the potential serious health consequences of COVID-19, getting the vaccine when it becomes available to you may be more important than optimally timing the vaccine with your DMT.**

The decision of when to get the COVID-19 vaccine should include an evaluation of your risk of COVID-19, including your occupation, and the current state of your MS. Work with your MS healthcare provider to determine the best schedule for you. If the risk of your MS worsening outweighs or is equal to your risk of COVID-19, do not alter your DMT schedule and get the vaccine when it is available to you. If your MS is stable, consider adjusting the administration of your DMT to enhance the effectiveness of the vaccine. Guidance on each DMT and the COVID vaccine can be found at the following website.

<https://www.nationalmssociety.org/coronavirus-covid-19-information/multiple-sclerosis-and-coronavirus/covid-19-vaccine-guidance/Timing-MS-Medications-with-COVID-19-Vaccines>

## General Information/Tips

- Please arrive a half hour before your appointment.
- To schedule appointments please call registration at 402-443-4191 ext 103.
- If you have questions regarding the newsletter, please email Sam [sjack@smcne.com](mailto:sjack@smcne.com).

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