

MS Perspectives™

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Practical Insights on
Multiple Sclerosis



In This Issue

- **Decision-Making and Disease-Modifying Therapies**
- **Ask the Clinician: Myths and Facts about the New Drug for Progressive MS**

Your Journey to Wellness

Page 6



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DECISION-MAKING & DISEASE-MODIFYING THERAPIES

Over the past three decades, huge leaps have been made in treating multiple sclerosis (MS) in the form of disease-modifying therapies (DMTs). For many years, only injectable DMTs were available, so decisions about which drug to use focused on finding an injection schedule and needle size each person would be most likely to stick with over the long term.

Our understanding of the complexity of MS has changed and grown over time and our DMT options have grown, too. Today, the drug arena for MS has more choices—and is much more complicated. We have multiple injectables, with several different ways of working against MS (mechanisms of action), and the frequencies of injections range anywhere from daily to one time per month. We also have oral medications that have different mechanisms of action and are taken once a day or twice a day. And we have infusible treatments—again, each with a different mechanism of action and its own dosing schedule.

Each of these medications carries its own set of potential risks, benefits, and side effects. That means that when you are considering going on a DMT or switching DMTs you will want to review a number of medical and personal considerations with your MS specialist. A few issues are of particular importance today, including:

Your personal MS pattern. Each person has a unique type or pattern of MS, so you'll want to review how often you're having relapses, how your MS is affecting your quality of life, how severe your disability is and how it has changed over time, and what tests are showing about your disease activity.

Past and present use of DMTs. Sometimes, DMTs that have been tried before may have an impact on which DMTs you can use in the future—they may raise your risk of certain side effects if taken one after the other. There may also be concerns about other diseases you have, such as diabetes or high blood pressure, and how those conditions and their treatments might affect the safety and effectiveness of your DMT and vice versa.

Your age. Your age may make you more likely to have side effects from medications and to develop heart disease and other medical problems, which can affect your immune system (which is already affected by MS) and your overall health.

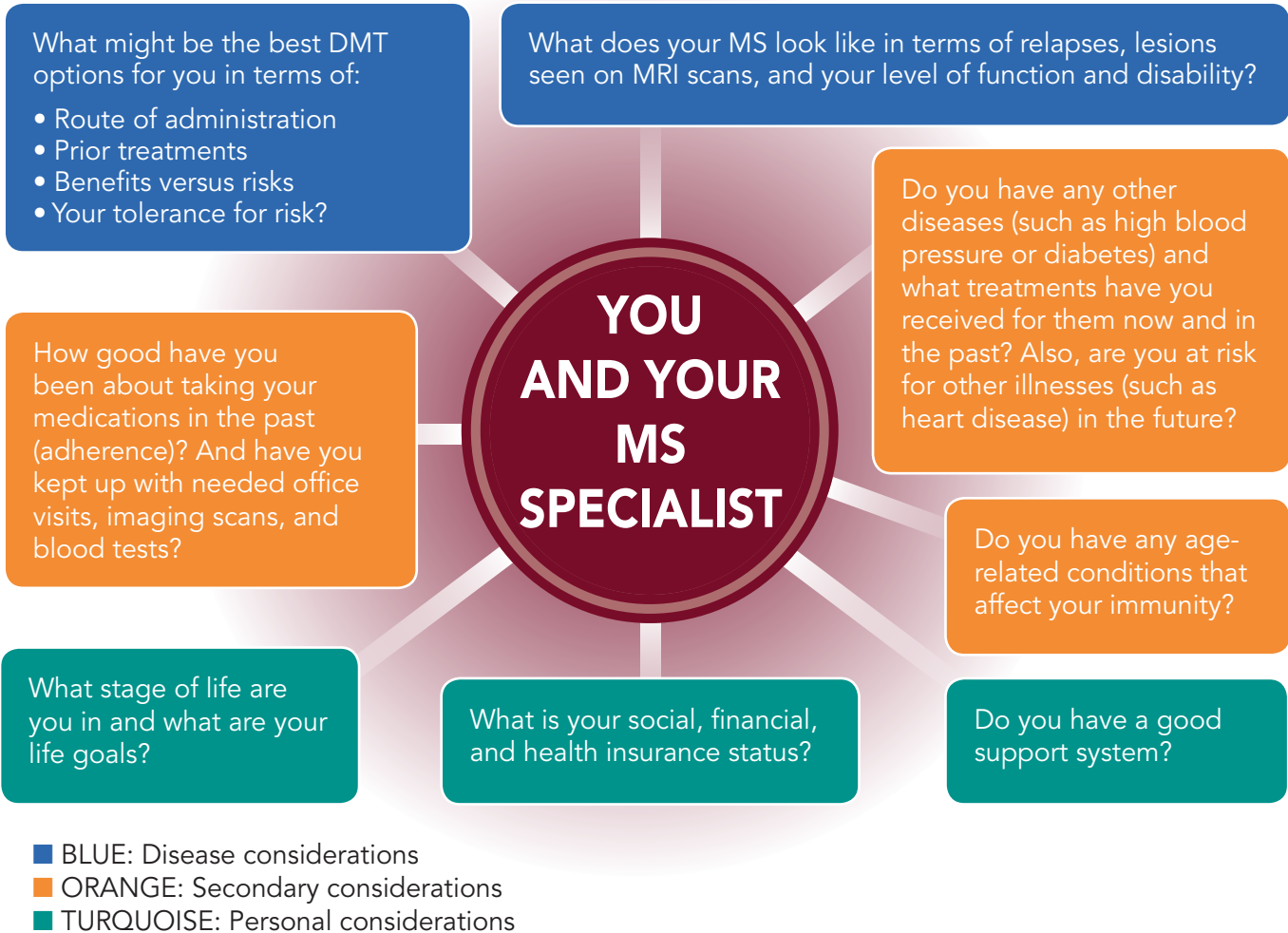


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Disclaimer: The goal of this publication is to provide patients with multiple sclerosis with the latest information about the disease and its treatment. The information provided in *MS Perspectives*™ is not a substitute for the advice of your healthcare nurse or doctor. Please consult a qualified healthcare provider for individualized care and information.

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THINGS TO CONSIDER WHEN CHOOSING A DISEASE-MODIFYING THERAPY (DMT)



Your MS symptoms. Symptoms related to your MS itself may make a particular DMT choice more or less appealing. For example, if dexterity (the ability to use your hands) is a factor, opening a pill pack or giving yourself an injection may be difficult. If you have trouble swallowing, the size of a pill may be a problem. If you have mobility or bowel problems, a DMT with a potential side effect of diarrhea may not be the best option for you.

Your tolerance for risk. Some MS medications have potentially serious risks. You have to weigh how comfortable you are with that risk versus how you feel about the risk of what the MS disease process can do to your body if it is unchecked. Remember, this consideration is not just about the risk of the DMT: NOT

taking your medication regularly or skipping medication entirely carries risks, too.

Your life stage. What is important to someone who is 25 years old may not be important to someone who is 50 years old. For instance, are you looking to start a family soon or are you done having children? Are you just starting in the work force or are you firmly established in your job or are you looking to change jobs? This is important because it can affect insurance coverage for your MS drugs. Is your work local, or do you travel extensively—or somewhere in between? Does your job require significant physical activity, as in construction or working as a postal carrier, or is it more sedentary such as office work? Your responses to these questions can help lead you to the best DMT choice for your

A CASE IN POINT #1

Amy is a 45-year-old woman who was diagnosed with relapsing-remitting MS 10 years ago. She has been on an oral DMT for 2 years and has only missed one dose in the last 6 months. She calls the office and requests an urgent appointment with her MS specialist because she is concerned that she is having a relapse. Over the past 2 weeks, she has had symptoms of numbness in her feet, worsening balance, and a tight, belt-like sensation over her mid-section.

In the office, the MS specialist examines her and finds out that Amy has decreased sensitivity to touch and the application of a pin in both of her lower legs, along with mild weakness and stiffness in the right leg.

The MS specialist orders MRI scans of the brain and spinal cord. At a return visit to review the scans, the neurologist explains that there is a new enhancing plaque (spot) on Amy's spine, as well as two new MS "T2" lesions on her brain compared to an MRI brain scan performed 6 months ago.

Amy and the MS specialist discuss whether she is having "breakthrough disease," which can include both a clinical attack with symptoms or MRI scan changes. The neurologist believes that she is and counsels her to switch to a DMT that will hopefully be more effective for her than the current drug. After reviewing the alternative medications available to her, Amy starts on an infused drug. Plans are made to do a follow-up MRI scan in 6 months to check if her MS is stabilized or progressing.



A CASE IN POINT #2

Tim is a 35-year-old man who was diagnosed with primary-progressive MS (PPMS) 2 years ago. He has been receiving an injectable drug, but has been experiencing gradual worsening of his gait when walking and his sense of balance.

He is married, works as a banker, and says he has no time to exercise. His MS team encourages him to make the time for exercise and refers him to a physical therapist to evaluate his gait, develop a customized exercise program, and discuss safety precautions for activity.

Recently, with the approval of the first drug for PPMS, Tim has been excited to try the medication. Since he has continued to progress slightly in his disability and his MRI scan shows active disease, the team prescribes the intravenous medication, but stresses that he needs to continue with physical therapy and exercise at home.



stage of life and your personal goals.

Your support network. Think about whether you have a good social support system through your family, friends, or community resources (such as church) to help you. When you choose certain DMTs, you will need transportation on a routine basis to get you to an infusion center or to get your children to their scheduled events when you have a medical appointment. You might also need help if you experience a side effect of a DMT.

Your adherence history. One of the most important things to think about is whether you will be faithful to the medication schedule (what's

known as adherence in medical terms). If you don't take the medication, no matter which DMT you choose, it will not work.

Adherence patterns to past treatments can be helpful in figuring out what is right for you now. Consider these questions:

- Why did I have trouble taking a certain medication in the past?
- What caused me to want to change from a prior therapy?
- Was there a co-pay or financial concern or an insurance issue?

A CASE IN POINT #3

Carrie is a 24-year-old woman who visits her optometrist because she has pain and blurred vision in her right eye that she thinks might be related to a contact lens problem. When he examines her, however, the eye doctor finds that the nerve in her eye is inflamed, a condition known as acute optic neuritis.

Carrie is referred to a neurologist, who confirms that she has optic neuritis, which is considered a clinically isolated syndrome that puts her at high risk for the development of MS.

Carrie had a baby 4 months ago and is nursing the child. She has never had any other neurologic symptoms or episodes suggestive of MS, but her maternal aunt has the disease.

She is counseled to start on a DMT to delay the chance that she may transition to clinically definite MS. Carrie wants to start on the DMT but is concerned about passing the drug on to her baby while she is breastfeeding, so she decides to wean her at 6 months and to begin the injectable therapy at that time.



- Did the requirements of my job, such as a lot of travel, make it difficult to continue with a certain medication?

Adherence also includes keeping up with office visits and monitoring tests such as blood work.

Your financial and insurance status. Can you afford the medication you want to take, or is it covered by your health insurance plan?

Your DMT Today and Tomorrow

The right therapy for you today may not be the right therapy for you tomorrow, and the decision about which

DMT to use can be complicated. It's best to talk over the decision at length with your healthcare provider and make the decision together based not only on your health status, but also the personal, professional, and other considerations covered in this article.

The goals, however, remain the same as they've been all along: To reduce the number of relapses you have, minimize the development of active disease (in the form of new or enhancing lesions) on your magnetic resonance imaging (MRI) scans, and stall the progression of MS-related disability.

A CASE IN POINT #4

Jake is a 52-year-old man who has had relapsing-remitting MS for many years. He has used a number of DMTs in the past. He experienced side effects with some of the drugs or didn't respond to them as well as had been hoped for, and he tested positive for the JC virus, which raises his risk of the serious infection progressive multifocal leukoencephalopathy (PML).

Currently, he is not using a DMT even though his MS specialist recommends that he be on one. When his MRI scan shows signs of active disease and he begins to experience fatigue and problems with his hands that make it difficult for him to play his guitar, he changes his mind.

The MS specialist and Jake talk about the drugs he's taken in the past, which limit his current options. The MS specialist now recommends a higher risk-higher efficacy drug that is reserved for patients with relapsing MS who have tried at least two other MS medications without success and can be used in people who are positive for the JC virus. Jake agrees because this drug is given by infusion once a year for 2 years, an administration schedule he likes since he doesn't want to be on a long-term medication.



Your Journey to..... WELLNESS *(Continued)*

In the last issue of *MS Perspectives™* (<http://www.mspectives.com/current.html>) we reviewed the concept of wellness: Living your best life even if you have a chronic disease like multiple sclerosis (MS). To do that, you need to proactively seek out ways to be well physically and mentally, and set goals that are SMART (Specific, Measurable, Attainable, Realistic, and Timely).

The first step to improving your psychological or mental well-being is learning to deal with the stress in your life. All stress isn't bad and there's no way to get rid of all stress. In fact, we need a little bit of stress to get us motivated and out the door in the morning. But too much stress leads to over-release of the hormone cortisol, which has harmful effects on both the body and mind, so it's important to learn how to lessen the impact of stress so it doesn't worsen your MS.

Stress-Relieving Strategies

Talk it out! Talk to your MS team, a counselor, friends, or family members about your fears, your MS, and your goals. That will make you feel less alone and help you see things in a new way—plus these people may be able to help you pursue your SMART goals.

Exercise. Walking, swimming, dancing. Whatever floats your boat, we know that exercise can reduce your stress level while also improving sleep and your mood and helping you to manage your weight. If you need help finding the exercises that will work best for you, ask your MS team for a referral to a physical therapist.

Find a relaxation strategy that works for you. You might want to practice a relaxation technique like yoga, tai chi, deep breathing, or mindfulness meditation. You could also spend time listening to music, doing puzzles, or engaging in a hobby you enjoy, like scrapbooking or knitting.

Connect with others.

We know that being around other people

can help us feel less alone while boosting our mood. Consider volunteering at your church or community center, or engaging in programs that are offered at your local National MS Society chapter.

Seek help if you are feeling depressed or anxious.

It's natural to feel sad when you have a chronic disease like MS, but we also suspect that MS may cause depression and we know it can worsen related symptoms such as fatigue and pain. We think that the scarring on the brain caused by MS can affect the ability to make brain chemicals like serotonin and norepinephrine that control your mood. If you often feel down and on the verge of tears, or you're frequently irritable or on the edge, seek out a counselor or talk to your MS team about depression and anxiety medications.

Continue the Journey

Wellness requires that you put in some effort, but the payoff can be huge for the way your body and mind feel. As I said in the first article on this topic, wellness is a way of living and thinking. It's a journey and not a destination. Bon voyage!



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Limit Worry Time

It's hard not to worry about your future and dwell on every body twinge when you have MS, but it's been shown that worrying—or rumination as it's known—can lead to more worry, feeling out of control, and possibly even poorer health. Research published in the journal *Behavior Modification* in 2013 suggests that you may be able to get out of this cycle and improve your well-being by limiting your rumination time. So why not give yourself a 15-minute worry break every day? Then, if you start worrying outside of the designated time, push the thought away and tell yourself you'll think about it tomorrow.

Ask the Clinician

Q. I know there is finally a drug for progressive MS. Can you tell me more about it and how effective it is?

A. Ocrelizumab (Ocrevus™) is in a category of drugs known as monoclonal antibodies, and is given by infusion every 6 months. It appears to work in MS by reducing the number of B cells (types of immune cells) that are circulating in the body. B cells lead to inflammation and may have a direct or an indirect effect on neurodegeneration (damage or death of nerve fibers).

The approval of ocrelizumab by the Food and Drug Administration (FDA) is exciting news for patients with primary-progressive MS (PPMS), their families, and the professionals caring for them. It is also approved for use by people with relapsing forms of MS.

Still, we've found that there are more than a few misperceptions about the effectiveness and safety of the drug, which I'll try to clear up here.

MYTHS AND FACTS

Myth: Ocrelizumab should be prescribed to all patients with progressive forms of MS.

Fact: The drug may be prescribed to *most* patients with PPMS. However, people who have been stable for many years and have not progressed may not require this medication. In addition, this medication is not approved for use in people with secondary-progressive MS (SPMS).

Myth: Ocrelizumab improves function and quality of life.

Fact: This medication is not expected to improve a person's function, but rather to delay the progression of his or her disability. In the ORATORIO study of patients with PPMS, those who took ocrelizumab had a 24% lower risk of having their disability progress at 24 weeks than did those who took a placebo. That means patients with PPMS should continue physical or occupational therapy or other rehabilitation treatments to improve their functioning.

It is difficult to comment about quality of life because there was no significant difference between ocrelizumab and placebo in this area in the research studies of the drug. However, patients may have a better quality of life because they only have to be treated once every 6 months.

Myth: Ocrelizumab improves walking.

Fact: In the ocrelizumab PPMS trial, patients in the treatment arm walked faster when performing the Timed 25-Foot Walk test. Overall, patients receiving ocrelizumab

had a 25% to 27% reduced risk of disability as measured by the Timed 25-Foot Walk test compared to subjects taking placebo.

Myth: Ocrelizumab improves cognitive function.

Fact: The PPMS trial evaluated cognitive function with two tests and was found to have a significant, positive impact on processing speed, the ability to calculate numbers, and memory.

Myth: Ocrelizumab does not require any work-up before you start the drug.

Fact: Like most disease-modifying therapies (DMTs), you do need to have blood work done before you start on ocrelizumab. This testing includes screening for hepatitis B. Your MS team might add other tests, such as for tuberculosis, kidney and liver tests, and blood counts of immune cells, white cells, and red blood cells. In addition, you must have a magnetic resonance imaging (MRI) scan near the start of treatment.

Myth: Ocrelizumab has no safety concerns or risks.

Fact: Ocrelizumab should not be taken by people who have hepatitis B. In addition, ocrelizumab may increase the risk for malignancies, particularly breast cancer. Therefore, women with a family history of breast cancer need to weigh the risks versus the benefits of the drug for them. So far, no cases of the serious and sometimes deadly infection called progressive multifocal leukoencephalopathy (PML) have been reported with ocrelizumab, but patients have had herpes and respiratory tract infections. Ongoing assessment is needed to determine the risk of uncommon adverse events, including infections like PML.

Myth: Ocrelizumab is well-tolerated.

Fact: Ocrelizumab is mostly well-tolerated in patients with PPMS if intravenous steroids and an antihistamine are given before drug administration to lessen the chance of infusion reactions, such as a rash or shortness of breath, or allergic reactions.



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