

## **Penn Medicine's Multiple Sclerosis Team Approach to Treatment An Interview with Dina Jacobs, MD**

**Melanie:** Welcome to the podcast series from the specialists at Penn Medicine. I'm Melanie Cole. And today, we're discussing Penn Medicine's multiple sclerosis team approach to treatment.

Joining me is Dr. Dina Jacobs. She's the Clinical Director of Multiple Sclerosis and Related Disorders Center at Penn Medicine. Dr. Jacobs, it's a pleasure to have you join us here today. Tell us a little bit about MS. What's the average age of onset and the average age of diagnosis of MS in men and in women?

**Dr Dina Jacobs:** Melanie, thank you so much for having me this morning. It's really a pleasure to be with you and thank you for giving me some time to tell you a little bit about what we do here at the Penn MS and Related Disorders Center.

Typically, we see that MS presents in young adulthood over the 20s through the 40s. It can present earlier and even in children, but that is more rare. And more commonly, we see it presenting in young adulthood, typically when people are making decisions about their life, they're spreading their wings, so to speak; establishing their identities, their careers and families. And so it does have a big impact in all of those areas.

Women outnumber men by about a 3:1 ratio. And for reasons that are not entirely clear, that ratio seems to be increasing, perhaps due to multiple environmental factors and risk factors such as smoking, obesity, hormonal impact, hormonal influences as well. People also can present at older ages in their 50s and 60s. At that point, it is a little bit more common to see that people have a progressive form of the disease called primary progressive multiple sclerosis. And that's a disease that really has a big impact on the spinal cord causing difficulties with physical disability.

**Melanie:** Well, there's so many aspects of this condition and we really could go on for a while about it, but tell us a little bit, because I feel this is

an important aspect as you're telling other providers about referral to the center, how the patient's overall health is affected by MS? For primary care providers that are also the medical home for these patients, what health areas do they need to pay extra attention to that you feel they may be neglecting? Do you find that they avoid health appointments or other areas as they focus on their MS?

**Dr Dina Jacobs:** That is absolutely a fantastic question and something that we are very concerned about in the Comprehensive MS Center here at Penn. People living with MS have to take a lot of time to treat their multiple sclerosis. We have many more therapies approved by the FDA that have tremendous impact on the disease process of multiple sclerosis. And those therapies can really have a big impact on outcomes as it relates to multiple sclerosis in terms of decreasing risk for disability in the future.

In fact, we talk about it as the new MS, with our treatments having better efficacy and less toxicity. But the issue is that it requires a lot of time to consider what is the best therapy for each individual. It takes a lot of time in the appointment and a lot of back and forth with appointments, as well as testing to make sure that people are appropriately followed and cared for on these medications. And sometimes, we worry that people will only spend time on their multiple sclerosis care and not think about the really important primary care issues that we have to attend to.

In fact, that led to my interest in establishing a women's multiple sclerosis program here at Penn, because I think a lot about women's health issues and making sure that people are attending to all of their screening health considerations, such as Pap smears, mammograms, and making sure that they're getting their appropriate health checkups.

It's funny that you talk about the primary care physicians and the medical home. We partner very closely with our primary care colleagues. And in fact, to a large degree, we provide a kind of comprehensive care that's a medical home in its own right here in the comprehensive MS center.

Some of our multiple sclerosis medications, we need to make sure that people are doing appropriate cancer screenings, for instance, skin cancer checkups. So we really made to make sure that they're hooked in to their primary care providers, that these are all done in a timely fashion and people don't lose track of these important health considerations. In addition, there's basics such as making sure that people don't have diabetes, because if they have diabetes, there may be more side effects with certain medications that we use and vice-a-versa.

**Melanie:** Such an important aspect, Dr. Jacobs. Thank you so much. Can you tell us a little bit about Kesimpta, a recently approved drug that you and Dr. Bar-Or worked on?

**Dr Dina Jacobs:** Kesimpta is what we call an anti-CD20. It's a monoclonal antibody medication or also known as a biologic medication. It is very similar to another drug that we use called ocrelizumab or Ocrevus. These are both anti-CD20 medications. They are similar to a drug that we've had for many years called rituximab or Rituxan.

Very interesting that for very long time, we did not understand the implications of so-called B cells or B lymphocytes in their role in the pathogenesis of multiple sclerosis. For many years, we thought that they were not involved at all. And research that went on for years, including many contributions to the field by Dr. Amit Bar-or, our chief of the Division of MS and Related Disorders at Penn, actually, this research was able to demonstrate that B cells had enormous implications in the immunology of multiple sclerosis. And this led to the discovery and use of these anti-CD20 agents. They're are so-called B-cell-depleting medications that have had a tremendous impact on the field of multiple sclerosis, both in decreasing the risk of MS relapses and decrease in the progression of disability.

It has been such a game-changer that a dear friend of mine from medical school, who's a family practice physician, a primary care physician who I often partner with to make sure that we're all doing best practices, asked me recently, "Dina, how often are you admitting people to the hospital these days for MS relapses to give them IV steroids?" And we had this conversation about a year and a half ago prior to the pandemic.

And it gave me pause and I look back in time and I said, "You know what, Christine? We are not requiring steroids to treat relapses nearly as much as we used to." I was used to having to do it several times per month. And in fact, it's hard for me to remember the last time I admitted a patient. And when I really look back in time, I thought it really coincided after it started to happen after 2017, when Ocrevus or ocrelizumab was approved for the use in relapsing-remitting multiple sclerosis.

Ocrelizumab is an intravenous infusion that's given every six months. So it affords a lot of flexibility for people not to have to treat in that period of those intermittent six months. And in fact, we can actually time it around important life events, even thinking about women who are planning a pregnancy, that the medication can be given, and then will be out of the system, so there's no harm or effect on the fetus, but yet it's protective benefits in MS still persist.

Now, Kesimpta or ofatumumab was more recently approved and it is a monthly injection that is self-administered by the patient at home. And the really nice thing about that is it gives patients the flexibility of doing that treatment at home independently. They don't have to come into a center for an infusion therapy. And so it gives them a lot of flexibility.

What is wonderful is that we have so many more options for treatment that we can tailor to the individual based on how their disease response to these treatments, but also choices regarding their lifestyle. If somebody's busy and they're a working parent, for instance, they may not want to come down to the center even if it's just every six months to take that time out of their busy day. So having the options of these medications really has had a tremendous impact on patient's well-being, not just in decreasing risk for disability, but in managing people's lifestyle. And we think about multiple sclerosis these days as a manageable disease that we can find treatments for so that people can live their life to their fullest and be able to also manage their careers, their families, their relationships.

**Melanie:** So interesting and so many new options to your armamentarium of available therapies, as you said. So much hope for people living with MS. Can you speak a little bit before we wrap up about

the importance of the multidisciplinary approach? You talked about primary care providers and about your Penn Medicine Center. Now, tell us about the different providers that are involved in treatment for these patients and why a multidisciplinary team is so important.

**Dr Dina Jacobs:** Absolutely. At Penn Medicine, we're really fortunate to have a very comprehensive team of providers. And when I think back over the last few years of our growth, it's really changed how we are able to provide care for our patients. We are so fortunate for instance to have three pharmacists who work directly with our team and with our patients and they work in our clinic every day.

What that means is whenever we're trying to think about starting a new medication, not only will they hear from their providers about that medication, but they can then talk to our pharmacy team to think about any other individual considerations. And it is wonderful having that reinforcement from the pharmacy team. There are many things to consider in terms of drug interactions, for instance. And so really having that holistic approach with the pharmacist involved is critical in helping our patients safely get established on these medications and have appropriate follow-up.

We also have a team of physicians who each within the field of multiple sclerosis and related disorders have separate interests. For instance, we have Dr. Chris Perrone, who has expertise in creating a registry for our patients to follow them over time so we can measure their performance on certain examination outcome measures. And he's very interested in these outcome measures and how we can follow them longitudinally over time to evaluate how our patients are doing.

We have Dr. Rachel Brandstadter, who's very interested in women's MS neurology, as well as the field of neuromyelitis optica and related disorders. And she is working to establish an NMO Center of Excellence here at Penn Medicine.

We have Dr. Matt Schindler, who's an MRI researcher. And so he brings that piece of the puzzle back to us so that we can see how we can follow people in terms of MRI outcomes. And he's working in his research to

establish new MRI parameters, so that he can help us determine outcomes at an earlier stage so that we can better react to MRI changes.

In addition, we have other researchers, including Dr. Jennifer Orthmann-Murphy, who is doing significant research in the field of MS and oligodendrocytes and myelin development.

And we have a full team of nurse practitioners who work with us very closely with our patients. We have three nurse practitioners. We have Caitlin Pileggi, Meghan Garabedian and Sara Zeccardi, and they practice a holistic approach to the care of our MS patients. And they really help us with symptomatic treatment, because a lot of symptoms do come up when dealing with multiple sclerosis in terms of muscle pain and spasticity, and sensory symptoms and bladder and bowel and sexual symptoms. And so they are key team members to help patients feel better when dealing with their MS symptoms.

We also have a social worker, Nora Garland, who is one of the best social workers I've had the privilege to work with. She really helps our patients at every level in terms of psychosocial issues that arise when dealing with MS, including thinking about mood disorders, depression, and anxiety, which are very common in association with multiple sclerosis, both as a function of the disease itself with the neurochemical and neuroanatomical changes that occur, but also as a reaction to some of the hurdles that the disease may present to people and managing one's life and also as a side effect from some of our medications that we have to manage.

And she's been really helpful at getting people hooked in to care when they need it in terms of psychosocial care, she will also address issues of work, as well as keeping, you know, reasonable accommodations, that enables people to work longer and have better, more productive work lives with less stress. And if it does come to the case of disability, she helps patients with that.

We have a phenomenal RN nursing team that helps to do outreach as well as to handle phone calls and messages from our patients. We all work very closely together to be able to provide the best care for our

patients.

And finally, we have a full research team. And our goal is to really offer the latest and greatest research to all of our patients, because what they find is that it is exciting and a privilege to be able to be a participant in the kind of research that's really going to push this field forward and get us closer towards discovering a cure, more durable therapies, more effective therapies, less toxic therapies and ultimately towards a cure for multiple sclerosis.

And it's really been an exciting journey to partner and have a leader like Dr. Bar-or in the field who is internationally recognized in the field of neuro-immunology to be able to say to our patients that his research has resulted in pushing the field forward towards better treatments and his research will continue to do so. And so our patients are excited to be a part of that process as well.

**Melanie:** Thank you, Dr. Jacobs, for joining us today and sharing your expertise with us. To refer your patient to the Multiple Sclerosis and Related Disorders Center at Penn Medicine, please visit our website at [penntmedicine.org/refer](http://penntmedicine.org/refer) or you can call (877) 937-PENN.

That concludes this episode from the specialists at Penn Medicine. Please remember to subscribe, rate and review this podcast and all the other Penn Medicine podcasts. I'm Melanie Cole.