



**National  
Multiple Sclerosis  
Society**

**MS Learn Online  
Feature Presentation  
Gait and MS: Common Issues  
Francois Bethoux, M.D.**

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**Tracey>>** Welcome to MS Learn Online, I'm Tracey Kimball.

**Tom>>** and I'm Tom Kimball. Problems with walking can be common in MS. In fact, it's such a big issue; we have a two-part series to talk about it.

**Tracey>>** Dr. Francois Bethoux from the Cleveland Clinic talks to medical correspondent Rick Sommers about some common walking or gait issues. Dr. Bethoux begins by explaining how MS affects one of the most basic functions of the human body.

**>>Dr. Bethoux:** We all rely on walking to get around and do stuff, and we almost don't even think about it because after childhood it becomes an automatic function, basically. But when MS causes some impairments, then walking may become more difficult and sometimes even impossible in certain circumstances. And then there's the need for more energy or for more control, conscious control of gait.

So, all these issues together that are embedded in the [ten] gait disorders means basically difficulty walking around.

**>> Rick Sommers:** I've got a laundry list here of things that contribute to loss of control and gait. I'm going to read down the list and then we'll go back and revisit one by one. Spasticity, fatigue, loss of balance, sensory deficit and weakness. So, let's start with spasticity.

**>>Dr. Bethoux:** Well, spasticity is frequent in MS. There are publications that tell us that up to 80% or more of patients with MS have some degree of spasticity, and maybe up to a third of patients have spasticity that really impacts their

function. And when the legs are stiff or spasming, it becomes more difficult to walk. It's kind of -- some patients describe it to me as they have to fight their own legs to walk, basically. So, it's important to take that into account.

>> **Rick Sommers:** How about when your legs feel heavy?

>>**Dr. Bethoux:** So, that's the tricky part, because some people come and say my legs feel stiff because they mean they have difficulty moving them, but actually their legs are weak and that's where the heavy part comes in. My legs are heavy, I have difficulty lifting them and I can't clear my foot and then I stumble, I may even fall, which is not only embarrassing but sometimes dangerous. You can break a bone or something.

>> **Rick Sommers:** I want to come back to that because I want to ask you another question along those lines. But next let's address fatigue is a factor across-the-board for MS patients, but this is something that really comes into play with the gait issue.

>>**Dr. Bethoux:** Certainly. We know that most patients with MS have some degree of fatigue, and that can interfere with many of their functions, but in particular with walking. Because even if somebody physically would be able to walk, say, does not have weakness or spasticity, but if they have significant fatigue, then after they walk a certain distance or a certain time, they basically have to stop because they run out of energy.

>> **Rick Sommers:** Right.

>>**Dr. Bethoux:** And so that can be a significant limitation just by itself.

>>**Rick Sommers:** Can you tell me what drop foot is?

>>**Dr. Bethoux:** Drop foot is basically when it becomes difficult to pick up the toes to clear the foot. Because when we advance the leg, the toes are not supposed to be dragging, because otherwise you may stumble. So, the drop foot is basically just when the toes drop down instead of pointing up when we try to clear our foot. And it can be due to weakness, it can be due, also, to spasticity in the muscles that make our toes go down. So, as we try to walk these muscles become more and more stiff and they push the toes down literally.

>> **Rick Sommers:** Do you treat patients with that and how do you basically prescribe, is it medication or physical therapy?

>>**Dr. Bethoux:** Probably all of the above and more. And drop foot is very common in MS.

>> **Rick Sommers:** Right.

>>**Dr. Bethoux:** Many patients complain of, well, "I'm stubbing my toes on the floor." Especially when we had new carpeting at our center, the first few patients around there noticed that their feet and toes seemed to stick to the floor more. So, it's pretty easy to detect, obviously, but then when we examine we have to understand why the foot is dropping. Is it spasticity? Is it weakness? It could be also even a loss of the sensation of where the foot is in space, so that patients are not able to correct for the toes dropping.

So, then we take all of this into account and we design a treatment plan, and certainly rehabilitation and exercise are always a component of the treatment plan. But there can be also devices like braces that patients can wear to just passively prevent the foot from dropping. They are usually very easy to wear. Not everybody is comfortable with wearing them, but they can certainly be an easy fix, if you wish, for a drop foot.

But there are even other devices now that are on the market that can compensate for some of that weakness by providing electrical stimulation --

>> **Rick Sommers:** Yes.

>>**Dr. Bethoux:** -- to help pick the toes up. These are very exciting devices for us. Even though we have to remember everybody, including our patients, that they may not be the ultimate cure-all for their walking problem. They can be a significant improvement, and what they do, if you compare them with classic braces is that they do provide an active movement, actually, of the foot, active movement up, as opposed to the braces that just keep the foot in a neutral position. So, there is even a hope to providing the training effect, actually, with these devices.

>>**Rick Sommers:** How about loss of balance and how that plays into gait?

>>**Dr. Bethoux:** This is a big issue, big issue, because when balance is affected, basically, then, there may be some falling involved and people become very unsure about their ambulation. So, they may even hesitate to go out in public, or just go out on uneven terrain because they're afraid to fall.

The difficulty is, again, the unpredictability. You never know when an obstacle may present or just maybe more fatigue, you don't pay as much attention. Also, it is a distraction, you're trying to talk to somebody and then you get caught by surprise and you may stumble and fall. So, this is a very important issue.

There are some things that can be done about it. Probably not as many as we have for gait, but there are certainly some exercises, there are a few strategies that can be used, also, to try to prevent it.

>> **Rick Sommers:** I wanted to ask you about strengthening, because weakness was one on our laundry list of gait-related issues. Can you actually strengthen yourself to have a better gait?

>>**Dr. Bethoux:** Well, that's one of the difficult issues, because we know that some of the weakness comes from the damage that has been done by the MS in the nervous system, in the brain and spinal cord. So, we know we can't hope, at least right now, to just erase all that damage and bring people back to full strength. But there is also a loss of strength that comes from what we call deconditioning, which means that if it's difficult to do something, well, we tend to do it less. It's not laziness, it's just adaptation, because it costs so much energy, so much attention, say, to walk, to climb a flight of stairs, where I would tend to maybe take the elevator more often or tend to stay home more often and not walk as much. And then we get out of shape, we get deconditioned, and that leads to loss of muscle mass and loss of strength. And that part we can hope to reverse, actually. So, that's why exercise is so important.

Aerobic exercise, strengthening exercise to try and improve strength as much as we can, and the problem is that you have to keep doing it, the same as anybody doing exercise. You have to keep doing it on a regular basis to maintain these gains. But I've seen patients gait and actually balance improve significantly just with consistent exercises. But the key word here needs to be consistent with it. It doesn't have to be torture and doesn't have to be two hours a day, but it has to be almost every day.

>> **Rick Sommers:** This is maybe a rather obvious question that I've never asked before. How about what you wear on your feet? Does that affect this at all?

>>**Dr. Bethoux:** Even for people without MS, you could wonder some of these high heels, the stilettos are quite antiphysiology. But when MS kicks in, there are gait problems. Certainly there are some types of shoes that either should not be worn or should be worn with caution. And many of my patients end up wearing running shoes or that type of shoes that seem to hold the foot better.

Some patients actually like to have these slip-in shoes where there is nothing to hold the heel in the back, and these are very easy to put on, which is why they like them. We don't like them as much because then it's easy for the foot, also, to slip out of the shoe, and then you may be caught off-guarded and have a problem there.

**Tom**>> I didn't realize that there are so many factors that can contribute to gait issues.

**Tracey**>> Indeed. Dr. Bethoux has only begun to discuss some of the options available to assist with gait.

**Tom**>> So join us again on the next webcast to see how physical therapy, medications, and assistive devices can make a difference.

**Tracey**>> We will see you then.