



National  
Multiple Sclerosis  
Society

## MS Learn Online Feature Presentation

### Spasticity and MS

Featuring: Dr. Stephen Krieger, Dr. Aliza Ben-Zacharia, and  
Dr. Susan Bennett

---

**Kathi:** I struggle with spasticity quite a bit. It's like walking around with 24-hour charley horses.

**Vito:** When it comes to spasticity, I have it 100% of the time all the time. When I first wake up in the morning, I'm lying in bed, I can't bend my legs. They are like planks.

**Cheryl:** Spasticity, it affects my right scapula muscles and it's like a very deep, tight, throbbing sensation that just never goes away, and sometimes it can spread down to my lower back and into the little muscles in between my ribs. So, it's kind of like an MS hug, but just on the right side of my body.

**Cermit:** My legs are stiff all the time now, and I have to use the cane and that.

>>**Kate Milliken:** Spasticity is one of the more common symptoms in MS. It may be as mild as muscle tightness or as severe as painful uncontrollable spasms of extremities. Hi I'm Kate Milliken and welcome to MS Learn Online. Joining us are three health professionals who will give us their own perspectives on spasticity.

Dr. Stephen Krieger is coming to us from New York City where he is a neurologist at the Corinne Goldsmith Dickinson Center for MS. He is also an assistant professor at Mt. Sinai Medical Center.

Dr. Susan Bennett is a physical therapist and clinical associate professor at the University of Buffalo.

Dr. Aliza Ben-Zacharia is a Nurse Practitioner at the Corinne Goldsmith Dickinson Center for MS at Mt. Sinai Medical Center in New York.

Welcome to MS Learn Online. Dr. Krieger, what is spasticity?

>>**Dr. Stephen Krieger:** Well, spasticity is a stiffness of the muscles. When MS causes weakness, it often takes on a spastic or stiff quality. This can be quite mild or in some cases it can be quite severe, ultimately leading to contractions of the limbs that are difficult to straighten out.

>>**Kate Milliken:** Nurse Practitioner Ben-Zacharia?

>>**Aliza Ben-Zacharia:** Spasticity is when you cannot really bend or relax your extremities, usually your arms and legs, smoothly, and they become so rigid and you're not being able to move them really freely. We call it like extend or flex, but it's the same movement. It's bending your arm or bending your leg in a really smooth and flexible fashion. And what we see when patients experience spasticity, that the extremities, the legs and the arm become so rigid, almost like this, and they can stay in one motion and not really being able to move. And when you have rigidity and spasticity or stiffness, it can lead to pain sometimes, and sometimes even fatigue, because when it's stiff you have to generate more energy to move the leg, for example. So, again, the cycle motion of it.

>>**Kate Milliken:** Dr. Bennett what are your thoughts on this?

>>**Dr. Susan Bennett:** It's an interruption of the flow of signals along axons that are coming from the brain down to the spinal cord, and this abnormal flow of signals actually turns on neurons in the spinal cord that go and make the muscles stimulate or contract.

So, this abnormal signaling, you know, typically we think about problems with MS of slowness of signaling along the axons. That contributes to weakness. That certainly is a factor in fatigue. In this case we have certain axons that are sending too many signals to specific cells, neurons in the spinal cord, that make the muscle contract and tighten. We see it very commonly in the muscles in the leg that cause the foot and the leg to push down. So, the individual, when they're walking will have difficulty picking up their toes because the calf muscle is firing excessively, pushing the whole foot down.

**Kathi:** So, when I sit for long periods of time, I think that triggers the spasticity in my hips. So I usually try and get up every 20 minutes and take just a short walk around so that it doesn't trigger the spasticity as much.

**Walt:** I had to keep my hand close to the wall that was next to me, because trying to get my legs go one in front of the other because of the spasticity was not very easy.

**Donna:** It's very frustrating, especially because I like to crochet, I like to paint, I like to walk, and sometimes when I'm being really spastic, I can't do any of those things.

**Kathi:** And even now in traffic with brake/gas/brake, it's awful. I will get to the point where I have to pull off beside the road and walk around for a while, because I can't -- it just doesn't go away and then I can't drive because my foot hurts so much.

>>**Kate Milliken:** Let's turn to Nurse Practitioner Ben-Zacharia? What type of impact may spasticity have on a person?

>>**Aliza Ben-Zacharia:** So, when someone experience spasticity, it can affect their walking ability. They speed their walking, their ease of the walk, and how long they can walk, because it's so stiff it makes them tired. So, I've noticed that many patients with stiffness needs very frequent rest periods. They will walk one block and then they'll have to rest because the leg -- and usually it's one leg, not so much both legs together at the same time. But either right leg or the left leg give you problems. Definitely affect your gait and your walking and your posture.

The other impact is when you function, if you have stiffness in your upper extremity you cannot really -- your hands or arms -- you cannot do certain activity throughout the day. So, that can affect your quality of life.

>>**Kate Milliken:** Let's turn to Dr. Krieger, how common is it?

>>**Dr. Stephen Krieger:** I think the prevalence of spasticity varies considerably within MS. It's not an uncommon symptom when patients have weakness, but the majority of my patients don't have significant spasticity.

>>**Kate Milliken:** Dr. Krieger, can spasticity be triggered by certain conditions?

>>**Dr. Stephen Krieger:** Yes. Spasticity is an underlying process, but it can be transiently worsened by all sorts of things, especially things like pain, fatigue, being overheated. Any of these things can bring out or worsen underlying spasticity.

>>**Kate Milliken:** Dr. Bennett is there something that you would like to add?

>>**Dr. Susan Bennett:** We have to manage spasticity early and aggressively. You don't want spasticity to persist for an extended period of time because it will only cause more weakness of the opposing muscles as well as the muscles that are spastic.

>>**Kate Milliken:** We'd like to thank Dr. Susan Bennett, Dr. Stephen Krieger and Dr. Aliza Ben-Zacharia for sharing their insights. If you would like to learn more about spasticity or any other information about MS go to [nationalmssociety.org](http://nationalmssociety.org). For MS Learn Online, I'm Kate Milliken, thanks for joining us.