

Parkinson's disease is still a clinical diagnosis. Though, there are now emerging confirmatory testing. The clinical features of Parkinson's are going to be typically two out of three motor features-- tremor, bradykinesia, and rigidity. So you need two out of those three to make the diagnosis, or you may want to see premotor features, or balance impairment. So typically five, and you want to see three out of those five.

Now, in terms of motor features, tremors typically at rest. So that's not always a rule. Typically, asymmetrical, one-sided. Though, also, that's not always the rule either. So generally, tremor on one side more than the other. Bradykinesia, which is slowness of movement, typically on one side more than the other. And in addition to that, cogwheel rigidity, which is a typical type of rigidity we see in Parkinson's individuals-- also typically on one side than the other.

So the asymmetry is actually the feature of Parkinson's in many ways. Some patients with tremors that are bilateral oftentimes get misdiagnosed as essential tremor when they actually have Parkinson's disease. So we tend to look for a combination of not just the tremor, but the characteristics of the tremor, possibly the asymmetry, the rest of the postural reemergent component of it, along with the company of possibly bradykinesia and cogwheel rigidity. So those are still the main motor features.

Non-motor features are helpful. Non-motor features, such as premotor symptoms, such as anosmia, which may go back anywhere from several years to maybe a few months prior to the onset of the motor symptoms. You may see anosmia, constipation. REM behavioral disorder has been associated with synucleinopathies as well. And it's an important component as well. Some individuals may experience restless leg symptoms, and even calf cramps as they're developing these symptoms of Parkinson's.

There is, however, a split. About a third of the individuals are what I call mixed type, which means they have a mixture of bradykinesia, rigidity, as well as tremor. A third of them are tremor predominant, which means the majority of their symptoms are tremor with a little bit of bradykinesia and rigidity mixed in. And a third of them never have a tremor. They mostly have bradykinesia and rigidity. And those are the folks that don't come to the doctor as early on. Many of their symptoms get blamed on joint pains, arthritis, aging, many other factors until those symptoms advanced. But the tremor predominant patients tend to come in much sooner, because they see that as a visible manifestation of something is going on, and get help sooner. So they come to your attention much sooner.