

So while Parkinson's is still a clinical diagnosis, and majority of my patients understand that this is a clinical diagnosis, there are diagnostic tests that are helpful. There are two tests we're going to talk about. One is a DAT scan, I123, ioflupane which is basically a radioactive iodine product that's given that binds to the end terminals of the dopaminergic neurons that are housed in the substantia nigra that attach to the striatum.

By giving this medication along with a thyroid blocker and doing a nuclear scan, we're able to get an idea of what the end terminals look like. There are two possible potential options there. A test that's normal will show two commas because it will light up the entire striatum, saying that there's no evidence of Parkinson's disease or Parkinsonism of a neurodegenerative type. On the other hand, if you see an asymmetry of a comma and a dot, or a reduced uptake on both sides, that tells you that, of course, this is an individual that has Parkinson's or Parkinsonism.

And it is not able to separate out Parkinson's disease from atypical Parkinsonism, and even dementia with Lewy bodies. Because all of those disease states are hypodopaminergic states. On the other hand, there are a couple of pitfalls that we do need to be aware with the DAT scan. One is that it was studied to compare between essential tremor and Parkinson's, and to differentiate between them.

Individuals that have essential tremor and Parkinson's will have an abnormal scan. Individuals that have a tremor due to a different reason will have a normal scan. So a normal scan does-- all it tells you is that the individual does not have Parkinson's or Parkinsonism of a neurodegenerative type. The tremor may be due to a variety of different other conditions. Additionally, it's also important before ordering a DAT scan to do a quick look at the medication list of a patient to make sure they're not on medications that may interfere with it.

There's a list that one can obtain of medications that are on the label for DAT scan that you can determine if the patient is on one of those medications, how long to be able to stop them, and if one of them is significant to stop them for a certain amount of time.

And many of these are medications that are reuptake inhibitors as a general class. So it's important to have these three pitfalls of, what am I looking for in a test? How will I interpret a test? As well as understanding that there may be some medication interference. And that's not common. But it is important to be aware of it, just to do a quick medication check when you order a DAT scan in that sense.

On the other hand, there's a new test available, which basically is a skin biopsy test, Syn-One testing. And the Syn test basically looks at a phosphorylated α -Synuclein which is seen in cutaneous nerves. And it's a punch biopsy done in three locations. The first location is superior to the lateral malleolus, superior to the knee, and lateral to C7.

And those three small punch biopsies that can be done in the office can result in information for you that can determine whether a person has synuclein, which points to a synucleopathy component of diseases, which is Parkinson's disease is probably the most common.

Multi-system atrophy, which we put into a-- which you put into atypical Parkinsonism, REM behavioral disorder, pure autonomic failure, amongst other things can be-- are potential things that can be considered in the synucleopathy range as well as Lewy body dementia. So those are the things if the test is positive, then it certainly points to the Parkinsonism. At this point, the Syn-One testing also does not differentiate between different types of synucleopathy. But that may be potentially something that's available in the future and be able to give us even finer tuned diagnostics than what we currently have.

Keep in mind Parkinson's is a clinical diagnosis. And just about a decade ago, we had no diagnostic tests for this. And that last decade, we've had two diagnostic tests that we can utilize complementary to each other if the need arises to confirm the diagnosis for individuals, or if an individual needs to have that reassurance of the diagnosis.