**Tremor Assistant**

**What’s the product?**

|  |
| --- |
| Solution to help the Parkinson patients  |
| A device to diagnose tremor pathologies by analyzing the patient's caligraphy. |
| App and system that analyses handwriting and drawing of patients to measure and diagnose tremor. |
| A tool to predict essential tremor disease |
|  application that analyzes characteristics of handwriting and drawing to characterize the patient's tremor type |
| An App to diagnose tremors |
|  |
| Tremor diagnosis using hand writing analysis |
| Simple, useful tool for tremor screening. |
| tremor detector |
| Early Diagnosis of tremors using a handwriting test software. |
| Tremor Assistant |
| App for assist tremor. |
| Evaluate diagnosis and status of essential tremor vs Parkinson’s disease and other related neuro conditions |
| AI approach to analysis of a writing test to determine type of tremor for a patient and potentially identify their neurological disorder (e.g., Parkinson's) |
| A way to identify tremor disease by handwriting |
| Tool for early diagnosis of Parkinson |
| Tremor assistant |
| Simple, quick device for tremor sceening |
| A simple tool to measure and characterize tremors |

**What’s the problem they are trying to solve?**

|  |
| --- |
| Writing problems  |
| Diagnosis of motor control / tremor. |
| Need for early detection of neurological disease that causes tremor and give proper treatment if needed. |
| They will avoid much more expensive diagnosis analysis |
| Essential tremor, related neurological disorders are difficult to distinguish for deciding which drugs to prescribe. Complementary tests like DAT scan have high cost |
| Faster and cheaper tremor diagnosis. |
| Need earlier tremor detection |
| Improve current Essential tremor screening using data. |
| early diagnosis of tremor |
| Earlier diagnosis of essential tremor neurological disorders to allow for earlier treatments  |
| Tremor of patients |
| The tremor and Parkinson's when they are writing. |
| Poor differential diagnosis of PD vs essential tremor and resulting tx |
| Making neurological disease diagnosis easier and less manually intensive / heterogeneous |
| Early detection of tremor disease in an easy way |
| Avoid expensive test as DATSCAN |
| Marketing to increase use of tool and reduce mis diagnosis and interventions  |
| Essential tremor: Early diagnosis of the type of neurological disease |
| Measure essential tremors ? Not exactly sure.... |

**Comments/Questions**

|  |
| --- |
|  |
| 1. Have you analyzed the regularity of a single patient writing on a device? Is there already a description of 'normality' vs. 'essential tremor' vs. 'Parkinson's' using your device?2. Are you planning a longitudinal analysis? How frequently? It would be great to explain the diagnostic protocol with a diagram in your presentation. An a video of a patient using the device will also be helpful.3. How precise do you need to be in your diagnosis? Are you thinking about monitoring progression, or about a first diagnosis? |
| Very interesting and needed. |
|  |
| how reliable is handwriting and drawing in determining tremor type and cause. Are there any other indicators that are used in conjunction (that might include costly options)? |
| Regulation?IP?What is the advantage of early detection for patients?Would this be a screening test for tremors?Who would pay for it? (for the devices in which the app works) |
| Are there any potential intellectual property protection strategies in this area? Or is it less feasible?How much data could be required to train and test a prototype? You could reference how others have validated other parameters in the past?What will be required to demonstrate a more reliable detection method than existing methods? |
| How do you distinguish between a normal state and an abnormal state? How early can you detect tremors compared to existing methods? |

|  |
| --- |
| What is the treatment - I see the early diagnosis not the treatmentIt seems like you need to see a baseline to see if there are any differencesIs this used at home on an app or is this something a doctor would use?  |
| You can use a tool such as shorturl.at to reduce the links.Where do you plan to use it? Home or hospital? Do you have some estimation of the expected accuracy? Why not using Artificial Intelligence instead of using just 5 parameters?  |
|  |
|  |
| General comment: It is hard to read white text on your slides when you have a gradient background that also includes white sections. Are there any competitors to your approach and do you have/need IP coverage? What is your business model? |
| Who is going to pay for this? Who can conduct the test?  |
| I do not 100% agree with the fact that essential tremor and parkinsonian diseases lack imaging biomarkers (in many ways). However, this could be a complementary method to assess and correlate with clinical data. |
|  |
|  |
| \* how does the system work compared to existing products or methodologies on the market?\* Why is it better than existing methodologies?\* Who is the economic buyer for the product? |
|  |
|  |
|  |

**From the chat question burst:**

What is the treatment? I see the early diagnosis but not treatment

Could you put the link to the prototype in the chat here from the presentation slides?

Is this an at-home test or a test performed at the care facilities?

how reliable is handwriting and drawing in determining tremor type and cause. Are there any other indicators that are used in conjunction (that might include costly options)?

Do you use a special AI pen?

How likely is it to get the patient in a 'good day' vs a 'bad day'?

Could you just describe what the prototype does to evaluate handwriting?

Do you need a baseline and then watch it over time?

Are you thinking about longitudinal analysis of a patient, or diagnosis of a patient by a single test?

Do you know https://neuroqwerty.mit.edu/ ?

We write by hand less and less everyday. Is this affecting the regularity of our writing? Can this affect your idea?

How often is someone with essential tremor given drugs for PD?