TEXAS NEUROSCIENCE INSTITUTE

Movement Disorders Program
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INITIAL PRE-AUTHORIZATION REQUEST

Deep Brain Stimulation Surgery

Administrative Information

Submission Date:	October 10, 2025
Request Type:	Initial Authorization
Procedure:	Bilateral Subthalamic Nucleus (STN) Deep Brain Stimulation
CPT Codes:	61863, 61868

Patient Information

Name:	Rodriguez, Maria Isabel
Date of Birth:	July 22, 1957 (Age 68)
Sex:	Female
MRN:	TNI-665482
Insurance:	Medicare Advantage (Cigna)
Member ID:	CIG445566778

Diagnosis

Primary:	G20 - Parkinson's Disease, Idiopathic
Duration:	11 years (onset 2014)
Secondary:	G25.83 - Motor fluctuations in diseases classified elsewhere

Clinical History

Mrs. Rodriguez is a 68-year-old female with an 11-year history of idiopathic Parkinson's disease. Disease onset in 2014 with right hand tremor and progressive bradykinesia. Initial treatment with carbidopa-levodopa resulted in excellent symptomatic control. Over the past 4-5 years, she has developed significant motor fluctuations with unpredictable "off" periods lasting 4-5 hours daily in aggregate.

Cardinal Features of Parkinson's Disease - All Present:

- **Tremor:** Bilateral resting tremor, right > left, predominantly affecting upper extremities
- **Rigidity:** Cogwheel rigidity, bilateral upper and lower extremities
- **Bradykinesia:** Marked generalized slowing of voluntary movements

Motor Fluctuations: Patient experiences 3-4 "off" periods daily, each lasting 60-90 minutes. During off periods, severe bradykinesia prevents independent performance of activities of daily living. Patient requires assistance from husband for dressing, eating, and mobility during off times. Freezing of gait occurs during off periods with 4-5 near-fall episodes weekly.

Motor Assessment

Examination Date: October 5, 2025

UPDRS Part III Motor Score:

State	Score
OFF medications (>12 hours off all PD meds)	51 / 132
ON medications (peak dose, 60 min post C/L)	19 / 132
Improvement	**32 points (63% improvement)**

Hoehn and Yahr Stage:

- OFF state: Stage 3 (bilateral disease with postural instability)
- ON state: Stage 2 (bilateral disease without balance impairment)

Detailed Motor Findings (OFF state):

- Severe bradykinesia with finger tapping showing marked decrement and slowing
- Cogwheel rigidity 2-3/4 in all extremities
- Resting tremor amplitude 3/4 right hand, 2/4 left hand
- Reduced arm swing bilaterally with shuffling gait
- Positive pull test (requires 2-3 steps to recover)

ON State Assessment: At peak medication effect, tremor reduces to 1/4, rigidity improves to 1/4, bradykinesia markedly improved. Patient able to ambulate independently, perform ADLs without assistance. Clear, predictable ON periods lasting approximately 2.5 hours.

Levodopa Responsiveness

Formal Levodopa Challenge Test (September 28, 2025):

Patient held all PD medications overnight (>12 hours). Baseline UPDRS Part III: 53. Administered carbidopa-levodopa 25/250 x 3 tablets (750 mg levodopa). Serial examinations at 30-minute intervals.

Results:

- Baseline OFF: UPDRS 53
- Peak response (75 minutes): UPDRS 20
- **Improvement: 62% (33 points)**
- Duration of ON: 2.5 hours before wearing off

Interpretation: Excellent levodopa responsiveness with clearly defined ON periods. This response is highly characteristic of idiopathic Parkinson's disease and confirms diagnosis.

Current Medications

Medication	Dose	Frequency	Duration
Carbidopa-Levodopa 25/100	2 tablets	5 times daily	11 years (escalated)
Carbidopa-Levodopa CR 50/200	1 tablet	Bedtime	6 years
Entacapone	200 mg	With each C/L dose	7 years
Pramipexole ER	4.5 mg	Once daily	9 years
Rasagiline	1 mg	Once daily	8 years
Amantadine IR	100 mg	Three times daily	5 years

Total Daily Levodopa: 1,200 mg (1,000 mg IR + 200 mg CR)

Medication Optimization: Patient has been managed by movement disorder specialist for 11 years. All first-line and second-line agents trialed at maximal tolerated doses. Multiple medication timing adjustments attempted to minimize off periods. Despite comprehensive regimen with 6 concurrent PD medications, disabling off periods persist 4-5 hours daily. Further dose escalation limited by dyskinesias at peak. Medical therapy optimized and exhausted.

Diagnostic Studies

MRI Brain with and without contrast (September 15, 2025):

No acute findings. No stroke, tumor, or vascular malformation. Basal ganglia demonstrate normal signal intensity. Mild age-appropriate cerebral volume loss. No structural lesions. Images suitable for stereotactic surgical planning.

DaTscan SPECT Imaging (March 2023):

Markedly reduced striatal dopamine transporter uptake bilaterally, right < left (corresponding to symptom lateralization). Pattern consistent with presynaptic dopaminergic deficit, confirming idiopathic Parkinson's disease.

Assessment of Exclusion Criteria

Atypical Parkinsonism: EXCLUDED - Idiopathic PD confirmed by excellent levodopa response (63% improvement), DaTscan findings, classic clinical features, 11-year disease course. No features of MSA, PSP, CBD, or vascular parkinsonism.

Structural Lesions: ABSENT - Recent MRI negative for stroke, tumor, vascular malformation in basal ganglia.

Prior Movement Disorder Surgery: ABSENT - No prior DBS, lesioning procedures, or brain surgery.

Substance Abuse: ABSENT - No history of alcohol abuse (non-drinker) or drug abuse.

Medical Comorbidities: ABSENT - Patient has well-controlled hypertension and hypothyroidism. Otherwise healthy. Cardiology clearance obtained September 20, 2025. Anesthesia clearance obtained September 25, 2025. No contraindications to surgery.

Psychiatric Status: Patient reports mild frustration with disease limitations but denies significant depression. No psychosis. No hallucinations.

Cognitive Assessment - PENDING

Office Mental Status Assessment (October 5, 2025):

Patient oriented to person, place, and time. Conversant, appropriate. Able to follow multi-step commands. Provides good medical history. No obvious cognitive deficits noted during clinical encounter.

Status: Formal neuropsychological evaluation scheduled for October 18, 2025 with Dr. Rachel Thompson, PhD. Testing will include MOCA, comprehensive cognitive battery, and assessment of capacity for DBS candidacy. Results to be submitted as supplemental documentation upon completion.

Preliminary assessment: No clinical concerns for dementia based on office encounters. Patient functions independently at home, manages medications with husband's assistance (primarily for timing during motor fluctuations), handles finances, drives, engages in hobbies. Preliminary cognitive screening suggests normal cognition, pending formal confirmation with neuropsych testing.

Patient Cooperation and Education

Patient and husband attended comprehensive DBS education seminar on September 30, 2025 (2.5 hours). Demonstrated excellent understanding of:

- Awake surgical procedure with local anesthesia
- Intraoperative testing and need for patient cooperation
- Post-operative programming requirements (5-7 sessions over 3-4 months)
- Realistic expectations (motor improvement expected, continued need for medications at reduced doses)

- Risks including hemorrhage (1-2%), infection (3-5%), hardware complications

Patient highly motivated and expresses strong willingness to proceed. Husband very supportive and will provide transportation to all programming appointments. Patient able to articulate understanding in own words and asked appropriate questions. Family support strong with two adult children living locally.

Device Information

Proposed Device:	Medtronic Percept PC Neurostimulator
FDA Status:	FDA Approved (PMA P960009/S219)
Target:	Bilateral Subthalamic Nucleus (STN)

Provider and Facility Qualifications

Neurosurgeon: Dr. Michael Chen, MD, PhD

- Board Certified Neurosurgery (2007)
- Fellowship: Functional & Stereotactic Neurosurgery, Toronto Western Hospital (2008)
- Experience: 17 years, 240+ DBS implantations
- Member: American Society for Stereotactic and Functional Neurosurgery

Movement Disorder Neurologist: Dr. Lisa Martinez, MD

- Board Certified Neurology (2010), Movement Disorders subspecialty (2012)
- Experience: 13 years managing PD, 190+ DBS patients pre- and post-operatively
- Will perform patient selection and all post-operative programming

Facility: Texas Neuroscience Institute / Baylor University Medical Center

- Academic tertiary medical center
- Dedicated stereotactic OR with Leksell frame system and microelectrode recording
- Intraoperative MRI capability (3T)
- ICU and neurocritical care services
- Established DBS program: >65 cases annually, program since 2006

Clinical Summary

Mrs. Rodriguez is a 68-year-old female with 11-year history of idiopathic Parkinson's disease demonstrating all three cardinal features and excellent sustained levodopa responsiveness (63% UPDRS improvement, clearly defined ON periods). She has advanced disease with UPDRS Part III motor score of 51 in OFF state improving to 19 in ON state, and Hoehn & Yahr Stage 3.

Despite optimal medical management with six concurrent medications at maximal tolerated doses (total levodopa 1,200 mg daily plus COMT inhibitor, dopamine agonist, MAO-B inhibitor, and amantadine), she experiences persistent disabling OFF periods totaling 4-5 hours daily with functional dependency

requiring caregiver assistance. Medication adjustments over 11 years have been comprehensive. Medical therapy exhausted.

Comprehensive evaluation confirms idiopathic PD (excellent L-dopa response, DaTscan positive). MRI excludes structural lesions. No prior brain surgery. No substance abuse. Medical comorbidities controlled with appropriate clearances obtained. No psychosis.

Formal neuropsychological evaluation scheduled for October 18, 2025 to assess cognitive function and exclude dementia. Clinical assessment suggests normal cognition, but formal testing required per policy. Results will be submitted as supplemental documentation.

Patient demonstrates excellent understanding of DBS procedure and realistic expectations. Strong family support present.

Surgery to be performed by highly experienced team at academic center with established DBS program using FDA-approved device.

Request Status

This is an INITIAL submission. Patient meets all documented criteria for bilateral STN DBS for advanced Parkinson's disease with motor fluctuations despite optimal medical therapy.

Formal neuropsychological evaluation results will be submitted as supplemental documentation within 2 weeks (by October 25, 2025).

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Lisa Martinez, MD
Movement Disorders Neurology
Texas Neuroscience Institute
Date: October 10, 2025