

COASTAL NEUROSCIENCE CENTER

Comprehensive Movement Disorder Care
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Authorization Request

Date Submitted: October 1, 2025
Procedure Requested: Bilateral Thalamic VIM Deep Brain Stimulation
CPT Codes: 61863, 61868

Patient Information

Name: Margaret Chen
DOB: 07/14/1963 (Age 62)
Sex: Female
Member ID: MC445678912
Insurance Plan: Medicare - Part B

Diagnosis

Primary: G25.0 - Essential Tremor
ICD-10: G25.0

Clinical History

Ms. Chen is a 62-year-old right-handed female with an 8-year history of progressive essential tremor. Tremor onset was insidious in her early 50s, initially affecting the right hand with postural and action components. Over time, tremor has progressed to involve both upper extremities, with bilateral hand tremor now severely limiting functional activities.

The tremor is most pronounced during volitional movements such as eating, drinking, and writing. It disappears during complete rest and sleep. There is mild improvement noted with alcohol consumption (patient reports occasional glass of wine reduces tremor by approximately 50% for 2-3 hours). No tremor affecting head, voice, or lower extremities.

Family History: Mother had hand tremor beginning in her 60s. Brother (age 58) has mild hand tremor. Consistent with autosomal dominant inheritance pattern typical of essential tremor.

Functional Impact: Patient is unable to eat soup or drink from cup without spilling. Cannot write legibly - has resorted to typing all correspondence. Previously worked as medical transcriptionist but forced to retire 2 years ago due to inability to use computer mouse accurately. Quality of life significantly impaired. Patient avoids social situations due to embarrassment about tremor.

Neurological Examination

Examination Date: September 28, 2025

Mental Status: Alert, oriented x3. MOCA: 28/30 (normal). No evidence of cognitive impairment. Mood appropriate, no depression.

Cranial Nerves: II-XII intact. No dysarthria. Voice normal without tremor.

Motor Exam: Normal bulk and tone throughout. No rigidity. No bradykinesia. Strength 5/5 all extremities. Rapid alternating movements normal in speed and rhythm when tremor not present.

Tremor Assessment (Fahn-Tolosa-Marin Clinical Tremor Rating Scale):

- **Right upper extremity:** Postural tremor 4/4, Kinetic tremor 4/4 (severe, large amplitude)
- **Left upper extremity:** Postural tremor 3/4, Kinetic tremor 3/4 (moderate-severe)
- **Functional impact:** Unable to drink from cup (4/4), unable to use spoon (4/4), handwriting illegible (4/4)
- **Total FTM Score:** 28/144 (severity predominantly in upper extremities and functional tasks)

Cerebellar: No ataxia, dysmetria, or dysdiadochokinesia (when tremor minimized with support).

Gait: Normal base, speed, and arm swing. No parkinsonian features.

No parkinsonian features: No resting tremor. No rigidity. No bradykinesia. No gait dysfunction. No postural instability.

Medication History

Medication	Maximum Dose Tried	Duration	Response
Propranolol	120 mg BID	6 years	Minimal benefit (~15% improvement), discontinued due to fatigue and bradycardia

Primidone	250 mg TID	4 years	Moderate initial benefit (~30% improvement) but tolerance developed, now minimal effect
Topiramate	100 mg BID	1 year	No significant benefit, discontinued due to cognitive side effects
Gabapentin	1200 mg TID	8 months	No benefit, discontinued due to sedation

Current Medications: Primidone 250 mg TID (continued despite minimal current benefit as patient notes slight subjective improvement). No other tremor-specific medications.

Medical Therapy Assessment: Patient has been trialed on first-line and second-line medications for essential tremor at optimal doses. All major pharmacologic options have been exhausted with inadequate response. Tremor remains severely disabling despite 8 years of medical management.

Diagnostic Studies

MRI Brain (September 10, 2025): No structural abnormalities. No basal ganglia lesions, stroke, tumor, or vascular malformation. Normal cerebellar structures. Study suitable for stereotactic surgical planning and targeting.

Neuropsychological Testing (August 15, 2025): Cognitive function within normal limits. MOCA 28/30. No evidence of dementia or significant depression. Patient demonstrates excellent understanding of DBS procedure and realistic expectations.

Exclusion Criteria - Not Present

- ✓ No parkinsonian features (no PD or Parkinson's Plus syndrome)
- ✓ No cognitive impairment or dementia (MOCA 28/30)
- ✓ No depression or psychiatric illness
- ✓ No history of alcohol abuse (occasional social use only, 1-2 drinks monthly)
- ✓ No drug abuse
- ✓ No structural brain lesions on MRI
- ✓ No prior brain or movement disorder surgery
- ✓ No significant medical comorbidities - patient has well-controlled hypertension only
- ✓ Medical clearance obtained (cardiology, anesthesia)

Patient Cooperation & Understanding

Patient attended comprehensive DBS education session on September 20, 2025 (2 hours). Excellent understanding demonstrated of:

- Awake surgical procedure under local anesthesia
- Intraoperative testing to ensure proper lead placement
- Need for post-operative programming sessions
- Realistic expectations (tremor improvement expected, not complete elimination)
- Potential risks and complications

Patient is highly motivated and expresses strong desire to proceed. Husband will provide transportation and support for all post-operative appointments. Patient understands she will need to cooperate during conscious surgery and participate in post-surgical evaluations and stimulator adjustments.

Device Information

Proposed Device:	Medtronic Activa PC Neurostimulator System
FDA Approval:	FDA approved for VIM thalamic stimulation for essential tremor (PMA P960009)
Target:	Bilateral Thalamic Ventral Intermediate Nucleus (VIM)

Provider & Facility Qualifications

Neurosurgeon: Robert Martinez, MD

- Board Certified Neurosurgery (2010)
- Fellowship: Functional Neurosurgery, Cleveland Clinic (2011)
- Experience: 120+ DBS implantations, 15+ years stereotactic surgery
- Active member ASSFN

Neurologist: Linda Thompson, MD

- Board Certified Neurology, subspecialty certification Movement Disorders (2013)
- Experience: 8+ years managing essential tremor, 80+ DBS patients

Facility: Coastal Neuroscience Center

- Tertiary referral center for movement disorders
- Stereotactic OR with Leksell frame and microelectrode recording
- On-site 3T MRI for surgical planning
- Dedicated DBS programming clinic
- 40+ DBS procedures annually

Physician Assessment

Ms. Chen presents with severe, functionally disabling essential tremor meeting diagnostic criteria for ET based on bilateral postural and kinetic hand tremor without other neurological signs. Tremor severity

scores 4/4 on Fahn-Tolosa-Marin scale in the dominant right hand and 3/4 in the left hand, causing profound limitation in activities of daily living including eating, drinking, and writing.

Extensive pharmacologic therapy has been attempted over 8 years including propranolol, primidone, topiramate, and gabapentin at maximal tolerated doses. Despite these efforts, tremor remains severely disabling with minimal current benefit from medications. Patient has exhausted all reasonable medical options.

Comprehensive evaluation confirms diagnosis of essential tremor with no features suggestive of Parkinson's disease or other neurologic conditions. Brain MRI excludes structural lesions. Cognitive testing normal. No psychiatric contraindications. No history of substance abuse.

Patient demonstrates excellent understanding of the DBS procedure and realistic expectations. She is willing and able to cooperate during the awake surgical procedure and commit to post-operative programming sessions.

Bilateral VIM DBS will be performed by experienced team at accredited facility using FDA-approved Medtronic Activa system.

Requested Procedure

Service:	Bilateral VIM DBS Lead Implantation and Pulse Generator Placement
Anticipated Timeline:	4-6 weeks following authorization
Facility:	Coastal Neuroscience Center, San Diego, CA

Physician Signature:

Linda Thompson, MD
Movement Disorders Neurology
Date: October 1, 2025