

Presenter:

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- Board-Certified Psychiatrist
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Magnus Medical Overview:

- SAINT treatment (**S**tanford **A**ccelerated **I**ntelligent **N**euromodulation **T**herapy) was developed at Stanford's Brain Stimulation Laboratory, leveraging breakthroughs in our understanding of the biology of depression
- Magnus Medical was founded in 2020 to advance the development of this innovative neuromodulation treatment for major depressive disorder

Agenda

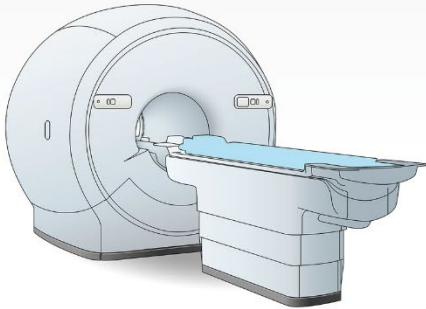
1. SAINT™ Neuromodulation System Overview
2. Treatment-Resistant Major Depressive Disorder: SAINT Improvements on Standard of Care
3. Request: CY 2025 APC assignment that reflects hospitals' costs to provide SAINT treatment delivery services reported with CPT codes 0890T, 0891T, and 0892T

SAINT Neuromodulation System

Indication: Treatment of major depressive disorder in adult patients who have failed to achieve satisfactory improvement from prior medication in the current episode

Step 1

MRI Brain Scan



Approximately 45 minute scan to gain images of the structure and function of the brain

Step 2

Individual Target Identification



Proprietary algorithm identifies optimal spot in the brain for precise, individualized stimulation

Step 3

Stimulation series



5-day treatment consists of 10 sessions per day; each session is 10 minutes of stimulation with 50 minutes of rest



Treatment-Resistant Major Depressive Disorder: Limited Options for Treatment

- Depression impacts 16% of adults in the US¹
- Up to 50% of people suffering from depression do not respond to antidepressant medications^{2,3} (“Treatment-Resistant Major Depressive Disorder” (TR-MDD))
- TR-MDD is a life-threatening disorder with a high risk of suicide: approximately 30% of patients attempt suicide at least once in their lifetime⁴
- Current treatments have limited effectiveness and require weeks or months for response

Medication

- 3 months to adequately determine response
- Patients often need multiple medication trials
- Up to 50% of patients do not respond

Electroconvulsive Therapy

- Lower rates of remission
- Stigma
- Anesthesia
- Multiple treatments, impacting patient and caregiver schedules

rTMS

- 36 treatments over 6 weeks
- Lower rates of remission
- 10Hz Brain Stimulation Therapy

1. Kessler RC, Berglund P, Demler O, et al.: The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). JAMA 2003, 289:3095–3105
2. Trivedi MH, Rush AJ, Wisniewski SR, Nierenberg AA, Warden D, Ritz L, et al. Evaluation of outcomes with citalopram for depression using measurement-based care in STAR*D: implications for clinical practice. Am J Psychiatry. 2006 Jan;163(1):28–40.
3. Warden D, Rush AJ, Trivedi MH, Fava M, Wisniewski SR. The STAR*D Project results: a comprehensive review of findings. Curr Psychiatry Rep. 2007 Dec;9(6):449–59.
4. Isidoor O, Bergfeld, Mariska Mantione, Martijn Figee, P. Richard Schuurman, Anja Lok, Damiaan Denys. Treatment-resistant depression and suicidality. Journal of Affective Disorders, Volume 235, 2018, Pages 362-367.

SAINT: Better Clinical Outcomes, Faster Results

Treatment	Remission Rate	Mean Time to Remission
SAINT	90%	2.6 days
ECT	48%	2.5 weeks
rTMS	17%-32%	3.5 weeks
Drugs	14%	6+ weeks

Data are shown for open-label studies in moderately to severely treatment-resistant depression.

References: Cole et al 2020 (SAINT), Heijnen et al 2010 (ECT), Blumberger et al 2018 (TMS 32%), Hsu et al 2019 (TMS 17%; sub-analysis of Blumberger participants with similar treatment resistance to SAINT patients), Rush et al 2006 (drugs)

Rapid effectiveness of SAINT treatment will have a positive effect on patient health and medical resource utilization for TR-MDD

SAINT Therapy Delivery: AMA and FDA Recognition

FDA, CMS, and AMA have identified SAINT as an innovative therapy appropriate for unique recognition:

- **FDA Breakthrough Device Designation**

The SAINT Neuromodulation System was awarded FDA Breakthrough Device Designation, consistent with its ultimate FDA authorization to treat major depressive disorder

- **Category III CPT Codes effective July 2024**

AMA CPT Panel approved new CPT Category III codes for targeted, accelerated iTBS, active July 2024:

1. **Initial Treatment Day: 0890T**, “Accelerated, repetitive high-dose functional connectivity MRI–guided theta-burst stimulation, including target assessment, initial motor threshold determination, neuronavigation, delivery and management, initial treatment day”
2. **Subsequent Treatment Day: 0891T**, “Accelerated, repetitive high-dose functional connectivity MRI–guided theta-burst stimulation, including neuronavigation, delivery and management, subsequent treatment day”
3. **Treatment with Motor Threshold Redetermination: 0892T**, “Accelerated, repetitive high-dose functional connectivity MRI–guided theta-burst stimulation, including neuronavigation, delivery and management, subsequent motor threshold redetermination with delivery and management, per treatment day”

SAINT Therapy: Innovations Enabling Improved Outcomes for TR-MDD

	SAINT	rTMS
Real-time Neuronavigation	<p>Following the unique SAINT targeting procedure, the patient's structural MRI and functional target are imported into a frameless stereotaxic neuronavigation system required for SAINT treatment delivery.</p> <p>SAINT equipment uses integrated, three-dimensional infrared cameras and tracking devices affixed to the patient's scalp to precisely align the stimulation coil angles and positions. This individualized targeting and coil placement allows the magnetic field to interact precisely with the personalized treatment target, at the right location and depth. Neuronavigation monitoring and adjustments to coil position are made through the treatment to maintain the magnetic field in alignment with the personalized treatment target in the patient's brain.</p> <p>The use of structural and function MRI images, along with proprietary targeting algorithms and real-time location targeting and tracking, are similar to the neuronavigation inputs and processes used for neurosurgery. This innovation is one fundamental reason for SAINT's high efficacy rates.</p>	<p>None typically performed, despite recognition that every patient's brain anatomy can be vastly different.</p>
Motor Threshold (MT)	<p>Literature shows that stimulation at 90% of the patient's motor threshold (MT) provides the best neural potentiation.¹ The targeting and neuronavigation steps identified above ensure the physician applies the correct coil placement during the MT process by identifying the location in the Hand Knob of each individual's primary motor cortex that activates the abductor pollicis brevis muscle. The precise depth differential between treatment target and this motor location are then adjusted to ensure a minimum stimulation of 90% of the amplitude required to activate this muscle.</p> <p>This accuracy results in precision accuracy and repeatability that has a direct impact on the treatment and remission for the patient.</p>	<p>The physician is guided by a tape measure and employs a trial-and-error process to identify the coil location that best stimulates the abductor pollicis brevis muscle.</p> <p>There is no ability to understand where each patient's Hand Knob is located, and limited precision in identifying the best location for stimulation. No reproducibility or confirmation of the patient's individual anatomy is available.</p>

¹ Nettekoven C, Volz LJ, Kutscha M, Pool EM, Rehme AK, Eickhoff SB, et al. Dose-dependent effects of theta burst rTMS on cortical excitability and resting-state connectivity of the human motor system. J Neurosci. 2014 May 14;34(20):6849–59.

SAINT: Innovations Enabling Improved Outcomes for TR-MDD

	SAINT	rTMS
Depth Correction and Amplitude Adjustment	The SAINT System uses the input from the SAINT targeting and combines it with the output from the Motor Threshold to calculate the ideal treatment amplitude for each individual patient. This personalizes the SAINT treatment and contributes to the clinical outcomes.	None. There is no ability to adjust the amplitude of stimulation for individual anatomic differences in the depth of the treatment target.
Dose	<p>The dose is unique and specific to the patient, as calculated through the SAINT System's software and individualized targeting, motor threshold, depth correction, and session timing. These adjustments are only possible with SAINT's innovative targeting and location tracking software, which ultimately enables the delivery of significantly more accurate (and more) pulses in a treatment session. The stimulation sessions are precisely timed to maximize results over 5 days rather than 6-9 weeks:</p> <ul style="list-style-type: none"> • 18,000 pulses of iTBS per day delivered over five days • Intensity is 90% of resting motor threshold amplitude, calculated with anatomical depth correction 	<p>Stimulation plan lacks personalization and accuracy:</p> <ul style="list-style-type: none"> • 600 (conventional iTBS) - 3,000 (10 Hz) pulses per day delivered over 9 weeks • 120% of resting motor threshold, with no depth correction
Treatment	<p>10 minutes of stimulation delivered 10 times per day, with 50 minutes between sessions</p> <ul style="list-style-type: none"> • 50 treatments • 10 treatments per day • 5 days <u>total</u> 	<p>3 - 37 minutes of stimulation</p> <ul style="list-style-type: none"> • 36 Treatments • 5 days / week • 6 weeks + 3-week taper

Hospital Resource Investment: SAINT Accelerated iTBS Treatment Day

- **Hospital Cost of Supplies, Clinical Labor, and Overhead Cost Per Day of Treatment**
 - Supplies: Per-day cost of single-use supplies such as bite block, earplugs, surgical tape, and other items.
 - Clinical Labor: 290 minutes of a highly trained, engaged TMS technologist (qualifications similar to advanced MRI technologist). CMS-recognized cost of MRI technologist may be used as a proxy.
 - Overhead: Each code describes an entire day of treatment, consisting of 10+ hours to repeatedly deliver precisely-timed stimulation on an hourly basis. Patients require dedicated space and resources to remain on-site and available for regular monitoring during inter-session periods.
 - Estimated value of these resources may be determined by a cross-walk to hospital-reported geometric mean cost (GMC) for conventional TMS services reported in the hospital outpatient setting (CPT codes 90869 and 90868), multiplied to match the 10 units of stimulation delivered in one day.
 - Estimate: ~\$1,900 per day
- **Additional SAINT Equipment and Software Cost**
 - The per-service cost for the hospital to use the specialized SAINT equipment is calculated based on an episode-of-care fee of \$18,400, divided over the entire five-day episode of care
 - Cost for specialized SAINT equipment and software: \$3,680 per day
- **Total Per-Service Costs for 0890T, 0891T, 0892T is approximately \$5,500**

Summary of Proposed APC Assignment and Request

- **Proposed CY 2025 Hospital OPPS assigns SAINT treatment delivery codes (0890T, 0891T, and 0892T) to APC 1522**
 - NT APC is assigned for procedures estimated to cost \$2,000 to \$2,500, with a national payment rate of \$2,250
 - These costs and the associated payment rate do not align with hospital costs to deliver SAINT therapy and will not allow Medicare outpatient access to this breakthrough treatment for moderate and severe treatment-resistant depression.
- **Request: Assign SAINT treatment delivery codes to APC 1528 to reflect hospitals' costs of providing the service in the outpatient setting**
 - SAINT treatment days are long and hospital resource-intensive, with additional costs beyond traditional TMS to achieve uniquely beneficial outcomes on a rapid timeframe

Questions?