

**INNOVATIVE**  
Psychiatry Center

**Advancing Outpatient  
Psychiatric Care:**

**Five Years of Success  
with Transcranial  
Magnetic Stimulation and  
Intranasal  
Ketamine/Spravato®**

www.ipcmentalhealth.com




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**Newer,  
impactful  
treatments for  
depression**



Once a patient has tried 2 anti-depressants, we now know that a third medication trial has a low probability of working. Many anti-depressants also come with a host of side effects. We now know that interventions such as TMS and Esketamine have a significant chance of really helping people with few, if any, side effects.

Source: [https:// www.nimh.nih.gov/funding/clinical-star/](https://www.nimh.nih.gov/funding/clinical-star/)

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**Some Background**

- Founded by Dr. Paul Belliveau, Board Certified Adult Psychiatrist and team
- Exeter, NH opened in 2019
- Bedford, NH opened in 2022
- Since 2019, we have completed over **18,000 TMS** treatments
- Since 2021, we have completed over **2,300 Spravato®/Intranasal Ketamine** treatments




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## Meet Our Team

OUR BOARD-CERTIFIED TEAM PROVIDES NON-INVASIVE TRANSCRANIAL MAGNETIC STIMULATION (TMS) AND SPRAVATO® FOR THOSE BATTLING TREATMENT-RESISTANT DEPRESSION



**Paul Bellevue, MD**  
Founder and Medical Director



**Vicki Petalas, FNP**  
Clinical Director



**Tasha Humphreys, PMHNP**  
Clinician

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## Our Focus

### Depression in the U.S.



21 Million  
Adults

- 01 In 2021, an estimated 21.0 million adults in the U.S. had at least one major depressive episode
- 02 This number represented 8.3% of all U.S. adults
- 03 The prevalence of adults with major depressive episode was highest among individuals aged 18-25 (18.6%)
- 04 Depression is about 50% more common among women than among men



Source: \_\_\_\_\_

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## Why Interventional Psychiatry?

Treatment Resistant Depression (TRD) is typically defined as continuing to experience depressive symptoms, despite having tried two (or more) anti-depressants

- 01 1 in 3 patients do not respond to oral anti-depressants
- 02 A third attempt at an anti-depressant has less than a 15% chance of successful treatment
- 03 70-80% of patients in our clinics respond to TMS & Spravato®



Source: <https://www.nlm.nih.gov/funding/clinical-start>

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## What is TMS?

- Transcranial Magnetic Stimulation was approved by the FDA in 2008 as a treatment for adults 18 years and older with Major Depressive Disorder (F33. 2) who have failed to respond to at least two anti-depressants
- TMS has been recommended by the American Psychiatric Association for the treatment of MDD
- TMS is covered by most/ all commercial insurers as well as Medicare, Tricare, VA and Medicaid

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## Conditions Treated by TMS

### TMS is FDA Approved for:

- Major Depressive Disorder (F33.2)
- Generalized Anxiety Disorder (GAD)\*
- Obsessive Compulsive Disorder (OCD)\*

### TMS is Being Studied for a Wide Range of Conditions Such as:

- PTSD
- Substance Misuse
- Migraines
- Parkinson's Disease




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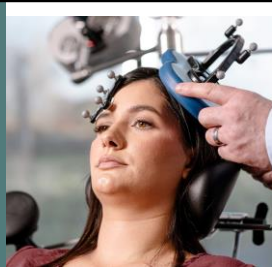
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## The Science of TMS

- For depression, the part of the brain that you are focusing on with the coil is the **left dorsal lateral prefrontal cortex**
- The right side of the brain is the treatment area for patients with anxiety disorders

**TMS REACTIVATES NERVE CELLS WHICH ARE DORMANT SO THAT THEY COME BACK ONLINE AND START FUNCTIONING AS THEY SHOULD**




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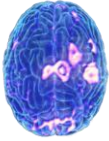
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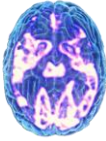
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## The Evidence

Depressed



After TMS



- Metabolic studies which look at glucose metabolism in the brain before and after TMS treatment help us understand how TMS works
- These studies show a substantial increase in glucose metabolism in the areas of the brain that are associated with depression



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## TMS by the Numbers

**F33.2** is the dx most often covered by insurance for TMS

**7-10 Weeks** is the duration of the treatment, usually 5x/week

**36** is the number of treatments in the standard protocol

**70-80%** is the response rate we have seen in our clinics to TMS



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## TMS in Summary



- The fundamental aspect of TMS is that it generates a magnetic field. Any magnetic field that flows over something that can conduct electricity will create electrical impulses.
- The brain being an organ that runs on electrical pulses is stimulated by a magnetic field. This is why TMS works.

- Depressed patients show areas of low metabolism rates, which correlates to a lack of electrical conductivity
- The goal of TMS is to heighten the metabolism rates of those areas affected by depression.



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## Esketamine (Spravato®) & Intranasal Ketamine




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## What is Esketamine/Spravato®?

- Esketamine nasal spray targets glutamate receptors in the brain, balancing mood and improving overall functioning
- Works quickly to reduce symptoms associated with depression, allowing patients to feel relief from symptoms within 24 hours; response times vary

FDA APPROVED NON-INVASIVE  
MINIMAL SIDE EFFECTS  
COVERED BY MOST INSURANCES

Source: Janssen Neuroscience




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## The Science

- Many brain chemicals carry messages across the brain and body to shape a person's mood and everyday life.

GABA  
Relaxation and  
Sleep

Glutamate  
Cognition, Mood  
Regulation

Serotonin  
Mood and  
Sleep

Norepinephrine  
Focus,  
Attention, Mood

Dopamine  
Motivation, Focus, Mood

- Among these substances, glutamate carries the most messages and has the widest network connected to many brain pathways




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## The Evidence

- Esketamine's antidepressant function works through a different mechanism than other drugs. Conventional antidepressants increase levels of naturally occurring chemicals such as serotonin, norepinephrine and dopamine.
- Esketamine, unlike other antidepressants, increases levels of glutamate, therefore having an impact on the largest number of brain cells at one time.

Source: Hopkinsmedicine.org



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## SPRAVATO® by the Numbers

**F33.2** is the only diagnosis covered by insurance

**8 Weeks** is the duration of the treatment, 2x during the first 4 weeks, 1x weekly for the second 4 weeks

**12** is the number of treatments in the standard protocol

**70-80%** is the response rate we have seen in our clinics for Spravato®



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## Patient Experience



- Self administered under supervision and monitoring
- 56 mg and 84 mg doses
- BP and PO taken at baseline, 40 minutes and discharge (2 hours)
- Patient cannot drive until they have had a night's sleep
- Side effects (usually subside after 1-2 treatments) include nausea, sedation, increased bp, headache

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## Patient Stories

Jack

56 year old male

Retired US Navy Airplane Mechanic  
Depressed for over 20 years

Multiple medication trials

Jack was Dr. Belliveau's first TMS patient when he opened the clinic in 2019.

Before starting TMS, Jack was on disability for 3 months

Jack responded to TMS within **2 weeks of treatment.**

Jack restarted work and started playing golf again

Over 5 years later, Jack remains symptom free (as of 4.1.2024)



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## Patient Stories

Amanda

56 year old female

Lawyer

Long history of severe depression and OCD

Multiple medication trials

Tried TMS

Struggling to take care of her family

Within 2 months of starting Spravato®, she is symptom free

5 months after beginning treatment, she is continuing to have treatment once every 5 weeks

Dr. Belliveau will soon recommend stopping treatment, but will monitor closely

5 year data indicate that once Spravato® works for a patient, it will continue to alleviate depression symptoms.



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## Patient Stories

Laura

28 year old female

Depressed since high school

Multiple medication trials

Involuntary inpatient admission in February 2024, where she was given her first two doses of Spravato®

She was discharged to Bedford location and has been continuing her treatment

6 weeks after beginning treatment, she has significant decrease in PHQ-9 scores.

She will continue treatment weekly treatment

Some patients continue weekly treatment for longer than 4 weeks, as determined by clinical assessment



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# Patient Stories

James

19 year old male

Depressed since age 12

Multiple medication trials

Unable to continue with college classes.

Withdrawn from college Thanksgiving 2022

Started TMS in December 2022

**Symptoms persisted through 36 treatments**

**We extended his insurance authorization for 15 more treatments, which resulted in significant reduction in symptoms.**

**James has completed a second course of TMS in July 2023 and remains symptom free in 2024**



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**Learn more and refer directly at [IPCNH.COM](https://www.ipcnh.com)**

★★★★★ 4 days ago **NEW**

If you've been struggling with depression and anxiety with meds that do little to help or don't work....I highly suggest reaching out and talking with them about a treatment they provide that might be a good fit for you. I can't say enough about how much this place has helped me.

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