

# Transcranial magnetic stimulation (TMS) for major depression: a multisite, naturalistic, observational study of quality of life outcome measures in clinical practice

Philip G. Janicak,<sup>1\*</sup> David L. Dunner,<sup>2</sup> Scott T. Aaronson,<sup>3</sup> Linda L. Carpenter,<sup>4</sup> Terrence A. Boyadjis,<sup>5</sup> David G. Brock,<sup>6</sup> Ian A. Cook,<sup>7</sup> Karl Lanocha,<sup>8</sup> Hugh B. Solvason,<sup>9</sup> Dafna Bonne-Barkay,<sup>6</sup> and Mark A. Demitrack<sup>6</sup>

<sup>1</sup> Psychiatric Clinical Research Center and Transcranial Magnetic Stimulation Center, Rush University, Chicago, Illinois, USA

<sup>2</sup> Center for Anxiety and Depression, Mercer Island, Washington, USA; University of Washington, Seattle, Washington, USA

<sup>3</sup> Clinical Research Programs and TMS Services, Sheppard-Pratt Health System, Baltimore, Maryland, USA

<sup>4</sup> Brown Department of Psychiatry and Human Behavior, Brown University; Butler Hospital Mood Disorders Program, Providence, Rhode Island, USA

<sup>5</sup> Private Practice, West Chester, Pennsylvania, USA

<sup>6</sup> Medical Operations, Neuronetics, Inc., Malvern, Pennsylvania, USA

<sup>7</sup> UCLA Depression Research and Clinic Program, UCLA School of Medicine; Department of Psychiatry and Biobehavioral Sciences, Semel Institute for Neuroscience and Human Behavior at UCLA, Los Angeles, California, USA

<sup>8</sup> TMS Center of New England, Portsmouth, New Hampshire, USA

<sup>9</sup> Department of Psychiatry, Stanford University Medical Center, Palo Alto, California, USA

**Background.** Transcranial magnetic stimulation (TMS) is an effective and safe therapy for major depressive disorder (MDD). This study assessed quality of life (QOL) and functional status outcomes for depressed patients after an acute course of TMS.

**Methods.** Forty-two, U.S.-based, clinical TMS practice sites treated 307 outpatients with a primary diagnosis of MDD and persistent symptoms despite prior adequate antidepressant pharmacotherapy. Treatment parameters were based on individual clinical considerations and followed the labeled procedures for use of the approved TMS device. Patient self-reported QOL outcomes included change in the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36) and the EuroQol 5-Dimensions (EQ-5D) ratings from baseline to end of the acute treatment phase.

**Results.** Statistically significant improvement in functional status on a broad range of mental health and physical health domains was observed on the SF-36 following acute TMS treatment. Similarly, statistically significant improvement in patient-reported QOL was observed on all domains of the EQ-5D and on the General Health Perception and Health Index scores. Improvement on these measures was observed across the entire range of baseline depression symptom severity.

**Conclusion.** These data confirm that TMS is effective in the acute treatment of MDD in routine clinical practice settings. This symptom benefit is accompanied by statistically and clinically meaningful improvements in patient-reported QOL and functional status outcomes.

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**Key words:** Clinical trial, depression, functional status, quality of life, transcranial magnetic stimulation.

\*Address correspondence to: Philip G. Janicak, MD, Rush University Medical Center, Psychiatric Clinical Research Center, 2150 West Harrison Street, Room 253, Chicago, IL 60612, USA.  
(Email: pjanicak@rush.edu)

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## Introduction

Major depressive disorder (MDD) is a debilitating and often chronic disease. By 2020, it is projected to be the second leading cause of disability based on disability-adjusted life-years (DALYs).<sup>1</sup> In addition, MDD is considered one of the primary causes of disease burden in developed nations, as it is associated with increases in both healthcare service utilization and in public health costs.<sup>2,3</sup>