

MUSIC THERAPY FOR HOSPITALIZED PATIENTS WITH PARKINSON'S DISEASE AND LEWY BODY DEMENTIA: A RANDOMIZED CONTROLLED PILOT TRIAL TO PREVENT DELIRIUM



Pictured left to right: Dr. Vandana Nagpal, Dr. Kara Smith, Dr. Jennifer Reidy and Dr. Brian Silver.

Hospital-acquired delirium (HaD) is common in older patients, and patients with Parkinson's disease (PD) and Lewy Body Dementia (DLB) have an even higher risk of developing this complication. HaD is associated with increased length of stay, greater chance of long-term nursing facility placement, increased health care costs and risk of dying. Current methods used in hospitals to prevent delirium are often ineffective, such as ensuring patients sleep at night and remain awake during the day. Additionally, once HaD occurs in patients with PD/DLB, available delirium management strategies may lead to worsened mobility and severe adverse reactions.

New, safer approaches to prevent delirium in patients with PD/DLB during hospitalization are greatly needed. And while non-pharmacologic interventions such as music therapy (MT) hold great promise, no high-quality studies have examined the use of MT to prevent the development of HaD in patients with PD/DLB.

"Delirium is one of the biggest complications for our hospitalized patients with neurological disorders. We propose that implementation of a targeted music therapy intervention will prevent delirium and thereby improve health care outcomes," explained Kara Smith, MD, MSCI, Associate Professor of Neurology, Division of Movement Disorders. "Music therapy is a low-risk and well-tolerated intervention that holds great promise in so many health care settings and diseases, and we hope that our randomized controlled pilot study will kick-start future clinical trials and expand the utilization of music in medicine."

To evaluate whether MT prevents HaD, compared with an active control (listening passively to music) and with usual standard of care, the team of Dr. Smith; Vandana Nagpal, MD, Associate Professor of Medicine, Division of Palliative Care; Wissam Deeb, MD, Assistant Professor, Department of Neurology; Jennifer Reidy, MD, Associate Professor, Department of Family Medicine and Palliative Care; Mary-Carla MacDonald, MA, MT-BC, Music Therapist, Department of Medicine; Joel Popkin, MD, MACP, Professor, Department of Medicine; Raphael Carandang, MD, Associate Professor, Department of Neurology; and Brian Silver, MD, Professor, Department of Neurology; will perform a randomized, controlled, pilot study of a MT intervention for prevention of HaD in patients with PD/DLB admitted to UMass Memorial Medical Center.

The team plans to enroll 90 patients over age 65 with PD/DLB who do not have delirium at the time of hospitalization. They will assess eligible participants within 24 hours of admission and will randomly assign them to one of the following three groups:

- Group A: Will receive a rigorously structured MT intervention three times/week
- Group B: Will be offered pre-selected music playlists to passively listen to three times/week
- Group C: Will receive usual care



Patients will be assessed for the development of delirium every 24 hours using a validated screening tool (Confusion Assessment Method, CAM).

The team's long-term goal is to use the results of this pilot study to design larger trials using MT to improve motor and cognitive outcomes in patients with PD/DLB following hospitalization. Findings will help optimize the utilization of the MT program at UMass Memorial to improve health care quality and costs.

"We are extremely appreciative of the PACE program supporting this project. The PACE program brings so much value to our faculty, institution, and community by enabling emerging researchers to thrive and fuel new collaborations," said Dr. Smith. "This unique program puts UMass Memorial Health at the forefront of innovative clinical and translational research."

