

# Making a Difference in a Vulnerable Population: A Pilot Study on White Noise and the Impact on Alcohol Withdrawal

When The Ohio State University Wexner Medical Center's nurse leadership asked for nursing and patient care staff to help design and lead new research projects, a group of nurses with a wide variety of backgrounds at East Hospital stepped up to the challenge. They began meeting bi-monthly to brainstorm, and the project that emerged was one that had universally impacted their work: to find a way to reduce the discomfort of patients experiencing alcohol withdrawal symptoms.

"It is painful to watch patients go through withdrawal and to have limited medical options to help them cope," says Candace Hicks, BSN, RN, nurse manager, Tower N5, at East Hospital. "This population of patients experiences high levels of anxiety, historically, patient care staff have had few tools and techniques to help alleviate these symptoms. This was the main impetus behind our pilot — to make a difference for these patients."

**The team was determined to examine existing best practices and to explore new techniques to help with this challenge, which had impacted each of them throughout their careers. Approximately 3% percent of the population in the United States self-report that they have experienced alcohol withdrawal, and one in five patients who have been admitted to an acute care setting presents with an alcohol-related condition.**

From yoga to massage therapy, the team researched published literature related to alternative therapies. They discovered that white noise machines had been effective with patients with psychiatric disorders and children with ADHD. The team decided to explore this as a potential alternative therapy for alcohol withdrawal. White noise is defined as a continuous sound that includes the entire range of human hearing. Some examples of white noise are birdcalls, streams, thunderstorms, rain, waves and crickets chirping.

After several months of writing the proposal and awaiting the required approvals, the research team enrolled 78 patients; 39 (prospective group) who met the criteria for the potential to withdrawal were enrolled upon hospitalization. This group was compared to 39 patients who had been previously hospitalized with the same criteria (retrospective). The 39 participants were given a white noise machine for the duration of their hospital stay.

"The patients who participated in the pilot noted that the ocean waves and other sounds helped distract them from their symptoms, especially at night," says Holly Chesnick, MS, RN, nurse manager, Tower 5 at East Hospital. "The white noise helped them manage their symptoms, making them feel more comfortable and less anxious."

The team looked at the whether the white noise reduced the symptoms of alcohol withdrawal and if the patients required less pharmaceutical intervention. The pilot study results suggest that there may be a place for the use of white noise machines with this patient population. The team hopes to expand the study in a more controlled environment from both patient and patient care staff perspectives.



“The process of designing the study, developing the methodology and conducting in-depth analysis of the data has been amazing,” says Lilian Hirko, MS, RN, Endoscopy staff nurse and the study’s principal investigator. “While we can’t claim causation, we can definitely point to correlation.”

The team also hopes the pilot will encourage other nursing research teams to consider exploring white noise therapy across other types of psychological conditions, including drug addiction. Widespread use of white noise therapy has the potential to result in benefits for patients, as well as help realize significant cost savings as a result of shorter hospital stays.

“This nurse-led project has empowered us to uncover new opportunities to find better solutions to the clinical challenges we face in our daily work,” Chesnick says. “I encourage my colleagues to be brave and bold, and to follow your curiosity to improve approaches to clinical care for the benefit of our patients. We are fortunate in that we have nurse scientists across the medical center who are eager to mentor us through each step of the research process and to celebrate our achievements.”

The nurses who led this pilot study included: Lilian Hirko, MS, RN; Holly Chesnick, MS, RN; Candace Hicks, BSN, RN; Jarrod Kissling, BSN, RN; Emma McCoy, BSN, RN; Marlene Sampson, MSN, RN; Krista Hetrick, SN; and Esther Chipps, PhD, RN, NEA-BC.

