

SOUND. THAT WORKS.™ IN LONG-TERM CARE



Noise is a problem in many seniors' residences. Sources include people talking and televisions blaring, as well as the cacophony produced by carts, equipment and mechanical systems.

A growing amount of research shows that these disruptions can cause residents more than mere irritation. Noise can elevate a person's heart rate and blood pressure, and increase muscle tension and metabolism. It can even suppress their immune system.

Noise has a particularly powerful effect on those with dementia—individuals who comprise a significant percentage of the long-term care population. This type of stimulus has been shown to trigger agitation and aggressive behaviour. It can also decrease the caloric intake of this group, who are already at higher risk for weight loss.

In addition, noise prevents residents from getting the rest they need. While it's not responsible for all awakenings, its

contribution can be significant because the elderly are particularly sensitive to acoustical changes in their environment.

Sleep deprivation can lead to problems during the day such as agitation, depression, delirium, memory problems, and decreased tolerance to pain. It can also worsen existing health conditions and increase the risk of falls.

However, residents aren't the only ones affected by noise. Such disruptions make it difficult for staff to concentrate, causing fatigue and errors, which can adversely impact the quality of care they provide. Speech privacy is yet another acoustical concern, particularly in and around administration areas where conversations take place regarding residents, staff and general business operations.

Taking steps to improve acoustics will have positive impacts on both residents and their caregivers.

Offer an environment that supports residents and helps staff provide quality care.

Improving the Sleeping Environment

Although they need as much rest as younger adults, seniors tend to sleep less deeply and wake more often during the night. There can be a number of reasons for these disruptions—including underlying health conditions—but the elderly are also more sensitive to changes in their environment, such as noise.

Because sleep is a restorative process required to maintain normal levels of brain and behavioral functioning, disturbances can affect residents' performance, health and mood the next day. For example, in a survey of 1526 adults between 64 to 99 years of age, difficulties with falling asleep, waking up during the night and waking up in the morning were significantly related to the number of falls participants experienced (Brassington et al., 2000).

Underlying health conditions must always be investigated and treated. However, most treatment guidelines recommend that nonpharmacological approaches be used as supportive therapies or, when possible, as alternatives to sleep medications because they don't have residual effects that impact next-day functioning. One approach is to eliminate triggers that awaken residents at night.

Initially, researchers believed that noise disruptions were simply caused by loud sounds. However, further studies revealed that it's not the level of the noise itself, but the magnitude of the change between the baseline and peak volumes that determines whether or not sleep is disrupted. Our natural auditory system detects such changes and awakens us from sleep in response to potential danger. The more significant the change, the harder it is for us to 'block out' the noise.

Therefore, in order to reduce the number of sleep disruptions, the magnitude of any changes needs to be controlled. In order to do so, the peaks can either be reduced, or a higher and more consistent background sound level can be created.



Clearly, steps should be taken to reduce the amount of noise generated in the first place, but it's impossible to remove all peaks from a busy care setting. On the other hand, providing a higher and more consistent background sound level can easily be accomplished by installing a sound masking system.

In fact, sound masking has been found to be a very effective method of improving sleep. Studies show that it shortens the amount of time it takes to fall asleep and also helps reduce sleep disruptions caused by noise. In a study of ICU patients, quality of sleep improved by 42.7 percent when sound masking was used (Stachina et al., 2005).

The LogiSon® Solution

The LogiSon Acoustic Network distributes a soothing background sound throughout a facility. Although most often compared to softly blowing air, the sound is professionally tuned to an independently-proven masking spectrum that's designed to cover the frequencies in speech, increasing privacy. It also masks incidental noises that would otherwise affect comfort, concentration and sleep.

Because it isn't a physical barrier, this solution can help satisfy the often-competing requirements for acoustical control and caregiver access. Local control within individual rooms allows occupants or staff to adjust the masking level as needed or desired.

The solution is easy to retrofit and can also distribute paging and music.

Benefits include:

- Improved noise control
- Increased speech privacy
- Improved sleeping environment
- Paging and music functions
- Lower project costs
- Facility flexibility
- Quick ROI



For more information about the system's advanced features, see our brochure or contact your local LogiSon Representative.

A Few of Our Long-Term Care & Related Clients

ABINGTON MEMORIAL HOSPITAL • ALTERNATE SOLUTIONS HEALTH NETWORK
AMERICAN ASSOCIATION OF RETIRED PERSONS (AARP)
BAYHEALTH HOSPITAL, KENT CAMPUS • BRANDON REGIONAL HEALTH CENTRE
CARDINAL HEALTH • CERNER HEALTHCARE SOLUTIONS • COMMUNITY HEALTH SYSTEMS (CHS)
HAMAD HOSPITAL • LATIFA HOSPITAL • METHODIST LEBONHEUR HEALTHCARE
PRINCE OF WALES HOSPITAL • SPENCER HOSPITAL • ST. MICHAEL'S HOSPITAL
TEXAS SCOTTISH RITE HOSPITAL FOR CHILDREN • YALE NEW HAVEN HOSPITAL

