The Importance of Noise Reduction in Patient Healing and Patient Satisfaction

The Challenge:

Patients in critical care units often suffer sleep deprivation, due to ambient noise, lights, discomfort and even nursing routines (Honkus, 2003). Average nighttime sounds in patient rooms have increased to 60 dB, far above the recommended threshold of 35 dB, and some researchers blame hospital machines as well as cell phones and pagers, which cause healthcare workers to raise their voices to be heard (HermanMiller Healthcare, 2006). While environmental noise is partly responsible for disrupting sleep, patients perceive it as a major cause in their difficulties in sleeping. These issues become intensified in pediatric cancer patients, who have a more acute sense of audio sensitivity (Linder and Christian, 2011).

Why Reducing Ambient Noise is Important:

Ambient noise levels in critical care units have been shown to interfere with patients' healing process by negatively affecting their immune system and potentially extending hospitalization (Honkus). Some patients are keenly aware of noise levels and subsequently suffer noise-induced stress, requiring sedation; in extreme cases, patients may suffer hearing loss and require further treatment (Wenham and PIttard). High levels of sounds cause blood pressure to rise, and lead to a higher risk of cardiac issues, including heart attacks. Noise-related sleep deprivation also results in a higher incidence of patient falls (Pilkington, 2013). Parents who are staying with pediatric patients share the same sleep disruptions stemming from ambient noise, which could negatively affect their ability to advocate for their child's care (Meltzer, Davis and Mindell, 2014). Additionally, nurses who work in environments with noise levels greater than 40 dB are prone to making medical errors due to their inability to concentrate on patient care (Konkani and Oakley, 2012).

Key Ways to Reduce Ambient Noise in Hospitals:

Studies on ambient noise reduction in ICUs have proposed various solutions to this issue, including:

- Minimizing environmental factors contributing to ambient noise levels.
- Having patients wear earplugs or noise-canceling headphones to sleep.
- Educating nurses about the sleep process, existing noise sources and how to minimize disruptions.
- Instituting "quiet hours" during which patient doors are closed, pagers are set to vibrate and the overhead paging system suspended.
- Playing soothing music to encourage the quality of patient sleep and relaxation.
- Using sound masking or white noise systems to enhance sleep quality.
- Redesigning the environment to reduce ambient noise, e.g. ceiling tiles, doors, carpeting and nursing station placement.

Outcomes if Addressed:

Decreasing ambient noise in ICUs results in better sleep quality and comfort; increased patient/nurse satisfaction; as well as lower rates of health issues stemming from sleep deprivation.

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Allen Technologies, Inc.
2100 Kramer Lane, Suite 250
Austin, TX 78758
512/258-7019

www.EngageWithAllen.com

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