



FACULTY OF  
**REHABILITATION  
MEDICINE**  
UNIVERSITY OF ALBERTA

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Therapy

## **SOUND ASLEEP: THE IMPACT OF SOUND ON SLEEP**

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This companion presentation to this document is on the impact of noise on sleep and sleep quality. Sleep is an important occupation that impacts our ability to function cognitively, emotionally and physically in the daytime. The presentation examines the sources of sound in the environment, how to measure sound, the impact of sound on sleep and how you can take control and manage sound in your environment.

Noise is everywhere in our environment, coming from traffic, nature and other individuals. It can affect your sleep without you even knowing. The brain continually processes auditory stimuli, even while you are sleeping. To know how sound affects us, we need to be able to measure it. Sound is measured with the unit decibel (dB) and the higher the dB, the louder the sound. Noise guidelines and regulations tell us what are appropriate and inappropriate levels of noise exposure and duration. It can help keep our ears safe and our sleep undisturbed. Noise more than 30 dB can interfere with good sleep.

When we do not get enough sleep, it can lead to many different negative health outcomes, from our physical body to our mental health. This can impact how we function during everyday activities. Since you cannot turn off all sounds when you sleep, it is imperative to learn different strategies to reduce noise and manage the sound in your environment.

Noise at bedtime is not always a bad thing. When used appropriately it may even help you get to sleep. For example, using a white noise machine or a fan to block out other sounds can promote sleep.

The hospital setting is a huge concern when it comes to sleep quality and the environmental noises that occur. The constant electronic and human generated sounds in hospital settings disrupt patients' sleep, and affect the amount of recovery and rest that a patient is getting.

Remember, sleep is a key occupation that affects every aspect of our functioning. Therefore, if you need more help to manage sound and sleep, or alter your environment to promote sleep, an occupational therapist can help you.

## Resources

The National Sleep Foundation

<https://sleepfoundation.org/bedroom/hear.php>

The Definitive Guide to White Noise and Sleep

<http://sleepjunkies.com/features/sleep-soundly-with-white-noise/>

Sleep Scotland

<http://www.sleepscotland.org/sound-sleep/>

Healthy Sleep

<http://healthysleep.med.harvard.edu/healthy/science/how/external-factors>

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