

**First International Symposium on Adverse Health Effects from Wind Turbines  
The Global Wind Industry and Adverse Health Effects: Loss of Social Justice?  
Picton, Prince Edward County, Ontario, Canada  
October 29-31, 2010**

**Session II  
What Clinicians Need To Know**

Bio reproduced from the Symposium Program

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**KEY NOTE SPEAKER: Nina Pierpont, M.D., Ph.D. –  
DEFINING A SYNDROME**

**Abstract:** I review three aspects of Wind Turbine Syndrome—tinnitus, learning/cognitive problems, and panic—juxtaposing symptom descriptions from affected subjects with published research to show how the ear-mediated detection of noise and infrasound can affect brain function.

Tinnitus occurs when signals from the cochlea are absent and represents the rapid reorganization of brain auditory pathways. It is phantom noise. Tinnitus affected 58% of the adults and older teens in the 10 affected families in *Wind Turbine Syndrome*, compared to 4% in the general population. One family with marked tinnitus during wind turbine exposure described symptoms of persistent altered brain auditory processing after exposure ended.

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**Abstract continued:**

Other forms of noise—from airports, traffic, and trains—have detrimental effects on children’s learning. The documented ill effects of noise on reading are mediated through changes in auditory and language processing by the brain. 70% of the school-age children and teens in the affected *Wind Turbine Syndrome* families had worsening of schoolwork, concentration, or test-taking during wind turbine exposure.

Problems with thinking are also found in balance disorders, including impacts on short-term memory, concentration, multi-tasking, arithmetic, and reading. Balance disorders are also associated with panic reactions via known neurologic linkages. Evidence is mounting that low frequency noise can stimulate the vestibular organs, providing a mechanism by which infrasound (without being heard by the cochlea, as Dr. Alec Salt will describe) can trigger numerous balance-related sensory, cognitive, and autonomic paths in the brain, creating the diverse and disturbing symptoms of Wind Turbine Syndrome.

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**Bio:** Dr. Pierpont is recognized as the first health specialist to identify a pattern of symptoms that manifest themselves when people live too close to industrial wind turbines. She named this Wind Turbine Syndrome. In addition to her clinical research on industrial wind turbines, Pierpont has conducted environmental research. She attended Yale on a National Merit Scholarship and earned a Ph.D in 1985. She attended Johns Hopkins University School of Medicine, and earned her medical degree in 1991 choosing pediatrics as a specialty with emphasis on Behavioral Pediatrics.