Prepulse inhibition and human neuropsychiatric disorders

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The acoustic startle reflex is a fast, involuntary contraction of facial and body muscles accompanied by eye-lid closure evoked by sudden and intense acoustic stimuli. One of the most frequently studied forms of startle plasticity is prepulse inhibition (PPI). PPI is the reduction of the startle response that occurs if the startle stimulus is preceded 30-500 ms by a distinctive, non-startling stimulus (prepulse). It is used as an operational measure for a process called 'sensorimotor gating', by which excess or trivial stimuli are screened or 'gated out' of awareness, so that an individual can focus attention on the most important aspects of the environment. Thus, PPI refers to a general reduction in the processing of and distraction by irrelevant or repetitive stimuli.
Normal PPI is influenced by several factors. For instance, PPI shows a robust gender difference, with women exhibiting lower PPI than men. Furthermore, PPI appears to be deficient in a number of neuropsychiatric disorders that are characterized by a deficient inhibition of irrelevant sensory, motor, or cognitive information, including schizophrenia, obsessive-compulsive disorder, and Huntington's disease.
In this presentation, factors influencing normal PPI will be reviewed as well as results on PPI disturbances in human neuropsychiatric disorders.

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Speaker, session 37 'Startle modulation and neuropsychiatric disorders'