

## Pathogenesis of metabolic dysfunction in sleep apnea: The role of sleep fragmentation and intermittent hypoxemia

Professor Naresh PUNJABI

Departments of Medicine & Epidemiology, The Johns Hopkins University, USA



Professor Naresh PUNJABI

In recent years, there is growing recognition that disorders of sleep may increase the propensity for insulin resistance, glucose intolerance, and overt diabetes. Evidence from several observational and experimental studies suggests that habitually shortened sleep duration and disturbances of sleep imposed by conditions such as sleep-disordered breathing may confer additional risk for metabolic dysfunction. In fact, the past few years have witnessed an enormous growth in the scale of scientific activity devoted to assessing the possible link between sleepdisordered breathing and disorders of glucose metabolism. The explosion in research and clinical interest has been driven by the demonstration that short sleep duration can lead to glucose intolerance and insulin resistance. Subsequently a number of studies have provided strong support for an independent association between disorders such as sleep-disordered breathing, chronic sleep loss, and insomnia with metabolic dysfunction. The purpose of this presentation will be to briefly summarize the body of literature implicating sleep-disordered breathing as an independent risk factor for abnormalities in glucose metabolism and discuss the possible physiological role of sleep fragmentation and intermittent hypoxemia as putative intermediates.