Night shifts increase diabetes risk

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Going for the night shift? Be careful, you may be at risk of getting Type 2 diabetes. This is the finding of a new study by researchers at Brigham & Women's Hospital and Harvard Medical School in the US.

The researchers found that peak glucose levels were 16 percent higher during one night of simulated shift work, compared with one day of a simulated daytime work schedule. Compared with the daytime protocol, insulin levels during the night shift protocol were 40 to 50 percent higher at 80 minutes and 90 minutes after a meal.

The findings were published recently in an online supplement of the journal Sleep. Lead author Christopher Morris presented the research at SLEEP 2013, the 27th annual meeting of the Associated Professional Sleep Societies LLC.

"It is surprising that just a single night shift can significantly impair glucose tolerance and increase insulin levels," said Morris, who is a postdoctoral research fellow in the Medical Chronobiology Program of the Division of Sleep Medicine at Brigham & Women's Hospital in a statement released by the American Academy of Sleep Medicine.

"These findings are important because they demonstrate, under highly-controlled lab conditions, that acute exposure to night work impairs glucose tolerance. Chronic impaired glucose tolerance is likely to lead to Type 2 diabetes," he added.

The study group comprised 13 healthy, non-obese adults without significant shift work history, who completed two, eight-day, in-laboratory protocols in random order, one including day work and the other night work. Each condition included four baseline days, followed by either day or night shifts.

The diet was isocaloric, identical between conditions, and included standardized mixed meals on Days 1 and 3 of day/night work to assess serum glucose and insulin responses. Subjects began eating at 8 a.m. (day work) or 8 p.m. (night work) and were required to finish eating in 20 minutes. A fasting blood sample was taken before the meal, and then additional blood samples were drawn every 10 minutes for 90 minutes, then every 30 minutes for 90 minutes. Only results pertaining to mixed meals consumed on Day 1 of day work and night work were included in the current analysis.

Several earlier studies have found links between sleep disruption and diabetes risk. In 2009, researchers at Universite Laval's Faculty of Medicine found that people who sleep too much or not enough were at greater risk of developing type 2 diabetes or impaired glucose tolerance. The risk is 2Â½ times higher for people who sleep less than 7 hours or more than 8 hours a night.

An earlier study by researchers at Brigham and Women's Hospital (BWH) published last year had found that too little sleep or sleep patterns that are inconsistent with our body's "internal biological clock" may lead to increased risk of diabetes and obesity.