

# Shift working aggravates metabolic syndrome development among middle-aged males

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Shift work exposures can accelerate metabolic syndrome (MetS) development among the large population of middle-aged males with elevated alanine aminotransferase (ALT). Elevated serum alanine aminotransferase (e-ALT) is a common abnormality of health examinations in middle-aged working populations. It is unavoidable nowadays that a large number of asymptomatic workers with e-ALT may be asked to do rotating shift work on 24 h production lines. In some previous studies, e-ALT and shift work had been independently assessed for their associations with MetS, which is associated with cardiovascular disease, one of the leading causes of death among working populations.

In terms of workplace health management and job arrangements, a five-year follow-up study assessing the association between rotating shift work (RSW) and MetS development was conducted in Taiwan for male workers. In some previous studies, e-ALT and shift work had been independently assessed for their associations with MetS, which is associated with [cardiovascular disease](#), one of the leading causes of death among working populations.

A research article wrote by Dr. Yu-Cheng Lin et al from Tao-Yuan General Hospital, Taiwan, has recently been published on December 07, 2009 in [World Journal of Gastroenterology](#) took both risk factors together into consideration, and demonstrated significant findings. In Lin's study, after a five-year interval, the workers with baseline e-ALT

had significantly unfavorable changes in MetS-component abnormalities, and higher rates of MetS development, vs subjects with normal baseline ALT. Particularly, workers who had both baseline e-ALT and long-term RSW exposures had the highest rate of MetS development among four subgroups divided by e-ALT and RSW. Statistically, e-ALT-plus-RSW workers had a significant risk for MetS development.

Lin et al stated that, MetS development among middle-aged males with e-ALT should be carefully monitored. In terms of job arrangements, long-term shift workers with e-ALT deserve special attention for MetS development. They suggested that all workers with e-ALT should be carefully evaluated and managed for MetS. Particularly, MetS risk assessment must be emphasized for male employees with e-ALT facing long-term rotating shift work exposures.

Public health experts agreed that this is an important area of research, given the amount of shift work performed around the globe, particularly when proponents claim that shift working is 'beneficial' to the health and safety of those concerned.

**More information:** Lin YC, Hsiao TJ, Chen PC. Shift work aggravates metabolic syndrome development among early-middle-aged males with elevated ALT. World J Gastroenterol 2009; 15(45): 5654-5661; [www.wjgnet.com/1007-9327/15/5654.asp](http://www.wjgnet.com/1007-9327/15/5654.asp)

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