

# Clock-shifts affect risk of heart attack

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Adjusting the clocks to summer time on the last Sunday in March increases the risk of myocardial infarction in the following week. In return, putting the clocks back in the autumn reduces the risk, albeit to a lesser extent. This according to a new Swedish study published in the prestigious *New England Journal of Medicine*.

Scientists at Karolinska Institutet have examined how the incidence of myocardial infarction in Sweden has changed with the summer and winter clock-shifts since 1987. Their results show that the number of heart attacks, on average, increases by about five per cent during the first week of summer time.

"There's a small increase in risk for the individual, especially during the first three days of the new week," says Dr Imre Janszky, one of the researchers behind the study. "The disruption in the chronobiological rhythms, the loss of one hour's sleep and the resulting sleep disturbance are the probable causes."

The team also observed that the readjustment back to winter time on the last Sunday in October, which gives us an extra hour's sleep, is followed by a reduction in the risk of heart attack on the Monday. The reduction for the whole week is, however, less than the increase related to the summer adjustment.

According to the scientists, the study provides a conceivable explanation for why myocardial infarction is most common on Mondays, as demonstrated by previous research.

"It's always been thought that it's mainly due to an increase in stress ahead of the new working week," says Dr Janszky. "But perhaps it's also got something to do with the sleep disruption caused by the change in diurnal rhythm at the weekend."

Even though the increase and decrease in risk are relatively small for the individual, the team believes that the study can improve our understanding of how disruptions to diurnal rhythms impact on our health.

"Roughly 1.5 billion people are subjected to these clock-shifts every year, but it's hard to make any generalised statement about how many heart attacks they can cause," adds Dr Rickard Ljung, another member of the research team.

Source: Karolinska Institutet

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