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### Sunshine Influences Suicide Rates Independent of Season

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**Introduction:** A spring peak in suicide rates that is paralleled by an increase in daily sunshine has been observed in many countries of the northern hemisphere. However, seasons bring about changes in other meteorological factors and a seasonal rhythm in social behavior may also contribute to fluctuations in suicide rates.

**Methods:** We investigated direct effects of sunshine on suicide incidence in Austria. Data on all confirmed suicides between 1970 and 2010 ( $n = 69\,462$ ) were correlated with data on the average duration of sunshine per day (in hours) after mathematically removing the effects of season.

**Results.** Sunshine hours and number of suicides in Austria were highly correlated ( $r = 0.4870$ ;  $P < 10^{-9}$ ). After differencing for the effects of season, a positive correlation between number of suicides and hours of daily sunshine remained for the day of suicide and up to 10 days prior ( $r_{\text{maximum}} = 0.0370$ ;  $P < 10^{-5}$ ). There was a negative correlation between the number of suicides and hours of daily sunshine for the 14 to 60 days prior to the suicide ( $r_{\text{minimum}} = -0.0383$ ;  $P < 10^{-5}$ ). These effects were found in the entire sample and in violent suicides.

**Conclusion:** Daily sunshine was significantly correlated with suicide frequency independent of season. Sunshine on the day of suicide and up to 10 days prior may facilitate suicide. More daily sunshine 14 to 60 days previously was associated with low rates of suicide suggesting that sunshine during this period may protect against suicide.