

# Melatonin reduces blood pressure and tunes up disrupted circadian rhythms in the elderly

May 17 2016

---

The older we get, the more likely our circadian rhythms are disrupted. For example, blood pressure (BP), not only tends to increase but as well become more irregular. Luckily, as we show in our research, melatonin helps to ameliorate both trends.

63 senior respondents of a mean age of 80 were studied during 3 consecutive weeks. First week control data were collected for 7 successive days. Over the next 2 weeks, the seniors were administered a low dose of melatonin (1.5 mg) each day by night at 10:30 p.m. On the third week data were monitored again.

Melatonin significantly reduced BP. The hypotensive effect was dependent on time. The maximum systolic BP lowering effect of melatonin falls between 3:00 and 8:00 in the morning, the time of the highest risk of heart attacks and strokes. Nighttime and morning BP decreased more profoundly on average  $-8/3.5$  mm Hg for SBP/DBP, respectively.

Moreover, the higher the mean systolic BP was during the first week, the more it dropped on the second week of melatonin administration. Melatonin also decreased the overall variability in BP.

Melatonin was effective in synchronizing disrupted circadian rhythms of BP, heart rate and body temperature, making these [circadian rhythms](#) smoother and less irregular. None of these effects was found in 34 placebo treated seniors, thus ruling out the possibility that rhythms could

be improved just because of regular schedule and presence of medical personal who took measurements.

In conclusion, [melatonin](#) can be of great value for aged people suffering from hypertension as an adjuvant substance complementing basic medication as it is able to stabilize circadian BP, heart rate profiles and their phase relationships. The improvement of circadian pacemaker functions may also provide a new strategy in the treatment of hypertension.

**More information:** Denis G. Gubin et al, Daily Melatonin Administration Attenuates Age-Dependent Disturbances of Cardiovascular Rhythms, *Current Aging Science* (2015). [DOI: 10.2174/1874609809666151130220011](https://doi.org/10.2174/1874609809666151130220011)

Provided by Bentham Science Publishers

Citation: Melatonin reduces blood pressure and tunes up disrupted circadian rhythms in the elderly (2016, May 17) retrieved 28 April 2024 from <https://medicalxpress.com/news/2016-05-melatonin-blood-pressure-tunes-disrupted.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--