Resmed

OSA and mortality: the big picture

Untreated obstructive sleep apnea (OSA) can shorten lifespan, but CPAP therapy has been shown to improve survival.

The OSA epidemic affects 1 billion individuals worldwide, but a staggering

80% remain undiagnosed

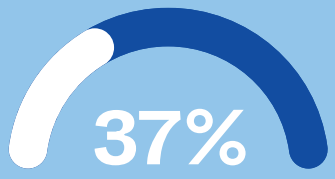
and untreated.[1]

OSA is associated with an increased risk of serious comorbidities.[2] If left untreated, the risk of dying from any cause is over 3 times higher compared to those who regularly use CPAP. [3]

Untreated OSA can significantly impact mortality rates due to various risk factors.

CPAP, the gold standard for OSA therapy, can mitigate these risks.

- Cerebrovascular diseases[4,5]
- Diabetes[5]
- Metabolic diseases[6]
- Cardiovascular diseases[4,5]
- Motor vehicle accident[7]
- Cognitive impairment[8]



reduction in risk of death[9]

New meta-analysis of over 1 million OSA patients—the largest to date—demonstrates that CPAP is linked with a significant improvement in survival.

CPAP therapy also reduces the probability of a recurrent cardiovascular event:

- **25% reduction in risk of hypertension**
  23% reduction in risk of heart failure[10]
- **MACE* occurrence reduced by 25% in secondary prevention**[11]
- **55% reduction in risk of cardiovascular mortality**[9]

*MACE: Major adverse cardiovascular event

Real-world evidence shows that higher CPAP usage is associated with better health economics and outcomes.

While benefits can be observed at as low as 1 hour/night; starting at 3 hours/night, each additional hour of use is associated with[12]:

5-10% ↓
decrease in hospitalizations

5-7% ↓
decrease in ER visits**

At >6 hours/night, CPAP usage is associated with[11]:

25% ↓
reduction in major adverse cardiovascular events

Real-world evidence supplements randomized clinical trials by providing data on how treatments perform under everyday conditions.

It enhances clinical understanding by capturing long-term outcomes and revealing additional insights that may not surface in controlled environments.

**ER: Emergency room

OSA significantly raises mortality risk, but utilizing CPAP therapy has a positive impact by significantly improving survival, and reducing both cardiovascular mortality and the occurrence of MACE.

Consistent CPAP use is vital: Greater adherence to CPAP therapy improves survival rates and provides cardiovascular benefits in patients with OSA. Prioritizing patient support and adherence optimizes the impact of CPAP therapy.

This content is intended for health professionals only.

REFERENCES:

1. Benjafield AV, Ayas NT, Eastwood PR, Heinzer R, Ip MSM, Morrell MJ, Nunez CM, Patel SR, Penzel T, Pépin JL, Peppard PE, Sinha S, Tufik S, Valentine K, Malhotra A. Estimation of the global prevalence and burden of obstructive sleep apnea: a literature-based analysis. Lancet Respir Med. 2019 Aug;7(8):687–698. doi: 10.1016/S2213–2600(19)30198–5. Epub 2019 Jul 9. PMID: 31300334; PMCID: PMC7007763.
2. Obstructive Sleep Apnea. Jennifer M. Slowik; Abdulghani Sankari; Jacob F. Collen. StatPearls. Last Update: December 11, 2022.
3. Dodds S, Williams LJ, Roguski A, Vennelle M, Douglas NJ, Kotoulas SC, Riha RL. Mortality and morbidity in obstructive sleep apnea-hypopnoea syndrome: results from a 30–year prospective cohort study. ERJ Open Res. 2020 Sep 14;6(3):00057–2020. doi: 10.1183/23120541.00057–2020. PMID: 32963994; PMCID: PMC7487348.
4. Polecka A, Olszewska N, Danielski Ł, Olszewska E. Association between Obstructive Sleep Apnea and Heart Failure in Adults-A Systematic Review. J Clin Med. 2023 Sep 22;12(19):6139. doi: 10.3390/jcm12196139. PMID: 37834783; PMCID: PMC10573908.
5. Bushi G, Padhi BK, Shabil M, Satapathy P, Rustagi S, Pradhan KB, Al-Qaim ZH, Khubchandani J, Sah R, Sah S, Anand A. Cardiovascular Disease Outcomes Associated with Obstructive Sleep Apnea in Diabetics: A Systematic Review and Meta-Analysis. Diseases. 2023 Aug 7;11(3):103. doi: 10.3390/diseases11030103. PMID: 37606474; PMCID: PMC10443251.
6. Hany M, Abouelnasr AA, Abdelkhalek MH, Ibrahim M, Aboelsoud MR, Hozien AI, Torensma B. Effects of obstructive sleep apnea on non-alcoholic fatty liver disease in patients with obesity: a systematic review. Int J Obes (Lond). 2023 Sep 11. doi: 10.1038/s41366–023–01378–2. Epub ahead of print. PMID: 37696927.
7. Udholm N, Rex CE, Fuglsang M, Lundbye-Christensen S, Bille J, Udholm S. Obstructive sleep apnea and road traffic accidents: a Danish nationwide cohort study. Sleep Med. 2022 Aug;96:64–69. doi: 10.1016/j.sleep.2022.04.003. Epub 2022 Apr 13. PMID: 35605348.
8. Ghaderi S, Mohammadi S, Mohammadi M. Obstructive sleep apnea and attention deficits: A systematic review of magnetic resonance imaging biomarkers and neuropsychological assessments. Brain Behav. 2023 Sep 24:e3262. doi: 10.1002/brb3.3262. Epub ahead of print. PMID: 37743582.
9. Benjafield, A et al. Positive airway pressure therapy and all-cause and cardiovascular mortality in people with obstructive sleep apnea: a systematic review and meta-analysis of randomised controlled trials and confounder-adjusted, non-randomised controlled studies. The Lancet Resp Med, 2025 Mar. doi: 10.1016/S2213–2600(25)00002–5.
10. Pépin JL, Bailly S, Rinder P, Adler D, Benjafield AV, Lavergne F, Josseran A, Sinel-Boucher P, Tamisier R, Cistulli PA, Malhotra A, Hornus P; medXcloud Group. Relationship Between CPAP Termination and All-Cause Mortality: A French Nationwide Database Analysis. Chest. 2022 Jun;161(6):1657–1665. doi: 10.1016/j.chest.2022.02.013. Epub 2022 Feb 15. PMID: 35176275; PMCID: PMC9424323.
11. Gervès-Pinquié C, Bailly S, Goupil F, Pigeanne T, Launois S, Leclair-Visonneau L, Masson P, Bizieux-Thaminy A, Blanchard M, Sabil A, Jaffuel D, Racineux JL, Trzepizur W, Gagnadoux F. Positive Airway Pressure Adherence, Mortality, and Cardiovascular Events in Patients with Sleep Apnea. Am J Respir Crit Care Med. 2022 Dec 1;206(11):1393–1404. doi: 10.1164/rccm.202202–0366OC. PMID: 35816570.
12. Malhotra A, Sterling KL, Cistulli PA, Pépin JL, Chen J, Woodford C, Alpert N, More S, Nunez CM, Benjafield AV. Dose-Response Relationship between Obstructive Sleep Apnea Therapy Adherence and Healthcare Utilization. Ann Am Thorac Soc. 2023 Jun;20(6):891–897. doi: 10.1513/AnnalsATS.202208–738OC. PMID: 36735928; PMCID: PMC10257023.