



Nocturnal Hypertension in Europe

The full picture of Europe's 150+ million cases of hypertension

Europe's blood pressure emergency

- High blood pressure (BP), or hypertension, affects approximately 1 in 4 adults worldwide and over 150 million people in Europe specifically¹
- It rarely has noticeable symptoms but drastically increases risk of serious problems such as heart attacks and strokes²
- It is the largest known risk factor for cardiovascular disease, contributing to approximately a quarter of heart attacks and 42% of all cardiovascular deaths in Europe a year^{3,4}
- Its prevalence is predicted to rise by as much as 20% by 2025 across Europe.¹
- 1 in 2 people suffering from hypertension remain undiagnosed and untreated – accounting for more than 5.5 million people in England alone³

Regular measurement of high blood pressure is essential to the management of hypertension and the prevention of its associated risks.



Missing half of the picture

- BP readings are most commonly taken during the day
- Yet nocturnal BP readings (those taken while the patient is sleeping) are better predictors of the risk of fatal and nonfatal cardiovascular events, and organ damage than daytime blood pressure values^{6,7,8}
- Blood pressure normally decreases at night, known as dipping. Most patients with high BP during the day still 'dip'
- Sometimes, however, patients' BP doesn't dip or **can even go up**
- Defined as 'non-dippers' and 'reverse-dippers', they are the most at risk cohort for cardiovascular events⁷
- **In fact, 1 in 4 patients⁹ with normal daytime BP may have nocturnal hypertension**
- Masked hypertension – when BP readings are normal in the clinic but actually high outside of it – has been reported in approximately 15% of patients⁵

Causes of raised nocturnal BP^{9,6}:

- sleep disturbance
- diabetes
- older age
- obstructive sleep apnoea (OSA)
- stress autonomic dystonia
- heart failure
- treatment-resistant hypertension
- kidney failure

Daytime blood pressure, in effect, only provides HCPs with half the picture. Without data that spans both day *and* night patients are at higher risk.

An imperfect system

- 24-hour monitoring is significantly superior to one-off in-clinic readings for predicting risk of cardiovascular death and indicating cardiovascular health¹⁰
- Traditional methods of nocturnal measurements – ambulatory blood pressure monitoring (ABPM) – do exist, and are loaned to patients by the GP
- ABPM unfortunately has severe drawbacks:
 - » Patients have to return the device (often only 24 hours later) – severely limiting readings taken
 - » Device availability is limited
 - » They are bulky, uncomfortable and noisy when taking readings meaning they often cause sleep disturbance
- These drawbacks result in inaccurate and limited results versus having a home owned solution that can be used over an extended period

Introducing NightView

- OMRON Healthcare has developed OMRON NightView – the world's first* wrist automatic home blood pressure monitor for nocturnal readings
- It automatically takes night-time measurements with clinically validated accuracy (as well as taking typical daytime readings)
- It has been designed specifically to have minimal impact on sleep quality, and has an advanced algorithm that allows for different sleeping positions.
- OMRON NightView allows users to record and sync their health data via the OMRON connect app for reference during clinic visits



Special thanks go to Francesco P Cappuccio whose paper, [The Role of Nocturnal Blood Pressure and Sleep Quality in Hypertension Management](#) helped shape this fact sheet.

About OMRON Healthcare

OMRON Healthcare's years of innovation in medical grade, consumer-friendly technology has made it the number one recommended brand by cardiologists in Europe. This world-first product builds on OMRON's trusted heritage and cements its position as market leader.

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GOING FOR **ZERO**

*It should be noted that ABPM technology is not considered HBPM

¹ Ramzy, I. R. Definition of hypertension and pressure goals during treatment. European Society of Cardiology. 2019

² NHS <https://www.nhs.uk/conditions/high-blood-pressure-hypertension/>

³ Public Health England. Health matters: combating high blood pressure.

⁴ World Health Organization, 2013: High blood pressure - country experiences and effective interventions utilized across the European Region. <https://apps.who.int/iris/bitstream/handle/10665/108619/e96816.pdf?sequence=1&isAllowed=y>

⁵ Retrieved from maymeasure.com

⁶ Cappuccio, F. The Role of Nocturnal Blood Pressure and Sleep Quality in Hypertension Management. European Cardiology Review. 2020;15(60).

⁷ Hansen TW, Li Y, Boggia J, Thijs L, Richart T, Staessen JA. Predictive role of the nighttime blood pressure. Hypertension. 2011;57(1):3-10.

⁸ Sega R, Facchetti R, Bombelli M, et al. Prognostic value of ambulatory and home blood pressures compared with office blood pressure in the general population: follow-up results from the Pressioni Arteriose Monitorate e Loro Associazioni (PAMELA) study. Circulation. 2005;111(14):1777- 1783.

⁹ Kario K, Hoshida S, Haimoto H, et al. Sleep blood pressure self-measured at home as a novel determinant of organ damage: Japan morning surge home blood pressure (J-HOP) study. J Clin Hypertens (Greenwich). 2015;17(5):340-348

¹⁰ HHS Public Access, [Role of Ambulatory and Home Blood Pressure Monitoring in Clinical Practice: A Narrative Review](#)