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### **Blood pressure variability in CKD**

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Blood pressure (BP) is a physiologically dynamic variable and is characterized by continuous and significant changes. Under physiological conditions, these BP variations in large reflects the responses to environmental stimulations and challenges of daily life. In recent years, however, the clinical significance and prognostic impact of sustained increases in blood pressure variability (BPV) has been raised. BP variability can be observed over multiple timeframes, such as beat-to-beat [very short-term BPV], over 24 h [short-term BPV], day-to-day (midterm BPV), and visit-to-visit [long-term BPV]. It is of note that, regardless of the timeframe to define BPV, increasing BPV is associated with the development, progression and severity of target-organ damage in heart, vessel, brain and kidney, and with an increased risk of cardiovascular (CV) events and CV and all-cause mortality, independent of elevated average BP values in general population. Chronic kidney disease (CKD) and BPV are in a vicious cycle, in that BPV increases with advancing chronic kidney disease stage, whereas increased BPV is an independent risk factor for CKD. Moreover, mounting evidence now suggest that elevated BPV is associated with higher risk of hemorrhagic stroke, heart failure, CV and renal events and all-cause mortality independent of mean BP. Despite the clinical implications of BPV in patients with CKD that is being more and more evident, potential treatments specifically targeting elevated BPV rather than the underlying hypertension has not been established yet. It is unknown and remains to be examined whether a specific strategy to reduce BPV could prevent subsequent adverse outcomes.