The prevention of cardiovascular diseases (CVD) has been one of the most important issues in cardiology practice for many years. For this reason, active research is being conducted worldwide to identify new risk factors that lead to damage to the cardiovascular system. One such factor is impaired nocturnal arterial blood pressure (NBP) regulation, which is associated with an increased risk of CVD and premature death. This article reviews the current conditions that may lead to dysregulation of diurnal BP fluctuations: shift work, obstructive sleep apnea syndrome (OSAS), and restless legs syndrome (RLS). The literature review revealed a correlation between the occurrence of nocturnal arterial hypertension (AH) and the presence of OSAS or RLS in the patient, as well as the predisposing factors for nocturnal BP elevation in patients with shift work. It is obvious that patients with OSAS, RLS and shift workers need continuous BP control, including at night, to detect nocturnal AH and prescribe appropriate therapy to prevent disease progression and the increase of the cardiovascular risk.