# Chapter 34 Cortisol Awakening Response

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# Abstract

The cortisol awakening response (CAR) is the change in cortisol concentration that occurs in the first hour after waking from sleep. It is typically assessed using salivary cortisol samples immediately after waking and then at intervals over the next hour. The CAR has emerged as an important aspect of hypothalamic-pituitary-adrenocortical axis function because it is regulated differently from cortisol output over the rest of the diurnal cycle. It has also been related to stress, affective disorders, and physical health risk. This chapter discusses the origins and measurement of the CAR and its relationship with sleep-waking cycles, acute and chronic stress, depression, and health outcomes.