Discovery and further research tested this hypothesis with memory tasks either begun before sleep and assessed in the middle of the night, or begun in the middle of the night and assessed in the morning. While the function of REM sleep is not well understood, several theories have been proposed.

Sleep deprivation experiments on animals can be set up differently than those on humans. The "flower pot" method involves placing a small animal in a pot during the night and removing it for air and food. When the animal is returned, it is usually considered to have undergone a period of REM deprivation. REM deprivation can be produced by a state known as REM deprivation. Subjects allowed to sleep normally usually experience a modest enhancement of REM deprivation.

REM sleep is physiologically different from the other phases of sleep, which are collectively referred to as non-REM sleep. REM sleep is characterized by rapid eye movements (REM) and by the absence of muscle tone. REM sleep is also associated with an increase in the activity of the brainstem and perhaps from mechanisms used in waking. REM sleep is a type of sleep characterized by a high level of muscle tone and rapid eye movements. It is often referred to as " paradoxical sleep." While REM sleep is characterized by rapid eye movements, it is not always the case that the eyes are moving. In fact, a significant proportion of REM sleep is spent with the eyes fixed in a position that is different from the resting position. This is known as REM sleep with eyes closed (REM sleep with eyes closed)

Inhibited this type of sleep.

Rapid eye movement sleep can be subclassified into tonic and phasic modes. The tonic mode is characterized by rapid eye movements that occur during the entire sleep cycle. The phasic mode is characterized by rapid eye movements that occur only during REM sleep. REM sleep is a phase of deep sleep, the organism's thermal indicators fall outside of a certain range, it will not enter paradoxical sleep lest deregulation allow temperature to drift while waking.

Consequently, hot or cold environmental temperatures can reduce the proportion of REM sleep, as well as amount of total sleep.

While the function of REM sleep is not well understood, several theories have been proposed. For example, REM sleep may be involved in the consolidation of memory. This idea is supported by the fact that REM sleep deprivation leads to impaired memory consolidation. Additionally, REM sleep may be involved in the regulation of dreaming. This idea is supported by the fact that REM sleep is associated with vivid dreams. However, recent evidence suggests that REM sleep may also be involved in the consolidation of procedural memory. This idea is supported by the fact that REM sleep deprivation leads to impaired procedural memory consolidation. Thus, REM sleep may play a key role in the consolidation of memory and dreaming.