# The Epithalamus

The epithalamus is the most dorsal of the structures of the diencephalon. Within the epithalamus are several important structures including the habenular nuclei and the pineal gland (sometimes called the “pineal body”). The habenular nuclei have been shown to have involvement in several limbic system type functions including negative reward processing.

The pineal gland secretes the hormone melatonin in response to the light dark cycle (melatonin secretion is stimulated by the dark and inhibited by light). Melatonin has been implicated in the regulation of our sleep patterns and in regulating reproduction in seasonal breeding animals (see endocrine modules). Melatonin may play an important role in puberty as pineal tumors have been linked to the onset of precocious puberty. The habenular nuclei are thought to be involved in pain processing, reproductive behavior, learning, sleep-wake cycles, stress responses and nutrition. Many of these functions are known to be related to the limbic system, indeed, the epithalamus is considered the bridge between the limbic system and the cerebrum (more on the limbic system later).

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