

## **Human Circadian Rhythm: Hormonal Balance**

The hormones in the body rise and fall with the circadian rhythms of the brain clock. The release and function of several essential hormones are synchronous with the Sleep-Wake cycle of the circadian clock:

- Insulin ( glucose utilization hormone)
- Cortisol ( Stress hormone)
- Thyroid hormone ( energy balance)
- Growth hormone ( body and muscle growth and cell repair)-Deep rejuvenating sleep is critical to the optimal level of growth hormone. The growing children who need more growth hormone get profound, deep sleep.
- Melatonin (sleep hormone).

Unbalanced sleep-wake cycle from a lack of synchrony with the circadian brain clock, produces hormonal imbalance diseases such as-Hypothyroidism, Insomnia, Metabolic syndrome including PCOS (Polycystic ovarian syndrome in females), Obesity, Type2 diabetes, high blood pressure, Heart disease and many more.