



ANATOMY AND MECHANISM OF SLEEP

Sleep is a complex mechanism that involves circadian (biological) rhythm and multiple chemicals produced in the brain

CHEMICALS ASSOCIATED WITH SLEEP

GABA

CC(=O)NCCc1c[nH]c2cc(OC)ccc12

Associated with sleep, muscle relaxation, and sedation

ADENOSINE

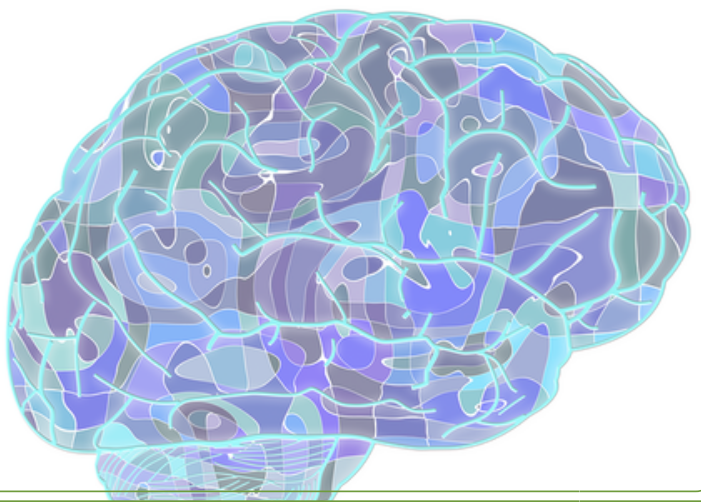
NC1=NC=NC2=C1N=CN2[C@H]3O[C@@H](O)[C@H](O)[C@H]3O

Inhibits arousal and induces sleep

MELATONIN

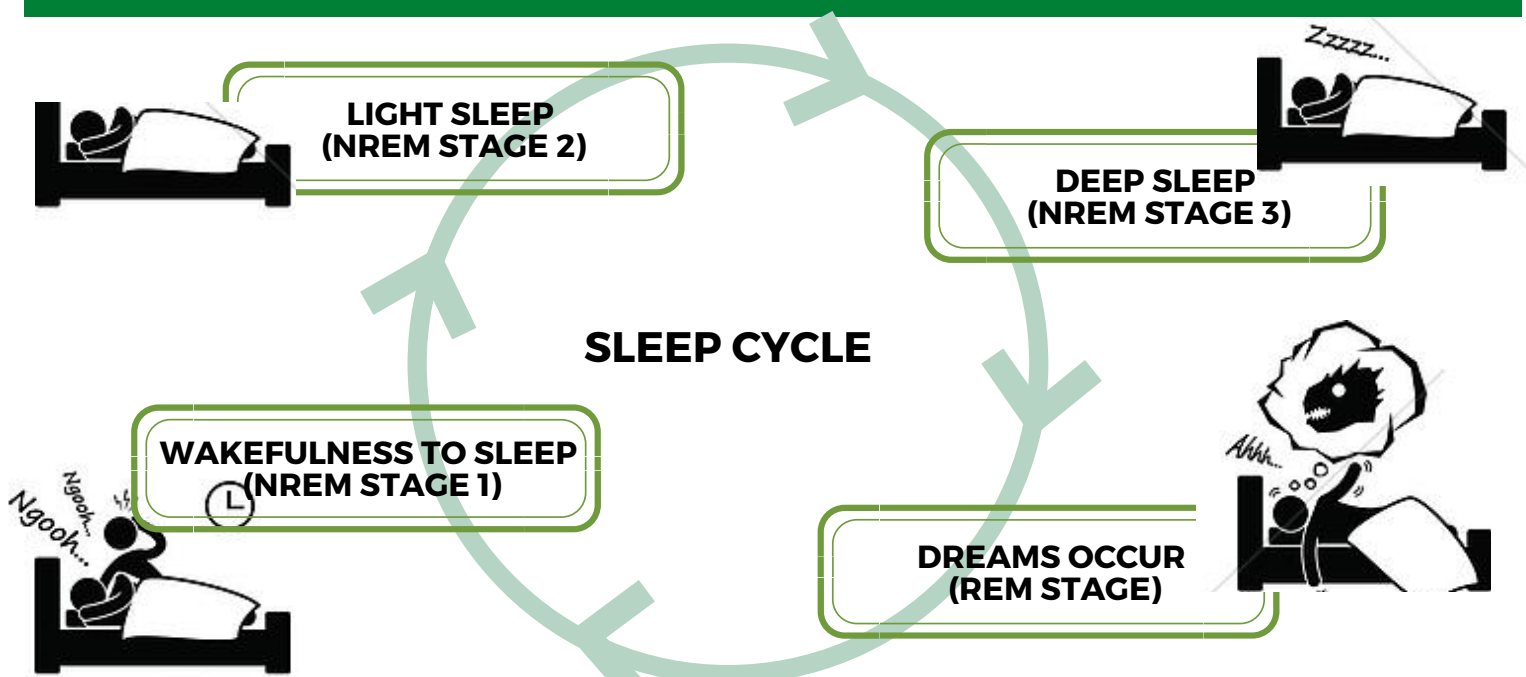
NC(CCC(=O)O)C

Regulates the circadian rhythm and induces sleep



DIFFERENT SLEEP STAGES

Sleep consists of two basic stages: Rapid eye movement (REM) and Non-REM. The Non-REM stage is further divided into three stages, known as Non-REM-1, Non-REM-2, Non-REM-3. These cycles repeat several times during a night's sleep



Sleep is an essential life function regulated through a complex and sensitive mechanism



FUNCTIONS OF SLEEP

Good sleep prepares us mentally and physically for the next day

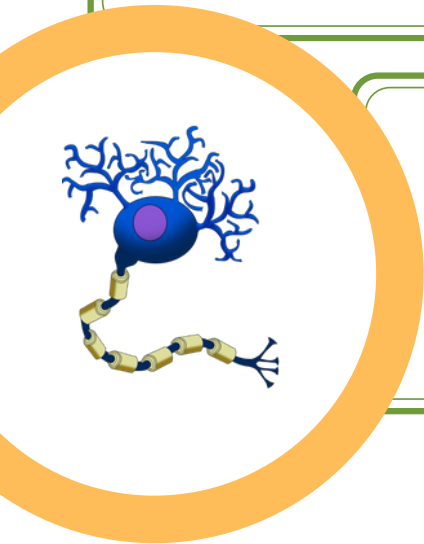


1: PHYSIOLOGICAL & PSYCHOLOGICAL FUNCTION OF SLEEP

Restful sleep during the night recharges, repairs and enhances physical and mental processes that get depleted during the day.

2: COGNITIVE FUNCTION

Disruptions in sleep impair the decision-making ability and reduce long term memory. It also increases attention deficiency.



3: NEUROLOGICAL FUNCTION

Sleep is critical for the brain to generate new neurons, enhance the strength of neural networks and to collect metabolic waste products and proteins which are not required in the brain.

WHAT AFFECTS THE DURATION & QUALITY OF SLEEP?

- Stress
- Life-style factors
- Age
- Technology use

Poor quality sleep affects our health, cognition and neurological function

Several life-style factors affect the sensitive mechanism of sleep and can impair both the quality and duration of our sleep



SUDARSHAN KRIYA YOGA AND SLEEP

There are 5 research studies that measure the effect of SKY on sleep quality, architecture and duration

Study 1: Effect of SKY on sleep quality among 473 Indian adults

Immediately post SKY

82%

Increase in Population with Good Sleep Quality

After 40 Days SKY Practice

Largest Improvement in sleep quality was observed among those who practice SKY daily



Before SKY



After SKY

Study 2: Effect of SKY on sleep disturbances among 69 Young Adults

Immediately post SKY

16.7%

Decrease in sleep disturbances was observed immediately after SKY

After 3-Months SKY Practice

21.7%

Further decrease in sleep disturbances after 3 months of SKY practice

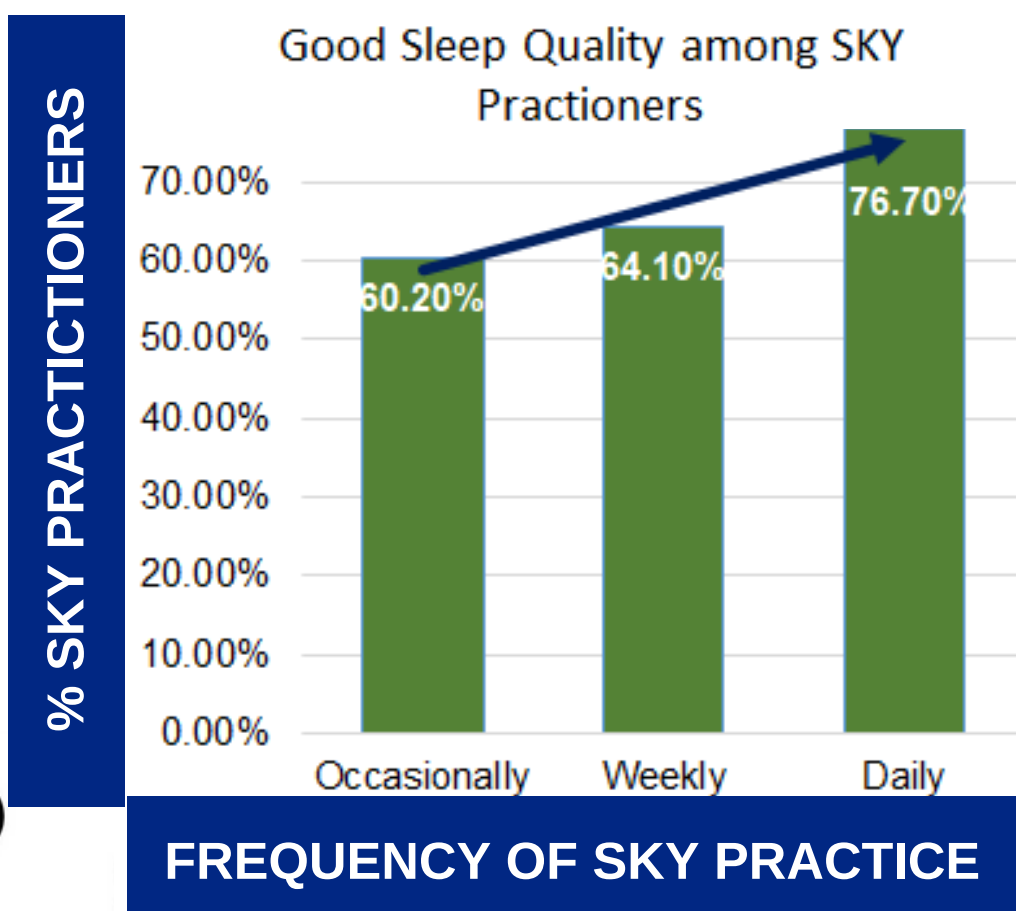
SKY improves sleep quality by inducing restful & restorative sleep and reducing sleep disturbances



SUDARSHAN KRIYA YOGA AND SLEEP

Study 3: Correlation of SKY and sleep quality among 385 SKY Practitioners from Singapore

SKY Practitioners were assessed for sleep quality for three frequencies of SKY practice (occasionally, weekly, daily)



Those who practiced SKY daily had better sleep quality than those who practiced weekly or occasionally

SKY practice improves sleep quality among adults and as the frequency of practice increases, sleep quality also improves greatly.



SUDARSHAN KRIYA YOGA AND SLEEP

Daytime sleepiness is defined as the inability to remain awake during waking hours

Study 4: SKY & Day time sleepiness among 105 Adults

Assessment at baseline, 4 weeks and 8 weeks after SKY practice

SKY practitioners experienced a reduction in daytime sleepiness and improved sleep quality over 8 weeks of SKY practice, when compared to non-SKY practitioners



AMONG SKY GROUP

34.7% ↓

Day time sleepiness immediately after SKY

31.3% ↑

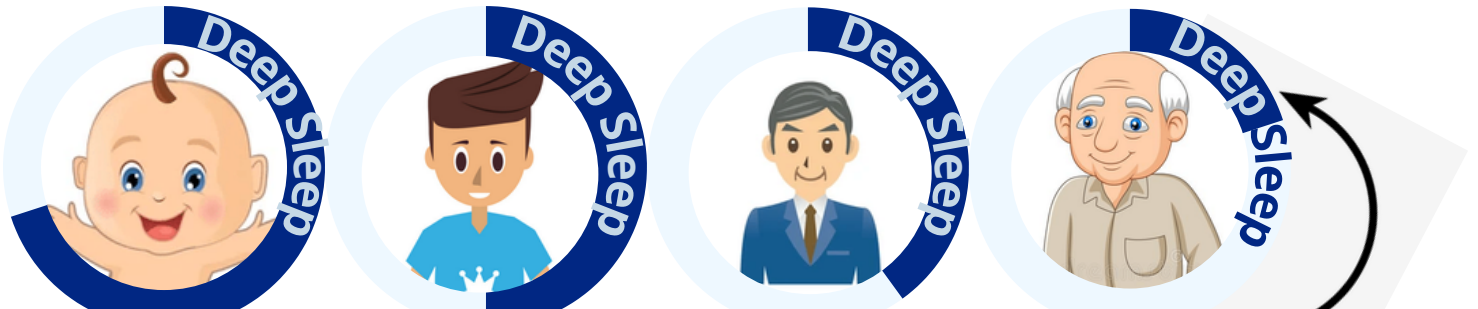
Improved sleep Quality after 8 weeks SKY

Sudarshan Kriya Yoga reduces excessive daytime and situational sleepiness



SUDARSHAN KRIYA YOGA AND SLEEP

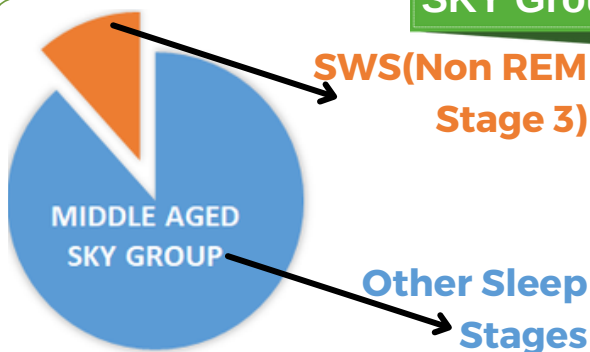
The most restorative sleep stage, **Slow wave sleep (SWS) or Deep Sleep (NREM Stage 3)** is necessary for memory consolidation and day time function



As we age, duration of deep sleep (SWS) decreases

Study 5: Sleep architecture comparison among SKY & non-SKY Practitioners of different age groups

SKY Group

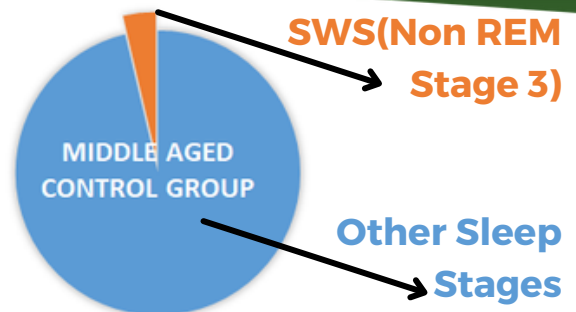


SWS constituted

11.6%

of sleep among the middle aged SKY group

Control Group



SWS constituted only

3.7%

of sleep among the middle aged control group

A similar deep sleep architecture between the younger and middle-aged SKY practitioners was found which indicates no decline in sleep quality with age among SKY Practitioners

SKY helps mitigate the effects of age on deep sleep, and helps maintain a robust & restful sleep architecture as we age