



mental wellbeing

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sleep deprivation and mental wellbeing

stress and anxiety
disrupt sleep
creating a
downward spiral

90% of people
with a mood
disorder suffer
from sleep
disorder

22% of people
report increased
sleep disturbance
during pandemic

causal relationship sleep
deprived 4 x as likely to
develop depression and 2 x
as likely to experience
anxiety

Sleep deprivation
increases
resistance to
therapies

sleep the great enigma

spend 7-9 hours out of 24 - in a coma???



Why do we sleep? an unfolding story

- primarily restorative – physical and mental
- glymphatic system – washes our brain through with spinal fluid and removes beta-amyloid the plaques associated with dementia
- transfer memories from hippocampus (short-term memory) to neo-cortex (long-term memory)
- consolidate memories and free-up learning capacity
- sorts through and edits memories – heals painful memories
- creativity

circadian rhythm – the master clock

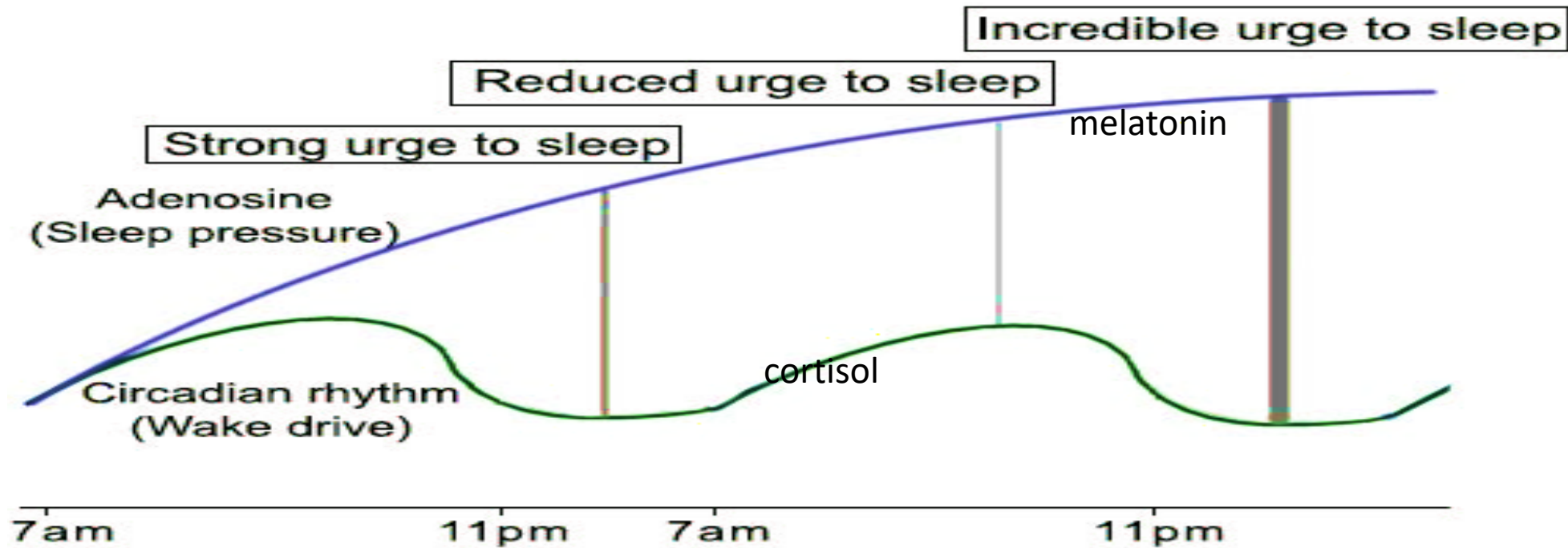
- light hitting the retinal ganglion signals to suprachiasmatic nuclei – internal master clock
- regulates homeostasis and all internal systems
- endocrine system including sleep regulating hormones:-
 - sleep promoting adenosine, melatonin, serotonin and GABA;
 - disruptors – dopamine, cortisol and epinephrine



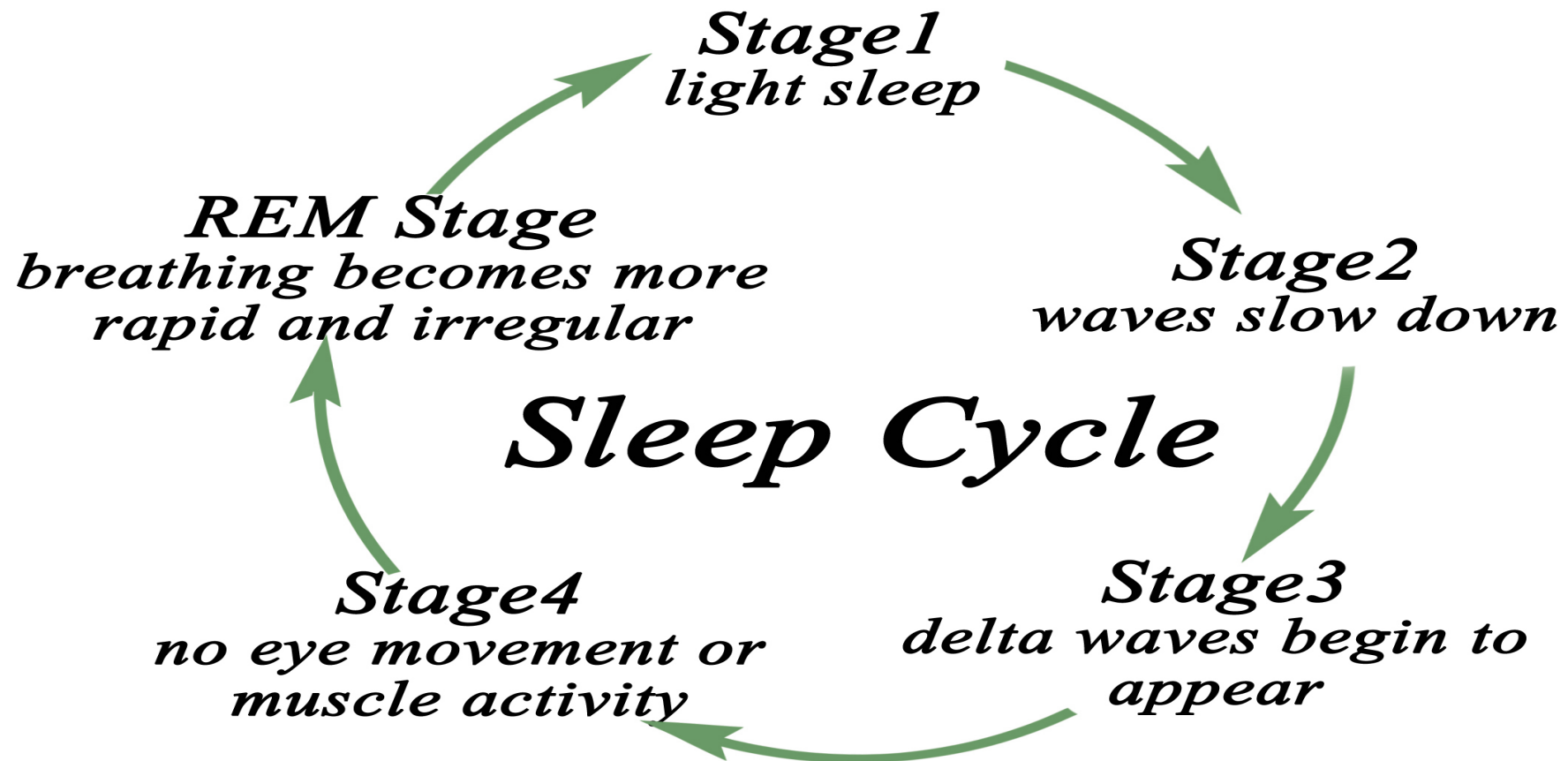
sleep thieves – think autonomic states of alertness



sleep mechanisms interaction between circadian rhythm and endocrine system

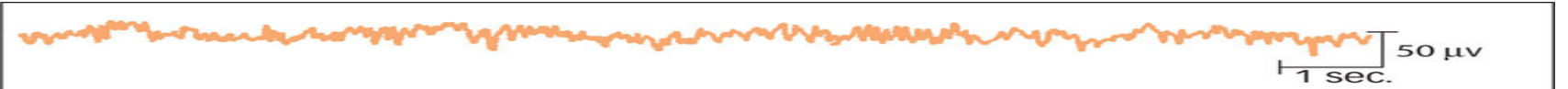


sleep cycles 5-7 per night of approximately 90 minutes – but time in each changes across night



brain waves

Awake
Beta waves



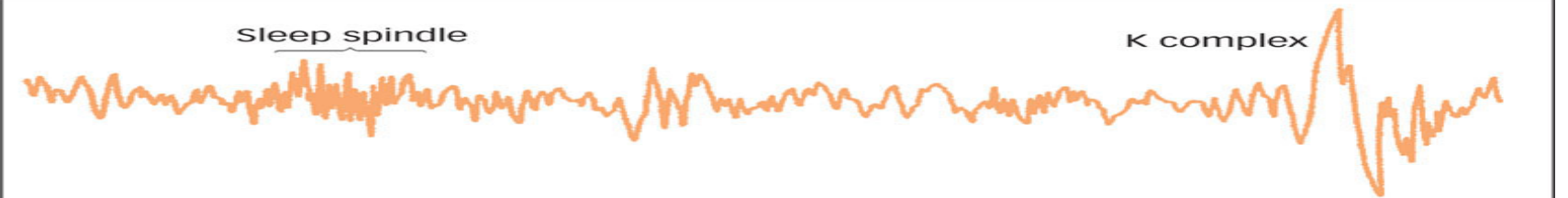
Drowsy, Relaxed
Alpha waves



Stage 1 Sleep
Theta waves



Stage 2 Sleep
Sleep spindles,
K complexes



Stage 3/Stage 4 Sleep
Delta waves



REM Sleep
Fast, random



ingredients for a good night's sleep



regular waking and
bedtime



daylight



exercise



no caffeine after
noon



Stop drinking 3
hours before bed



dim, disconnect
and dial down



Only sleep and
sex



manage
thoughts,
mindfulness and
meditation

chronic sleep disturbance – its serious consult your GP

sleep restriction

- insomnia can be a learnt habit
- go to bed later/get up earlier
- increases sleep pressure and sleep efficiency
- gradually extend time in bed(15 minute increments)

Don't lie in bed awake

- after 20 minutes wakefulness get up
- do something quiet/calming
- keep lights low
- repeat as often as needed
- short-term sleep deprivation

CBT-I

- anxiety around insomnia perpetuates the issue
- noticing thoughts around sleep
- change your thoughts and language
- breathe through anxious thoughts

Cranial electrotherapy stimulation

- claims to reduce beta waves and encourage alpha waves
- FDA approved but NICE state insufficient evidence of long-term
- Effects
- NHS trusts undertaking as a trial on treating general anxiety disorder (GAD)
- anxiety and anxious thoughts major disruptor of sleep



sleep resources

- Why We Sleep – Matthew Walker, Penguin 2018
- Dr Andrew Huberman - Master Sleep www.hubermanlab.com podcasts 2021
- Sleepio – app available on NHS using principles of CBT-I



and thank you