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SLEEP AND ATHLETIC PERFORMANCE

- If I told you I had a pill that could make you react quicker, sprint faster, be more accurate with your throws, reduced your injuries, and allowed you to remember the playbook better...





HUMAN PERFORMANCE MODEL

Influencers of wins and losses



Sleep Impact on Athletic Performance

- Improved reaction time
 - Sleep deprivation can slow reaction times
 - An all-nighter slows your reaction time 300%
 - Reaction time equivalent to having 4 beers
- Extended sleep (>8.5 hours per night) will improve reaction time up to 0.5 seconds

Sleep Impact on Athletic Performance

- Lack of sleep increases injury rate
 - Injury rates increase following even one night of < 6 hours of sleep
 - Sleep hours a very strong predictor of injury
 - Shorter sleep periods don't allow body to recover properly
- Athletes who slept <8hrs/nt 1.7 x more likely to get injured compared to >8hrs/nt

Sleep Impact on Athletic Performance

- Better Accuracy
 - Period of prolonged sleep extension will increase accuracy of free throw and baseball pitching by up to 9%
- Decreased sleep leads to decreased strength
 - Bench, squat, dead lift significantly decreased in those with < 6hrs sleep x 3 days

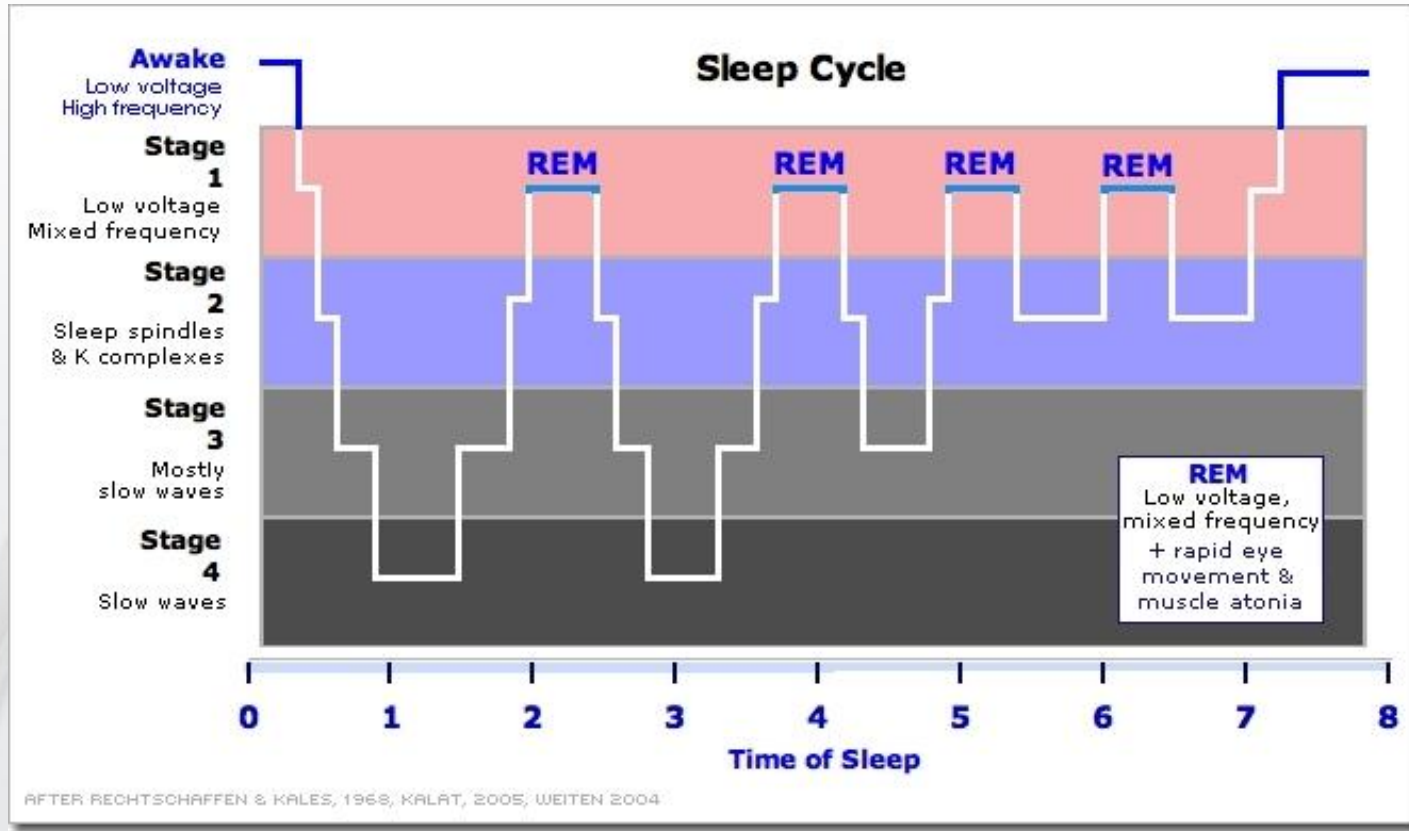
Sleep Impact on Athletic Performance

- Decreased sleep leads to more mental errors
 - MLB players with <6 hrs of sleep consistently, swung more often at balls out of the strike zone than they did after restoring sleep
- Players with a high ESS only lasted in the league x 3 years, those with low ESS lasted > 5 years

Sleep Impact on Athletic Performance

- Faster sprint times
 - Swimmers with period of sleep extension swam 0.5s faster for 15m and had a reaction time off blocks 0.15 s faster
- React to gap, burst through gap

Typical Sleep Cycle



REM is where
memory occurs

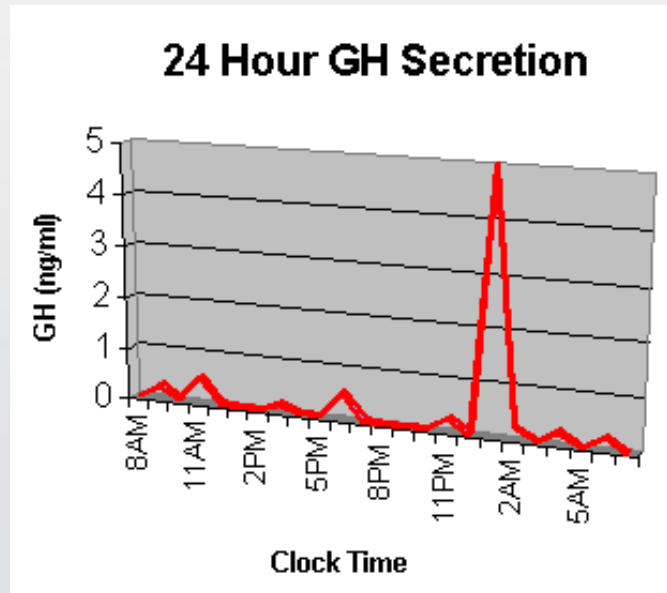
More REM = better
recall of playbook,
school work

More sleep cycles =
More REM

Sleep cycle lasts about 90 minutes
Will feel better waking towards the end of a
sleep cycle
7.5-9 hours will give you best results

Sleep and Growth Hormone

- Growth hormone secreted during deep sleep
 - Takes 60-90 min to get to deep sleep
 - IF not in bed by 1130 or 1200 you miss the biggest burst

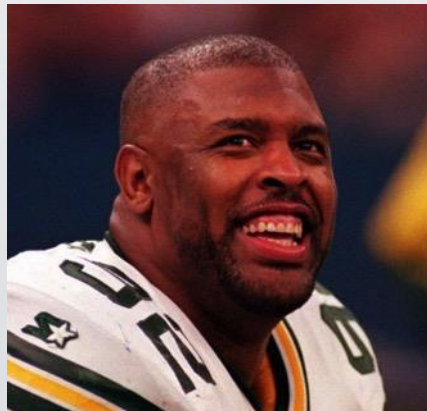


Sleep Apnea

- Multiple (can be up to 1000) times during night stop breathing, body must wake up to tell body to breath
- Snoring, daytime sleepiness, fall asleep easily when sitting still
- NFL lineman 5x more likely to have then general public
- Leads to poor performance and poor health

Sleep Apnea

- Sleep apnea = chronic sleep deprivation = decreased mental and physical performance
- Can be treated with CPAP machine
- Use of CPAP can confer all benefits of extended sleeping for those with OSA



Monitoring Sleep

- Many wearables out there to monitor sleep
 - Nextgen Fit Bit
 - Apple Watch
 - Jawbone UP band
 - Garmin VivoFit
 - Actigraph



Trevone Boykin

Jawbone UP band



Sleep Hygiene

- Environment (quiet, dark, 66-72 degrees)
- Sleep routine (go to bed/wake up same times every day)
- Bedtime routine (habits to help you unwind)
- Avoid caffeine, tobacco, alcohol, energy drinks
- Stop using electronic devices <60 min (or make sure you use blue light blocker or glasses)
- Avoid napping > 30 min during day
- Glass of milk 20-30 min before bedtime
- Magnesium supplements (help sleep and help cramps)

Summary

- Consistent good sleep can:
 - Improve reaction time
 - Sprint speed
 - Throwing accuracy
 - Prevent injuries
 - Decrease mental mistakes
 - Prolong your playing career
 - Improve your health
- **AND ITS FREE AND LEGAL!**





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