

SLEEP DISORDERS IN CHILDREN

BEYOND SLEEP APNEA

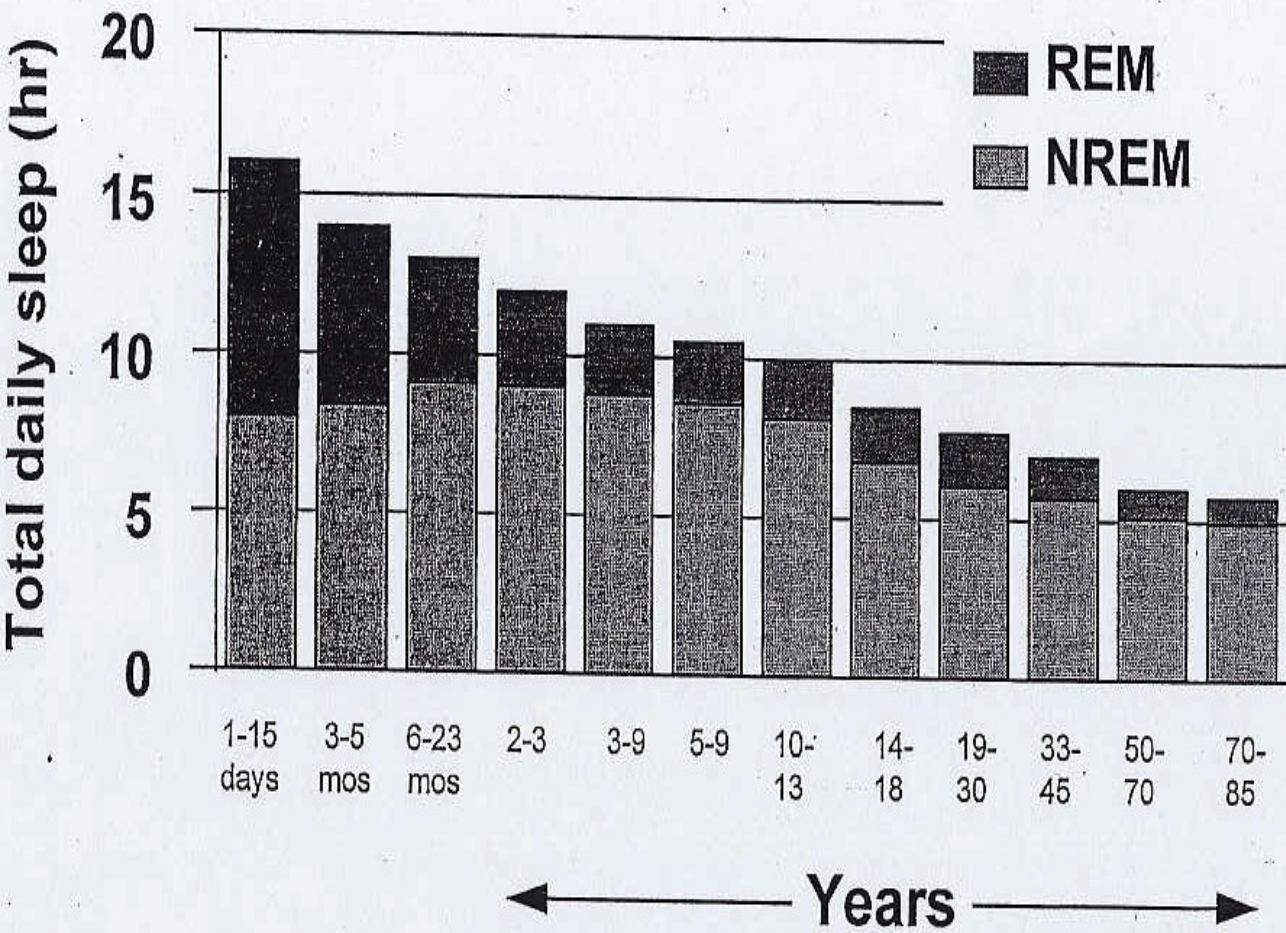


Figure 2-4. The changes in total daily sleep, REM sleep, and NREM sleep with age. Notice the large amount of REM sleep in the neonate and infant. (Based on data from Rechtschaffen HP, Munzio JN, Dement WC. Ontogenetic Development of the Human Sleep-Dream Cycle. *Science* 152:604, 1966.)

SLEEP CONSOLIDATION

- INFANTS USUALLY AROUSE 1 OR MORE TIMES FOR 1 TO 5 MINUTES
- DURING THE FIRST FEW MONTHS, 95% OF INFANTS CRY AFTER AROUSING
- BY 1 YEAR OF AGE 60-70% OF INFANTS ARE ABLE TO SELF-SOOTHE AND RETURN TO SLEEP

SELF-SOOTHING

- BODYROCKING
- HEAD TURNING
- HEAD BANGING
- SUCKING
- PLAYING WITH TRANSITIONAL OBJECTS (CLOTH, TEDDY BEAR, PACIFIER, BOTTLE)

EXCESSIVE HEAD BANGING/BODY ROCKING

- DEFINED AS RHYTHMIC MOVEMENT DISORDERS
- TREATMENT
 - DIFFERENTIAL FOR SEIZURE DISORDER
 - IF ATTENTION GETTING, BEHAVIORAL INTERVENTION
 - PROTECT HEAD
 - IN DIFFICULT CASES, OVERPRACTICING OR BENZODIAZEPINES

INSOMNIA

- RARELY OCCURS BEFORE ADOLESCENCE
- DYSSOMNIAS CAN OCCUR AT ANY AGE
 - MULTIPLE EXOGENOUS PRECIPITATING FACTORS SUCH AS
 - NOCTURNAL EATING (DRINKING) DISORDER
 - COLIC
 - FOOD ALLERGIES
 - MEDICAL DISORDERS (OTITIS MEDIA, GERD, OTHER PAIN)
 - ENVIRONMENT
 - ANXIETY

SLEEP-ONSET ASSOCIATION DISORDER

- PARENTS “HELP” WITH THE TRANSITION TO SLEEP
- BECOMES A LEARNED PATTERN - RELIANT ON PARENT
- BEHAVIORAL INTERVENTION WITH PARENT (FERBERIZATION OR Milder FORMS)

LIMIT-SETTING SLEEP DISORDER

- USUALLY 2-3 YEARS OF AGE AT TRANSITION FROM CRIB TO BED
- PARENTS UNABLE OR UNWILLING TO ENFORCE NIGHTTIME RULES
- MAY ACTUALLY CAUSE INCREASED ANXIETY RATHER THAN PROVIDE REASSURANCE
- REQUIRES BEHAVIORAL INTERVENTION WITH PARENTS

CO-SLEEPING

- MANY CULTURES CONSIDER IT THE NORM
- EVIDENCE OF DISRUPTED SLEEP
- FACILITATES BREAST FEEDING
- POSSIBLE PROBLEMS WITH SUFFOCATION

SLEEP PHASE SHIFTS

- ADVANCED SLEEP PHASE - INITIATING SLEEP EARLY IN THE EVENING AND EARLY AWAKENING
- DELAYED SLEEP PHASE - LATE TO BED AND LATE TO RISE - *THE BANE OF TEENAGERS BUT IT MAY OCCUR AT YOUNGER AGES ESPECIALLY WHEN SCHEDULES ARE DISRUPTED*

THE IMPORTANCE OF LIGHT

- TIMING OF LIGHT EXPOSURE IS THE FACTOR DETERMINING SETTING OF THE CIRCADIAN CLOCK
- LIGHT THERAPY IS A MAJOR TREATMENT FOR PHASE DISORDERS
- REMEMBER THE OTHER SOURCES OF LIGHT, e.g. COMPUTERS AND TELEVISIONS

AROUSAL PARASOMNIAS

- NIGHTMARES
 - USUALLY OCCUR IN REM SLEEP
 - AROUSAL IS TO WAKEFULNESS
 - CAN DESCRIBE DREAM
- NIGHT TERRORS
 - UNCOMMON IN INFANTS
 - OCCUR FROM NON-REM SLEEP USUALLY WITH PRECIPITOUS AROUSAL IN TOTAL PANIC - SCREAMING, SHORT LIVED
- CONFUSIONAL AROUSALS
 - VARIATION OF NIGHT TERRORS WITH SLOWER AROUSAL, NO LOOK OF TERROR BUT CONFUSION OR AGITATION, LONGER DURATION
- TREATMENT IS USUALLY JUST REASSURANCE AFTER ASCERTAINING THAT THE DIAGNOSIS IS ACCURATE

OTHER PARASOMNIAS

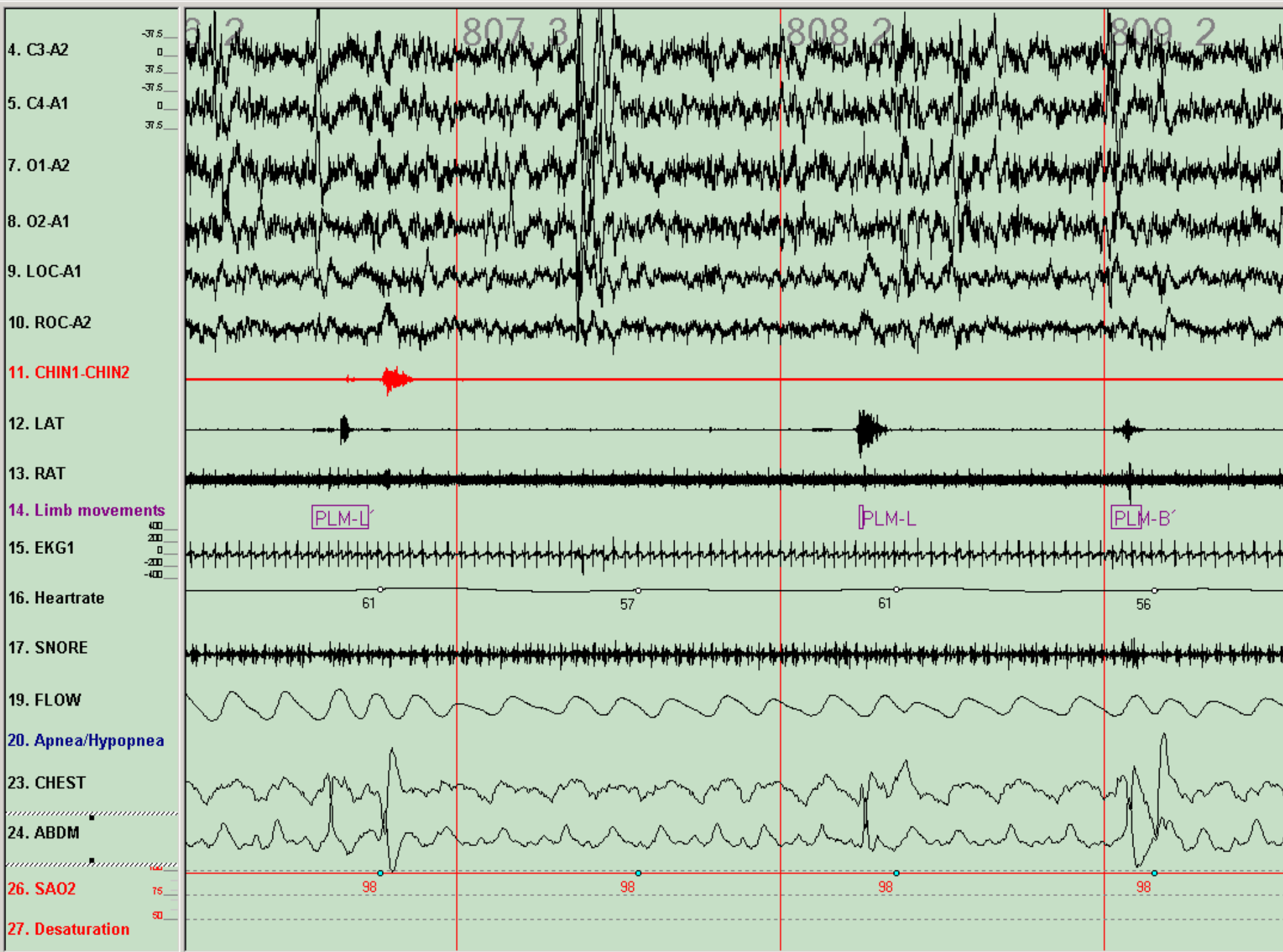
- SLEEP WALKING
 - VERY COMMON
 - USUALLY OUTGROWN
 - TREATMENT IS USUALLY PROTECTION FROM INJURY
- SLEEP TALKING
- BRUXISM
 - MAY BE ASSOCIATED WITH MALOCCLUSION OR PSYCHOLOGICAL FACTORS
 - DANGER OF ORAL DAMAGE
- REM SLEEP BEHAVIOR DISORDER
 - LACK OF ATONIA DURING REM SLEEP
 - RARE IN CHILDREN

NARCOLEPSY

- SYMPTOMS
 - EXCESSIVE DAYTIME SLEEPINESS
 - CATAPLEXY
 - HYPNAGOGIC HALLUCINATIONS
- RARELY OCCURS BEFORE ADOLESCENCE
- GENETIC BASE
- TREAT WITH STIMULANTS SUCH AS PROVIGIL

WHAT ARE PERIODIC LIMB MOVEMENTS IN SLEEP?

- RYTHMIC KICKING OR FLEXING OF THE FOOT OR LEG DURING SLEEP
 - USUALLY OCCURS IN STAGE 2 SLEEP
 - DEFINED AS 4 OR MORE MOVEMENTS OF THE LEGS, 0.5 TO 5 SECONDS IN DURATION, AND OCCURRING 5 TO 90 SECONDS APART
- UP UNTIL ABOUT 10 YEARS AGO, THOUGHT TO OCCUR ONLY AFTER PUBERTY
- PROBABLY RESULT FROM A CENTRAL DOPAMINERGIC DEFICIT



CONSEQUENCES OF PLMS

- MAY BE ASSOCIATED WITH RESTLESS LEG SYNDROME
- PROVEN ASSOCIATION WITH ADHD
- MAY RESULT IN POOR SCHOOL PERFORMANCE

**MOST ADOLESCENTS AND ADULTS
IN THE U.S DO NOT GET ENOUGH
SLEEP CHRONICALLY.**

- **LACK OF SUFFICIENT SLEEP
RESULTS IN DEFICITS IN:**
 - Cognitive functioning
 - Concentration
 - Memory
 - Coordination and reaction times