A Medical Approach to Sleep Disorders in School-Aged Children and Adolescents.

Akinyemi Ajayi, MD, FAAP, FCCP, D,ABSM, FAASM.

Children's Lung, Asthma and Sleep Specialists

Children's Sleep Laboratory

Sleep History: “BEARS”

- **B**edtime
- **E**xcessive daytime sleepiness
- **A**wakenings: night waking
  early morning waking
- **R**egularity and duration of sleep
- **S**noring

BEARS: Bedtime

- Objective: Elucidate what happens at sleep onset
- Initial Question: “Does your child have any difficulty going to bed or falling asleep?”

- Follow-up Questions: Could you describe what happens at bedtime?

  What keeps your child from falling asleep?

  Does your child seem anxious at bedtime?

BEARS: Excessive daytime sleepiness

- Objective: Determine the extent of excessive daytime sleepiness
- Initial Question: “Is your child difficult to wake in the morning, act sleepy, or seem overtired a lot?”
- Follow-up Questions: How does your child act when she is overtired?

  Does your child fall asleep during the day? when and where?

  Does anyone else in the family have a problem with excessive sleepiness?

BEARS: Awakenings (Nighttime)

- Objective: Characterize the extent and content of awakenings
- Initial Question: “Does your child have trouble with waking up at night?”

- Follow-up Questions:

  What do you think awakens him?

  How does your child behave when she awakens at night?

  Does your child move to someone else’s bed during the night?

BEARS: Regularity and duration of sleep

- Objective: Delineate sleep habits
- Initial Question: “What time does your child go to bed and get up on schooldays? weekends?”

- Follow-up questions:

  Do you think your child is getting enough sleep?

  How much sleep do you think your child needs?

BEARS: Snoring

- Objective: Screen for Obstructive Sleep Apnea
- Initial Question: “Does your child have loud or nightly snoring?”

- Follow-up Questions: Does your child ever stop breathing, choke or gasp at night?

  Is your child a restless sleeper? Sweat a lot at night?

  Do other people in your family snore loudly?

Clinical Evaluation of Sleep Disorders in Children

- History of Sleep Problem:
  - Presenting complaint
  - Related sleep complaints
  - Related am / daytime behavior
  - Bedtime routine, sleeping environment
  - Sleep habits,sleep patterns and duration
  - Frequency and character of night wakings
  - Family's response to sleep problems, previous rx
  - Previous sleep patterns
  - Family history of sleep problems

Clinical Evaluation of Sleep Disorders in Children

- Past and current medical history
- Social history / stressors
- Developmental / school history
- Sleep diagnostic tools:
  - Sleep Diaries: 2 week baseline
  - Home videotaping: paroxysmal arousals
  - Polysomnography: OSAS, PLMD, EDS, parasomnias
  - MSLT: EDS
  - Actigraphy

Sleep LOG/diary

Sleep Log

Name: Date Started: / /

Medications:

	Midnight												Noon											
Day	6pm	7	8	9	10	11	12	1am	2	3	4	5	6	7	8	9	10	11	12	1pm	2	3	4	5	Comments

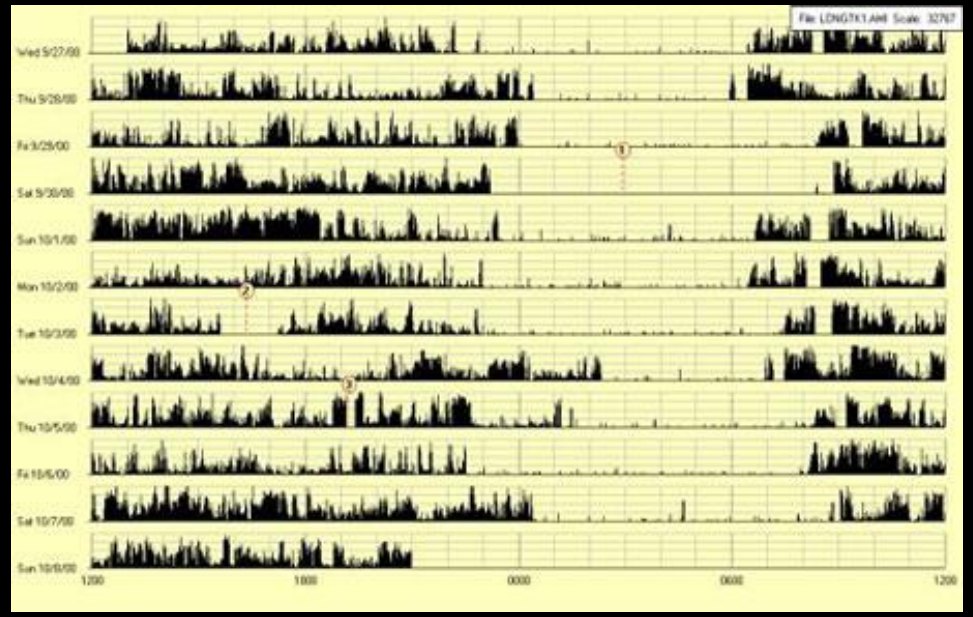
Example:

	Midnight												Noon											
Day	6pm	7	8	9	10	11	12	1am	2	3	4	5	6	7	8	9	10	11	12	1pm	2	3	4	5	Comments
																									Difficult to get back to sleep

Shade box when asleep. Mark into bed with down arrow and out of bed with up arrow.

2019. Clinical Guide to Pediatric Sleep: Diagnosis and Management of Sleep Disorders. 3rd ed.

actigraphy



Sleepiness questionnaire

How likely are you to doze off or fall asleep in the following situations, in contrast to just feeling tired?

These questions are about your usual way of life in recent times. Even if you have not done some of these things recently, try to work out how they would have affected you.

Use the following scale to choose the most appropriate number for each situation:

0 Would *never* doze
1 *Slight* chance of dozing
2 *Moderate* chance of dozing
3 *High* chance of dozing

ACTIVITY	CHANCE OF DOZING
Sitting and reading	_____
Watching TV	_____
Sitting inactive in a public place (meeting, theater, etc)	_____
As a passenger in a car for 1 hour without a break	_____
Lying down in the afternoon when circumstances permit	_____
Sitting and talking to someone	_____
Sitting quietly after lunch without alcohol	_____
In a car, while stopped for a few minutes in traffic	_____
Total	_____

FIGURE 1. Epworth sleepiness scale. Each question is answered with a number from 0 (not at all likely to fall asleep) to 3 (very likely to fall asleep). This yields a total of 0 (minimum) to 24 (maximum). Scores above 10 warrant investigation.

THE EPWORTH SLEEPINESS SCALE (ESS)

Please complete the following:

How likely are you to doze off or fall asleep in the following situations, in contrast to feeling tired? This should be based on your usual way of life at the present time. Even if you have not done some of these things recently, try to work out how they may affect you. Use the following scale to choose the most appropriate number for each situation:

0 = would never doze
1 = slight chance of dozing
2 = moderate chance of dozing
3 = high chance of dozing

Situation: Chance of dozing

- Sitting and reading
- Lying down in the afternoon
- Sitting and talking with someone
- Sitting quietly after lunch
- In a car, while stopped for traffic (for a few minutes)
- Watching TV
- Sitting inactive in a public place
- As a passenger in a car for an hour without a break

TOTAL:

If your total score is above 9 talk to your doctor or go to a sleep specialist for further evaluation of excessive sleepiness.

KID'S SLEEP SCREENING QUESTIONNAIRE (KSSQ)

- Does your child snore? (Y)/(N)
- Is your child a restless sleeper? (Y)/(N)
- Does your child have difficulty falling asleep? (Y)/(N)
- Does your child sleep too much? (Y)/(N)
- Does your child fall asleep in school? (Y)/(N)
- Does you child wake up a lot at night? (Y)/(N)
- Does your child wake up screaming, crying or sleep walking? (Y)/(N)
- Does your child have behavioral concerns, learning problems or trouble with concentrating and focusing? (Y)/(N)

If you answered yes on more than 1 question go to a sleep specialist for further evaluation.

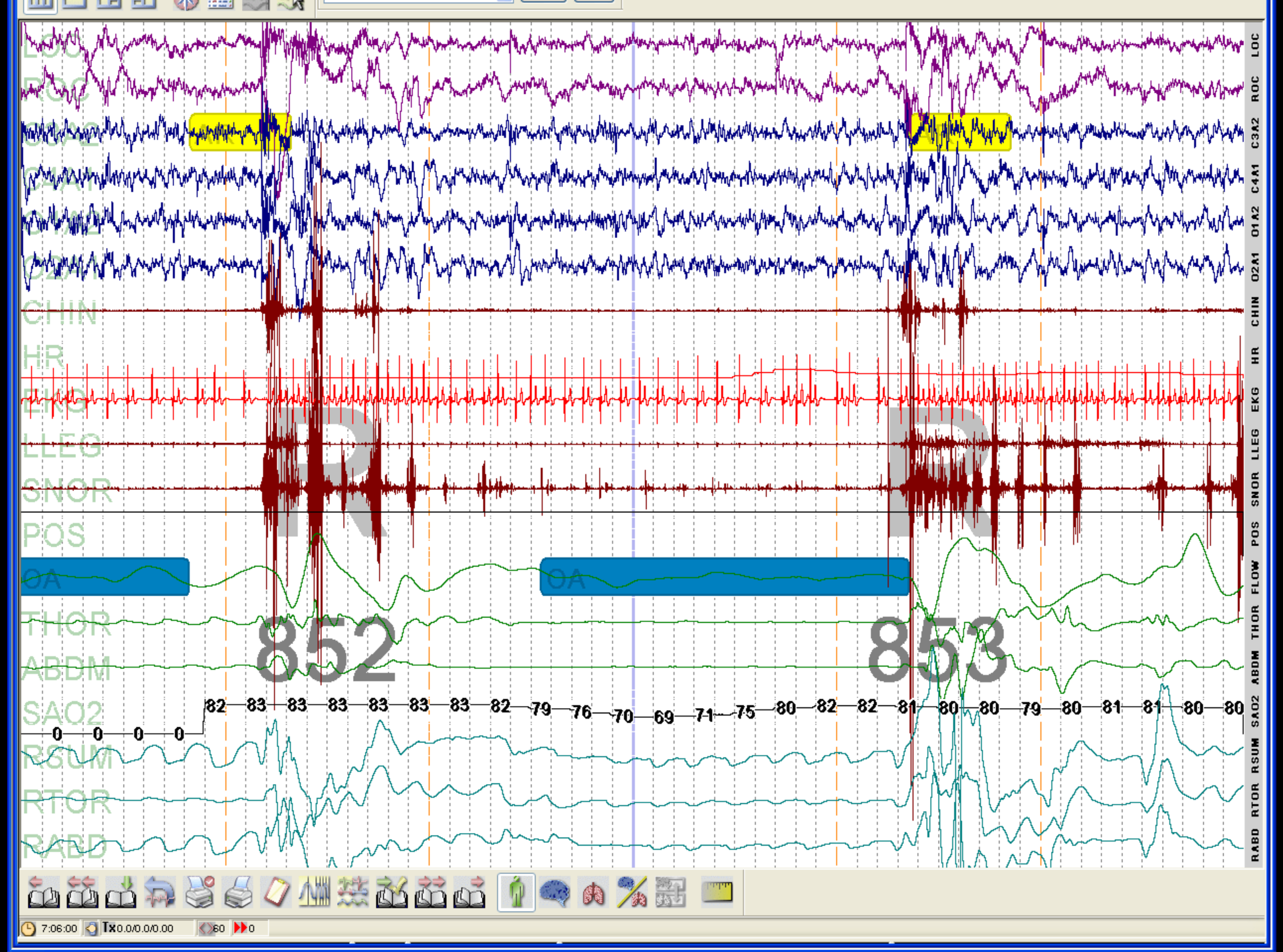
Kid's Sleep Screening Questionnaire

The questionnaire is an all encompassing sleep screening tool. It screens for pediatric sleep disorders in a variety of sleep categories and is useful across all pediatric age groups above 6 months of age.

Although answering any of the questions as a YES could suggest the presence of a sleep disorder, answering 2 or more of the questions as a YES would suggest the need for closer scrutiny which should may include further questions from the care provider.

Questions:

- "**Does your child snore?"** screens for sleep disordered breathing such as primary snoring, obstructive sleep apnea, central apnea and allergic rhinitis
- **"Is your child a restless sleeper?"** screens for movement disorders in sleep like restless leg syndrome, periodic limb movement in sleep and sleep disordered breathing related conditions with associated arousals, such as obstructive sleep apnea syndrome.
- **"Does your child have difficulty falling asleep?"** This screens for insomnia in its various forms including sleep resistance, behavioral insomnia of childhood, anxiety related sleep disorders and psychophysiologic insomnia
- **"Does your child sleep too much?"** This screens for excessive daytime sleepiness which can manifest in conditions such as narcolepsy and idiopathic hypersomnia or can be related to conditions with insufficient nighttime sleep or poor quality sleep as may be seen in obstructive sleep apnea syndrome, periodic limb movement in sleep and RLS
- **"Does your child fall asleep in school?"** This suggests abnormal/excessive sleepiness in a child and can be related to conditions including narcolepsy, insufficient sleep, sleep apnea or sleep fragmentation related to sleep apnea, periodic limb movement in sleep and nocturnal seizures
- **"Does your child wake up a lot at night?"** This screens for sleep parasomnias, nocturnal asthma, gastroeophageal reflux disease, periodic limb movement in sleep and sleep disordered breathing
- **"Does your child wake up screaming, crying or sleepwalking?"** This screens for sleep parasomnias such as night terrors, confusional arousals and sleepwalking
- **"Does your child have behavioral concerns, learning problems or trouble with concentrating and focusing?"** This questions looks into the neurocognitive and neurobehavioral implications of poor sleep regardless of the cause of the poor sleep. The known manifestations include hyperactivity, impulsiveness, poor focusing and decreased executive functioning and learning.


LOC
ROC
C3A2
C4A1
O1A2
O2A1
CHIN
HR
EKG
LLEG
SNOR
POS
FLOW
THOR
ABDM
SAO2
RSUM
RTOR
RABD
OA
OA
852
853
82 83 83 83 83 83 83 82 79 76 70 69 71 75 80 82 82 81 80 80 79 80 81 81 80 80
0 0 0 0
7:06:00
Tx 0.0/0.0/0.00
60
0

Sleep Disorders

- Insomnia
- Sleep Related Breathing Disorders
- Central Disorders of Hypersomnolence
- Circadian Rhythm Sleep-Wake Disorders
- Parasomnias
- Sleep Related Movement Disorders

Insomnia

- Chronic Insomnia Disorder
- Short -Term Insomnia Disorder
- Other Insomnia Disorder

Sleep Related Breathing Disorders

- Obstructive Sleep Apnea Disorders
- Central Sleep Apnea Disorders
- Sleep Related Hypoventilation Disorders
- Sleep Related Hypoxemia Disorder
- Isolated Symptoms and Normal Variants

Central Disorders of Hypersomnolence

- Narcolepsy Type 1 and Type 2
- Idiopathic Hypersomnia
- Kleine-Levin Syndrome
- Hypersomnia due to: Medical Disorder, Medication or Substance, Psychiatric Disorder
- Insufficient Sleep Syndrome

Circadian Rhythm Sleep-Wake Disorders

- Delayed Sleep-Wake Phase Disorder
- Advanced Sleep-Wake Phase Disorder
- Irregular Sleep-Wake Rhythm Disorder
- Non-24 Hour Sleep-Wake Rhythm Disorder

Parasomnias

- NREM Related Parasomnias
- REM Related Parasomnias
- Other Parasomnias
- Isolated Symptoms and Normal Variants

Sleep Related Movement Disorders

- Restless Leg Syndrome
- Periodic Limb Movement Disorder
- Sleep Related Rhythmic Movement Disorder

Case presentation

- JC is a 14 year old female with a history of excessive daytime sleepiness of 4 years duration. She is a noisy sleeper and sleeps with her mouth open. She has a history of witnessed cessation of breathing. The patient is significantly overweight with a BMI of 34. She has poor peripheral vision and is legally blind. Both parents have small frames and have noted that the patient does not eat excessively.

Case presentation

- Does she snore?
- What time does she go to bed? 9pm
- What time does she get up? 6.30am
- Does she have multiple arousals at night?
- What happened around the time she began to gain weight excessively
- What happened around the time she began to sleep excessively?

Case presentation

What test or referral would you perform next?

- Refer to ENT for tonsillectomy
- Refer back to neurologist for headache management
- Refer to sleep lab for sleep study
- Order MRI of the brain

Case presentation

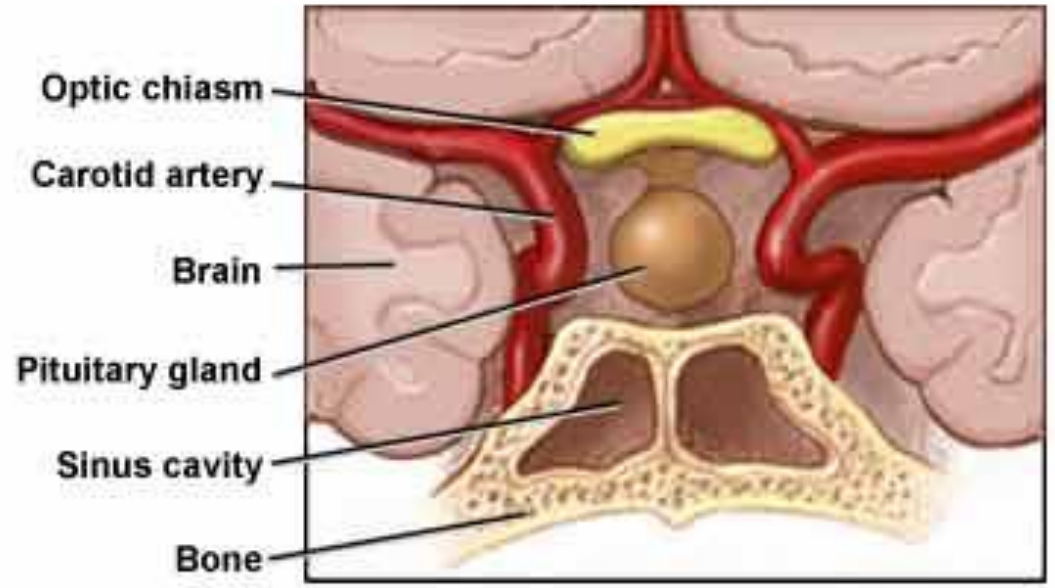
- Diagnosis
- Hypersomnia due to medical condition
- Iatrogenic damage to the hypothalamus during removal of a craniopharyngioma
- Obstructive sleep apnea secondary to severe obesity

Discussion

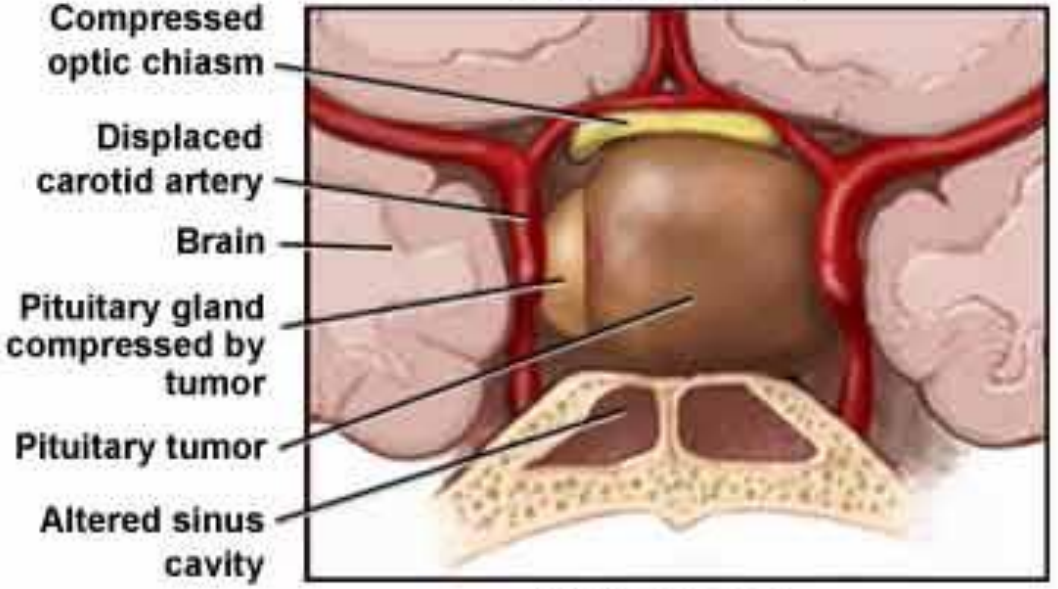
- Craniopharygioma:
- This is a slow growing extra-axial, epithelial-squamous, calcified cystic tumor arising from remnants of the craniopharyngeal duct and /or Rathke cleft and occupy the suprasellar region.
- Craniopharygioma treatment:
- Total surgical resection
- Planned limited resection followed by radiotherapy

Discussion

- Surgical sequelae:
- Neuropsychological deficits
- Neurological deficits
- Endocrine abnormalities



Normal Anatomy



Pituitary tumor

©Mayo Foundation for Medical Education and Research. All rights reserved.

Discussion

- Why hypersomnia?
- The tuberomammilary nucleus sits in the anterior hypothalamus as do the orexin releasing neurons both of which induce and help sustain wakefulness
- The ventrolateral preoptic nucleus sits in the posterolateral hypothalamus and induces sleepiness.
- Location of damage determines effect

Case presentation

- EJ is a 3 year old male with a history of unexplained falls and near syncopal attacks. The pt had bruises on his forehead at the time of presentation. The patient also has a history of being a very restless sleeper with daytime sleepiness.

Case presentation

- Does he snore?
- What time does he go to bed? 9pm
- What time does he get up? 6.30am
- Does he have multiple arousals at night?
- How sleepy is he during the daytime
- Has he seen any other specialists

Case presentation

Differentials

- Possible seizure disorder
- Possible cardiac rhythm abnormality
- Hypersomnia of central origin
- Central lesions (Brain tumors)

Case presentation

What is the next step in management?

- Return to neurologist or seek second opinion for possible seizures
- Return to cardiology for further evaluation
- Refer to DCF for possible child abuse
- Refer to sleep specialist for evaluation

Case presentation

- Diagnosis
- Narcolepsy with cataplexy in a 3 year old male.

Narcolepsy

This is a disorder characterized by a tetrad of symptoms including:

- Excessive sleepiness
- Cataplexy
- Hypnagogic hallucinations
- Sleep paralysis

A fifth component is poor quality nocturnal sleep or sleep fragmentation.

Narcolepsy

- Onset almost always occurs after 5 years of age and typically is diagnosed between 15-25 years of age.
- The most common presentation is daytime sleepiness.
- School difficulty is one of the more common reasons for children and parents to present in the clinic

Treatment

Education is of paramount importance and safety issues must be discussed.

Scheduled naps are helpful

Narcolepsy

- FDA approved medications for excessive sleepiness in narcolepsy include:
- Methylphenidate C II 5-60 mg/day
- Dextroamphetamine C II 5-60 mg/day
- Modafinil C IV 200-400 mg/day
- Sodium oxybate C III 4.5-9 gm /night

Agents effective in the treatment of cataplexy

- Sodium oxybate CIII 4.5-9 gms/day
- Clomipramine 10-200 mg heterocyclic antidepressant
- Fluoxetine 10-80 mg/day SSRI
- Venlafaxine 75-375 mg/day SNRI

- Newborns: 16-20hrs/24hr period(2-4 hrs separated by 1-2 hr awake periods
- 1-2 years: 13-16hrs/24hrs. 2-3 hour daytime nap
- 3-5 years: 13hrs decreasing to 11hrs by 5 years of age. Most children stop napping by 5 years of age.
- 6-12 years: 8-11 hours at night. No naps
- Adolescence: 8.5-9.25hrs with delayed sleep onset.

Case presentation 3

- JT is a 13 year old female with a history of difficulty going to sleep at night. She used to go to bed at 8.30pm and fell asleep within 20 minutes. Now she is unable to go to sleep till almost 11pm. Once asleep she sleeps till about 5.30am. She complains of arousals in the second half of the night. She is typically tired at school and occasionally doses off.

Case presentation

- Does she snore?
- How long has this been going on?
- What time does she go to bed? 9pm
- What time does she go to sleep? 11.30pm
- What time does she get up? 6.30am
- Does she have multiple arousals at night? When
- How sleepy is she during the daytime?
- Has she seen any other specialists?

Case presentation

- Has she started having her period?
- What is her diet like?
- Why can she not fall asleep at bedtime?

Diagnosis

- Restless leg syndrome with associated periodic limb movement in sleep
- This condition can be associated with ferritin deficiency <55mg/dl and causes insomnia secondary to difficulty with sleep initiation.
- Also associated with periodic limb movement in sleep which is typically worse in the second half of the night and associated with frequent arousals from sleep.

THE CHILDREN'S SLEEP LABORATORY [redacted]

AKIN AJAYI, MD, FCCP, FAASM, D, ABSM

[redacted] Tel# (407) 898-2767 Fax# (407) 898-9443

www.childrenssleeplab.com

Study Date: 11/30/2016
Name: [redacted]
Date of birth: 9/22/2006
Age of Patient: 10 YEARS
Height: 54.7 in.

Referring Physician: [redacted]
Primary Physician:
Indication for study: Possible Obstructive Sleep Apnea
Weight: 72.2 lbs.
BMI: 17.6

POLYSOMNOGRAM

TECHNIQUE:

EEG: This is a 14 channel sleep polysomnogram performed using VIASYS SOMNOSTAR PRO software. The recorded channels include EEG channels [(C3,M1), (C4,M2), (O1,M1) (O2,M2)], EOG channels (E1,E2) EKG, EMG, limb leads and body positioning

RESPIRATORY: Respiratory channels recorded include thoracic and abdominal belts using Respiratory inductance plethysmography(RIP) via QDC device that allows for the generation of calibrated flow-volume loops and Konno-Mead loops. Also used are Piezo belts for chest and abdomen. Airflow thermistors, snore channel and oxyhemoglobin saturation.

RESULTS:

SLEEP SUMMARY:

The total time in bed was **488.5** minutes with a total sleep time of **346** minutes. Sleep onset latency was **63.5** minutes with a sleep efficiency of **71.%** (nl>85%). Wake after Sleep **79** minutes. The percentage of sleep time spent in stage N1, N2, N3, and REM was **1.**, **10.6**, **79.5**, and **8.8%** respectively with a REM latency of **364** minutes (nl 75-120 minutes). The patient had an arousal index of **14.5** (nl<12) with an arousal awakening index of **19.5** (nl<15). The number of REM awakenings was **12**.

CARDIAC SUMMARY:

The average heart rate asleep was **88.**/minute. EKG showed a normal sinus rhythm .

RESPIRATORY SUMMARY:

The baseline oxyhemoglobin saturation was **97%**, with the lowest being **89%**. The percentage of sleep time with oxygen saturations between 90-100% was **99.9%**, 80-89% was **0.1%**. The apnea index was **0** (nl<1) and the hypopnea index was **0** (nl<1) with a total apnea/hypopnea index of **0** (nl<1). The RERA index was **0** (nl<1) with a total Respiratory Disturbance Index of 0.0 (nl<1). There were a total of **0** central apneas, **0** obstructive hypopneas , **0** obstructive apneas, **0** central hypopneas, **0** mixed apneas, and **0** RERAs recorded. Sleepiness scale is **14**. Snore scale was **1/10**. $EtCO_2$ ranged between: 46-50mmHg was **100%**, High EtCO2 was 49 mmHg.

Apnea index	Hypopnea Index	Apnea/Hypopnea index	RERA Index	RDI	Lowest respiratory oxyhemoglobin desaturation	Arousal awakening index
0	0	0	0	0.0	89%	19.5

MOVEMENT SUMMARY: The PLM index was **28.3** (nl<5). The PLM arousal index was **7.2** (nl<5).

BEHAVIORAL SUMMARY: The Sleep Behaviors Screener was positive for difficulty falling asleep, difficulty staying asleep, 3 sleeping in some place other than the child's bed, use of electronic equipment in the sleep routine and daytime behavioral symptoms such as impulsivity, hyperactivity, difficulty focusing and/or concentrating.

INTERPRETATION: The patient has periodic limb movement in sleep with mild snoring with prolonged sleep latency, sleep fragmentation and prolonged wake after sleep onset interval

SUGGESTIONS: Follow up in sleep clinic for further evaluation and management
Suggest iron studies including serum ferritin levels, vitamin B12 and folate levels, thyroid functions and basic metabolic panel

Akinyemi Ajayi, MD, FCCP, FAASM, D. ABSM
Pediatric Pulmonary and Sleep Medicine

[redacted]

Quanum
Interactive Insights

DOB: 09/22/2006
Sex: F
Phone: [redacted]
Patient ID: [redacted]

Age: 10
Fasting:

Specimen: TM956614L
Requisition: 0008214
Report Status: FINAL / SEE REPORT

Collected: 12/12/2016 11:49
Received: 12/12/2016 11:52
Reported: 12/13/2016 18:16

Client #: 66003981
PANDEY,SHILPA
AJAYI,AKINYEMI
Phone: (407) 898-2767
Fax: (407) 898-9443

THE CHILDREN S LUNG,ASTHMA
2660 W FAIRBANKS AVE
WINTER PARK, FL 32789-3385

⚠ IRON, TIBC AND FERRITIN PANEL (FINAL)

Lab: TP

FERRITIN (2276-4)	12 L	Reference Range: 14-79 (ng/mL)

IRON AND TOTAL IRON BINDING CAPACITY (FINAL)

Lab: TP

IRON, TOTAL (2498-4)	116	Reference Range: 27-164 (mcg/dL)
IRON BINDING CAPACITY (2500-7)	334	Reference Range: 271-448 (mcg/dL (calc))
% SATURATION (2502-3)	35	Reference Range: 8-45 (% (calc))

⚠ BASIC METABOLIC PANEL (FINAL)

Lab: TP

GLUCOSE (2345-7) Fasting reference interval	90	Reference Range: 65-99 (mg/dL)
UREA NITROGEN (BUN) (3094-0)	11	Reference Range: 7-20 (mg/dL)
CREATININE (2160-0) Patient is <18 years old. Unable to calculate eGFR.	0.41	Reference Range: 0.30-0.78 (mg/dL)
BUN/CREATININE RATIO (3097-3)	NOT APPLICABLE	Reference Range: 6-22 ((calc))
SODIUM (2951-2)	141	Reference Range: 135-146 (mmol/L)
POTASSIUM (2823-3)	3.8	Reference Range: 3.8-5.1 (mmol/L)
CHLORIDE (2075-0)	106	Reference Range: 98-110 (mmol/L)
CARBON DIOXIDE (2028-9)	22	Reference Range: 20-31 (mmol/L)
CALCIUM (17861-6)	8.8 L	Reference Range: 8.9-10.4 (mg/dL)

⚠ CBC (INCLUDES DIFF/PLT) (FINAL)

Lab: TP

WHITE BLOOD CELL COUNT (6690-2)	7.1	Reference Range: 4.5-13.5 (Thousand/uL)
RED BLOOD CELL COUNT (789-8)	4.06	Reference Range: 4.00-5.20 (Million/uL)
HEMOGLOBIN (718-7)	11.5	Reference Range: 11.5-15.5 (g/dL)
HEMATOCRIT (4544-3)	34.9 L	Reference Range: 35.0-45.0 (%)
MCV (787-2)	86.0	Reference Range: 77.0-95.0 (fL)
MCH (785-6)	28.4	Reference Range: 25.0-33.0 (pg)
MCHC (786-4)	33.0	Reference Range: 31.0-36.0 (g/dL)
RDW (788-0)	13.0	Reference Range: 11.0-15.0 (%)
PLATELET COUNT (777-3)	329	Reference Range: 140-400 (Thousand/uL)
MPV (776-5)	7.7	Reference Range: 7.5-11.5 (fL)
ABSOLUTE NEUTROPHILS (751-8)	3543	Reference Range: 1500-8000 (cells/uL)
ABSOLUTE LYMPHOCYTES (731-0)	3131	Reference Range: 1500-6500 (cells/uL)
ABSOLUTE MONOCYTES (742-7)	355	Reference Range: 200-900 (cells/uL)
ABSOLUTE EOSINOPHILS (711-2)	43	Reference Range: 15-500 (cells/uL)
ABSOLUTE BASOPHILS (704-7)	28	Reference Range: 0-200 (cells/uL)

Case presentation

- JT is a 15 year old female with a history of difficulty going to sleep at night. She used to go to bed at 8.30pm and fell asleep within 20 minutes. Now she is unable to go to sleep till almost 11pm. Once asleep, if allowed she sleeps till about 8.30am.
- She is now in high school and has been falling asleep in class.
- Her parents are frustrated the reports from school as well as the late sleep onset time

Case presentation

- Does she snore?
- How long has this been going on?
- What time does she go to bed? 9pm
- What time does she go to sleep? 11.30pm
- What time does she get up?
- Does she have multiple arousals at night?
- How sleepy is she during the daytime?
- Has she seen any other specialists?

Case presentation

- Has she started having her period?
- What is her diet like?
- Why can she not fall asleep at bedtime?

Diagnosis

- Delayed Sleep-Wake Disorders
- This is a condition in which a person has an abnormal shift in their circadian sleep drive to a later sleep time. In adolescence there is a natural shift that occurs and can be up to 2 hours.
- These patients once asleep will stay in a sleep pattern and if allowed will sleep the expected number of hors with no disruption in patterns
- When denied adequate sleep, they will manifest with signs of insufficient sleep including daytime sleep episodes

Case presentation

- JT is a 15 year old female with a history of difficulty going to sleep at night. She used to go to bed at 8.30pm and fell asleep within 20 minutes. Now she is unable to go to sleep till almost 12pm. Once asleep, if allowed she sleeps till about 5.30am and wakes up spontaneously and is unable to return to sleep.
- She is typically quite irritated and tired during the day but never falls asleep in class.
- Her parents are frustrated because she has become very antsy and emotional in the past 6 months.

Case presentation

- Does she snore?
- How long has this complaint existed?
- What time does she go to bed? 9pm
- What time does she go to sleep? 11.30pm
- What time does she get up?
- Does she have multiple arousals at night?
- How sleepy is she during the daytime?
- Has she seen any other specialists?

Case presentation

- Has she started having her period?
- What is her diet like?
- Why can she not fall asleep at bedtime?

Diagnosis

- Chronic Insomnia Disorder
- This is present when the insomnia has been present for greater than 3 months and is typically associated with a history of difficulty initiating and maintaining sleep as well as waking up earlier than desired despite adequate opportunity and circumstance for sleep.
- They typically complain of daytime symptoms which may include fatigue, malaise, cognitive impairment and reduced quality of life.
- Typically despite their daytime tiredness, they are unable to sleep.

Insomnia

- Persistent difficulty with sleep initiation, duration, consolidation or quality that occurs despite adequate opportunity and circumstances for sleep and results in some form of daytime impairment.
- An insomnia history must include a reference to persistent sleep difficulty, adequate sleep opportunity and associated daytime dysfunction.

Insomnia

- It is a term applied to people who have a complaint of unrefreshing sleep, difficulty initiating or maintaining sleep. Also defined as less than 5.5hrs of sleep/24hrs
- Most patients with insomnia have daytime effects of the disturbed nighttime sleep such as fatigue, tiredness, irritability or inability to concentrate.

Diagnostic categories

- Chronic insomnia disorder
- Short-term insomnia disorder
- Other insomnia disorders

Behavioral or Psychophysiological subtypes

- Behavioral insomnia of childhood
- Adjustment insomnia
- Psychophysiological insomnia
- Inadequate sleep hygiene
- Paradoxical Insomnia

Case presentation

- SF is a 6 year old female with a history of episodes where she wakes up at night screaming. Occasionally she has episodes where she walks into her parents room, looks around and then either leaves the room or lies down on the floor and goes back to sleep. so words and then difficulty going to sleep at night.
- During the events, especially when screaming, she is unconsolable and does not appear to respond appropriately
- She has no recollection of the events in the morning

Case presentation

- Does she snore?
- How long has this complaint existed?
- What time does she go to bed?
- What time does she go to sleep?
- What time does she get up?
- Does she have multiple arousals at night?
- How sleepy is she during the daytime?
- Has she seen any other specialists?

Case presentation

NREM parasomnia.

- Sleep terrors and Sleep walking.
- These typically occur out of NREM sleep and usually within the first couple of hours of sleep.
- Most events are short-lived, <15 minutes and self terminate. Typically parents are unable to break the child out of the event.

Case presentation

- SF is a 6 year old female with a history of episodes where she wakes up at night screaming and very frightened. She describes very frightful events and is inconsolable. Eventually she goes back to sleep but not without prompting and reassurance.
- During the events, especially when screaming, she is inconsolable but can be woken out of the event
- She can recollect the experience in the morning although not always the substance of it.

Case presentation

- Does she snore?
- How long has this complaint existed?
- What time does she go to bed?
- What time does she go to sleep?
- What time does she get up?
- Does she have multiple arousals at night?
- How sleepy is she during the daytime?
- Has she seen any other specialists?

Case presentation

REM parasomnia.

- Nightmare.
- These typically occur out of REM sleep and usually within the second half of the night.
- Most events are short-lived, <15 minutes and self terminate, patients can usually recollect quite vividly the event right after it occurs. Typically parents are able to break the child out of the event.
- Most patients can recollect the experience if not its contents in the morning