How to take a sleep history

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1.- Clinical history:
Fundamental: the best “sleep test”
Examination: helpful, but not always

2.- Investigations : Sleep tests:
PSG, Video-PSG, respiratory polygraphy, MSLT, MWT, actimetry

3.- To rush into a sleep test without considering the history is of little use

Taking a good sleep history

The bed partner is essential
By definition, people is unconscious during sleep
Parasomnias, PLMs, Snoring, Sleep apnea, Seizures
Daytime sleepiness may be neglected by some patients
Even in insomnia patients, the bed partner information may be helpful
Three main complaints

I cannot sleep as much as I want (insomnia)

Excessive daytime sleepiness (hypersomnia)

Abnormal behaviors during sleep (parasomnias and other problems...noise, apnea, enuresis, seizures...)

What are the main questions?

Nocturnal sleep characteristics

Schedule of sleep during the week and week-end or holidays
Latency to sleep, number of awakenings and cause (bathroom, pain, nightmare...)
Time and type of final awakening (spontaneous/induced)
Feel refreshed / tired on awakening?

Nocturnal sleep pattern

Sleep onset insomnia

Delayed sleep phase

Insufficient sleep

(> 2 hrs additional sleep duration on weekends, high sleep efficiency)
DEFINITION OF INSOMNIA

Two key elements

Nocturnal sleep: Difficulty in sleeping as much or as deep as one would like despite spending enough time in bed.

Diurnal complaints: Difficulty to concentrate, tiredness, rarely sleepiness.

Three types of insomnia

Sleep onset insomnia

Fragmented sleep

Early morning awakening
Behavior before sleep
Reading, TV, radio, worries, rumination, daytime schedule: work, stress, exercise
Any disturbance prevents you from falling asleep?
Restless legs (RLS)
- Urge to move the legs
- Induced by rest
- Improves with movement
- More frequent at night

Symptoms occurring during sleep (I)
Breathing pattern during sleep:
- Snoring (+, ++, +++)
- Other respiratory noises
- Stridor
- Catathrenia
- Apnea
  - Frequency, duration
  - Gasps, choking
  - Arousals (behavior)
  - Nocturia
  - Dry mouth, feel unrefreshed / tired on awakening

Symptoms occurring during sleep (II)
Abnormal movements during sleep
- Does the patient jerk, kick off, hits the wall or the bed partner, falls out of the bed, throws anything out of the night stand?
- Does he/she get out of the bed, bedroom, walks asleep, changes things of the room while asleep?
  - Periodic movements during sleep?
Vocalizations
- Screaming, shouting, whispering, murmuring
- Bruxism?
Movements awake change during sleep?

- Parkinsonian tremor, dyskinesias, chorea, dystonia, tics
  - **DECREASE** during sleep
  - **REAPPEAR** during awakenings
  - Preceded by a few seconds of EEG arousal
  - Never seen with sleep spindles or slow waves

*Wake > awakenings > lightening > N1 > N2 > P > REM > N3-D*

<table>
<thead>
<tr>
<th>Stage</th>
<th>Wake</th>
<th>N 1-2</th>
<th>N 3</th>
<th>REM</th>
</tr>
</thead>
<tbody>
<tr>
<td>time with tremor (%)</td>
<td>35</td>
<td>3.6</td>
<td>1.4</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Cochran-de Cock et al. Brain 2007, 130:450

Other sleep-related symptoms

- Sleep paralysis
- Hypnagogic hallucinations
- Other (RLS)

*Ask the question and make the patient explain to you the symptom again with his/her own words*

Abnormal behaviors asleep.- Parasomnias

- Sleep walking is a NREM parasomnia, frequent in children > adults
- Usually occurs in the first part of the night
- Somnambulism, sleep terrors and confusional arousals are 3 forms of "disorders of arousal"
NREM parasomnias / Disorders of arousal

**General criteria (ICSD III 2014)**
- Recurrent episodes of incomplete awakening from sleep
- Inappropriate/absent responsiveness, cognition or dream imagery
- Partial or complete amnesia for the episode
- The subject may appear confused/disoriented for several minutes
- The events usually occur during the first third of the night

### Confusional arousals
- Confused behavior
- The patient remains in bed
- Absence of terror
- Absence of ambulation

### Sleepwalking
- Ambulation and complex behaviors out of bed
- Lack of autonomic arousal (mydriasis, tachycardia, tachypnea and diaphoresis)

### Nocturnal terrors
- Arousals with abrupt terror, typically beginning with a frightening scream
- Intense fear and signs of autonomic arousal

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NREM parasomnias

**Behaviors described as much worse at home than in the lab**

- Attempts to incorporate
- Vocalizations
  - Talking
  - Shouting
- Looking around the room, disoriented
- Searching
- Walking
- Moving things around the bedroom
- Not stereotyped
- Eyes open
- Dreaming occurs
  - “often or always” - 45%
  - An urge to escape from a danger (76%)

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REM parasomnias

**REM sleep behavior disorder:** A parasomnia occurring in REM sleep

- Vigorous intermittent movements during sleep
- Excessive, abnormal dreams that seem to be acted out
- Mostly men
- Mostly older than 55
- Occurs with irregular frequency

**REM periods are longer at the end of the night**
Question the wife / bed-partner

Does your husband dream a lot?
Does he move arms or legs, punches, kicks off, shouts during sleep?
Has he fallen out from bed or thrown out things of the night stand?

Clinical diagnosis without PSG

is relatively specific in idiopathic RBD, but has a poor sensitivity (33%) in RBD associated to PD (Eisenhier 2001)

patient may not be aware of it or may not tell you spontaneously

RBD and NREM parasomnias. Clues

<table>
<thead>
<tr>
<th></th>
<th>RBD</th>
<th>NREM parasomnia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at onset</td>
<td>&gt; 55</td>
<td>&lt; 30</td>
</tr>
<tr>
<td>Effect of sleep deprivation</td>
<td>-</td>
<td>Predisposing factor</td>
</tr>
<tr>
<td>Precipitated by noise</td>
<td>-</td>
<td>+++</td>
</tr>
<tr>
<td>Modulated by external sources</td>
<td>+/-</td>
<td>++</td>
</tr>
<tr>
<td>Eyes during episode</td>
<td>Closed</td>
<td>Open</td>
</tr>
<tr>
<td>Dream content</td>
<td>Attacked - Fighting</td>
<td>Escaping from a danger</td>
</tr>
<tr>
<td>Action outside the bed</td>
<td>Rare</td>
<td>Common</td>
</tr>
<tr>
<td>Family history</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Daytime behaviors

Daytime schedule: work, stress, exercise

Excessive daytime sleepiness
Sleepiness that is so frequent or intense that appears under abnormal circumstances and interferes with daytime function

Cataplexy

Other symptoms: hallucinations, memory complaints, parkinsonism, autonomic problems
Excessive daytime sleepiness

Is it continuous and perceived by the patient? Falls asleep without noticing anything? Sleep ‘attacks’? sudden onset of sleep

Very important to ask the partner/family

Consequences: work problems, school, driving, social life?)

Sleepiness scales: Epworth sleepiness scale

Probability of dozing off or falling sleep (not just feel sleepy or tired) during 8 routine situations: 0 never, 3 very likely

Auto administered. Normal values (10, 12 in Spain)

EPWORTH SLEEPINESS SCALE
(Measures sleepiness in recent times)  
Johns M, Sleep 1991; 14: 540

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

<table>
<thead>
<tr>
<th>Situation</th>
<th>Chance of dozing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting and reading</td>
<td>.....</td>
</tr>
<tr>
<td>Watching TV</td>
<td>.....</td>
</tr>
<tr>
<td>Sitting, inactive in a public place (e.g. a theater or a meeting)</td>
<td>.....</td>
</tr>
<tr>
<td>As a passenger in a car for an hour without a break</td>
<td>.....</td>
</tr>
<tr>
<td>Lying down to rest in the afternoon when circumstances permit</td>
<td>.....</td>
</tr>
<tr>
<td>Sitting and talking to someone</td>
<td>.....</td>
</tr>
<tr>
<td>Sitting quietly after a lunch without alcohol</td>
<td>.....</td>
</tr>
<tr>
<td>In a car, while stopped for a few minutes in traffic</td>
<td>.....</td>
</tr>
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</table>

(Normal 10 or less)

Other symptoms

Cataplexy

Positive emotions

“when hearing and telling a joke”

“while laughing”

“when angry”

No loss of consciousness, facial clonus.

Differential diagnosis

Relaxation post intense emotions (after a big discussion)

Periodic paralysis

Ask the question and make the patient explain the symptom with their own words
Diurnal naps
  Do you dream?
  Are refreshing?
What part of the day do you feel more alert?

Always evaluate the mood/anxiety of the patient: Hospital Anxiety Depression scale (HAD)