Screening for Sleep Disorders

Root Cause Resolutions
Dental + Medical Integration

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This Sleep Disorders Screening Packet was created to allow providers quick implementation of screening protocols with ready-to-use forms.

The information within this packet is validated and proven by years of research and testing for identification of risks for airway restrictions and sleep disorders and has been simplified down to easy-to-use, single-page documents.

- STOP-Bang Questionnaire
- Excessive Daytime Sleepiness Scale (ESS)
- Pediatric Sleep Questionnaire (PSQ)
- Hypersomnia Disorders Symptom Comparison Chart

Not all fatigue and poor sleep is caused by obstructive sleep apnea. Providing patients with comprehensive screening tools is the best way to help them get true root-cause answers to their sleep, airway, and whole-body health concerns.

Please note, the information in this packet is not intended to take the place of talking with a medical provider and should not be used for diagnosis. This was created as a screening guide only. Regardless of the results, if a patient or provider has concerns about noted symptoms, they are encouraged to discuss them further with a medical and/or dental provider.

STOP-Bang Questionnaire[8]

An easy-to use, validated chairside screening tool for obstructive sleep apnea (OSA) risk levels.

STOP		
Do you Snore loudly? (Loud enough to be heard through a closed door?)	Yes	No
Do you often feel Tired, fatigued, or sleeping during the daytime?	Yes	No
Has anyone Observed you stop breathing during your sleep?	Yes	No
Do you/have you been treated for high blood Pressure?	Yes	No

Bang		
BMI more than 35kg/m2?	Yes	No
Over 50 years of Age?	Yes	No
Neck circumference greater than 16 inches (40cm)?	Yes	No
Male Gender?	Yes	No

Risk Assessment Score		
Low risk - Yes 0-2	Moderate risk - Yes 3-4	High risk - Yes 5-8

If you answered 'yes' to 2-4 questions above and have any of the below listed factors, you are at a higher risk for OSA:

- Male gender
- BMI over 35kg/m2
- Neck circumference >16 inches (40 cm)

Epworth Sleepiness Scale[5]

The Epworth Sleepiness Scale (ESS) is a validated screening tool for assessing daytime sleepiness in a standardized way.

Rate the situations listed below based on how likely you are to fall asleep in contrast to just feeling tired. An Epworth Sleepiness Score ≥ 16 may be an indication of Idiopathic Hypersomnia (IH), and further testing is recommended as the ESS is not specifically designed to identify IH.

Score Guide			
0 - would never fall asleep	1 - slight chance of sleeping	2 - moderate chance of sleeping	3 - high chance of sleeping

Situation	Score			
Sitting and reading	0	1	2	3
Watching TV	0	1	2	3
Sitting inactive in a public place (i.e. theater or meeting)	0	1	2	3
As a passenger in a car for an hour without a breatk	0	1	2	3
Lying down to rest in the afternoon when circumstances permit	0	1	2	3
Sitting and talking to someone	0	1	2	3
Sitting quietly after lunch without alcohol	0	1	2	3
In a car while stopped for a few minutes in traffic	0	1	2	3

Score Assessment	
>10 = excessive daytime sleepiness 10+ = moderate to high risk of OSA	≥ 16 high level of daytime sleepiness

Pediatric Sleep Questionnaire[9]

Originally published in 1997, the Pediatric Sleep Questionnaire (PSQ) has been validated for OSA screening with cardiorespiratory polygraphy (i.e., a diagnostic sleep study) in children. This questionnaire is designed to be used with children age 2 ± 18 years of age.

Answer the following questions as they pertain to your child IN THE PAST MONTH.

Question	Yes (=1)	No (=0)	Don't Know (=missing)
While sleeping, does your child:			
• Snore more than half the time?	Y	N	DK
• Always snore?	Y	N	DK
• Snore loudly?	Y	N	DK
• Have 'heavy' or loud breathing?	Y	N	DK
• Have trouble breathing or struggle to breathe?	Y	N	DK
Have you ever seen your child stop breathing during the night?	Y	N	DK
Does your child:			
• Tend to breathe through the mouth during the day?	Y	N	DK
• Have a dry mouth on waking up in the morning/	Y	N	DK
• Occasionally wet the bed?	Y	N	DK
Does your child:			
• Wake up feeling unrefreshed in the morning?	Y	N	DK
• Have a problem with sleepiness during the day?	Y	N	DK
Has a teacher or other supervisor commented that your child appears sleepy during the day?	Y	N	DK
Is it hard to wake your child up in the morning?	Y	N	DK
Does your child wake up with headaches in the morning?	Y	N	DK
Did your child stop growing at a normal rate at any time since birth?	Y	N	DK
Is your child overweight?	Y	N	DK
This child often:			
• Does not seem to listen when spoken to directly	Y	N	DK
• Has difficulty organizing tasks and activities	Y	N	DK
• Is easily distracted by extraneous stimuli	Y	N	DK
• Fidgets with hands or feet or squirms in seat	Y	N	DK
• Is 'on the go' or often acts as if 'driven by a motor'	Y	N	DK
• Interrupts or intrudes on others	Y	N	DK

The mean response of 'Yes' and 'No' items can vary from 0 to 1. Scores >0.33 are considered positive and suggestive of high risk for a pediatric sleep-related breathing disorder.

Hypersomnia Disorders

Hypersomnia disorders are chronic, long-lasting sleep disorders of the brain (neurologic disorders) that impact the brain's ability to control sleep and wakefulness.[3]

It's important to understand that someone with a hypersomnia disorder can have periods of functioning well (doing daily activities such as work or school) and other times of functioning poorly.[3] Either way, symptoms should be taken seriously.

Two of the more common types of hypersomnia disorders include idiopathic hypersomnia and narcolepsy, either type 1 or type 2.

For idiopathic hypersomnia (IH), symptoms often develop slowly during the teenage years or young adulthood.[4] The main symptom of IH is excessive daytime sleepiness that lasts for at least 3 months. However, there may also be changes to sleep patterns, long naps (greater than 1 hour) that are unrefreshing, and an increased need for more hours of sleep than average.

Hypersomnia[6]

Primary	Secondary
Not caused by another condition	Caused by another condition
Includes narcolepsy, Klein-Levin syndrome, and idiopathic hypersomnia	May result from disorders such multiple sclerosis, depression, obesity, and heart disease

Comparatively, narcolepsy is a chronic disorder with similar and overlapping symptoms of IH, especially excessive daytime sleepiness and brain fog, but it also includes a tendency to fall asleep suddenly and uncontrollably.[7] Additionally, those with narcolepsy may (or may not) experience cataplexy, which are temporary episodes of muscle weakness often brought on by strong emotions such as laughing or anger.[7]

- Narcolepsy Type 1 - cataplexy
- Narcolepsy Type 2 - no cataplexy

During cataplexy events, the person is both conscious and awake, and their breathing is not affected, but they experience sudden loss of muscle power lasting for up to a couple of minutes.[7]

- Common cataplexy effects include buckling at the knees, jaw sagging, and/or head nodding[7]

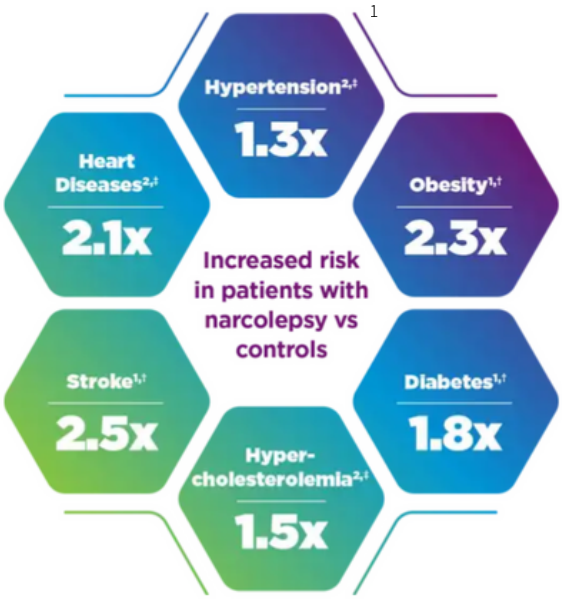
Hypersomnia Disorders

Other identifying features of narcolepsy include fragmented sleep patterns, entering REM sleep quickly, sleep paralysis, and hallucinations, either at the onset of sleep or when waking up. However, these can also occur in people without narcolepsy.

With IH, the cause is unknown. However, narcolepsy has been linked to a person's genetic makeup and is the result of autoimmune activity in a small group of cells in the lateral hypothalamus of the brain where the chemical hypocretin is produced.[7]

- Hypocretin is very important in wakefulness and in keeping the state of being either awake or asleep more stable[7]

As with any type of chronic poor sleep, there are several health risks for patients with narcolepsy, so identification and treatment are beneficial on a whole-body level.



*Odds ratios in patients with narcolepsy vs controls without narcolepsy.

Typically, testing for hypersomnia disorders includes an overnight sleep test to rule out sleep problems (such as OSA) followed by a daytime nap study called a Multiple Sleep Latency Test (MSLT).[7] Patients should seek help from their medical provider for a referral to a specialist if they have concerns about sleep disorders and would like more testing completed.

Please note, there are many possible reasons for excessive sleepiness such as insufficient sleeping habits, depression, and medication side effects, and the information within this packet is to be used as a screening guide only, not for diagnosis or treatment recommendations.

Hypersomnia Disorders

Below is a comparison of common symptoms associated with idiopathic hypersomnia (IH) and narcolepsy types 1 and 2 (NT1 and NT2).

It should be understood that not all symptoms are required to be diagnosed with a hypersomnia disorder [3], so it's important seek further assessment by a healthcare provider about any experienced symptoms listed here.

	Almost always - 90-100% of people with this disorder have this symptom
	More common - 41-89% of people with this disorder have this symptom
	Less common - 11-40% of people with this disorder have this symptom
	Rare - 0-10% of people with this disorder have this symptom

[2]

Symptoms	IH with long sleep	IH without long sleep	NT2	NT1
Excessive daytime sleepiness				
Brain fog				
Long sleep				
Severe sleep inertia				
Needed naps - long, unrefreshing				
Needed naps - short, refreshing				
Sleep-related hallucinations				
Sleep paralysis				
Disrupted nighttime sleep				
Cataplexy				

[2]

Sources

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