City Health Information

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Identifying and Managing Sleep Disorders in Primary Care

- **Sleep disorders are associated with serious health conditions and are common in the general population.**
- **Educate all patients about sleep hygiene and ask about sleep problems.**
- **Assess patients presenting with insomnia, excessive sleepiness, and abnormal nighttime events.**
- **Treat insomnia with behavioral interventions; consider short-term adjunctive pharmacotherapy only for patients who need immediate symptomatic relief.**
- **Refer patients with refractory insomnia, troublesome nighttime activity, or suspected sleep apnea or narcolepsy to a sleep medicine specialist.**

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Adequate, good-quality sleep is essential for alertness, cognition, mood, and overall health.[1] Insomnia is associated with the development of depressive and anxiety disorders.[2,3] Obstructive sleep apnea (OSA) syndrome increases the risk of hypertension, heart disease, stroke, diabetes, and sudden death during sleep.[2,4-6] Both short sleepers (<7 hours) and long sleepers (>9 hours) are at increased risk for all-cause mortality.[7]

Inadequate sleep also contributes to impaired judgment and functional ability, which can result in motor vehicle and other accidents, such as the 2013 derailment of a commuter train in New York City and the space shuttle Challenger accident.[2,8-10]

While sleep disorders are common (**Box 1**),[2,11-14] Blacks face a higher prevalence of sleep disturbances and sleep apnea than Whites (**Box 2**).[15-17] These differences may contribute to disparities in prevalence of diabetes, obesity, cardiovascular disease, and stroke.[15,16,18]

COMMON SLEEP DISORDERS

Insomnia

Insomnia is characterized by either difficulty in falling asleep at night, frequent awakenings during the night, early morning awakening, or feeling unrested after sleeping all night.[2] Patients with insomnia typically complain about daytime tiredness, fatigue, irritability, and mood changes, as well as difficulty with usual activities. Insomnia also causes problems with memory, concentration, and attention.

Common causes of insomnia include

- medical conditions that cause discomfort, such as arthritis, congestive heart failure, hot flashes, chronic pain, thyroid dysfunction, and sickle cell anemia[1];
- excess alcohol intake (see *Addressing Alcohol and Drug Use—An Integral Part of Primary Care* for screening guidelines);
- prescription and over-the-counter medications, including pain relievers, decongestants; antiarrhythmics, beta-blockers, diuretics, antidepressants, and corticosteroids[19];
- depression or anxiety;
- poor sleep habits;
- worry or stress.

BOX 1. NATIONWIDE PREVALENCE OF COMMON SLEEP DISORDERS[2,11-14]

Insomnia

- Among adults:
  - 10% experience insomnia every night for 2 weeks or more,
  - 30% experience sleep disturbance for a few nights every month.
- 28% of patients with insomnia have a current mental health diagnosis.

Obstructive sleep apnea

- 10% of the population have mild obstructive sleep apnea (OSA) and 3.8% to 6.5% have moderate to severe OSA.

Parasomnias (undesirable sleep-related physical events or experiences)[a]

- 90% of the population experience parasomnia during their lifetimes,
- 12% experience 5 or more parasomnias.

Only 6% of people with sleep disturbances seek medical help specifically for the condition, and 70% of those with insomnia have never discussed the sleep problem with a physician.

[a]For example, sleepwalking, sleep terrors and confusional arousals, nightmares, and sleep-related groaning. Most parasomnias are especially common in children.

BOX 2. SLEEP AND RACE[15-17]

- Blacks are almost twice as likely as Whites to report short sleep duration (<7 hours) and more than 60% more likely to report long sleep (≥9 hours).
- Obstructive sleep apnea (OSA) syndrome is almost twice as prevalent in Blacks as in Whites.
- Among children, OSA is 4 to 6 times more prevalent in Blacks than in Whites.
- Stressors related to poor sleep in Blacks include
  - racial discrimination,
  - limited control over job demands or prestige,
  - limited professional and social networks providing emotional or financial support,
  - long work hours,
  - shift work at night,
  - living in an urban neighborhood with high nighttime noise levels.

Disorders of excessive daytime sleepiness

Excessive daytime sleepiness (EDS) is defined as the inability to stay awake and alert during the major waking episodes of the day, resulting in unintended lapses into drowsiness or sleep.[20] EDS may result from many causes, including

- sleep deprivation,
- sedating medications,
- sleep apnea (interruption of a person's breathing during sleep), or
- narcolepsy (an extreme ability to fall asleep whenever in a relaxing environment).

Parasomnias and sleep-related movement disorders

Parasomnias are undesirable sleep-related physical events or experiences, such as sleepwalking, nightmares, and sleep terrors.[20] Sleep-related movement disorders are characterized by relatively simple, usually stereotyped, movements; the most common are restless legs syndrome and sleep-related leg cramps.[2] These complaints may be misconstrued as a seizure disorder.

Sleep problems due to shift work (circadian rhythm disorders)

Patients who work night shifts have difficulties with sleep and with daytime functioning, and are at increased risk for obesity,[21] diabetes,[22] vascular events,[23] and some cancers.[24]

EDUCATE PATIENTS ABOUT SLEEP

Educate all patients about the importance of sleep for their health and daily functioning, offering tips for better sleep (**Box 3**[25,26]).

IDENTIFY SLEEP DISORDERS

Consider asking all patients about their sleep (**Box 4**) as they may not complain of sleep problems.

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FOR PATIENTS WHO REPORT POOR SLEEP (BOX 4, QUESTION 1)

Ask follow-up questions

A patient who reports not sleeping well may improve his or her sleep with behavioral interventions with or without medication. Some patients will need evaluation by a sleep medicine specialist. Ask follow-up questions to determine next steps (**Box 5**[2]).

FOR PATIENTS WHO REPORT DAYTIME SLEEPINESS (BOX 4, QUESTION 2)

Administer the Epworth Sleepiness Scale (registration required) to determine the need for referral to a sleep medicine specialist.

- If the score is abnormal and there is no easily treatable explanation, refer to a sleep medicine specialist.
- If the score is normal, reinforce good sleep hygiene (**Box 3**).

BOX 3. WHAT TO TELL PATIENTS ABOUT SLEEP[25,26]

A good night's sleep is very important to your health. Poor sleep affects learning, memory, attention, and mood, and it can increase the risk of chronic conditions such as diabetes and hypertension.

- Get up and go to sleep at the same time every day, even weekends and holidays.
- Allow at least 1 hour before bedtime for relaxing activities such as taking a warm bath or reading.
- Use your bed only for sleep and sex, and spend no more than 8 hours in bed.
- Avoid computers, television, cell phones, and e-readers before bedtime. The screens give off blue light, which can keep you from sleeping.
- Keep the bedroom quiet, dark, and comfortable.
- Avoid daytime naps. If you must nap, try to limit it to 20-30 minutes before 3 PM.
- Avoid caffeine, nicotine, chocolate, and alcohol before bed.
- Avoid very spicy, heavy, or sugary foods before bedtime.
- Limit liquids after 8 PM so you won't awaken to urinate during the night.
- Exercise regularly, but avoid strenuous exercise within 6 hours of bedtime.

If you can't fall asleep within a reasonable amount of time (about 20 minutes—but don't watch the clock):

- Get out of bed. Go to another room and do something quiet and relaxing.
- Go back to bed when you feel sleep coming on.
- Repeat this process as often as needed throughout the night.

FOR PATIENTS WHO REPORT SNORING (BOX 4, QUESTION 3)

Snoring is due to upper airway obstruction and may be caused by nasal obstruction or other anatomical causes of OSA. Risk factors for OSA include hypertension, male sex, age >50 years, large neck size, body mass index ≥30, and family history of OSA.[2,27] Patients with OSA may report dry mouth on awakening, acid reflux, and daytime sleepiness.

Assess clinical features or administer a validated OSA screen:

- STOP-Bang Questionnaire *or*
- Berlin Questionnaire[28]

- If sleep apnea is suspected:
  - provide weight loss interventions,
  - refer to a sleep medicine specialist for further evaluation,
  - if applicable, at future visits encourage adherence with continuous positive airway pressure (CPAP).
- If sleep apnea is not suspected:
  - counsel to avoid large meals and alcohol,
  - offer weight reduction strategies,
  - follow up in 4 to 6 weeks.

FOR PATIENTS WHO REPORT SHIFT WORK

Counsel patients who work night shifts to adopt habits that will help them adapt to their work schedule (**Box 6**[1]). If the patient's sleep does not improve after 4 to 6 weeks, consider another underlying sleep disorder diagnosis (see *For Patients Who Report Snoring*, above).

BOX 4. KEY QUESTIONS ABOUT SLEEP

1. How well do you sleep?
2. Are you tired or sleepy in the daytime?
3. Do you snore?

BOX 5. INITIAL FOLLOW-UP QUESTIONS FOR PATIENTS WHO REPORT POOR SLEEP[2]

a) Do you have a regular nighttime sleep ritual, and do you avoid napping? ***If no, see Box 3 for guidance.***

b) Do you work a night shift? ***If yes, see Box 6 for guidance.***

c) Do you have discomfort of your legs or jerking at night?[a] ***If yes, see Box 3 for guidance and recommend leg massage or a hot bath at night. Follow up in 4 to 6 weeks.***

d) Do you snore, gasp, choke, or stop breathing during sleep?

e) Do you have any abnormal behavior during the night, such as screaming, falling out of bed, or violent activity?

If yes to question d or e, refer to a sleep medicine specialist for evaluation.

[a]*Possible restless legs syndrome.*

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MANAGE INSOMNIA

For patients who report symptoms of insomnia (see page 2), assess for common mental health conditions and treat the insomnia, even if there is an underlying cause.

Screen for depression and anxiety

Insomnia often coexists with mental health disorders. Screen patients with insomnia for depression and anxiety (**Box 7**[2,29,30]).

Treat insomnia

Treatment for insomnia is behavioral intervention.

- Reinforce good sleep hygiene (**Box 3**).
- Recommend that the patient spend no more than 7.5 hours in bed. Patients with insomnia may try to make up for lost sleep by staying in bed longer, making it harder to fall asleep the following night.
- If the insomnia is severe or fails to improve in 4 weeks, refer to a sleep specialist.
- If there is no evidence of underlying sleep apnea, refer for cognitive behavioral therapy for insomnia (CBTI) (**Resources**).

Consider short-term adjunctive pharmacotherapy only for patients who need immediate symptomatic relief while behavioral methods are being implemented.

- Prescribe a short-acting agent that is FDA-approved to treat insomnia and educate patients about risks (**Box 8**[31-33]).
- Use extra caution when prescribing sleep medications to older adults.
- Do not prescribe medication when sleep apnea is suspected.

WHEN TO REFER

Refer to a sleep specialist for definitive diagnosis and management in cases of

- insomnia that does not resolve despite 4 to 6 weeks of treatment (or refer to a provider who offers CBTI; see **Resources**),

BOX 6. WHAT TO TELL PATIENTS ABOUT SHIFT WORK[1]

If you work the night shift:

- Get more daily sleep: Take naps and allow more time for your regular sleep.
- Use bright lights in your workplace.
- Don't change shifts unless you have to, so that your body won't need to make more adjustments.
- Keep your bedroom dark and quiet during daytime sleep.
- Use caffeine only during the first part of your shift.
- Help adjust the sleep pattern by going to bed after midnight on your days off.

BOX 8. WHAT TO TELL PATIENTS ABOUT SLEEP MEDICATIONS[31-33]

- Medicine is a short-term treatment that should be combined with behavior changes. In the long term, lifestyle changes usually work by themselves.
- Sleep medicines can become habit-forming and carry other risks.[a]
- Take the medicine exactly as shown on the label.
- Do not share the medicine with anyone.
- Tell all your other providers that you're taking this medicine.

[a]Melatonin agonist (ramelteon): daytime drowsiness, dizziness, nausea, fatigue, headache.

Z drugs (zaleplon, zolpidem, eszopiclone): next-day impairment, activities during sleep (eg, driving, eating), abnormal thoughts and behavior.
Orexin receptor antagonist (suvorexant): daytime drowsiness, headache, next-day impairment.
Selective antihistamine hypnotic (doxepin): drowsiness, activities during sleep (higher risk with use of alcohol or other sedating medications), next-day impairment.
Benzodiazepines (triazolam, estazolam, temazepam, flurazepam): dependence and withdrawal symptoms (sleep problems may get worse when you stop taking the medicine), daytime drowsiness, dizziness, cognitive impairment, falls (especially in older people), serious allergic reactions, increased risk of fatal overdose when taken in combination with opioid analgesics, alcohol, or other central nervous system depressants. See *Judicious Prescribing of Benzodiazepines* for complete guidance.

See product prescribing information for indications and full safety information.

BOX 7. MENTAL HEALTH SCREENING FOR PATIENTS WITH SLEEP DISORDERS[2,29,30]

Sleep problems can affect your mood, so I'll ask a few questions.

Condition	Screen	Next Steps
Depression[a]	Patient Health Questionnaire (PHQ)-2: Over the past 2 weeks, have you been bothered by: 1. Little interest or pleasure in doing things? 2. Feeling down, depressed, or hopeless?	If "yes" to either question, screen with the PHQ-9. See Detecting and Treating Depression in Adults for the PHQ-9 and depression management guidelines.
Generalized anxiety disorder (GAD)	GAD-7	See Clinical Guidelines for Adults Exposed to the World Trade Center Disaster for the GAD-7.

[a]For adolescents, use screening tools described in Promoting Healthy Behaviors in Adolescents.

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- suspected restless legs syndrome (nighttime leg discomfort) that does not resolve after 4 to 6 weeks,
- falling asleep during the day,
- troublesome nighttime activity,
- suspected sleep apnea, or
- suspected narcolepsy.

SUMMARY

Sleep disorders are common but often unnoticed in primary care. Educate all patients about sleep hygiene and ask about sleep problems. Manage insomnia with behavioral interventions; reserve short-term adjunctive pharmacotherapy for patients who need immediate relief while implementing new behaviors. Refer patients with refractory insomnia, troublesome nighttime activity, or suspected sleep apnea or narcolepsy to a sleep medicine specialist. ◆

SLEEP QUIZ

1. Which of the following is NOT recommended as part of good sleep hygiene?
   A. Maintaining a regular schedule for bedtime and wakening.
   B. Avoiding watching TV or using electronic devices before bed.
   C. Having a glass of wine before bed to relax.
   D. Getting regular exercise.

2. Which of the following is not a parasomnia?
   A. Sleepwalking.
   B. Nightmares.
   C. Narcolepsy.
   D. Sleep terrors.

Answers: 1–**C**; 2–**C**.

RESOURCES FOR PROVIDERS

City Health Information Archives:
www1.nyc.gov/site/doh/providers/resources/city-health-information-chi.page

- Detecting and Treating Depression in Adults (includes PHQ-9 depression screen): www1.nyc.gov/assets/doh/downloads/pdf/chi/chi-35-1.pdf
- Addressing Alcohol and Drug Use—An Integral Part of Primary Care: www1.nyc.gov/assets/doh/downloads/pdf/chi/chi-35-3.pdf
- Clinical Guidelines for Adults Exposed to the World Trade Center Disaster (includes GAD-7 screen for anxiety): www1.nyc.gov/assets/doh/downloads/pdf/chi/chi27-6.pdf
- Judicious Prescribing of Benzodiazepines: www1.nyc.gov/assets/doh/downloads/pdf/chi/chi-35-2.pdf
- Promoting Healthy Behaviors in Adolescents (includes mental health screens for adolescents): www1.nyc.gov/assets/doh/downloads/pdf/chi/chi28-2.pdf

Sleep Questionnaires

- Epworth Sleepiness Scale (registration required): epworthsleepinessscale.com/about-the-ess/
- STOP-Bang Questionnaire: www.stopbang.ca/osa/screening.php
- Berlin Questionnaire (sleep apnea): cpap.1800cpap.com/tests/BerlinQuestionnaire.pdf

RESOURCES FOR PATIENTS

American Academy of Sleep Medicine

- Essentials in Sleep: www.sleepeducation.org/essentials-in-sleep
- Find a Sleep Facility Near You: www.sleepeducation.org/find-a-facility

US Department of Health and Human Services

- Your Guide to Healthy Sleep: www.nhlbi.nih.gov/files/docs/public/sleep/healthy_sleep.pdf

University of Pennsylvania Department of Psychiatry

- CBT-I Provider Directory: www.med.upenn.edu/cbti/provder_directory.html

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