SLEEP REVIEW OF SYSTEMS
"ISNORED"

Incorporate a *Sleep Review of Systems* into your *General Review of Systems.* It' s easy to remember the phrase: "I SNORED." (Modified from *I SNORED* by Edward F. Haponik, M.D., Wake Forest University School of Medicine)

I - **I**nsomnia
S - **S**noring and **S**leep Quality
N - **N**ot Breathing
O - **O**lder or **O**bese
R - **R**estorative or **R**efreshing Sleep
E - **E**xcessive Daytime Sleepiness
D - **D**rugs or Alcohol

"I SNORED" will help you to remember to ask about sleep disorders in your practice. Sleep disorders afflict millions of Americans and remain undiagnosed in a significant number of individuals, partially because their physicians don't inquire about sleep problems or excessive daytime sleepiness.

I—INSOMNIA is very common, and a recent Gallup Poll showed that 9% of respondents had chronic insomnia and 27% had occasional insomnia. Of the adults with insomnia, 69% didn't mention their sleep problems to their physician.

When asking about insomnia, ask about the symptoms frequency. Also ask if the patient falls asleep easily only to awaken at 3 a.m. (sleep maintenance insomnia is often a prominent feature of depression); also ask if the patient has difficulty falling asleep (more commonly seen in people with poor sleep hygiene or anxiety).

S—SNORING and **SLEEP QUALITY** are screening questions for sleep apnea. Although not as common as insomnia, it may have life-threatening consequences if it's not adequately treated. In the United States, 4% of rniddle-aged men and 2% of middle-aged women meet criteria for sleep apnea syndrome. There are two types of sleep apnea: (1) obstructive sleep apnea (OSA) where the upper airway collapses and respiratory efforts continue without any air movement which usually terminates with an arousal; and (2) central sleep apnea (CSA) where the respiratory control center in the pons/brainstem fails to initiate respiration, so there is no respiratory effort or air movement. Risk factors for obstructive sleep apnea are: increasing age (**0 - OLD**), male sex, obesity (**0- OBESE**), especially a neck collar size > 17 inches in men, and > 16 inches in women, chronic loud snoring, excessive daytime sleepiness, personality changes or cognitive difficulties, and fatigue. In addition, many individuals with sleep apnea report poor sleep quality due to chronic sleep fragmentation.

N—NOT BREATHING. The sleep apnea syndrome is characterized by recurrent episodes of cessation of respiratory airflow during sleep. These pauses in breathing lead to sleep fragmentation (due to repetitive arousals) and decreases in oxyhemoglobin saturation (hypoxemia).

O—OLDER (see SNORING above) or OBESE.

R—RESTORATIVE or REFRESHING SLEEP. Normal persons who have adequate sleep time in awakening feeling refreshed with a high energy level. Sleep has many functions including memory consolidation, tissue repair, and many other physiological consequences. Many of the more than 88 sleep disorders may result in non-restorative sleep because of multiple nocturnal awakenings or disruption of the normal sleep architecture.

E—EXCESSIVE DAYTIME SLEEPINESS. Excessive daytime sleepiness is when people have the strong urge to sleep during inappropriate times or even drift into sleep. Patients report falling asleep doing inactive tasks such as reading or watching television. There are subjective measures of daytime sleepiness including the Epworth Sleepiness Scale, Stanford Sleepiness Scale, and a Linear Analog Scale. It's important to ask whether the patient falls asleep while driving since this may lead to morbidity and mortality and patients should be instructed to refrain from driving their sleep disorder is diagnosed and adequately treated. The differential diagnosis of excessive daytime sleepiness is large and includes sleep deprivation (most common), sleep apnea, and sleep disordered breathing, narcolepsy, idiopathic hypersomnolence, periodic limb movement disorders of sleep, psychiatric disorders, nocturnal seizures, drug and alcohol use, and circadian rhythm disorders.

D—DRUGS or ALCOHOL. There are many drugs which can cause insomnia, hypersomnia or interfere with normal sleep architecture including REM (rapid eye movement) sleep or dream sleep. It's important to ask about prescription drugs, over-the-counter drugs, herbs, other legal or illegal substances, and alcohol consumption. Also ask about how these drugs have altered daytime alertness and sleep. Commonly prescribed medications which can affect sleep and wakefulness include: antidepressants, lithium, neuroleptics, xanthines, dopaminergic agents, anorectics, anticonvulsants, analgesics (including opiates), antihistamines, antiemetics, beta-adrenergic receptor antagonists or agonists, alpha-adrenergic antagonists and agonists, diuretics, smooth muscle relaxants, angiotensin-converting enzyme (ACE) inhibitors, corticosteroides, statins and calcium channel blockers. "Social" drugs include nicotine, alcohol, THC, LSD, cocaine and more recently, meta-amphetamines, and ecstasy.

So, include in your Review of Systems, **I SNORED**, and you will identify patients with sleep disorders.