Excessive Daytime Sleepiness Information Sheet for MobileSleepDoc Users:

Definitions:

- Daytime sleepiness may be considered excessive when someone subjectively complains that they are too tired during the day or when it interferes with daily functioning, such as job performance. In a more clinical sense, the American Academy of Sleep Medicine defines excessive daytime sleepiness (EDS) as the inability to maintain wakefulness and alertness during the major waking episodes of the day, with sleep occurring unintentionally or at inappropriate times almost daily for at least three months.

- EDS should be distinguished from fatigue, which refers to a subjective lack of physical or mental energy (as opposed to sleepiness). Clinical fatigue incorporates three main components: inability to physically initiate activity (e.g. generalized weakness), reduced stamina for physical activity, and difficulty with concentration, memory, and emotional stability. Patients may also use other terms, such as tiredness and low energy, to describe their symptoms. These terms have distinct clinical meanings and may be related to different medical conditions and have different causes.

- EDS should also be distinguished from hypersomnia, which, although a term that encompasses EDS, can also refer to excessive time spent asleep during the night.

Causes:

- There are numerous possible causes of EDS, some of the most common of which include lack of sleep, depression, medications, and other medical and psychiatric disorders. EDS may also occur secondary to other sleep disorders, such as obstructive sleep apnea and narcolepsy. Excessive daytime sleepiness, therefore, is a *nonspecific* symptom, but one that may signal a significant underlying problem, and **one that may be associated with an increased risk of accidents—an extremely important personal and public health concern.**

Diagnostic Tests:

- There is no one single test that is sufficient to diagnose EDS.

- Evaluation of EDS should start with a thorough history and physical examination. The history should focus on a detailed description of the patient's symptoms, and attempt to differentiate sleepiness from other common complaints, such as fatigue. The clinician should ask questions about how likely it is that the patient will fall asleep during different low stimulus situations, such as long drives, reading, or watching television, as included in the Epworth Sleepiness Scale. A patient's score on the Epworth Sleepiness Scale provides a quantifiable measure of sleepiness. *A score of 10 or higher is considered abnormal*.

- Questions should include those about disturbed sleep (e.g. having to get up during the night to use the bathroom), the duration of the symptoms (i.e. longterm vs. shorterm), and the sleep environment (e.g. whether the bedroom is dark and quiet). It may be useful to keep sleep logs in MobileSleepDoc in order to provide an accurate and detailed sleep history.

- The history should include symptoms specific to certain sleep disorders. If example, loud snoring, pauses in breathing during sleep (witnessed by a bed partner), or waking up choking or gasping, suggest a diagnosis of obstructive sleep apnea. If symptoms include leg discomfort, an urge to move, restless limbs, or limb movements during sleep as report by a bed partner, this may point to a sleep-related movement disorder, such as restless leg syndrome. Sleep attacks, the inability to move for several moments upon first awakening (called sleep paralysis), or the experience of sensory hallucinations when transitioning from sleep to wakefulness (hypnopompic hallucinations) or vice versa (hypnagogic hallucinations) may indicate narcolepsy.

- Mood disorders, like depression, and medications may be cause sleepiness.

- If a sleep disorder is suspected, a polysomnogram (a sleep study conducted in a lab and attended by technicians) should be considered.
    - A polysomnogram (PSG) records information about breathing and airflow. Cessations or decreases in airflow or excessive snoring may indicate a diagnosis of obstructive sleep apnea.
    - A PSG also records limb movements, which may indicate a movement disorder, such as periodic limb movements.
    - PSG measures the onset and duration of each sleep cycle. For example, if the PSG shows that a patient enters REM sleep quickly, a diagnosis of narcolepsy may be considered.
    - If obstructive sleep apnea is suspected as the sole cause of EDS, and the patient is felt to be a good candidate, a home sleep study may be sufficient.

- If narcolepsy is suspected, a multiple sleep latency test (MSLT) is considered. This test is also performed in a sleep laboratory and consists of five daytime nap attempts while the sleep/wake state is recorded. The test measures how quickly the patient falls asleep (sleep latency), and whether REM sleep is recorded during the napping time. If the average sleep latency is within 8 minutes, combined with at least two naps where the patient reaches REM sleep, a diagnosis of narcolepsy may be considered.

Treatments:

- Treatments for excessive daytime sleepiness are based on the underlying cause(es), after a thorough assessment of the many possible causes, including multiple sleep disorders. Close follow-up is needed to be certain that daytime sleepiness improves with treatment of the suspected cause(es).

Further reading:
Chervin, RD, MD, MS. Approach to the Patient with Excessive Daytime Sleepiness, from UpToDate, (Wolters Kluwer). Updated Feb 25, 2013.