

### Pathophysiology

Breathing Disruption during sleep the lasts at least 10 seconds and occurs a minimum of five times in an hour.

Most common airway obstruction by soft palate or tongue.

### Risk Factors

Obesity (Modifiable)	A large Uvula (Non-modifiable)
Short neck (Non-modifiable)	Smoking (Modifiable)
enlarged tonsils or adenoids (Both)	oropharyngeal edema (Non-Modifiable)
Male gender (non-modifiable)	High Blood Pressure (Both)

Long term effects of chronic OSA includes increase risk for HTN, Stroke, Cognitive deficits, weight gain, Diabetes, and Pulmonary and Cardiovascular disease

### Signs and Symptoms

Snoring heavily	Transient Apnea
Excessive daytime sleepiness	Morning headache
Insomnia	Restless Sleep (waking up tired)
Nightmares	Memory loss
Performance deficiencies	GERD
Depression	Moody (personality changes)
Nocturia	Impotence

Usually verified by family members who observe the problem when the adult sleeps.

### Interventions

**Positional Therapy** Mild sleep apnea can be treated by changing the patient's sleeping position. Sleeping on one's side, or with the head of the bed elevated can help to reduce or eliminate episodes of apnea.

### Interventions (cont)

**Oral Appliance** Use of an oral appliance, such as a mouth guard, may help to prevent obstruction of the patient's airway by shifting the jaw and tongue forward.

**Continuous Positive Airway Pressure (CPAP)** CPAP therapy is used in patients w/ severe OSA who experience 15 or more episodes of apnea in one hour. CPAP provides positive pressure upon both inspiration and expiration, to maintain an open airway. An Alternative intervention called **BiPAP** can also be used to treat OSA. This type of therapy may be better tolerated by patients due to higher inspiratory pressure, and lower mean pressures during expiration.

### Interventions (cont)

**Surgery** Surgery may be indicated to treat OSA if the other non-surgical interventions are ineffective. A uvulopalatopharyngoplasty (UPPP) can be performed to remove tissues in the throat, such as tonsils, uvula, and soft palate, that are causing airway obstruction.

Patients should be educated about what to expect after surgery, including sore throat, halitosis (bad breath), and snoring.

### Assessment : Nursing

The most accurate test for Sleep Apnea is an overnight sleep study. The patient is directly observed while wearing a variety of monitoring equipment to evaluate depth of sleep, type of sleep, respiratory effort, oxygen saturation, and muscle movement. Monitoring devices include an electroencephalogram (EEG), and electrocardiograph (ECG), a pulse oximeter, and electromyograph (EMG).

Patient are often unaware that they suffer from sleep apnea. A beginning assessment includes having the patient complete the STOP-Bang Sleep Apnea Questionnaire

### Pharmalogical TX

One drug that has been approved to help manage the daytime sleepiness associated with OSA (modafinil [Attence, Provigil]) and may help patients who suffer from *narcolepsy* (uncontrolled daytime sleep) by promoting daytime wakefulness. This drug does not treat the cause of OSA. Sleep-Inducing sedatives also are not considered first-line therapy.

