**POLYSOMNOGRAPHY IS THE MOST COMMONLY USED TEST IN THE DIAGNOSIS OF** [**OBSTRUCTIVE SLEEP APNEA SYNDROME**](http://emedicine.medscape.com/article/295807-overview)

Sandra Onyinyeeked, N.Gerasimchuk

Firstly pulmonology is the subspecialty of internal medicine concerned with diseases of the lungs and bronchial tubes, which often involves evaluation of the upper respiratory tract (nose, pharynx and throat) as well as the heart. Pulmonology often involves managing patients who need life support and mechanical ventilation. Pulmonologists are specially trained in diseases and conditions of the chest, such as pneumonia, asthma, tuberculosis, emphysema, or complicated chest infect.

**Some modern examination methods**:

- Computed Tomography of the chest which can be useful in the case of emphysema

- Endo-bronchial ultrasonography, a method that combines fiber optics and ultrasonic waves

- Fluorescence bronchoscopy

- Scintigraphy and other methods of nuclear medicine

- Positron emission tomography (especially in lung cancer)

**- Polysomnography (sleep studies) commonly used for the diagnosis of Sleep apnea**

- Desktop spirometers, hand-held spirometers

- Usage of peak flow meters, used to measure peak expiratory flow rate, that is the maximum speed of expiration

- Usage of compact pulse oximeters to measure blood oxygen saturation level

Nocturnal, laboratory-based **polysomnography (PSG)** is the most commonly used test in the diagnosis of [**obstructive sleep apnea syndrome**](http://emedicine.medscape.com/article/295807-overview) **(OSAS).** It is often considered the criterion standard for diagnosing OSAS, determining the severity of the disease, and evaluating various other sleep disorders that can exist with or without OSAS. PSG consists of a simultaneous recording of multiple physiologic parameters related to sleep and wakefulness. See the image below. PSG can directly monitor and quantify the number of respiratory events (ie, obstructive, central, or complex) and the resultant hypoxemia and arousals related to the respiratory events or even independent of the respiratory events.[[1]](javascript:showrefcontent('refrenceslayer');) A single-night PSG is usually adequate to determine if OSAS is present and the degree of the disorder. However, night-to-night variability may exist in patients who have a high probability but a low apnea index. In addition, variability in laboratory equipment, scoring technique, and interscorer reliability may also play roles. As is well known, PSG scoring also usually varies from laboratory to laboratory. PSG is used to evaluate abnormalities of sleep and/or wakefulness and other physiologic disorders that have an impact on or are related to sleep and/or wakefulness.