

Polysomnography – A Sleep Study

Polysomnography (PSG) describes a technique that is usually carried out within a dedicated sleep laboratory in hospital, although some sleep centres will perform home polysomnography.

Lots of different physiological data is recorded including; **electro-encephalography** (EEG) to monitor electrical activity in the brain. Eye movements are recorded using **electro-oculography** (EOG) and muscle tone and leg movements are recorded using **electromyography** (EMG), typically recording from the chin and both legs. There are detailed assessments of breathing using nasal flow, chest and abdominal belts. Snoring, leg movements and any abnormal breathing can thus be detected. Oximetry is carried out to look at blood oxygen levels. This is usually done with a probe placed on a finger.

Finally there is overnight video recording which enables sound and body movements to be recorded.

All of this data is used to precisely define whether someone is awake or asleep and what sleep stage they are in. Any abnormal movements or behaviours can be recorded. The precise percentages of time spent within each sleep stage is calculated. The PSG is considered the gold standard for measurement of sleep and is required for the diagnosis of some but not all sleep disorders.

