

Sleep disorders are a common range of conditions that frequently present to primary care. Primary care observational studies have revealed that up to 25% of consulting patients may be suffering with a sleep disorder, including insomnia, obstructive sleep apnoea, restless leg syndrome, narcolepsy or parasomnias. Up to 80% are not immediately noticable, and can take years to diagnose and treat.

A number of screening tools can be used to assess for effects of poor sleep quality and risk of sleep disordered breathing. Two commonly used validated tools include tthe STOP-BANG and Epworth questionnaires. Patients can be probability scored for risk of having sleep disordered breathing, and excess fatigue. Once a sleep disorder or unexplained fatigue is considered, early referral for sleep diagnostics and therapies can have a significant impact on cardiovascular, metabolic and quality of life measures.

#### Obstructive sleep apnoea

The most common sleep disorder is obstructive sleep apnoea hypopnoea syndrome (OSA). It is characterised by repetitive closure of the upper airway, resulting in oxygen desaturations and sleep fragmentation, caused by frequent awakening to correct the hypoxia. The prevalence of adult OSA is increasing due to the global rise in obesity, and the phenomena of the ageing population. Up to 10% of adults will suffer from sleep apnoea at some point in their lives.

OSA presents with a variety of symptoms. The most common symptom is snoring, although it is important to note that with snoring prevalence of 50%, not all snorers suffer with OSA. Other commonly reported sleep symptoms are waking frequently during the night, including nocturia; feeling little or no refreshment after sleep; daytime somnolence; experiencing a dry mouth,

choking sensations or nightmares during the night; and partners reporting that the patient appears to stop breathing or hold their breath whilst asleep.

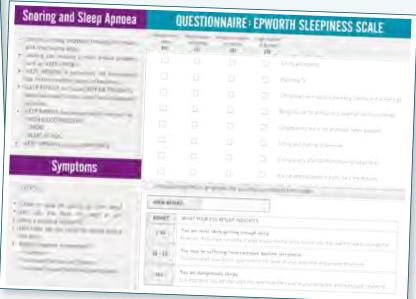
There is strong evidence that consultations with primary care are increased up to 2 fold in the year prior to a diagnosis of OSA, often with secondary complications including cardiovascular disease, psychosocial symptoms including low mood, reduced libido, poor concentration, or chronic fatigue.

Evidence points to significantly increased risks of cardiovascular events, and mortality in patients who experience severe OSA and go untreated, meaning that early diagnosis of symptomatic patients is essential. There are diverse pathways leading to increased cardiovascular events, including sympathetic nervous system over-activity, selective activation of inflammatory molecular pathways, endothelial dysfunction, abnormal coagulation and metabolic dysregulation, the latter particularly involving insulin resistance and disordered lipid metabolism.

There is a strong association with insulin resistance, as sleep apnoea is an independent risk factor for glucose intolerance and metabolic syndrome.

Interventional studies have demonstrated an up to 4 fold reduction in the risk of cardiovascular events, and a 24 hour mean blood pressure reduction of 4 mmHg with treatment intervention of sleep apnoea.

# STOP BANG Questionnaire Height \_\_\_\_ inches/cm Weight \_\_\_\_ lb/kg Age Male/Female Collar size of shirt: S, M, L, XL, or \_\_\_\_\_ inches/cm Neck circumference\* \_\_\_\_ cm Snoring Do you snore loudly (louder than talking or loud enough to be heard through closed doors)? Yes No Do you often feel tired, fatigued, or sleepy during daytime? Has anyone observed you stop breathing during your sleep? Do you have or are you being treated for high blood pressure? BMI more than 35 kg/m<sup>2</sup>? 6. Age Age over 50 yr old? Yes No 7. Neck circumference Neck circumference greater than 40 cm? 8. Gender Gender male? \* Neck circumference is measured by staff High risk of OSA: answering yes to three or more items Low risk of OSA: answering yes to less than three items A Tool to Screen Patients for Obstructive Steep Apnea Paracos Chung, Feb. P.C., Essiay Vegneswarin, M.B.S., 1 Pu Liao, M.D., Sanson A. Ching, Ph.D. § Paracos Chung, Feb. P.C., C. Stally Vegneswarin, M.B.S., A Khijelinder, M.D., † Cole M. Shapiro, F.R.C.P.C.8 Santifar Vairreinantein, M.B.S. Sazzadd Islam, M.S., A Khijelinder, M.D., † Cole M. Shapiro, F.R.C.P.C.8 Paracosching, 708. Illust 21-depaired 208. Machinas Santin Information in Elimina & Wolm Ltd. Machineling, 708. Illust 21-depaired 208. Machinas Santin Information in Elimina & Wolm Ltd.



### Diagnosis

Following a detailed sleep history and focused examination, patients would undergo a diagnostic multi-channel sleep study, often in the home environment with a portable overnight recorder. (Image 1)

The diagnosis is made by demonstrating desaturation events associated with flow, and respiratory effort disturbance as a result of obstruction of the airway. Severity is classified according to the frequency of events, ranging from normal (<5 per hour), to severe (>30 per hour).

Table: severity classification of OSAHS

#### **Treatment**

Following a positive sleep study, patients are defined as suffering with OSAHS if they score an Epworth score >9, suggesting the syndrome of sleep apnoea and daytime somnolence. Whilst some therapies such as prosthodontic mandibular advancement splints can help with mild sleep apnoea or snoring, the gold standard treatment for moderate to severe OSAHS is Continuous Positive Airways Pressure (CPAP), which is recommended by NICE.

The therapy provides a pneumatic splint to maintain



airway patency, eliminating the secondary effects of sleep apnoea, hence reducing the cardiovascular risk, as well as the metabolic complications, psychosocial and chronic fatigue effects. A multi-disciplinary clinic including a respiratory sleep specialist, ENT surgeon, with dietetic specialists is the optimum set-up to reduce disease severity.

The Parkside Sleep Clinic provides a seamless diagnostic and therapy service for patients suspected of suffering with sleep disordered breathing, including multi-disciplinary working, a holistic and patient centred approach to diagnosis and management of these common under-recognised conditions.

The Parkside Sleep Clinic provides a seamless diagnostic and therapy service for patients suspected of suffering with sleep disordered breathing

## **Key learning points:**

- Sleep apnoea is a common cause of chronic fatigue which can manifest with secondary symptoms such as depression, loss of libido, memory impairment or difficulty at work
- 2. Untreated obstructive sleep apnoea hypopnoea syndrome (OSAHS) is associated with a quadrupling of the risk of cardiac arrhythmias, increased cardiovascular mortality, poorly controlled hypertension and metabolic syndrome
- 3. The best treatment for moderate to severe obstructive sleep apnoea hypopnoea syndrome is nocturnal CPAP.

