

1. Personalised Care in Sleep Medicine - Why does it matter?



This is the first in a series of 5 blogs that explores the concept of Personalised Sleep Medicine.

Personalised sleep medicine management is an important consideration for individuals with sleep apnoea for several reasons:

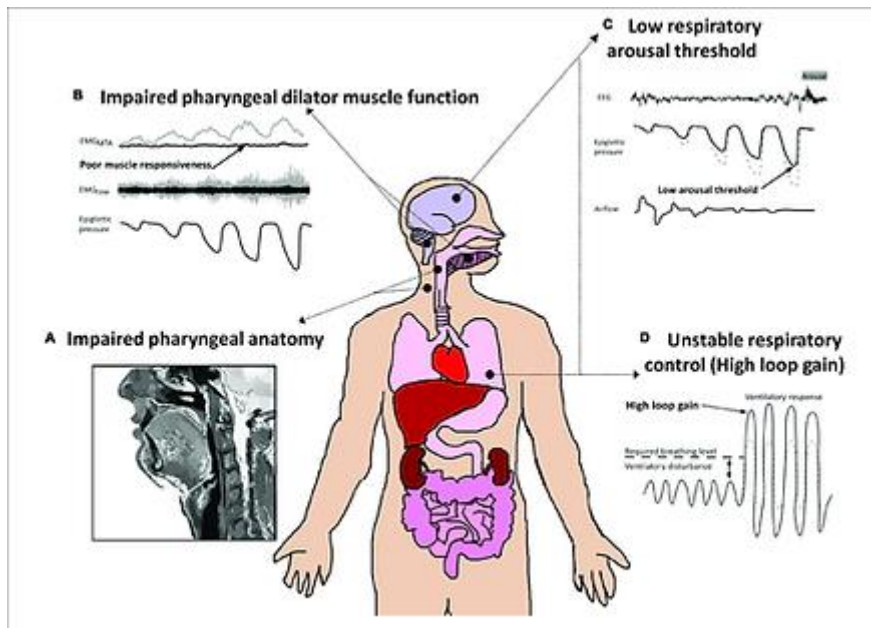
Variability in clinical presentation

Sleep apnoea can present with diverse clinical endotypic traits and phenotypes and a range of symptoms. Some patients experience excessive daytime sleepiness, while others may suffer from insomnia, cognitive impairment, or cardiovascular complications. Some sufferers report witness loud snoring, witnessed apnoea spells and even restless leg syndrome. This variability in presentation highlights the importance of a personalised approach to the assessment and treatment of this common condition (1-2).

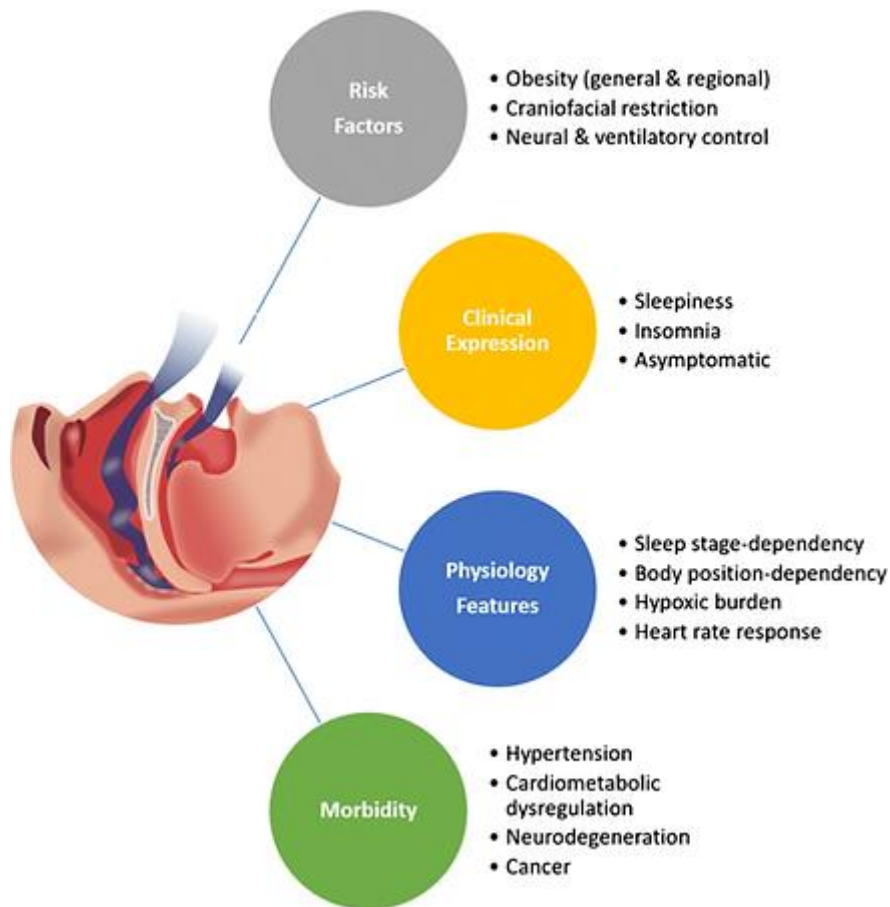
Physiological endotypes and phenotypes

Recent research has identified distinct endotypic traits and physiological phenotypes in people with sleep apnoea based on the underlying mechanisms of

upper airway obstruction during sleep. These endotypes and phenotypes may respond differently to various treatment modalities, which requires a personalised approach to optimise therapy effectiveness (3).



OSA phenotypes



Comorbidities and their interactions

Sleep apnoea often coexists with other medical conditions, such as hypertension, diabetes, and cardiovascular diseases. The presence of comorbidities can influence the severity and the subsequent management of sleep apnoea (4-5). A personalised approach to treatment takes into consideration these comorbidities and their interactions, leading to a comprehensive and integrated treatment plan.



Treatment tolerance and adherence

The standard treatment for sleep apnoea, continuous positive airway pressure (CPAP) therapy, is effective but can be poorly tolerated or rejected by some patients for a number of reasons (6). Personalised care can involve exploring alternative treatment options, such as oral appliances, positional therapy, or surgical interventions, based on individual preferences, anatomical factors, and treatment response (7).

Precision diagnosis and monitoring

Personalised sleep medicine utilises advanced diagnostic techniques, such as home sleep apnoea testing, in lab polysomnography, and in some cases imaging modalities or drug induced sleep endoscopy, to precisely identify the underlying causes of sleep disturbances (8-10). Continuous remote monitoring of treatment efficacy can facilitate adjustment of treatment plans based on individual responses and are essential for optimal achieving outcomes.

By implementing a personalised approach, sleep medicine clinicians can tailor diagnostic and therapeutic strategies to each patient's unique needs, comorbidities, and physiological characteristics. Personalised care can support improvements in treatment effectiveness, adherence, and overall quality of life for individuals with sleep apnoea.

Citations:

1. [Medscape Registration](#)
2. [Obstructive sleep apnoea \(OSA\) | NHS inform](#)
3. [Endotyping, phenotyping and personalised therapy in obstructive sleep apnoea: are we there yet? | Thorax \(bmj.com\)](#)
4. [Bidirectional relationships of comorbidity with obstructive sleep apnoea | European Respiratory Society \(ersjournals.com\)](#)
5. [Comorbidities associated with high-risk obstructive sleep apnea based on the STOP-BANG questionnaire: a nationwide population-based study - PMC \(nih.gov\)](#)
6. [Long term adherence to continuous positive Airway pressure in mild obstructive sleep apnea | BMC Pulmonary Medicine | Full Text \(biomedcentral.com\)](#)
7. [Non-CPAP therapy for obstructive sleep apnoea | European Respiratory Society \(ersjournals.com\)](#)
8. [Use of polysomnography and home sleep apnea tests for the longitudinal management of obstructive sleep apnea in adults: an American Academy of Sleep Medicine clinical guidance statement | Journal of Clinical Sleep Medicine \(aasm.org\)](#)
9. [Drug-Induced Sleep Endoscopy: Technique, Indications, Tips and Pitfalls - PMC \(nih.gov\)](#)
10. [Imaging of sleep-disordered breathing in adults - ScienceDirect](#)