An Update in Management of Snoring and Sleep Apnoea

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Video

Snoring, alone, is a social/cosmetic problem, and is not associated with significant health problems

Most people who snore *do not* have OSA
However, almost *all* patients with OSA are heavy snorers; silent OSA can be found in some post- surgical patients

Current sleep diagnostic technology does not support the ENT surgeon.

Sleep medicine is dominated by CPAP

But: Poor compliance is most common in mild apnoea

Placement of the T/p probe

- If: CM positioning Control marker for correct positioning
- then: P2 the soft palate. visible when mouth open. sensor is placed just below
- P0 sensor is placed in the oesophagus to measure the actual respiratory drive from the brain at any time.
- T1 sensor is placed in the nose.
- T0 sensor is placed behind the base of the tongue.

ApneaGraph Recording parameters

Diagnosing SRBD

$$\text{SRBD} = \text{RERA} + \text{OSA} = \text{RDI}$$

RERA = Respiratory Effort Related Arousals= Arousals during increased Lung work.

OSA = Obstructive Sleep Apnea = AHI.

(Apnoeas, Hypopneas, Asleep/Awake.)

RDI = Respiratory Distress Index.

These parameters give the Complete Diagnosis.

Non Surgical Approaches

Nasal / Oral Appliances
POSA – Treatment. CPAP

COBLATION TECHNOLOGY

Low temperature plasma excision

Uses electrical energy to excite the electrodes in a conductive medium like Saline

Creates precisely focused plasma
Energized plasma particles break the organic molecular bonds causing tissue dissection & ablation

Surface temperature between 40-70 C

Histological studies shows no damage to surrounding structures

Determination of Obstruction Site

Upper Obstruction:

- Septum deviation, Polyposis
- Soft palate
- Uvula
- Tonsils

Lower Obstruction:

- Macroglossia
- Epiglottis
- Narrow airways (Retrognathia, Micrognathia)
- Goiter

Upper Obstruction

P2, below soft palate

P0, in Oesophagus

The pressure difference between p2 (soft palate) and external pressure is **higher** than the pressure difference between p0 (oesophagus) and p2.

$$(p2 - p_{\text{External}}) > (p0 - p2) , p_{\text{External}} = \text{const and set to } 0$$

Lower Obstruction

The pressure difference between p2 (soft palate) and external pressure is **lower** than the pressure difference between p0 (oesophagus) and p2.

$$(p2 - p_{\text{External}}) < (p0 - p2) , p_{\text{External}} = \text{const and set to } 0$$

P2, below soft palate

P0, in Oesophagus

CPAP

Reconsidering first-line treatment for obstructive sleep apnoea: a systematic review of the literature.
Rosenberg RM, Valleri C, Peng DS, Peng DS. *Chest*. 2015 Apr;147(4):1170-1179.
Meta-analysis, 1D = 40% compliance, 82 trials.
"CPAP as gold-standard therapy for OSA should be reconsidered."

AHI

Not sufficient for diagnosing OSA.

Does not correlate well to Hypertension

Underestimates the risk of increased RE (Gold Reference Standard) in mild to moderate OSA.
The Relationship Between Upper Airway Pressure and Apnea Hypopnea Index in Obstructive Sleep Apnea-Hypopnea Syndrome. *Respiratory*. 2015 Apr;147(4):1170-1179.

Does not separately cover International Diagnostic Criteria.

$$\text{OSA} = \text{RERA} + \text{AHI} = \text{RDI}$$

AASM 2013 – Diagnostic Upgrade

$$\text{OSA} = \text{RERA} + \text{AHI} = \text{RDI}$$

RERA = Respiratory Effort Related Arousals

AHI = Apnea / Hypopnea Index

RDI = Respiratory Distress Index

Diagnosis Established

$$\text{OSA} = \text{AHI} + \text{RERA} = \text{RDI}.$$

5 < RDI < 15 ; Mild.
15 < RDI < 30 ; Moderate.
30 < RDI ; Serious.

Which **TREATMENT** to choose ?

Sometimes DISE visualises the Upper Limit

DISE

Pressure Recordings