

OVENTUS AIRWAY TECHNOLOGY

CHANGING THE
PARADIGM OF CARE FOR
OBSTRUCTIVE SLEEP
APNEA (OSA)

Introducing an innovative approach to oral appliance therapy – a treatment platform featuring **Oventus Airway Technology**.

With a unique, low resistance airway incorporated into its patented design, the O₂Vent™ customized oral appliances deliver air to the back of the mouth, allowing for breathing through the appliance, bypassing nasal resistance and velopharyngeal obstruction.

DESIGN TECHNOLOGY

- Customized appliances using patented CAD software for superior comfort and fit
- 3D titanium printing for enhanced strength and durability
- Manufactured and accredited according to ISO 13485 international quality management system standards

AIRWAY TECHNOLOGY

- Unobstructed airflow through the device to the back of the throat bypassing nasal resistance and velopharyngeal obstruction
- In-built airway enables low resistance device-breathing, reducing negative pressure swings and stabilizing the airway
- Addresses non-adherence challenges that current oral appliance and CPAP therapies face due to nasal congestion or obstruction

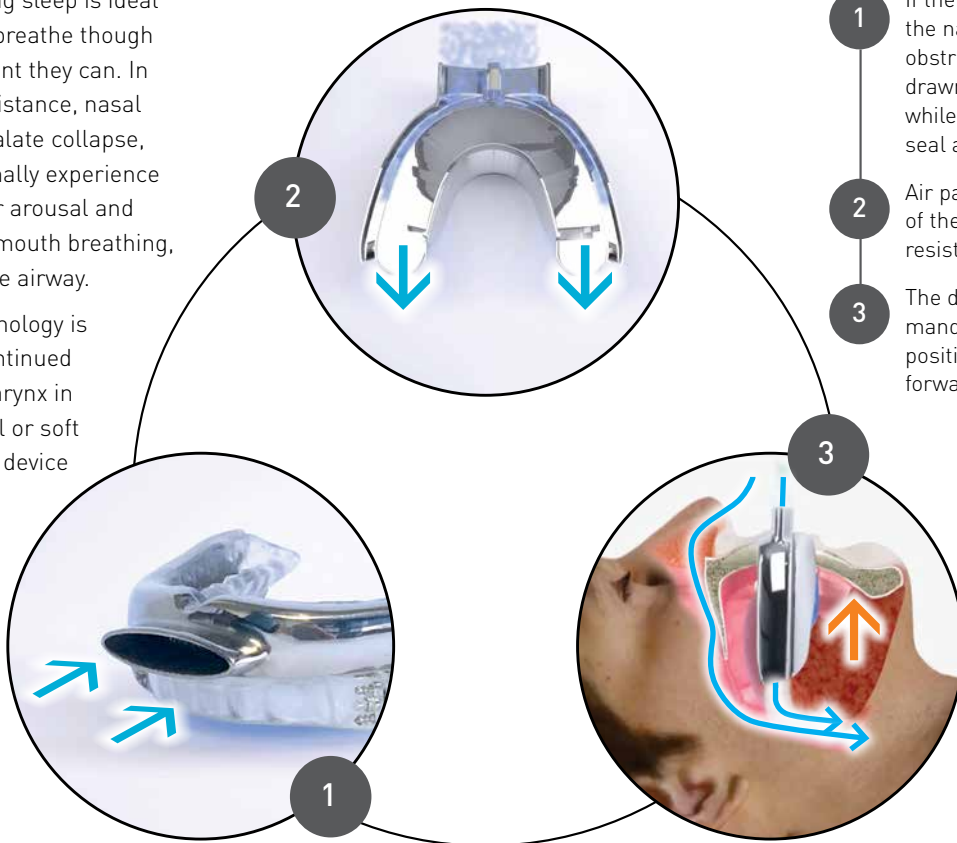
TREATMENT VERSATILITY

- Design technology can be deployed across any style of mandibular advancement device, all with the ability to incorporate CPAP therapy

HOW OVENTUS AIRWAY TECHNOLOGY WORKS

Nose breathing during sleep is ideal and patients should breathe through their nose to the extent they can. In the case of nasal resistance, nasal obstruction or soft palate collapse, a patient would normally experience a respiratory event or arousal and may then convert to mouth breathing, leading to an unstable airway.

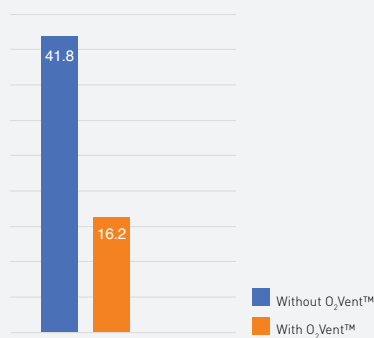
Oventus Airway Technology is designed to allow continued air flow to the oropharynx in the presence of nasal or soft palate obstruction. If device breathing is required during sleep, an oral seal is maintained and ventilation normalizes.



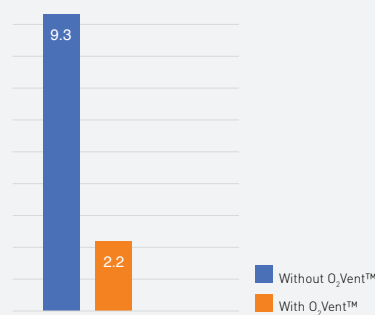
- 1 If there is reduced flow through the nasal airway or a soft palate obstruction occurs, air can be drawn into the front of the device while the lips maintain an oral seal around the device extension
- 2 Air passes through to the back of the device in an enclosed, low resistance pathway
- 3 The device advances the lower mandible to stabilize jaw position, bringing the tongue forward and opening the airway.

CLINICAL RESULTS WITH THE O₂VENT™

REDUCED AHI (P<0.001)

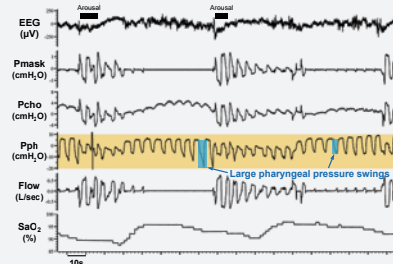


REDUCED OXYGEN DESATURATION T90% (P=0.001)

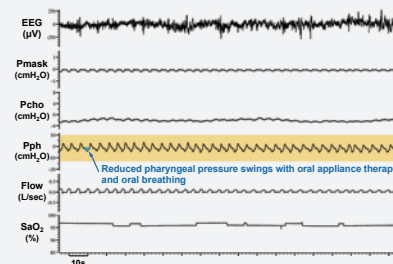


REDUCED PHARYNGEAL PRESSURE SWINGS WITH OVENTUS AIRWAY TECHNOLOGY AND DEVICE BREATHING

A: NO ORAL APPLIANCE (NO CPAP)



B: ORAL APPLIANCE AIRWAY OPEN (NO CPAP)



100%

100% significant improvement in snoring

82%

82% elimination of snoring

76%

76% success rate (defined as ≥ 50% reduction in Apnea-Hypopnea Index [AHI])

Jason Amatory, Benjamin Tong, Chinh Nguyen, Irene Szollosi, Danny J. Eckert. The role of a novel oral appliance therapy device on pharyngeal pressure swings and CPAP requirements during sleep in obstructive sleep apnea: A pilot study

Lavery D, Hart C et al. Safety and Efficacy of a Novel Oral Appliance in the Treatment of Obstructive Sleep Apnea. Journal of Dental Sleep Medicine Vol.4 No.3 July 2017

OVENTUS TREATMENT PLATFORM

The Oventus portfolio currently includes two oral appliance options, all incorporating the **Oventus Airway Technology**. Dentists may select a product/titration mechanism based on clinical preference or variation in patient anatomy.



O₂VENT™ W

A slimline winged appliance that uses a dual mechanism to stabilize and advance the mandible, still enabling opening of the mouth.



O₂VENT™ T

The “T” appliance utilizes an anterior screw and adjustment key to optimize titration, locking the upper and lower trays together when in use and enabling lateral movement.

FUTURE DEVELOPMENTS*

The Oventus Airway Technology enables exciting opportunities for alternative treatment options and combination therapy.

- **Temporary devices for immediate therapy** – will provide clinicians with the option to deliver immediate therapy to patients prior to progressing to a customised device.
- **CPAP Connection** – Attaching to the front of the Oventus Airway the connector enables mask-less low pressure delivery of positive air pressure addressing the main reasons for patients failing treatment and bringing more patients into care. Can be used in conjunction with the temporary device as an alternative CPAP interface in the sleep clinic setting or home care setting.
- **Compliance and airflow monitoring** – this inbuilt monitor technology will enable the recording of compliance and efficacy data, all easily accessible on an Oventus App.
- **In Built Level III Home Sleep Test** – Sensor chips in the PAP Connection combined with a finger pulse oximeter will provide Level III home sleep study data, allowing remote patient management to save time and expense.
- **Miniaturised CPAP pumps** – with minimal pressure and flow requirements, Oventus Airway Technology enables the re-engineering of CPAP pumps to provide a more compact and portable solution.

* Products still in development. Not yet FDA cleared.

ONGOING CLINICAL STUDIES ARE TAKING IT FURTHER

Current studies are investigating upper airway physiology to validate the Oventus Airway Technology’s impact on efficacy and compliance. This includes the effect of the low resistance airway on pharyngeal collapsibility when used in combination therapy – enabling the reduction in pressure requirements and the ability to breathe physiologically while simultaneously applying CPAP.

“Changing the paradigm of care for OSA”

OVENTUS TREATMENT PLATFORM PRODUCT SPECIFICATIONS



O₂Vent™ T



O₂Vent™ W

FEATURES	O ₂ Vent™ T	O ₂ Vent™ W
Oventus Airway Technology	YES	YES
3D printed in Titanium	YES	YES
Polymer inner	YES	YES
2 piece titratable design	YES	YES
Patient/Clinician can change level of advancement easily	YES	YES
Patient can open their mouth while in use	NO	YES
Titration Mechanism	Anterior screw and adjustment key	Lateral extension and wing design
Range of advancement	2mm retrusive 5mm protrusive	6mm protrusive No retrusion
Increments of Titration	0.5mm per 1 turn of 360 degrees	0.1 mm per 1 turn of 90 degrees

A UNIQUE TREATMENT ALTERNATIVE FOR PATIENTS WITH UNMET NEEDS

Oventus clinical specialists are ready to support the introduction of the Oventus devices into your practice. Online training modules along with in-clinic training can be arranged to equip you and your team with the knowledge you need to introduce your patients to the Oventus Treatment Platform.