New treatment for sleep apnoea
O2Vent is a mouthguard to help you breathe easier

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TO breathe easier at night, all you need is a second nose.

Brisbane dentist Chris Hart, who suffered from severe sleep apnoea, invented the O2Vent – a 3D printed titanium mouthguard with an open airway that directs air straight to the back of the throat.
Dr Hart developed the device with the help of the CSIRO and it's now available through the team at Breathing Assist, St Leonards.

He said creating the device has been a long process.

“I was a severe sleep apnic and nasal obstructor and couldn't breathe through the nose, so I couldn't tolerate the CPAP (Continuous Positive Airways Pressure) machine,” he said.

“One night in my desperation I got some saliva objector tubes, secured them to my teeth with bite registration material and bent them around the side of my teeth down my throat to get some air.”

After being able to breathe easy for the first time, Dr Hart decided to build a device to help himself and others.

In 2012 he was introduced to Neil Anderson, who thought it could be created using 3D printing and using software to create bespoke designs for individual patients.
He took the project to the CSIRO and by the end of 2014 propriety software and the titanium guard had been developed.

“It’s about the same size as a sports mouth guard, but it’s hollow,” Dr Hart said.

“It provides a seal of the lips at the front, while allowing air to flow freely.

“The air travels enclosed between the teeth and the cheek in two channels and goes into the back of the throat bypassing the tongue, nasal and soft palate obstructions.”

Dr Hart said the O2Vent had an impact on snoring 100 per cent of the time, with 82 per cent of patients experiencing complete elimination of snoring.

He said anyone interested in the device could find out more with a free consultation at the Breathing Assist clinic in St Leonards.
Device two years in the making

WHEN the idea for the O2Vent for sleep apnoea patients was first presented to the CSIRO, it sparked interest.

Research team leader Stefan Gulizia said over the two years they have been developing the device, it has gotten substantially smaller and the decision was made to use titanium, which is both light and accredited for use in medical devices.

He said using the organisation’s state of the art 3D printer, they could manufacture complicated shapes that ensured a perfect fit for each patient.

“I know from people who have fitted the device, they immediately feel they breathe more easily,” Mr Gulizia said.

“It just directs the air right to where you need it at the opening of the throat.

“These devices have shown to be more effective than the current products on the market.”

Mr Gulizia said the O2Vent was now being produced by Oventus, while the CSIRO continued to conduct research and develop next generation products.

“It’s a really good story for Australia and Australian manufacturing as well,” he said.

“It’s a good story where CSIRO helped a company with an idea and helped them develop this product and company to where it is now.

“Oventus is now set up at CSIRO. It works on both sides, CSIRO not only provides the space, but are close to the people and our scientists can provide support if needed.”
**What does it cost?**

A SECOND nose does not come cheap. While O2Vent offer a free initial consultation, your first appointment will cost $275.

The device itself is $1790, which can be claimed through some private health insurers. The company's website is [oventus.com.au](http://oventus.com.au)