CASE REPORT: USING A “TASTE TEST” TO PROVIDE CHOICES OF NONINVASIVE VENTILATION SYSTEMS

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Introduction
Hospitalized patients receive noninvasive (NIV) for several reasons, including reduction in work of breathing, increasing minute ventilation, improving oxygenation and hopefully avoidance of intubation. However, many patients find they are uncomfortable with NIV systems with nasal or oronasal masks and decline physician prescribed treatments.

We hypothesized that if patients could "taste test" a selection of NIV systems with various facial interfaces and generators, they could identify the most comfortable set up. Use of their selected set up might improve NIV compliance.

Methods
An 58 year old male ICU patient with acute exacerbation of chronic obstructive pulmonary disease (AE-COPD) was selected. His ABG on 2 LPM NC O2 was 7.26, 56, 77, 25 and 95%.

Three NIV systems were trialed: Respironics Vision (BiPAP®), Fisher & Paykel OptiFlow™ nasal high flow (NHF), and Breathe BT-V2S Noninvasive Open Ventilation (NIOV™). The physician ordered settings for each NIV system were applied by one Respiratory Care Practitioner (RCP).

Methods (con’t)
Following the "Taste Test" of the three systems, the RCP asked the patient to rank each on a scale from 1, uncomfortable, to 10, comfortable.

Despite rank, any system failing to provide adequate oxygenation and/or ventilation was eliminated for use. The remaining NIV system with the highest rank was then continued on the patient.

Conclusions
In this case, the patient preferred the NIOV™ system compared to the BiPAP® and to the OptiFlow™.

He was able to ambulate using the NIOV™ system and was discharged to a SNF with this NIV system.

Clinical Implications
The “Taste Test” could be performed on other NIV systems, such as the Vapotherm High Flow Nasal Cannula and the Hayek Biphasic Cuirass (BCV).

References