

Ventilator Users' Report and Manufacturers' Role

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International Ventilator Users Network (IVUN) surveyed users of home mechanical ventilation (HMV) in late 2011. The survey was translated into Spanish, French and Dutch. IVUN also surveyed the manufacturers of portable breathing devices and the airlines regarding their policies pertaining to flying while using a ventilator. A poster was presented at the 13th International Conference on Home Mechanical Ventilation – 4th European Respiratory Care Association Congress in Barcelona in March 2012.

This is the first of a two-part series in which IVUN reports its conclusions and provides advice and links for users of HMV who choose to fly. Part II, “Role of the Airlines, Resources and Reporting Travel Problems,” will be published in the February 2013 issue of *Ventilator-Assisted Living*.

The Vent Users' Survey

Who: Thirty-two users of home mechanical ventilation completed IVUN's “Flying While Using a Vent: A Survey of Ventilator Users.” Seventeen individuals live in the United States (11 states), six in the Netherlands, three each in Canada and France, two in Spain and one in the United Kingdom.

Twenty-four hour use was reported by 40.6 percent; 59.4 percent use a ventilator only at night; and 34.4 percent use the ventilator for naps.

Flying Needs: Eleven need a vent each time they fly, while 12 can breathe on their own if the flight is less than three hours. Only six reported using oxygen during flight, and they experienced no major problems.

Almost half have never flown using a vent, while only five flew in 2011. Those who don't fly state they have no need to, it is too much hassle and it is expensive. If the hassle were eliminated, 75 percent said they would fly at least four times a year.

The good news is that 72 percent of those who flew have never been denied a flight because they wanted to use their vent.

The five who reported problems flew on five different airlines (American, Air Canada, KLM, Air France and Frontier) between the years of 2001-2010. Three were using an LTV Series, one a Breas 501 and one a PLV-100 in 2010. (The PLV-100 has never been certified for flight, a requirement that began in 2009.) Reasons given to deny the flights were battery not allowed, ventilator too heavy, noisy, so big that another seat needed to be purchased and every reason “in the book.” One user reported that the model of LTV “did not have an FAA certificate, so I couldn't use it on take-off and landing, but I did use it during the flight.”

More than half reported a positive experience using a vent in flight and contributed the success (in decreasing order of mention) to preplanning, their flying companion or personal attendant, physician input, airline flight attendant, airline gate staff and the manufacturer certification letter. Two attributed it to their own knowledge and positive attitude.

Four of the 21 individuals who carried their vent aboard but did not use it experienced problems. Most were



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due to airline personnel being unfamiliar with the breathing device and “inspecting it by ‘twisting the dials.’”

IVUN also asked those who do not use a vent during flight if they experienced any physical problems while flying. Nine reported none; eight shortness of breath; two had a headache; two reported feeling unsafe; one each reported light-headedness, unusual coughing and the inability to stay alert.

When asked about priorities related to flying with a vent, the group chose “More and more planes have outlets for computers. It should be automatic: if there is an outlet we should be able to use it.”

Vent users expressed concern about the European Union rules that allow airlines to refuse transport justified on the grounds of safety, with “safety” not defined. In 2010, the Flying with Ventilation Working Group was established to address the increasing problems people needing ventilation experience when traveling by plane in Europe.

In response, the European Union Commission, with full support of the EU parliament, released guidelines regarding Regulation (EC) No. 1107/2006 prior to the 2012 London Paralympics. (See http://ec.europa.eu/transport/themes/passengers/air/doc/prm/2012-06-11-swd-2012-171_en.pdf) Although many problems were addressed, the EU did not choose to define the word “safety,” stating that issue should be addressed by the designated airline safety authorities.

Sixty-six percent of those responding to the survey felt that airlines should be required to provide a hook-up for a ventilator on all flights. About an equal number expressed that the airlines could do a much better job

of educating their staff about the various breathing machines that may be carried on or used during flight. Lastly, a few felt more emphasis should be put on proper handling of expensive wheelchairs that are just as important for many ventilator users’ independence.

Surprisingly, in 2011, 19 of the 32 vent users did not know that the ventilators they used needed to be certified before use in flight. Four of the users had copies of their ventilator’s certificate, which they had obtained online or from the manufacturer. Only 10 percent carried documentation about batteries – both internal and external.

Role of the Manufacturers

It is the manufacturer’s responsibility to test and certify their equipment as safe for flying. Below is a summary of their responses. More information and direct links are posted at www.ventusers.org/adv/flymfcltrs.html.

CareFusion confirms that LTV® 800, LTV® 900, LTV® 950, LTV® 1000, LTV® 1100, LTV® 1150, LTV® 1200 and SprintPack Lithium-Ion Power System are all certified to fly. To obtain copies of the certification letters, call Tech Support at 1-800-754-1914, Option 2, and request a copy.

Covidien (Puritan Bennett)– The Puritan Bennett™ 520 and Puritan Bennett™ 560 ventilators meet the requirements. Email Jean Le Roux at Jean.LeRoux@covidien.com to obtain the document if needed. However, these two ventilators are not currently registered in the United States.

Covidien (Newport)– Newport HT50® Ventilator & HT70® Series of ventilators (all models, including HT70®, HT70S® and HT70® Plus) are certified. ▶

Vent User Starts Powerchair Football Club

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(The VPAP Sean uses only has pressure support modes and no internal battery so was not designed for mobile use. He uses it at night with a full face mask. The Elisée has both an internal and external battery, which gives him the freedom and flexibility to leave his home, using “sip” ventilation.)

Now that I have my own Elisée I’ve been able to go back to playing sports and racing remote control cars again. I have recently started sailing too.

The Elisée also has enabled me to go to more family functions as well because with the long battery life of the Elisée, I can go out at night. A highlight was being able to attend my sister’s 21st birthday party. ▲



Sean prepares to set sail.

► Copies are available at <http://newportnmi.com/HT50.asp> and <http://newportnmi.com/HT70.asp>. Click on “Airline Info.”

GE Healthcare/Breas reports that there have been delays in re-testing the Vivo® 50 so certification has not been completed.

Impact Instrumentation’s home vent is the Uni-Vent® Eagle™, Model 754. It is tested to military specification for fixed and rotary airplanes, which is the highest standard.

Philips Respironics states that Trilogy100, Trilogy200, BiPAP AVAPS, BiPAP S/T (c series) are all cleared for flying. A certificate can be downloaded from the product website for each, e.g., <http://trilogy100.respironics.com>. The company’s newest version of CoughAssist T70, soon to be released, also complies with the requirements. The PLV series of ventilators are all discontinued and will not be tested. All BiPAPs that are not “c series” will not be tested, either.

ResMed’s S8s, S9s, VPAPs all have been tested and letters can be downloaded at www.resmed.com/us/patients_and_families/living_with_sleep_apnea/travel.html?nc=patients. Other hints on flying appear on the same page. The letter for the Stellar is located at www.resmed.com/assets/documents/service_support/air_travel_compliance/faa_letter_rtca_do_160g_germany_signed_eng2.pdf

SIARE Engineering International group s.r.l. does not have an official certification for its line of home care ventilators (Falco 101, Falco 202).

Letters for Weinmann’s VENTiLogic LS, VENTiLogic plus, VENTiLogic, VENTiMotion, VENTiMotion 2, BiLevel ST 22 can be found at www.weinmann.de/fileadmin/weinmann/infoservice/reiseversorgung/Manufacturer_declaration_SafetyInFlight_ventilation_EN_0709.pdf.

All of the above manufacturers assured IVUN that all new products released in the future will be tested and certified for flying. ▲