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Long-term Non-invasive Positive Pressure Ventilation Treatment Delivers 76 Percent Reduction in Risk of Death at One Year among Stable COPD Patients

New Study Published in The Lancet Respiratory Medicine is First to Provide Strong Evidence Supporting Long-term NPPV in the Treatment of COPD

SAN DIEGO, Aug. 4, 2014 /PRNewswire/ --Long-term non-invasive positive pressure ventilation (NPPV) – also known as non-invasive ventilation -- significantly improved long-term survival, exercise capacity, and health-related quality of life when added to current guidelines for the treatment of patients with advanced-stage chronic obstructive pulmonary disease (COPD). This is according to a new multi-center, randomized study published online in *The Lancet Respiratory Medicine*, and co-funded by ResMed (NYSE: RMD), the global leader in the treatment of sleep-disordered breathing and other respiratory conditions. COPD is the third leading cause of death in the U.S. and is expected to be the third leading cause of death worldwide by 2030.



New Findings Have Potential to Alter Future Treatment Protocols

Long-term NPPV has been shown to improve important physiological variables impacted by the disease, such as blood gases, but until now, there has been minimal clinical evidence for positive effects on longevity and quality of life in patients with COPD. These new findings demonstrate that NPPV

can offer important benefits for patients with severe COPD, and are likely to influence clinical guidelines for therapy of these patients.

"Going forward, I would suggest that long-term NPPV will be considered in COPD patients with chronic moderate to severe hypercapnia," said Dr. Thomas Kohnlein, M.D., the principal author of the study and a member of the Department of Respiratory Medicine at Hannover Medical School, Hannover, Germany. "Previous prospective studies on NPPV for the

treatment of COPD were performed using relatively low inspiratory pressures, failing to reduce hypercapnia, a side-effect of advanced COPD, and overlooking the potential benefits of higher pressure settings of NPPV."

Study Revealed 76 Percent Reduction in Risk of Death with NPPV Intervention

The study was an investigator-initiated, multicenter, prospective, randomized, controlled clinical trial. Starting in 2004, patients were recruited from 36 respiratory units in Germany and Austria, then hospitalized and randomized in a 1:1 ratio to one of two parallel groups and followed-up for at least one year. The control group received optimized COPD therapy and the intervention group received optimized COPD therapy plus NPPV, and was advised to use NPPV for at least six hours per day.

Researchers measured the survival of patients and found that 33 percent of patients in the control group died within one year, versus 12 percent of patients in the intervention group, a 76 percent reduction in risk of death. The survival benefit in the intervention group was maintained for longer than the year of the main study suggesting that the benefits are longer term.

To evaluate changes in health-related quality of life, researchers used three different questionnaires. All results favored the treatment group over the control group demonstrating that the patients receiving long-term NPPV perceived themselves as healthier and less symptomatic. Researchers also conducted a six-minute walk test to evaluate exercise capacity, and found that improvements during follow-up were significantly greater in patients receiving NPPV compared with controls.

"This study aligns with our goal of improving lives with every breath," said ResMed Chief Medical Officer Dr. Glenn Richards, M.D. "COPD takes an enormous human toll, and is also a significant burden on healthcare systems, putting a higher priority on pursuing treatments that have the potential to improve survival and reduce spending for healthcare organizations worldwide."

For more information, the full study publication may be found [HERE](#).

About ResMed:

ResMed changes lives by developing, manufacturing and distributing medical equipment for treating, diagnosing, and managing sleep-disordered breathing, COPD, and other chronic diseases. We develop innovative products and solutions to improve the health and quality of life of those who suffer from these conditions, and we work to raise awareness of the potentially serious health consequences of untreated sleep-disordered breathing. For more information on ResMed, visit www.resmed.com.

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