Amputable Oxygen
The Standard of Care

Long-term amputable oxygen therapy has been under study in this country and Europe for nearly a quarter of a century. Improved survival of patients with chronic obstructive pulmonary disease (COPD) and cor pulmonale with the use of amputable oxygen therapy was first reported 20 years ago. The importance of oxygen in improving survival in advanced COPD was further established by two major multi-center trials in North America and in Europe. The European study showed that oxygen delivered for approximately 15 hours per day, including the hours of sleep, improved survival, compared with no oxygen in advanced stable COPD. The North American study showed an almost identical survival rate with the use of oxygen from a stationary source for 12 hours, including while sleeping, when compared with the British MRC data. However, the North American study showed a far superior survival with amputable oxygen therapy given for more than 19 hours per day, compared with only nocturnal oxygen. Thus, taken together, one can conclude that survival without oxygen is poor in chronic stable COPD patients with complications of hypoxemia, ie, cor pulmonale. Survival is better with some oxygen delivered from 12 to 15 hours per day from a stationary source, but survival is far superior when it can be delivered nearly 20 hours a day from an ambulatory source.

Problems in prescribing and supplying oxygen for Medicare patients received a thorough discussion at the first of three Oxygen Consensus Conferences, beginning in 1986. This and the conference that followed a year later led to specific recommendations for prescribing oxygen when medically necessary and offered guidelines about the appropriate modality of therapy for patients with different physical capabilities, such as the ability to ambulate and participate in activities of a pulmonary rehabilitation program and the activities of daily living in and out of the home, as well as for patients who were restricted to a sedentary life due to their physiologic impairment. Both of these conferences emphatically stated, “The exercise occasioned by ambulation for all daily activities, both in and out of the home, is a major component in the standard of care and rehabilitation of patients with advanced chronic lung diseases.” The recently enacted Six Point Plan has threatened to constrain the prescribing and supplying of portable oxygen systems because reimbursement is limited to a flat rate for all oxygen systems, both stationary and portable, and this reimbursement is considered to be modality-neutral. What this means is that reimbursement is the same for tanks, concentrators, and liquid portable oxygen.

The problem with concentrators and tanks, of course, is that they are not portable, and thus, they restrict the activities of daily living of the patient who requires home oxygen. Small portable tanks are available for ambulation, but one cannot equate portability with ambulation. For example, “E” cylinders can be used only with carriers with wheels. Smaller tanks which can be carried have insufficient supply to allow for substantial periods away from home. The only practical ambulatory system is liquid portable, but the present flat rate reimbursement system creates a great disincentive to the supplier providing liquid portable oxygen. The present system is insufficient to allow for recovery of costs and a reasonable profit. For all these reasons, a Third Oxygen Consensus Conference was recently convened in Washington by the authors. The present conference arrived at eight new recommendations which have been published recently in The American Review of Respiratory Disease. This conference called for changes in the reimbursement system to allow for better reimbursement when liquid ambulatory oxygen is prescribed because of medical necessity and for the encouragement of the development of oxygen conserving devices. The conference called for the designation of two types of oxygen therapy following hospital discharge. One, short-term oxygen therapy (STOT), would require recertification.
at 30 to 90 days following hospital discharge. This recommendation deals with the reality of early hospital discharge following an exacerbation of a respiratory illness in patients who may soon return to a normal oxygen level upon recovery. Patients with serious underlying chronic respiratory disease states with chronic stable hypoxemia of PO₂ of 55 mm Hg or less or oxygen saturation of 88 percent or less, or with higher oxygen levels in the case of cor pulmonale and erythrocytosis, will be candidates for long-term oxygen therapy (LTOT). When certified for long-term oxygen therapy, at 30 to 90 days, it should be unnecessary to recertify such patients. This recommendation deals with the restorative effect of oxygen in controlling pulmonary hypertension and in improving air oxygen level in many patients, probably by virtue of improved ventilation/perfusion matching, following the use of long-term oxygen.8 A more simple and practical certificate of medical necessity (CMN) (but no longer than one page) with certain check-off features was further recommended, along with the recommendation that the CMN, i.e., the doctor’s prescription, must be completed and in the hands of the supplier at time of hospital discharge. One of the most important recommendations calls for a program to educate primary care physicians in the appropriate prescribing of oxygen for their patients, based on medical necessity.

A major benefit of the Six Point Plan and the attendant prescribing requirement is that it puts the oxygen prescription clearly in the hands of the physician. Suppliers cannot change a physician’s prescription, but the supplier must be able to stay in business and this will require legislative changes in the reimbursement system for ambulatory liquid oxygen in order to allow for reasonable profitability and the elimination of many geographic differences in reimbursement rate throughout this country.

The past quarter century has seen a revolution in the care of patients with advanced COPD, which includes not only improved survival, but a reduction in hospitalization and, of equal importance, improved quality of life. These advances, which will benefit hundreds of thousands of people in this country and elsewhere in the world, must continue to be available for a growing number of patients with hypoxemic, chronic respiratory disease states.

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REFERENCES

Importance of Verbal Communication for the Ventilator-Dependent Patient

The primary goal of a speaking tracheostomy tube is to allow cognitively intact, ventilator-dependent patients to communicate verbally. Communication is critical to patients’ overall medical care, psychological functioning, and social interactions.1,5 When communication breaks down between the patient and health care professionals, the patient’s ability to participate meaningfully in the health care plan is greatly restricted.3,4

A speaking tracheostomy tube is a single cuffed tube designed with an external airflow line. Gas travels through the airflow line, exits via an opening just superior to the cuff, and then continues up through the glottis and vocal tract to allow for speech production. An airflow rate between 10 to 15 L/min produces intelligible speech with minimal patient discomfort.5,6

Nonverbal communication, eg, lip reading, communication boards, writing or typing, and computerized augmentative communication systems, are often laborious and difficult to use.2 When the patient is cognitively intact and ventilator-dependent, with normal functioning of oral and laryngeal structures, only three options are available for verbal communication: an electrolarynx, a self-activated pneumatic voicing system, or a speaking tracheostomy tube. The electrolarynx is often not the device of choice due to increased cost, unnatural vocal quality; and difficulty in coupling the hand-held device to the neck.6,7 The pneumatic voicing system presents difficulties with control of the tone using the forehead switch and interference with