American Thoracic Society
Statement on Intermittent Positive-Pressure Breathing (IPPB)

"In this statement, 'IPPB treatments' refers to the use of a pressure-limited respirator to deliver a gas with humidity and/or aerosol to a spontaneously breathing patient for periods of time which are generally less than 20 minutes each. The overuse of this modality, and the inadequate foundation of scientific validity underlying its application, have led to a general belief that there are few genuine needs for IPPB. ... It is essential for the physician to ensure that IPPB is not prescribed when less expensive modalities can be utilized with equivalent effect.

"The American Thoracic Society Respiratory Care Committee recognizes that IPPB has been overused and misused, and offers the following guidelines to ensure the correct utilization of this modality whenever the prescribing physician elects to employ it for an appropriate indication in an individual patient.

"A. Appropriate IPPB Treatment

"Major difficulties exist in evaluating the effectiveness of IPPB, since standard methods of providing IPPB therapy have not been developed and valid comparisons of results obtained by different sets of workers cannot be made. ... The critical requirement in IPPB is augmentation of the inhaled volume of gas which the patient allows to enter the lungs passively without maintaining active inspiration once the breath has been initiated. ... The protocol for such augmented breathing should be as follows:

"1. The patient's spontaneous tidal volume and maximum volume that can be voluntarily inspired should be measured, so that the tidal volume provided by the use of IPPB can be compared.

"2. The pressure breathing device and its use should be explained to the patient, who should be familiarized with the set-up and the appropriate pattern of breathing that is required.

"3. The delivered volumes must be monitored to ensure that the one provided by the device exceeds the patient's spontaneous inspired volume, preferably by more than 25 per cent.

"4. The appropriate breathing rate to be achieved during an IPPB treatment should be as low as possible, and usually less than the patient's spontaneous rate.

"5. The objectives of therapy must be defined, and the course of each treatment should be individually tailored to the patient's needs.

"6. The therapist or nurse should make appropriate observations to evaluate the patient's response and to determine whether the therapeutic objectives are being attained without complications.

"7. Whenever a course of IPPB is
prescribed, the patient’s condition and response to therapy must be re-evaluated periodically, and, when feasible, a change to a simpler or less costly treatment modality should be prescribed.

“8. Before self-therapy or domiciliary therapy with IPPB is instituted, the patient must demonstrate competency in employing the modality.

“9. Appropriate monitoring, cleaning and servicing of the machine is required to prevent malfunctions and the transmission of infection.

“10. Whenever IPPB is utilized, there should be awareness of the possible hazards and contraindications of this form of therapy.

“B. Indications for IPPB

“Although scientifically validated proof of the value of IPPB is sparse, it is believed that IPPB treatments may offer therapeutic advantages in some acute and chronic respiratory disorders. The American Thoracic Society Respiratory Committee does not recommend that IPPB be considered as the treatment of choice in the following circumstances, but the Committee does believe that IPPB should be a legitimate form of therapy in each situation if the prescribing physician has reason to believe that simpler modalities are less effective.

“1. To improve delivery of medications.

“2. To improve coughing and expectoration.

“3. To decrease a rising PaCO₂.

“4. Domiciliary use.

“5. Special situations—Several additional uses for IPPB are recognized:

“(a) Acute pulmonary edema.

“(b) Weak patients with pulmonary problems.

“(c) Kyphoscoliosis.

“(d) Sputum induction for diagnostic studies.

“(e) To deliver drugs-IPPB may be used to deliver therapeutic agents for special purposes.”