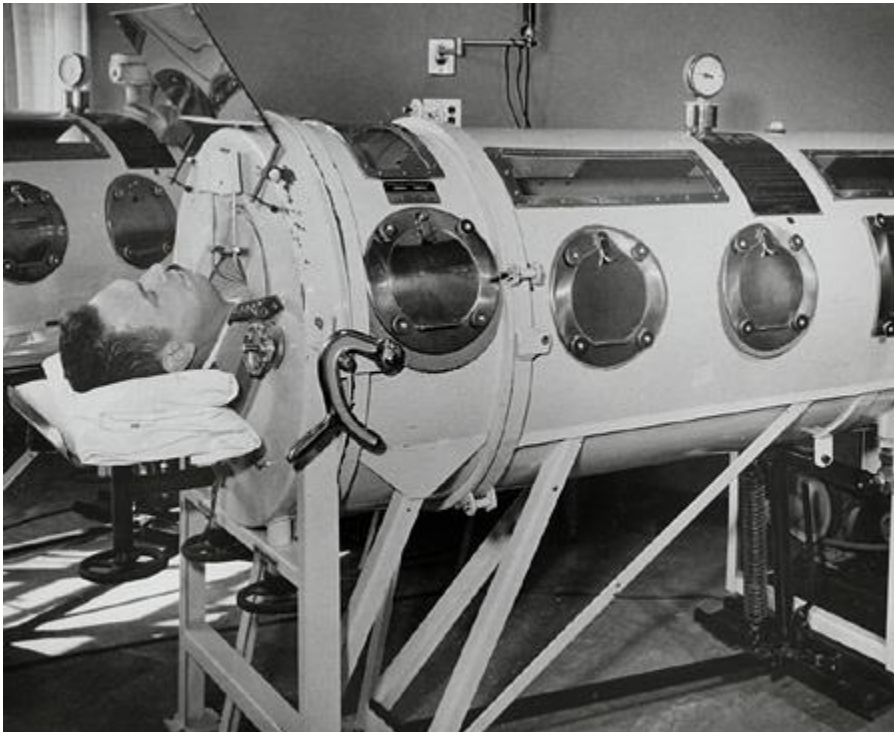


## FROM IRON LUNGS TO MODERN VENTILATORS - A Look at the History of Barlow Respiratory Hospital

Barlow Respiratory Hospital is a long-term acute care hospital (LTCH / LTACH) in Los Angeles that provides post-ICU care and ventilator weaning for patients who are chronically critically ill and medically complex. We are the only not-for-profit respiratory hospital in California.

Tuberculosis patients were once treated with lung-collapse procedures at Barlow Respiratory hospital before medications were developed in the last century. Polio patients were treated at Barlow using an iron lung through the 1950s. Methods of care were transformed when



mechanical ventilation evolved as standard practice for the treatment of patients with acute respiratory failure in the first ICUs in the 1960s. Patients now come to Barlow Respiratory Hospital after an extended stay in the ICU and many are on mechanical ventilators.

### THE IRON LUNG

Polio, or Poliomyelitis, was a crippling communicable disease caused by a virus. There was no cure. Beginning in 1916, polio epidemics appeared each summer in at least one part of the country, with the most serious occurring in the 1940s and 1950s. In 1952, the worst epidemic year, three thousand people died from polio.

The [iron lung](#), a negative pressure ventilator, was invented in 1927 to

enable patients with polio to breathe on their own. Most patients spent a few weeks or months in the iron lung to reverse the paralysis of chest muscles associated with polio.

**Rep. Jimmy Gomez** @RepJimmyGomez · Oct 1  
This morning, I visited @BreatheBarlow's campus in #CA34 to talk about what we can do in Congress to make sure the hospital — the only nonprofit #LTACH facility in #CA — has what it needs to continue providing post-ICU care to critically ill patients.

Thanks for having me!



At the height of the polio outbreaks, rows of iron lungs filled hospital wards to help patients with paralyzed lungs breathe. An iron lung like this one (above: Man using an Emerson tank respirator equipped with a mirror, 1950s. Courtesy of Post-Polio Health International) was used to treat patients with polio at Barlow Respiratory Hospital. The hospital still keeps one iron lung on display as a reminder of those days and visitors often marvel at what the experience may have been like for patients.

Polio vaccination programs have now virtually eradicated new cases of the disease in the United States. Widespread vaccinations began in 1955 and by 1979 the virus had been completely eliminated in the United States. Because of this, and the development of modern ventilators, and widespread use of tracheal intubation and tracheotomy, the iron lung has mostly disappeared from modern medicine.

Now, modern mechanical ventilators, positive pressure ventilation systems, are the standard of care and work by blowing air into a patient's airways and lungs using a breathing tube. Types of breathing tubes include endotracheal, or ET tubes, that are placed into the mouth or nose and down into the windpipe, and tracheostomy tubes that are placed in an opening through the neck into the windpipe (trachea).

Most of the patients who come to Barlow Respiratory Hospital on a ventilator have a tracheostomy tube. Barlow has expertise in ventilator weaning to liberate those patients from mechanical ventilation using the "TIPS®" weaning protocol. We developed the Therapist-Implemented Patient-Specific "TIPS®" Weaning Protocol, published in the medical journal CHEST in 2001, now considered a best practice and utilized in weaning patients from mechanical ventilation nationwide.



### **AWARD-WINNING RESPIRATORY CARE**

Barlow Respiratory Hospital has served chronically critically ill and medically complex patients with specialized respiratory care for more than a century. The hospital has a legacy of serving patients who cannot be cared for in any other setting including those who suffer the stigma of a frightening, communicable disease. Now in a second century of service, **Barlow Respiratory Hospital** is the only West Coast **Passy-Muir Center of Excellence**, recognized for treating patients with tracheostomies, on and off the ventilator.

### **EDUCATIONAL PARTNERSHIPS AND AFFILIATED MEDICAL PROFESSIONAL TRAINING PROGRAMS**

By the early 1960s, the number of tubercular patients had decreased dramatically along with important training opportunities for nursing students. The Sisters of St. Joseph of Carondelet Mt. St. Mary's School of Nursing contracted with Barlow Sanatorium Association in Los Angeles in April 1961 to permit students four weeks of clinical experience in the care of patients with long term or chronic respiratory diseases, especially tuberculosis.

Barlow has historically served as an affiliated teaching facility to train generations of physicians, nurses, respiratory therapists, physical, occupational and speech therapists, pharmacists, and clinical nutrition allied health professionals. Our tradition of educating medical professionals of the future to care for the chronically critically ill is a vital role Barlow plays in our community, and one in which we take great pride.

### **RECENT HISTORY, 21<sup>ST</sup> CENTURY AND BEYOND**

In 1984 Barlow Respiratory Hospital was certified as a Long Term Acute Care Hospital (LTCH/LTACH), to serve patients with specialized post-ICU respiratory care. Barlow leads LTACHs in outcomes reporting with over 90 publications –most notably the Therapist-Implemented Patient-Specific "TIPS®" weaning protocol in 2001, and the 23 hospital Ventilation Outcomes Study published in 2007. Beginning in 2017, we have published an annual **Outcomes Book**, reporting on data specific to our weaning and patient care outcomes.

**Barlow Respiratory Hospital** is an established national leader in Ventilator Weaning and serves patients referred by nearly 100 regional hospitals in California. Since 1988 we have treated over 22,000 patients including patients in our ventilator weaning program. Our clinical staff is trained, experienced and ready for whatever current crisis may bring.

An iron lung maintains breathing by artificial means

