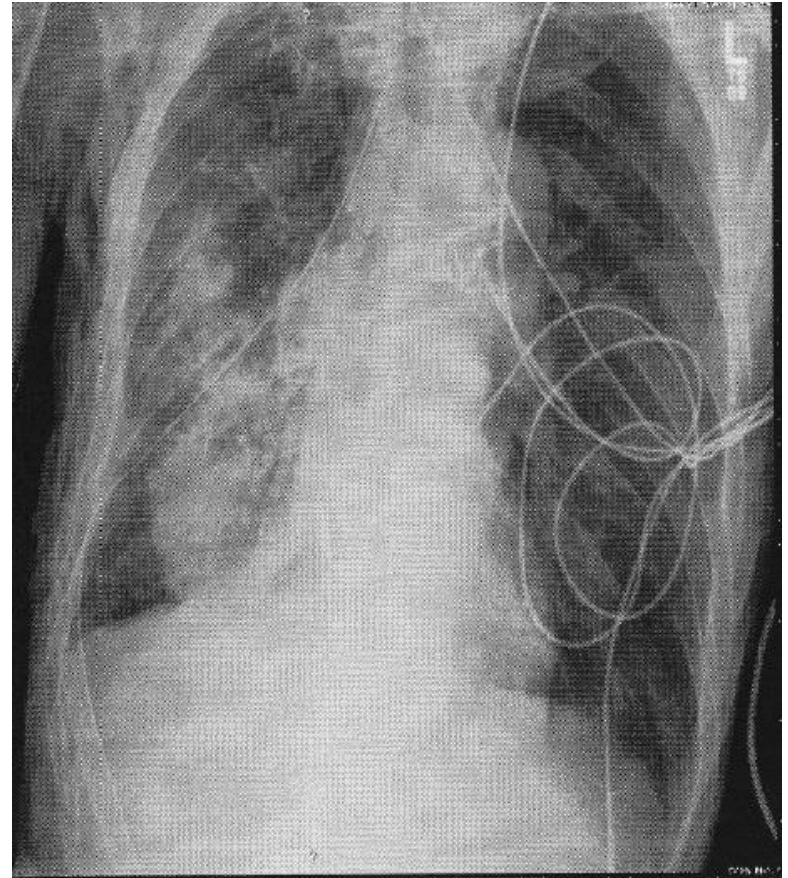
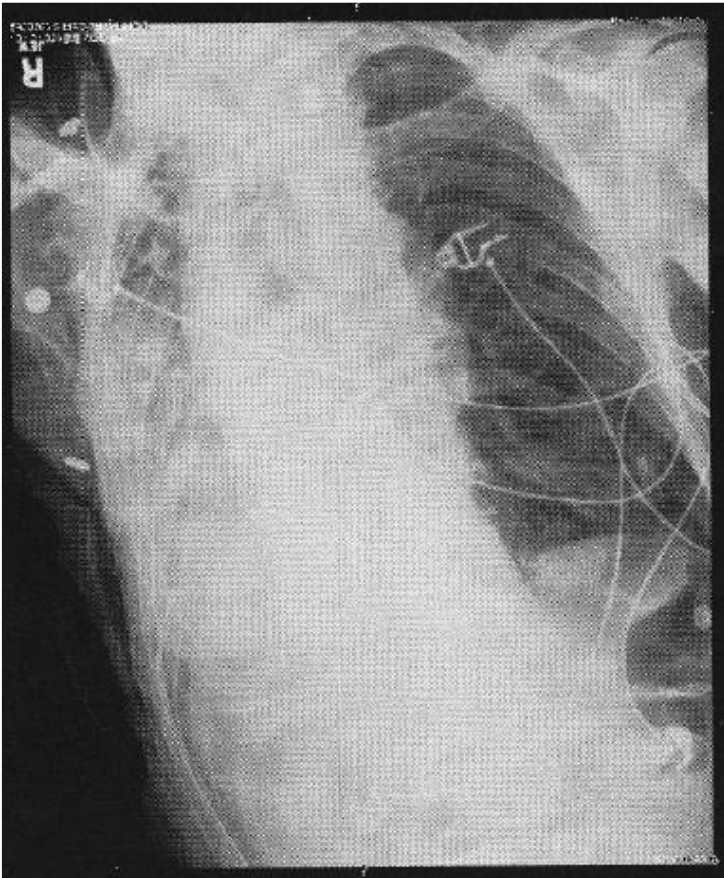


BCV Case Studies

- 84 y.o. M with laryngeal cancer and R apical mass with nearly complete R lung atelectasis on AM chest X-ray.
- BCV initiated with goal of increasing aeration of R lung and improving atelectasis.
- BCV started with CNEP of -30 for 30 minutes to initiate lung recruitment.
- Secretion clearance treatment executed for 35 minutes with results of production of copious amounts of dark beige sputum.
- CNEP resumed after secretion clearance at -20 for 1.5 hrs at which time secretion clearance and cough assist was repeated.
- Sputum production: large volumes of cream colored suctioned.
- Patient was maintained on CNEP of -28 pending afternoon chest X-ray.
- Pre and post 3.5 hours of BCV rad studies below.

BCV Case Studies



BCV Case Studies

Chest X-ray films of an 88-year-old man with Adams-Stokes syndrome and pulmonary congestion. (A) Extensive left-sided atelectasis. (B) Atelectasis was resolved after treatment with the Hayek RTX.

A



B



BCV Case Studies

BCV (BCV) was applied. Because of the chronic respiratory disorder, CNEP was used while the infant was nursing. Sputum removal was promoted by performing BCV in the clearance mode. Then a continuous negative pressure of -7 cmH₂O was applied for 24 h to expand the thorax. Respiratory muscle retraction subsided, and the atelectasis showed marked improvement on chest X-ray films. The infant was able to become attached to his mother and drink milk from a bottle while wearing the appliance; his nutritional status was good. Six weeks after the introduction of BCV, mechanical ventilation was no longer needed, even while the infant was nursing.



BCV Case Studies

Alveolar Recruitment



Case: A 84 year-old woman was diagnosed ARDS caused by aspiration pneumonia. She was placed on APRV ($P_{high} = 26$), then oxygenation was improved. PEEP was gradually decreased to wean, but massive lung collapse developed at $14 \text{ cmH}_2\text{O}$ on Day 13. Recruitment maneuver (incremental step up of PEEP up to $45 \text{ cmH}_2\text{O}$) did not open the lung. We applied BCV and prone position on Day 14 and 15, and BCV alone until Day 20. Lung was successfully reopened by continuous negative pressure (CNP) and high frequency vibration (secretion clearance). Secretion clearance mode is often effective for postoperative segmental atelectasis.