

# BIPHASIC CUIRASS VENTILATION (BY RTX R RESPIRATOR) IN AN INFANT WITH RESPIRATORY INSUFFICIENCY CAUSED BY ACUTE FLACCID MYELITIS

## Speakers

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## Lecture Time

12:20 PM - 12:25 PM

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## Room

Poster Area 3

## Date

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## Time

12:20 PM - 01:40 PM

## Session Name

POSTER WALK SESSION 8

## Abstract

### Background

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The RTX<sup>R</sup> respirator is an external ventilator that uses a plastic cuirass over the thorax and generates negative pressure ventilation. Acute flaccid myelitis (AFM) is characterized by rapid onset of flaccid weakness in one or more limbs, distinct abnormalities of the spinal cord gray matter on MRI and mostly caused by enterovirus-D68 infection.

### Objectives

Describe the use of biphasic cuirass ventilation (BCV) to wean invasive ventilation in an infant with AFM.

### Methods

Case study: a one-year-old girl presented with a paraparesis of the lower extremities and general weakness with absent cough strength. Based on electromyography, the neurologist diagnosed a subacute ascending tetraparesis, ascribed to enterovirus-D68, but not entirely typical as AFM.

### Results

She was ventilated for six weeks with high oxygen demand. Extubation failed after four weeks, due to insufficient strength. Because CTA only showed atelectasis, we then suggested giving her a trachea cannula to facilitate weaning. The parents were opposed to this, however, and refused non-invasive ventilation with a mask. We then started training the respiratory muscles with negative pressure ventilation combined with invasive PressureSupport and CPAP. Oxygen demand decreased during BCV. After two weeks training she was extubated to high flow nasal cannula and BCV. She accepted the cuirass well. In addition, she was often put on a coughing assist machine to mobilize mucus. She was then weaned off from HFNC and BCV. 11 weeks after admission she no longer needed respiratory support.

### Conclusion

BCV could be an alternative weaning strategy in neuromuscular disease and severe deconditioning after prolonged mechanical ventilation.