

# The Utilization of Airway Pressure Release Ventilation as a Recruitment Strategy for Patients Who Develop Bilateral Atelectasis.

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***The Utilization of Airway  
Pressure Release Ventilation as  
a Recruitment Strategy for  
Patients Who Develop Bilateral  
Atelectasis***

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# Introduction

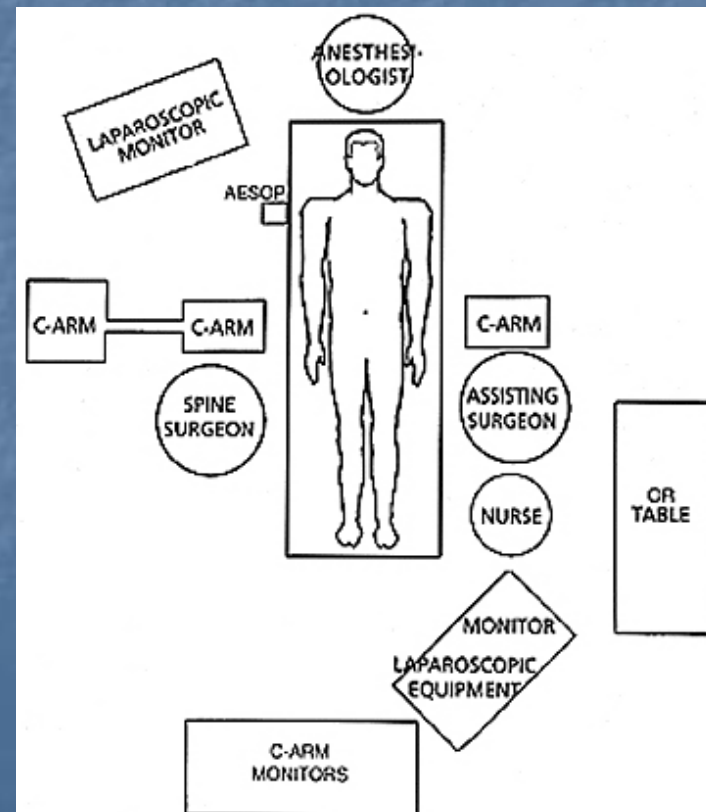
- Trauma patients often require multiple operative procedures during their clinical course.
- Often secondary to the type of procedure or patient position, development of post-operative atelectasis is common.
- Airway Pressure Release Ventilation (APRV) is a ventilatory strategy that can quickly reverse post-operative atelectasis.

# Methods

- Retrospectively, we reviewed ten patients who were admitted into TNICU over a twelve month time frame who developed lung decompensation during an operative procedure.
- Post operative atelectasis was diagnosed by chest x-ray and drop of  $PaO_2/FIO_2$  ratio greater than twenty-five percent.

# Surgical Procedures

Patient in supine position



# Normal Chest X-ray

# Atelectasis

**Left lower atelectasis**



**Bilateral atelectasis**



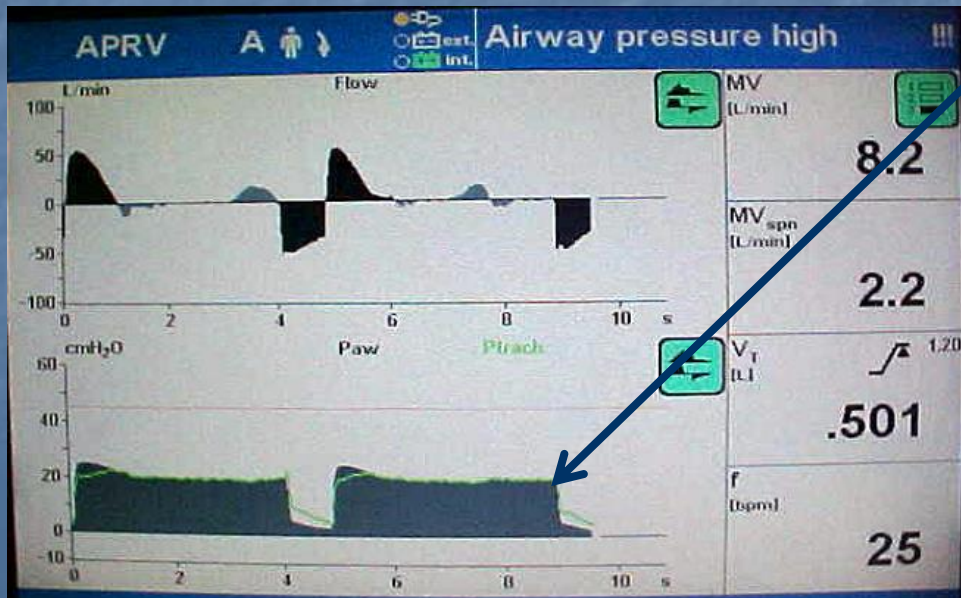
# Oxygenation Status

PaO<sub>2</sub>/FIO<sub>2</sub> ratio=  
150/.50=300 torr



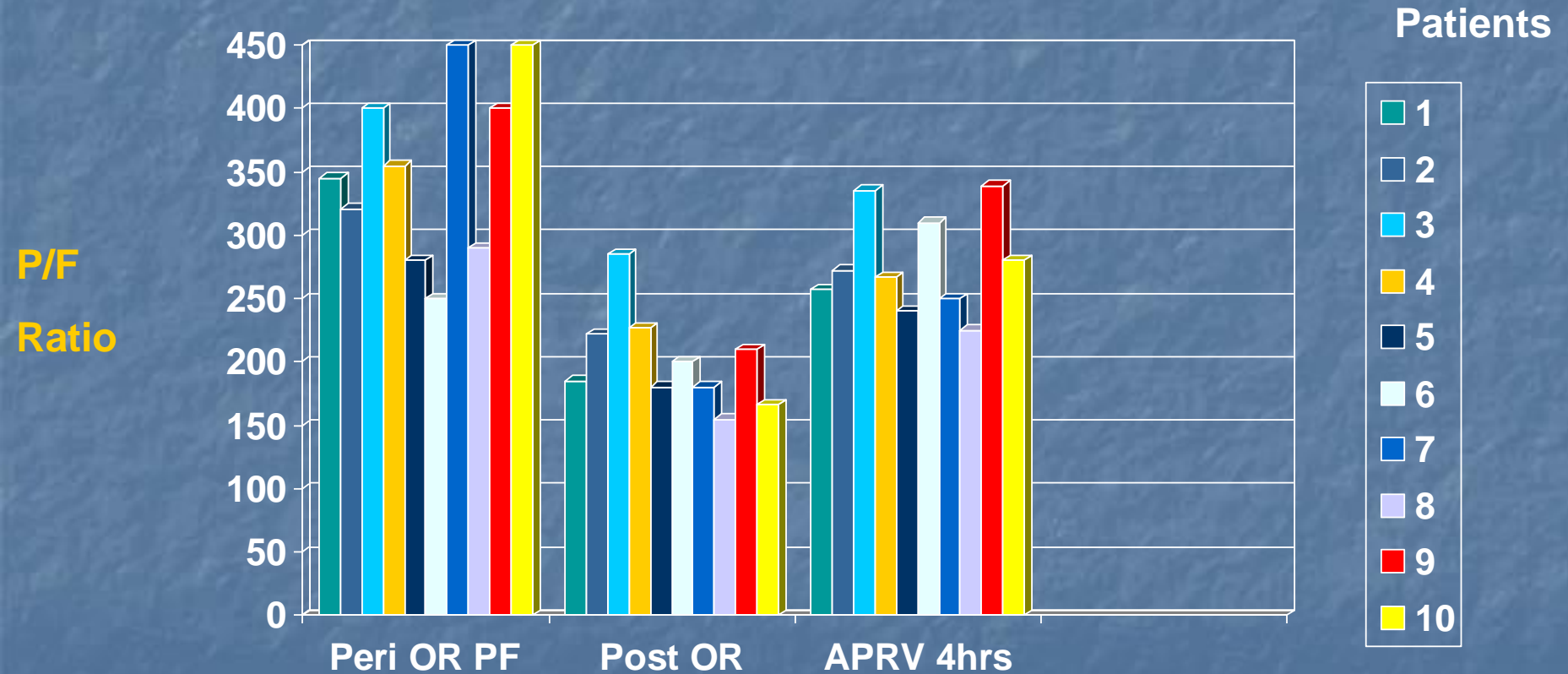
# Intervention

- All patients were placed on APRV mode for a minimum of four hours.



APRV is a ventilatory strategy that utilizes long inspiratory time and moderate airway pressures.

# Results



There was an increase in the P/F ratio in ten patients whose P/F dropped during an operative procedure greater than two hours.

# Post APRV X-ray Results

**Pre APRV ventilation**

**Post APRV implementation**

# Conclusion

- APRV significantly increased the P/F ratio by a mean of thirty-five percent.
- Did not examine this intervention on mortality and morbidity.
- More studies need to be conducted on APRV's role in the trauma patient population.