

# Investigating the changes in physiological function following bronchoscopic lung volume reduction treatment of chronic obstructive pulmonary disease (COPD)

ACTRN12618001805268

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Status	RECRUITING
Sponsor	University of Adelaide
Enrollment	50 participants

## Plain Language Summary

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Chronic obstructive pulmonary disease (COPD) is a serious lung condition that makes it progressively harder to breathe. For some people with severe COPD, a procedure called bronchoscopic lung volume reduction can help — this involves placing tiny valves inside the airways using a bronchoscope (a thin tube passed down the throat) to deflate the most damaged parts of the lung, allowing the healthier parts to work better. Patients who have this procedure often show improvements in breathing capacity and exercise tolerance, but researchers are not yet sure exactly why.

This study will closely examine the changes in lung, heart, and blood vessel function that occur after the procedure, using a combination of exercise testing, echocardiogram (heart ultrasound), cardiac MRI, specialised lung scans, and blood tests. Understanding the mechanisms behind the benefit may help identify which patients are most likely to respond well.

You may be eligible if you are aged 18–75, have a confirmed diagnosis of severe COPD with air trapping, have completed pulmonary rehabilitation, have stopped smoking for at least 3 months, and have been assessed as suitable for the valve procedure. People with certain co-existing lung conditions, severe heart disease, or an implanted device not compatible with MRI are not eligible.

## Key Eligibility Criteria

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### Inclusion (7)

- Established diagnosis of COPD with hyperinflation: post-bronchodilator FEV1 <50% of predicted AND TLC > 100% AND RV>175%
  - The absence of any collateral ventilation between target lobe and ipsilateral lobe, diagnosed with quantitative CT fissure integrity of >90% and confirmation of integrity with Chartis measurement.
  - Age >18 and <75 at the time of enrolment.
  - min walk test distance >150m following successful completion of a pulmonary rehabilitation program (or equivalent program).
  - No evidence of significant coexistent pulmonary pathology on HRCT
- ... and 2 more (see full listing online)

### Exclusion (13)

- Any patient deemed not suitable for EBV insertion based on internationally accepted best-practice guidelines. Considerations include:
  - Significant co-existent pulmonary pathology
  - Severe Hypercapnia (pCO<sub>2</sub> > 60mmHg on room air)
  - Unstable cardiovascular disease
  - Severe heart failure: EF <35%
- ... and 8 more (see full listing online)

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<https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?ACTRN=ACTRN12618001805268>

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The Royal Adelaide Hospital - Adelaide, NSW,QLD,SA, Australia  
The Queen Elizabeth Hospital - Woodville, NSW,QLD,SA, Australia  
Liverpool Hospital - Liverpool, NSW,QLD,SA, Australia  
... and 2 more locations