






Section 1: Key Publications

Level of Evidence:

1a  1b 

Zephyr® Endobronchial Valves

1. Sciruba FC, Ernst A, Herth FJF, Strange C, Criner G, Marquette C, et al. A Randomized Study of Endobronchial Valves for Advanced Emphysema. *New Eng J Med* 2010; 363: 1233-1244 (including supplementary appendix). 
2. Hopkinson NS, Kemp SV, Toma TP, Hansell DM, Geddes DM, Shah PL, Polkey MI. Atelectasis and survival after bronchoscopic lung volume reduction for COPD. *Eur Respir J* 2011; 37(6): 1346-51.
3. Herth F, Noppen M, Valipour A, Leroy S, Vergnon J-M, Ficker JH, Egan E, Gasparini S, Agusti C, Homes-Higgin D, Ernst A on behalf of the International VENT Study Group. Efficacy predictors of endoscopic lung volume reduction with Zephyr valves in a European cohort with emphysema. *Eur Respir J* 2012; 39: 1334-1342. 
4. Venuta F, Anile M, Diso D, Carillo C, De Giacomo T, D'Andrilli A, Fraioli F, Rendina EA, Coloni GF. Long-term follow-up after bronchoscopic lung volume reduction in patients with emphysema. *Eur Respir J* 2012; 39 (5): 1084-89.
5. Valipour A, Herth FJF, Burghuber OC, Criner G, Vergnon J-M, Goldin J, et al. Target lobe volume reduction and COPD outcome measures after endobronchial valve therapy. *Eur Respir J* 2014; 43(2): 387-96.
6. Valipour A, Slebos D-J, de Oliveira HG, Eberhardt R, Freitag L, Criner GJ, Herth FJF. Expert Statement: Pneumothorax associated with Endoscopic Valve Therapy for Emphysema – Potential Mechanisms, Treatment Algorithm, and Case Examples. *Respiration*. doi: 10.1159/000360642. Published online: April 5, 2014.
7. Bosc C, Reymond E, Jankowski A, Arbib F, Briault A, Federspiel I, Vincent C, Aniwidyaningsih W, Ferretti G, Pison C. Long-term outcomes in 35 patients with emphysema after endoscopic lung volume reduction with Zephyr® valves. Abstract accepted at the 18th World Congress for Bronchology and Interventional Pulmonology (WCBIP); Kyoto, Japan 13-16 April 2014.
8. Davey C, Zoumot Z, Jordan S, Carr DH, Polkey MI, Shah PL, Hopkinson NS. Bronchoscopic lung volume reduction with endobronchial valves for patients with heterogeneous emphysema and intact interlobar fissures (The BeLieVeR-HiFi trial): study design and rationale. *Thorax*. 2014 Mar 24. doi: 10.1136/thoraxjnl-2014-205127. [Epub ahead of print] 
9. Davey C, Zoumot Z, McNulty W, Jordan S, Carr D, Rubens M, Hansell D, Polkey M, Shah P, Hopkinson N. Bronchoscopic lung volume reduction with endobronchial valves for patients with heterogeneous emphysema and intact interlobar fissures (BeLieVer-HiFi). *Eur Respir J* 2014; 44: Suppl. 58, A1773. 
10. Bosc C, Jankowski A, Briault A, Roth H, Reymond E, Arbib F, Federspiel I, Vincent C, Aniwidyaningsih W, Ferretti G, Pison C. Long-term outcomes in 35 patients with emphysema after endoscopic lung volume reduction (ELVR) with valves. *Eur Respir J* 2014; 44: Suppl. 58, A3734.
11. Hopkinson N, Davey C, Tanner R, Zoumot Z, McNulty W, Jordan S, et al. Endobronchial Valves for Emphysema – Open Label Treatment of Control Patients Following Completion of the BeLieVeR-HiFi Study. *Am J Respir Crit Care Med* 2015; 191:A1144.
12. Hopkinson N, Zoumot Z, Davey C, Jordan S, McNulty W, Carr D, et al. Bronchoscopic Lung Volume Reduction with Endobronchial Valves Reduces Dynamic Hyperinflation: Results from the BeLieVeR-HiFi Trial. *Am J Respir Crit Care Med* 2015; 191:A1145.
13. Davey C, Zoumot Z, Jordan S, McNulty W, Carr D, Hind M, et al. Bronchoscopic lung volume reduction with endobronchial valves for patients with heterogeneous emphysema and intact interlobar fissures (the BeLieVeR-HiFi study): a randomised controlled trial. *The Lancet* 2015; [http://dx.doi.org/10.1016/S0140-6736\(15\)60001-0](http://dx.doi.org/10.1016/S0140-6736(15)60001-0) (including supplementary appendix). [Epub ahead of print] 
14. Shrager JB. Endobronchial valves in a highly parsed emphysema population. Comment. *The Lancet* 2015; [http://dx.doi.org/10.1016/S0140-6736\(15\)60156-8](http://dx.doi.org/10.1016/S0140-6736(15)60156-8).

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16. K. Klooster, N.H.T. Ten Hacken, J.E. Hartmann, H.A.M. Kerstjens, E.M. Van Rikxoort, D.J. Slebos. Endobronchial Valve Treatment Versus Standard Medical Care in Patients with Emphysema Without Interlobar Collateral Ventilation (The STELVIO-Trial). *Am J Respir Crit Care Med* 2015; 191:A6312.
17. Klooster K, Ten Hacken NHT, Hartman JE, Kerstjens HAM, Van Rikxoort EM, Slebos DJ. Endobronchial valve treatment versus standard medical care in patients with emphysema without interlobar collateral ventilation. *ERS* 2015; PA792.
18. Hartman JE, Klooster K, Slebos DJ, Ten Hacken NHT. Daily physical activity significantly improves after endobronchial valve treatment in patients with emphysema. *ERS* 2015; OA1767.
19. Herzog D, Poellinger A, Doellinger F, Schuermann D, Temmesfeld-Wollbrueck B, Froeling V, et al. Modifying Post-Operative Medical Care after EBV Implant May Reduce Pneumothorax Incidence. *PLOS ONE* 2015; 10(5): e0128097. doi:10.1371/journal.pone.0128097.
20. Klooster K, ten Hacken NHT, Hartman JE, Kerstjens HAM, van Rikxoort EM, Slebos DJ. Endobronchial Valves for Emphysema without Interlobar Collateral Ventilation. *N Eng J Med* 2015; 373:2325-35 (Supplementary appendix STELVIO Trial 'Endobronchial valves for emphysema without interlobar collateral ventilation' Klooster et al. November 18th, 2015).

Chartis and EBV

21. Aljuri N, Freitag L. Validation and pilot clinical study of a new bronchoscopic method to measure collateral ventilation before endobronchial lung volume reduction. *J Appl Physiol* 2009; 106(3):774-83.
22. Mantri S, Macaraeg C, Shetty S, Aljuri N, Freitag L, Herth F, Eberhardt R, Ernst A. Technical advances: measurement of collateral flow in the lung with a dedicated endobronchial catheter system. *J Bronchology Interv Pulmonol* 2009; 16(2):141-4.
23. Gompelmann D, Eberhardt R, Michaud G, Ernst A, Herth FJF. Predicting Atelectasis by Assessment of Collateral Ventilation prior to Endobronchial Lung Volume Reduction: A Feasibility Study. *Respiration* 2010; 80(5): 419-25.
24. Herth FJF, Eberhardt R, Gompelmann D, Ficker JH, Wagner M, Ek L, Schmidt B, Slebos D-J. Radiological and Clinical Outcomes of Using Chartis to Plan Endobronchial Valve Treatment. *Eur Respir J* 2013; 41(2):302-308.
25. Raymond E, Jankowski A, Pison C, Bosson JL, Prieur M, Aniwidyarningsih W, Ferretti GR. Prediction of Lobar Collateral Ventilation in 25 Patients With Severe Emphysema by Fissure Analysis With CT. *AJR* 2013; 201(4):W571-5.
26. Diso D, Anile M, Carillo C, Ruberto F, Patella M, Russo E, Fraioli F, De Giacomo T, Mantovani S, Rendina E, Venuta F. Correlation between Collateral Ventilation and Interlobar Lung Fissures. *Respiration* 2014; 88(4):315-9.
27. Pizarro C, Ahmadzadehfar H, Essler M, Fimmers R, Nickenig G, Skowasch D. Volumetric and scintigraphic changes following endoscopic lung volume reduction. *Eur Respir J*. 2014 Oct 30. pii: erj01089-2014. [Epub ahead of print]
28. Gesierich W, Samitas K, Behr J. Determining collateral ventilation during bronchoscopy: unanswered questions. *Thorax* 2014; 69(3):289-90.
29. Shah PL, Herth FJ. Dynamic expiratory airway collapse and evaluation of collateral ventilation with Chartis. *Thorax* 2014; 69(3):290-1. doi: 10.1136/thoraxjnl-2013-204875. Epub 2013 Dec 19
30. Gompelmann D, Eberhardt R, Slebos DJ, Brown MS, Abtin F, Kim HJ, Holmes-Higgin D, Radhakrishnan S, Herth FJ, Goldin J. Diagnostic performance comparison of the Chartis System and high-resolution computerized tomography fissure analysis for planning endoscopic lung volume reduction. *Respirology* 2014 Feb 25. doi: 10.1111/resp.12253. [Epub ahead of print]
31. Herzog D, Dollinger F, Pollinger A, Beck S, Becker M, Schurmann D, Temmesfeld-Wollbruck B, Hippenstiel S, Hübner RH. New COPD Subgroups According To Prevalence And Distribution Of Interlobar Collateral Ventilation Assessed By An Endobronchial Catheter System. *Am J Respir Crit Care Med* 2014; 189: A2430.

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EBV in Alpha-1-antitrypsin deficiency

35. Tuohy MM, Remund KF, Hilfiker R, Murphy DT, Murray JE, Egan JJ. Endobronchial valve deployment in severe alpha-1-antitrypsin deficiency emphysema: A case series. *Clin Respir J* 2013; 7(1): 45-52.
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EBV for Air Leaks

37. Travaline JM, McKenna RJ, De Giacomo T, Venuta F, Hazelrigg SR, Boomer M, et al. Treatment of Persistent Pulmonary Air Leaks Using Endobronchial Valves. *Chest* 2009; 136(2): 355-60.
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41. Firlinger I, Stubenberger E, Müller MR, Burghuber OC, Valipour A. Endoscopic one-way valve implantation in patients with prolonged air leak and the use of digital air leak monitoring. *Ann Thorac Surg* 2013; 95(4):1243-9
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EBV for Aspergillosis

43. Tsim S, Paton L, Nicholson F, Blyth K. Rescue therapy using an endobronchial valve and digital air leak monitoring in Invasive Pulmonary Aspergillosis. Elsevier Ltd 2014; *Respiratory Medicine Case Reports* 14:27-29. doi: <http://dx.doi.org/10.1016/j.rmcr.2014.12.001>.
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EBV for Native Lung hyperinflation

45. Crespo MM, Johnson BA, McCurry KR, Landreneau RJ, and Sciruba FC. Use of Endobronchial Valves for Native Lung Hyperinflation Associated with Respiratory Failure in a Single-Lung transplant Recipient for Emphysema. *Chest* 2007; 131: 214-216.
46. Kemp SV, Carby M, Cetti EJ, Herth FJF, and Shah PL. A potential role for endobronchial valves in patients with lung transplant. *J Heart Lung Transplant* 2010; 29(11): 1310-12.
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48. Destors M, Aniwidyaningsih W, Jankowski A, Pison C. Endoscopic volume reduction before or after lung transplantation. *Eur J Cardiothorac Surg* 2012; 42(5): 897-8.

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EBV for Bridge-to-Transplantation

49. Venuta F, Diso D, Anile M, De Giacomo T, Rendina EA, Rolla M, et al. Bronchoscopic lung volume reduction as a bridge to lung transplantation in patients with chronic obstructive pulmonary disease. *Eur J Cardiothorac Surg* 2011; 39: 364-367.
50. Riegler W, Karpf-Wissel R, Darwiche K, Freitag L. Endoscopic lung volume reduction in high risk patients with FEV₁ ≤ 20%. ERS 2013, Thematic Poster Session: P2282.

EBV for treatment of Bullae

51. Noppen M, Tellings J-C, Dekeukeleire T, Dieriks B, Hanon S, D'Haese J, et al. Successful Treatment of a Giant Emphysematous Bulla by Bronchoscopic Placement of Endobronchial Valves. *Chest* 2006; 130: 1563-1565.
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EBV for MDR-Tuberculosis

57. Corbetta L, Montinaro F, Rogasi PG, Luppi F, Magni C, Paiano S, et al. Improvement in tubercular cavities following adjuvant treatment with endobronchial valves: a case report. *Int J Tuberc Lung Dis* 2013; 17(6): 850-1.

EBV for Lung Cancer

58. Funke F, Gauler T, Freitag L, Pöttgen C. Using endobronchial valves to reduce irradiation portals in lung cancer: A case report. *Practical Radiation Oncology* 2014; 4: e91- e94.

General Literature

59. Iftikhar IH, McGuire FR, Musani AI. Efficacy of bronchoscopic lung volume reduction: a meta-analysis. *Intern J COPD* 2014; 9:481-491.
60. Iftikhar IH, McGuire FR, Musani AI. Predictors of efficacy for endobronchial valves in bronchoscopic lung volume reduction: A meta-analysis. *Chronic Respiratory Disease* published online 21 August 2014. doi: 10.1177/1479972314546766 
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Section 2: Other Publications

Zephyr® Endobronchial Valves

63. Snell GI, Holsworth L, Nurs B, Borrill ZL, Thomson KR, Kalff V, et al. The Potential for Bronchoscopic Lung Volume Reduction Using Bronchial Prostheses. A Pilot Study. *Chest* 2003; 124(3): 1073-1080.
64. Venuta F, de Giacomo T, Rendina EA, Ciccone AM, Diso D, Perrone A, et al., Bronchoscopic Lung-Volume Reduction With One-Way Valves in Patients With Heterogenous Emphysema. *Ann Thorac Surg* 2005; 79(2): 411-417.
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69. de Oliveira HG, Macedo-Neto AV, John AB, Jungblut S, Prolla JC, Menna-Barreto SS, et al., Transbronchoscopic Pulmonary Emphysema Treatment. 1-Month to 24-Month Endoscopic Follow-up. *Chest* 2006; 130(1): 190-199.
70. Hopkinson NS. Bronchoscopic lung volume reduction: indications, effects and prospects. *Curr Opin Pulm Med* 2007; 13: 125-130.
71. Chung SC, Peters MJ, Chen S, Emmett L, Ing AJ. Effect of unilateral endobronchial valve insertion on pulmonary ventilation and perfusion: a pilot study. *Respirology* 2010; 15(7):1079-83.
72. Kotecha S, Westall GP, Holsworth L, Pham A, Williams TJ, and Snell GI. Long-term outcomes from bronchoscopic lung volume reduction using a bronchial prosthesis. *Respirology* 2011; 16: 167-173.
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Chartis and collateral ventilation

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EBV for air leaks and bronchopleural fistula

100. Snell GI, Holsworth L, Fowler S, Eriksson L, Reed A, Daniels FJ, et al. Occlusion of a Broncho-Cutaneous Fistula With Endobronchial One-Way Valves. *Ann Thorac Surg* 2005; 80(5): 1930-1932.
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