

# Disclosure

**Collaboration with :**

- ✓ **Holaira Inc.**
- ✓ **CSA medical**
- ✓ **PneumRx/BTG**
- ✓ **Pulmonx**



# **Patient follow-up after bronchoscopic Lung volume reduction**

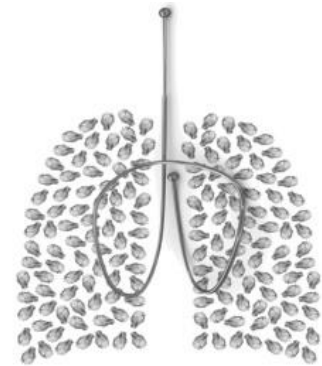
**Congress of the South African Thoracic Society &  
the South African Society of Sleep Medicine 2016**

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**Department of Pulmonary Diseases, University Medical Center Groningen, The Netherlands  
E-mail: [k.klooster@umcg.nl](mailto:k.klooster@umcg.nl)**



- ✓ **Coil and valve treatment**
- ✓ **Patient expectation**
- ✓ **Improvement after treatment**
- ✓ **Hospitalization**
- ✓ **Most common complaints/ adverse events**
- ✓ **Discharge**
- ✓ **Follow-up**
- ✓ **Physical activity**
- ✓ **Patient retention**

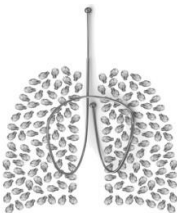


**There is a BIG need for additional treatment options for patients with:**

- ✓ **COPD**
- ✓ **Emphysema phenotype**
- ✓ **Severe hyperinflation**

### **Bronchoscopic lung volume reduction**

- **Minor invasive**
- **A higher number of patients can be served**
- **Effective in selected patients**
  
- **2 treatment options:**
  - **valve treatment**
  - **coil treatment**





ORIGINAL ARTICLE

## Endobronchial Valves for Emphysema without Interlobar Collateral Ventilation

Karin Klooster, Nick H.T. ten Hacken, M.D., Ph.D., Jorine E. Hartman, Ph.D., Huib A.M. Kerstjens, M.D., Ph.D., Eva M. van Rikooort, Ph.D., and Dirk-Jan Slebos, M.D., Ph.D.  
N Engl J Med 2015; 373:2325-2335 | December 10, 2015 | DOI: 10.1056/NEJMoa1507807

Original Investigation

## Effect of Endobronchial Coils vs Usual Care on Exercise Tolerance in Patients With Severe Emphysema: The RENEW Randomized Clinical Trial

Frank C. Sciruba, MD; Gerard J. Criner, MD; Charlie Strange, MD; Pallav L. Shah, MD; Gaetane Michaud, MD; Timothy A. Connolly, MD; Gaëtan Deslée, MD; William P. Tillis, MD; Antoine Delage, MD; Charles-Hugo Marquette, MD, PhD; Ganesh Krishna, MD; Ravi Kalhan, MD; J. Scott Ferguson, MD; Michael Jantz, MD; Fabien Maldonado, MD; Robert McKenna, MD; Adnan Majid, MD; Navdeep Rai, MD; Steven Gay, MD; Mark T. Dransfield, MD; Luis Angel, MD; Roger Maxfield, MD; Felix J. F. Herth, MD; Momen M. Wahidi, MD; Atul Mehta, MD; Dirk-Jan Slebos, MD, PhD; for the RENEW Study Research Group

# Endobronchial valve treatment and coil treatment both resulted in clinically relevant improvements in exercise capacity, lung function and quality of life in selected patients with emphysema:



proven absence of collateral ventilation

Klooster et al. NEJM 2015

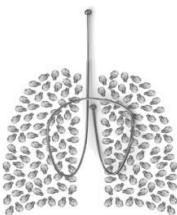
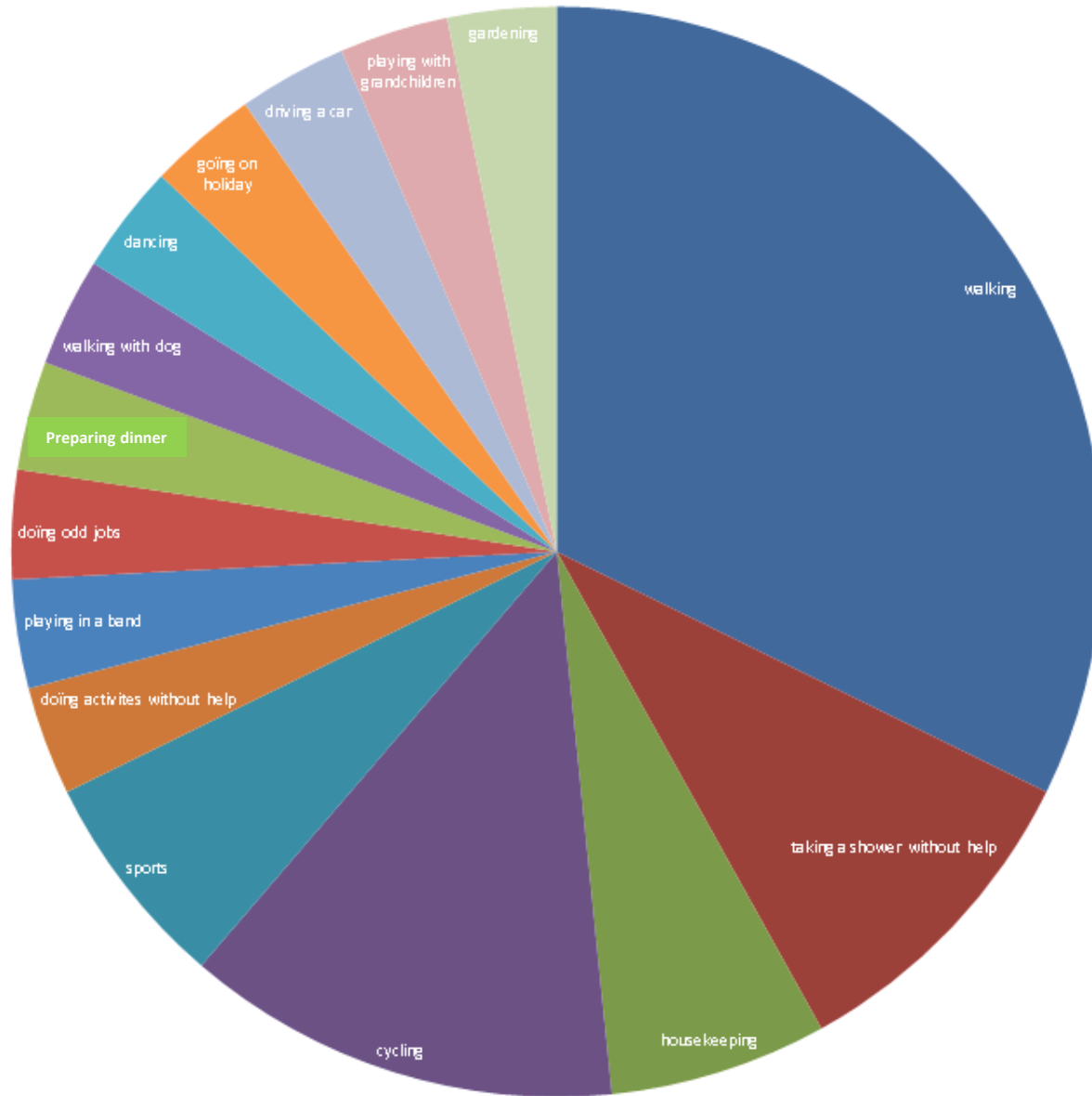


severe hyperinflation and independent of collateral ventilation

Sciruba et al. JAMA 2016



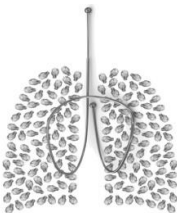
# Patient expectations





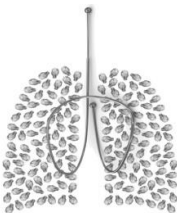
# Improvements after treatment

- **Bending without getting out of breath**
- **Easier talking**
- **Walking stairs**
- **Quicker recovery after exercise**
- **Taking a shower**
- **Housekeeping**



# Hospitalization

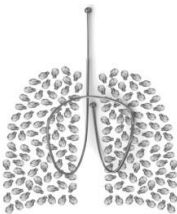
- **Medication prophylaxis**
  - Anti-biotics
  - Prednisolon
- **Microbiological sample**
- **X-ray**
  - Pneumothorax
  - Consolidation / infiltrate
- Treatment effect?





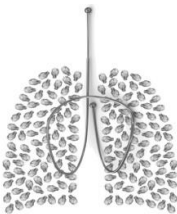
# Most common complaints

- Chest pain/discomfort
- Slight increased dyspnea
- Slight colorized sputum
- Lower oxygen saturation



# Most common adverse events

- **Pneumothorax** (valves  $\pm 22\%$ ; coils  $\pm 12\%$ )
- **COPD exacerbation**
- **Pneumonia** (coils: coils associated opacity)



# Discharge

**Provide patient with clear instructions**

**What to do if ?**

**-Suddenly severe dyspnea**

→ Call emergency line

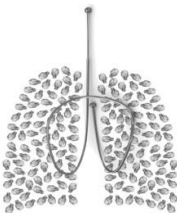
**-Increased dyspnea, sputum, coughing, fever,**

→ Contact the hospital

**How to proceed daily life?**

→ What to do and not to do

**Schedule follow-up visit**

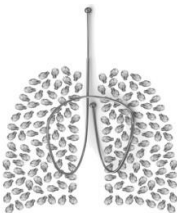


# Follow-up (1, 6, 12 months)

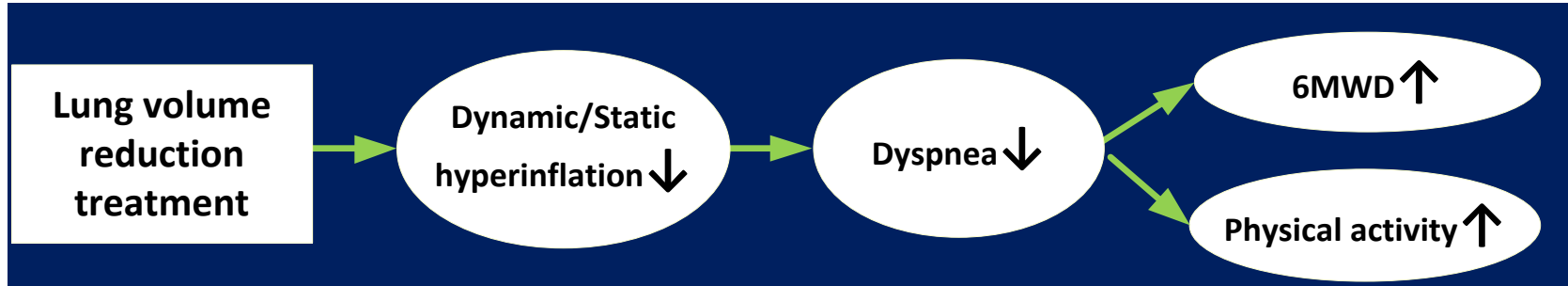
- Chest X-ray
- Spirometry
- Physician consultation

## Additional tests

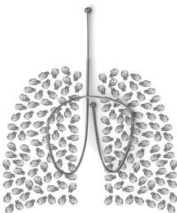
- Bodyplethysmography
- Exercise capacity test (cycle ergometry/6MWD)
- HRCT scan (in the absence of effect of adverse events)
- Measurement of physical activity



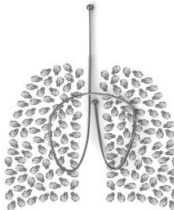
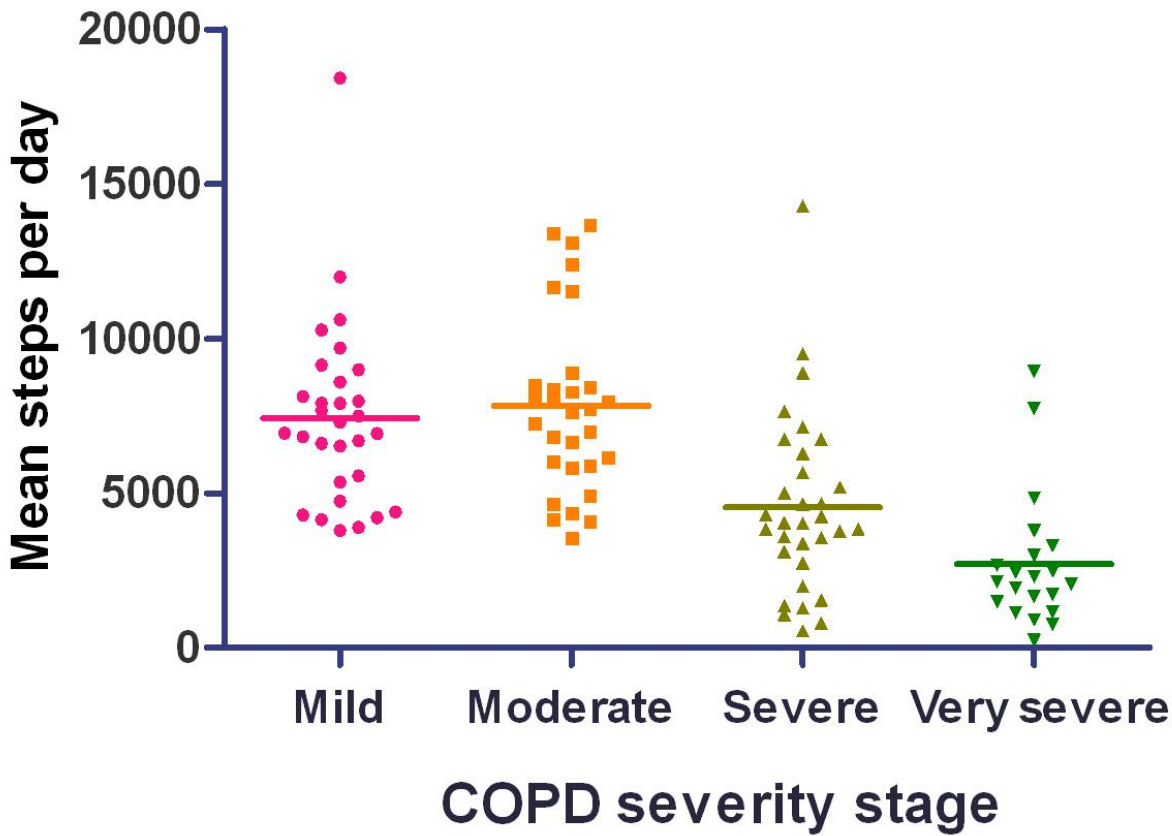
# Physical activity

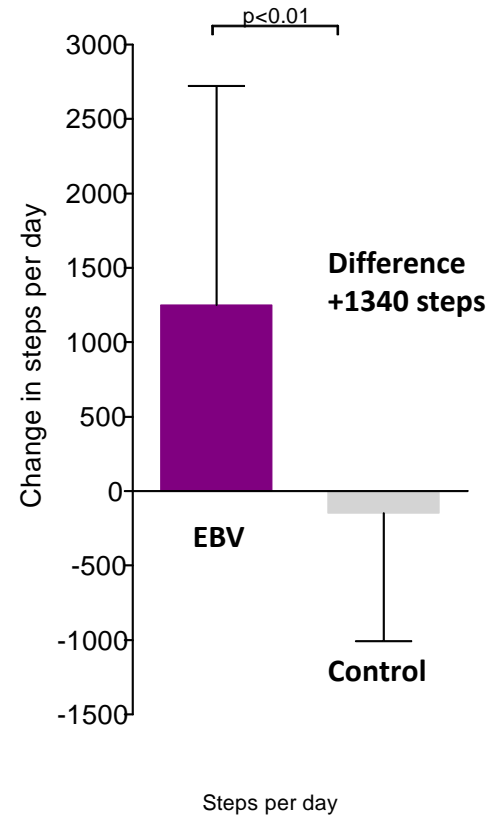
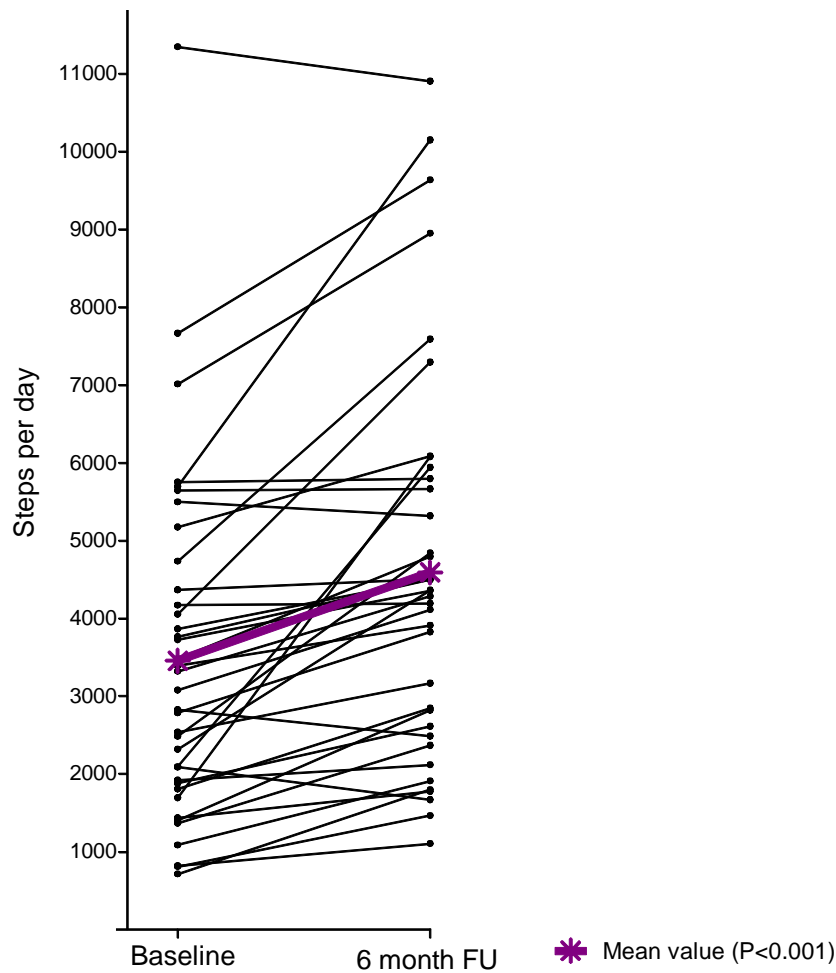


- **Physical activity is an important contributing factor for the autonomy of these patients**
- **Physical activity is potentially an interesting measure of treatment effect and could serve as endpoint in clinical trials**

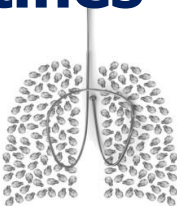


# Physical activity in patients with COPD





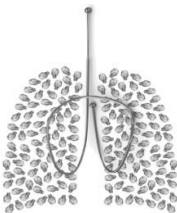
**Lifestyle physical activity enhancement should focus more on behavioral change in physical activity routines in daily life.**





# Patient retention

- **Make every subject feel important; spend time with them and be very honest**
- **Send postcards**
- **Call them or send regular e-mail messages**
- **Schedule the next visit in advance**
- **Provide them with known expectations and the test results, e.g., a printout of a PFT test or chest X ray**



# Summary

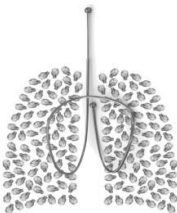
**Bronchoscopic lung volume reduction treatment provides clinical benefit**

**Discuss expectations of treatment effect with the patient**

**Inform the patient about the common adverse events and complaints after treatment**

**Provide patient with clear instructions**

**Patient central and not treatment !**





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