MEDICAL CENTER LETTERHEAD
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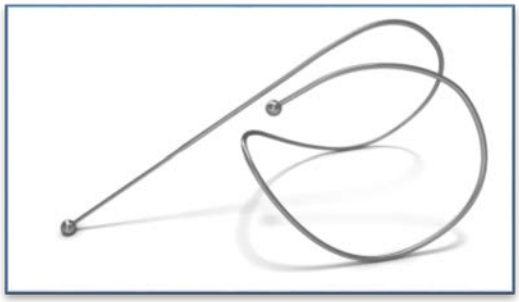
RePneu (say "RENEW") Coil Technology

TECHNOLOGY OVERVIEW

- The RePneu® Coil is a medical implant designed for the treatment of emphysema.
- Coil therapy works by compressing diseased lung tissue and increasing radial tension within the airway network, which may help improve lung elasticity, prevent airway collapse, and reduce hyperinflation.
- Currently being evaluated in the U.S. through an FDA-approved pivotal clinical trial, called the RENEW Trial; has been used for the treatment of severe emphysema in Europe since 2008.

ABOUT THE REPNEU COIL

- Small, shape-memory double-loop coil made of Nitinol, a bio-compatible material commonly used in medical implants.[1]
- Coils are designed to compress the diseased portions of the lung, which creates more room for healthier areas of the lung to expand and function.
- Coils are designed to help restore lung elasticity and hold open the lung's airways; this may help prevent airway collapse that causes air trapping and hyperinflation, a condition in which too much air gets trapped in the lungs, resulting in shortness of breath.



Coil placement within the lung: Multiple coils can re-tension the entire airway network, helping to tether open small airways and improve elastic recoil.

MINIMALLY INVASIVE, NON-SURGICAL PROCEDURE

- Coils are straightened and introduced into the most diseased area of the lung, one at a time, with a bronchoscope, a commonly used pulmonary instrument, inserted through the patient's mouth.
  - Once in position, the Coil will recover to its pre-programmed shape, gathering and compressing surrounding tissue.
- On average, 10 Coils are implanted in each side of the lung in two separate procedures to achieve optimal compressive effect.
  - Each procedure takes approximately 45 minutes
- Less invasive procedure than lung volume reduction surgery and designed to provide similar benefits in a much broader group of patients than can be treated surgically

Coil Therapy is Designed Specifically to Address Clinical Challenges of Severe Emphysema	
Challenge	**Solution**
• Emphysema causes lungs to lose their elasticity, and causes airway collapse and hyperinflation.	• Coil treatment targets restoration of elasticity by re-tensioning the lung's airways, which may help prevent small airway collapse, while compressing diseased tissue to reduce lung volume.
• Emphysema damage can occur anywhere in the upper or lower lobes of the lung, and can be localized or diffuse (heterogeneous or homogeneous).	• Coil therapy has been shown to be effective in both upper and lower lobes, and in heterogeneous as well as non-severe homogeneous patients[2].
• A majority of emphysema patients have openings between major lobes of the lung through which air can pass, a normal physiologic condition that may actually be beneficial[3].	• Coil therapy can benefit patients with collateral ventilation, or airway passages between lobes of the lung. This condition excludes patients from treatment with other types of implant.

[1] http://www.nitinol.com/nitinol-university/nitinol-facts/#item8

[2] Shah PL, et.al. Endobronchial coils for the treatment of severe emphysema with hyperinflation (RESET): a randomized controlled trial, *Lancet Respir Med* 2013; 1:233-40

[3] Cetti EJ, et.al. Collateral Ventilation, *Thorax* 2006; 61:371-373