



A lifetime of specialist care

PRESS RELEASE

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First UK patients get pioneering new treatment for serious lung disease - 72-year-old COPD patient is one of first in country to have procedure -

A new cutting-edge treatment for patients with chronic obstructive pulmonary disease (COPD) has been carried out by experts at Royal Brompton and Chelsea and Westminster hospitals in London as part of a research trial.

COPD is an umbrella term for a collection of conditions causing lung damage, including chronic bronchitis and emphysema, and affects around three million people in the UK.

The new procedure uses electrodes to destroy branches of the vagus nerve in the lungs, known to be responsible for muscle contraction and mucus secretion, which result in narrowing and obstructions in the airways. In patients with COPD these nerves are overactive, usually as a result of damage caused by smoking, and the constant mucus secretion and airway obstruction leads to symptoms such as cough, shortness of breath, wheeze and tightness of the chest.

By blocking the actions of the vagus nerve in the lung, it is hoped that patients' symptoms, lung function and quality of life will be improved. Experts hope that the one-off treatment, known as targeted lung denervation (TLD), will have permanent benefits and may replace the need for the long-term use of anticholinergic drugs, which are often prescribed for patients with COPD.

The minimally-invasive procedure, which takes up to an hour, is being carried out by consultant respiratory physician and chief UK investigator, Dr Pallav Shah, as part of the international AIRFLOW-1 clinical trial. It is currently being tested on patients with moderate to severe COPD.

During the novel procedure, a narrow tube with a light and camera at the tip – known as a bronchoscope – is inserted into the airways while the patient is under general

anaesthetic. A thin tube (catheter) is then manoeuvred through the bronchoscope into the bronchus (the main air passages of the lungs) where interconnecting nerve branches are located. Electrical energy is supplied and the electrodes on the catheter selectively hit the nerves with heat from 10-20mm away, destroying them, while sparing tissue and blood vessels.

Dr Shah, consultant physician at Royal Brompton and Chelsea and Westminster hospitals, explains: "Treating the nerves in this way blocks their actions more efficiently than anticholinergic inhalers, which only work temporarily, can have an irregular distribution within the lungs and may cause side-effects such as blurred vision and urine retention in a small number of patients.

"This procedure keeps obstructed airways open to improve breathing and has the potential to provide a permanent improvement for all patients with COPD."

Gillian Joseph, 72, was one of the first patients to have the procedure as part of the clinical trial. The grandmother of five from Bushey, Hertfordshire, was diagnosed with emphysema around 18 years ago and her symptoms deteriorated significantly over the last five years.

She said: "After a few steps I couldn't walk anywhere or do anything. Even something like going to the supermarket was impossible. I hated the way I was and felt old before my time."

She asked her consultant to refer her to Royal Brompton after hearing about another innovative procedure for COPD carried out at the hospital. Although her condition meant that particular treatment was not appropriate, she was suitable for the new trial and had the procedure at the end of April.

Gillian said: "I was noticeably less breathless immediately after having the treatment. Now I can go shopping and walk around normally for the first time in years – it feels like a miracle. I'm still pinching myself because I can't quite believe it, I'm over the moon.

"Best of all it meant that I was in good health when my daughter Sara recently got married. I'm privileged to have been offered this treatment before so many others – it's been an amazing experience."

The clinical trial, which is taking place at Royal Brompton Hospital, in collaboration with Chelsea and Westminster Hospital, in the UK and at a number of locations across Europe, will evaluate the safety of TLD. It is funded by Holaira, Inc., a U.S. company that manufactures the Holaira™ Lung Denervation System.

Find out more about this clinical study and all ongoing trials at Royal Brompton & Harefield NHS Foundation Trust [here](#)

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