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Cyclopharm Expands "Beyond PE" Strategy with New COPD Study Leveraging Technegas® and AI-Driven Lung Analysis

Cyclopharm Limited (ASX: CYC) is pleased to announce a new clinical research collaboration with **Macquarie University** and Macquarie University Hospital to evaluate a novel treatment approach for patients with severe chronic obstructive pulmonary disease (COPD).

The study, known as the **Endoscopic Segmental Sealant Ablation (ESSA) Study**, will be led by **Professor Alvin Ing**, Professor of Respiratory Medicine at Macquarie University and a recognised leader in advanced lung disease and interventional respiratory therapies.

Why this study matters for investors:

COPD is one of the **largest global disease burdens**, affecting hundreds of millions of people worldwide and causing an estimated **3 to 4 million deaths each year**. It is one of the top 5 leading causes of death worldwide. Despite its scale, treatment options for patients with advanced disease remain limited.

Minimally invasive lung volume reduction procedures using endoscopic valves have demonstrated strong clinical outcomes; however, **only around 30% of patients with severe COPD are eligible** due to anatomical constraints. The remaining majority currently have **no effective interventional treatment options available**.

The ESSA Study aims to address this unmet need by evaluating a new approach that could significantly **expand the treatable patient population**.

What the ESSA procedure does (in simple terms):

The ESSA procedure is a minimally invasive bronchoscopic treatment that targets **damaged parts of the lung at a smaller, segment-by-segment level**, rather than treating an entire lung lobe. The aim is to induce segmental lung volume reduction with the instillation of polymer foam.

By selectively treating the most diseased lung segments, the procedure aims to:

- Improve breathing efficiency
- Reduce lung over-inflation
- Improve exercise tolerance and quality of life

This approach has the potential to treat patients who are **not suitable for existing valve-based therapies**, materially increasing the addressable market for interventional COPD care.

Central role of Technegas® and AI-driven analysis:

A key feature of the ESSA Study is the use of **Technegas® functional lung imaging** combined with advanced artificial-intelligence analysis.

Technegas' unique gas-like properties will be used to show **how air moves through different parts of the lung**, providing true functional information rather than purely anatomical images. This functional data will be critical in:

- Identifying which lung segments are contributing least to breathing
- Guiding where treatment should be applied
- Measuring functional improvement following the procedure

To enhance this analysis, the study will integrate AI-based lung imaging technology from **Thirona (https://thirona.eu/),** a global leader in advanced lung imaging analytics. Thirona's technology will be applied to **nuclear medicine ventilation–perfusion (V/Q) SPECT-CT scans generated using Technegas®**, enabling detailed, segment-level assessment of lung function and treatment response. Additional quantitative analysis platforms will also be utilised.

This combination of **nuclear medicine hybrid imaging, Technegas functional data, and AI-driven analytics** represents a next-generation approach to personalised respiratory care.

Study design and timing

- Single-centre study at Macquarie University Hospital (Sydney)
- Parallel group-controlled study
- 34 patients with severe or very severe COPD
- Ethics approval completed
- **First patients expected to commence treatment in the coming weeks**
- Recruitment expected to occur over approximately 12 months

Professor Alvin Ing said: "Advanced COPD is one of the leading causes of death worldwide. Endoscopic valve therapy has been proven to have positive outcomes for patients including improving function, quality of life and life expectancy. Unfortunately, this is only available to approximately 30% of the severe COPD population. This pivotal study aims to provide access to lung volume reduction therapy for the rest of the severe COPD population, an option that previously did not exist.

The information gained from the true functional imaging that Technegas will provide will be instrumental in establishing a new procedure to meet a significant unmet demand."

James McBrayer, Managing Director & CEO of Cyclopharm, said: "This study is strategically important for Cyclopharm. COPD represents one of the largest unmet needs in global respiratory medicine, and the majority of patients with advanced disease currently have no

interventional treatment options available. We are delighted to be working with Professor Alvin Ing at Macquarie University Hospital, whose depth of clinical experience and leadership in interventional respiratory medicine is recognised internationally.

We are also very pleased to be collaborating with Thirona. Their ability to apply advanced AI technology to nuclear medicine imaging aligns strongly with our vision for Technegas as a functional imaging platform. Together, these capabilities have the potential to unlock new clinical pathways and materially expand the long-term value of Technegas beyond pulmonary embolism."

Strategic significance

The ESSA Study supports Cyclopharm's **'Beyond PE' strategy**, demonstrating how Technegas can:

- Enable new clinical applications
- Support emerging interventional lung procedures
- Integrate with AI-driven analytics and precision medicine
- Expand long-term market opportunity in major respiratory diseases

Cyclopharm will continue to update the market as the study progresses and clinical outcomes become available

This ASX announcement was authorised for release by James McBrayer, Managing Director, CEO and Company Secretary

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Cyclopharm Limited
Cyclopharm is an ASX-listed radiopharmaceutical company servicing the global medical community. The Company's mission is to provide nuclear medicine and other clinicians with the ability to improve patient care outcomes. Cyclopharm achieves this objective primarily through the provision of its core radiopharmaceutical product, Technegas used in functional lung ventilation imaging.

Technegas
The Technegas technology is a structured ultra-fine dispersion of radioactive labelled carbon, produced by using dried Technetium-99m in a carbon crucible, micro-furnaced for a few seconds at around 2,700 °C. The resultant gas-like substance is inhaled by the patient (lung ventilation) via a breathing apparatus, which then allows multiple views and tomography imaging under a gamma or single photon emission computed tomography (SPECT) camera for evaluating functional ventilation imaging. Historically used in the diagnosis of pulmonary embolism, Technegas, together with advancements in complementary technology, multimodality imaging, and analytical software, is being utilised in other disease states, including COPD, asthma, pulmonary hypertension, and certain interventional applications, such as lobectomies in lung cancer and lung volume reduction surgery.