



9 September 2020

The Manager
Company Announcements Office
Australian Securities Exchange Limited
20 Bridge Street
Sydney NSW 2000

technegas
ultralute

Cyclopharm Ltd
ABN 74 116 931 250
Unit 4, 1 The Crescent
Kingsgrove NSW 2208 Australia
T 61 2 9541 0411
F 61 2 9543 0960
www.cyclopharm.com.au

CYCLOPHARM PARTNERS WITH MCMASTERS UNIVERSITY IN THE FIGHT AGAINST COVID-19

Radiopharmaceutical company, Cyclopharm Limited (ASX: CYC) today announced a new research collaboration with McMaster University and other industry leaders aimed at understanding the short-term and long-term effects of COVID-19 on lung ventilation and perfusion injury.

KEY FEATURES:

- **Trial to assess lung imaging using Technegas™ in diagnosing and managing respiratory complications in COVID-19 survivors**
- **Collaboration with the world-renowned McMaster University in partnership with the Firestone Institute for Respiratory Health & Imaging Research Centre and St. Joseph's Healthcare Hamilton, Ontario Canada**
- **100 patient study to include healthy and COVID-19 recovered asthmatics**
- **Full enrollment expected by Q2 2021 with study completion targeted for Q4 2021.**
- **Progressive financial support from CYC throughout the trial totaling \$210k CAD**

As of 9 September 2020, COVID-19 cases have exceeded 27.4 million with over 894,000 deaths in 188 countries.¹

During this time of pandemic where concerns of infection control is heightened, Technegas™, with its unique product characteristics and method of administration, is considered to be the safest lung ventilation imaging agent in its class.

While the lung is the common site of COVID-19 pathology, little is currently known about the immediate and long-term effect of COVID-19 on airway and vasculature function. Despite the vast majority of patients who get infected will have mild respiratory symptoms, approximately 17-41% patients present with hypoxia and develop rapidly progressive acute respiratory distress syndrome (ARDS), with fatality rates ranging between 2-12%.

Commenting on the trial, Co-Investigator Professor Parameswaran Nair MD, Division of Respiriology, Department of Medicine, McMaster University stated "Little is currently known about the immediate and long-term effects of COVID-19 on lung health, which may have consequences for COVID-19 survivors and the health-care system. A subset of COVID-19 survivors are starting to emerge with persistent breathlessness and exercise limitation, necessitating respiratory follow-up."

Understanding the short-term and long-term effect of COVID-19 on lung ventilation and perfusion injury is an unmet clinical need in the global pandemic. Pulmonary imaging using V/Q SPECT in combination with low dose, non-contrast CT provides a way to detect the functional consequence of airway and vasculature injury by assessing ventilation and perfusion respectively. The study proposes to evaluate V/Q SPECT using

¹ Johns Hopkins University of Medicine Coronavirus Resource Center <https://coronavirus.jhu.edu/map.html>

Technegas™ longitudinally in a population of asthmatic and healthy survivors to characterize and understand the clinical relevance of COVID-19 related ventilation and perfusion injury.

Principal Investigator of the study Dr Sarah Svenningsen, Assistant Professor, Division of Respiriology at McMasters University went on to state “Using V/Q SPECT-CT, we will investigate and characterize the extent of COVID-19 related ventilation and perfusion injury in COVID-19 survivors. We think that ventilation imaging, using Technegas™, may provide insight into the functional consequence of COVID-19 related lung injury, that may persist long after a patient recovers from the virus. Persistent ventilation injury that can be visualized using Technegas™ may explain persistent respiratory symptoms.”

Commenting on the trial, Managing Director and CEO James McBrayer stated “We are honoured to be part of this very important initiative. This 14-month study could establish VQ-SPECT using Technegas™ as an important tool in both diagnosis and management of acute respiratory ARDS related complications in survivors of COVID-19.”

Technegas™ is established in 60 countries around the world with over 4.2 million procedures completed to date. Technegas™ is extensively documented in hundreds of peer reviewed papers and clinical guidelines as the functional ventilation imaging agent of choice in determining PE^{2,3}.

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

For more information, please refer to our website at www.cyclopharm.com or contact:

For more information, please contact:

Mr James McBrayer
Managing Director, CEO and Company Secretary
Cyclopharm Limited
T: +61 (02) 9541 0411

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 to multimodality imaging and analytical software, is being used in other disease states to include COPD, asthma, pulmonary hypertension and certain interventional applications to include lobectomies in lung cancer and lung volume reduction surgery.

² European Association of Nuclear Medicine Guidelines for Ventilation/Perfusion Scintigraphy Part 1. Pulmonary imaging with ventilation/perfusion single photon emission tomography. Eur J Nucl Med Mol Imaging (2009) 36:1356–1370 DOI 10.1007/s00259-009-1170-5

³ CANM Guidelines for Ventilation/Perfusion (V/P SPECT) in Pulmonary Embolism. November 2018