

4DMedical unveils VQ product at premier US lung conference

23 May 2023

Highlights

- 4DMedical has made material progress in the development of its CT-based ventilation-perfusion product (CT:VQ), which quantifies and visualises regional ventilation and regional perfusion
- CT:VQ represents a significant technological breakthrough in respiratory imaging by providing vascular perfusion analysis without the need for contrast
- Visualising and quantifying regional perfusion in addition to ventilation provides significant clinical benefit
- 4DMedical presented first clinical data at the annual conference of the American Thoracic Society (ATS 2023) in Washington, DC

Melbourne, Australia, 23 May 2023: Respiratory imaging technology company 4DMedical Limited (ASX:4DX, “4DMedical”, or the “Company”) today announces a significant technological breakthrough and milestone in its product development strategy, with its CT-based ventilation-perfusion product (CT:VQ) progressing to a developmental stage that allows for the release of early clinical data. The clinical data was presented at the annual conference of the American Thoracic Society (ATS 2023) in Washington, DC on 22 May 2023.

The unveiling of this capability represents a significant breakthrough in respiratory imaging by providing vascular perfusion analysis, without the need for either injected radioactive tracers or contrast media.

Technological breakthrough in measuring perfusion

4DMedical’s CT:VQ technology enables quantitative perfusion data and visualisations to be extracted from non-contrast paired inspiratory-expiratory CT scans. It achieves this by measuring the regional motion of lung tissue, while also assessing local density changes to quantify regional blood-mass change.

By extracting VQ information from standard non-contrast CT images, rather than Nuclear Medicine VQ images (which require radioactive contrast media), hospitals can avoid the significant capital expenditure involved in mitigating radiation risks of operating a Nuclear Medicine VQ scanner, such as specialised facilities for preparing, handling and disposing of radioactive materials.

Clinical benefit to a wider audience of patients

Quantifying and visualising the mismatch between ventilation (V) and perfusion (Q) can provide valuable diagnostic information. In a healthy lung, ventilation and perfusion are well-matched, meaning that airflow and blood flow are evenly distributed throughout the lungs. However, in certain lung conditions there can be a mismatch between V and Q, indicating abnormalities in lung function, and in the most severe cases this can be life threatening.

The future of
lung health

Melbourne

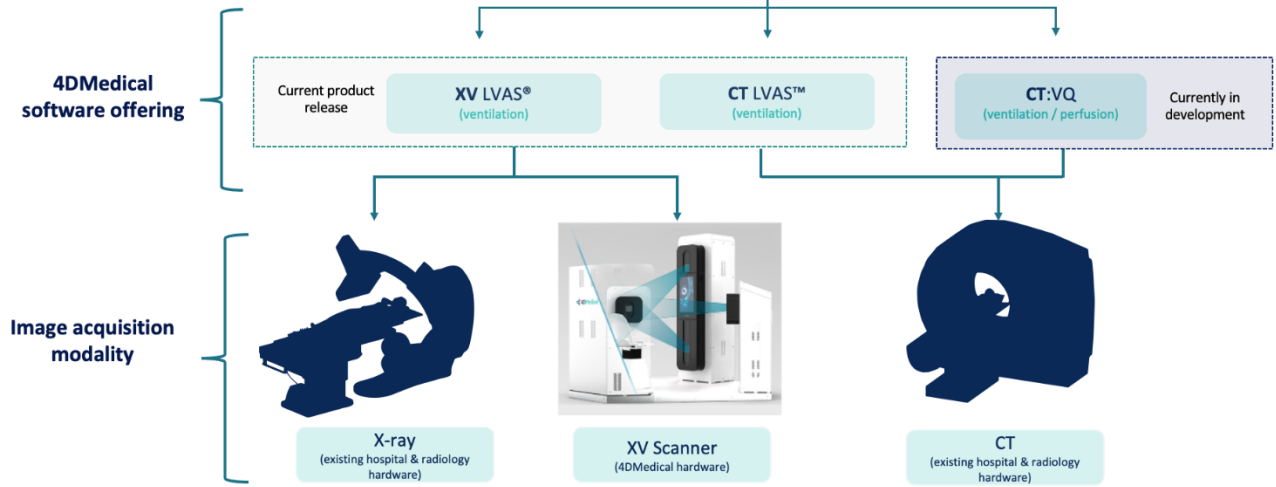
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4DMedical's comprehensive product line-up delivering both ventilation and perfusion across X-ray, CT and the XV Scanner

4DMedical's CT:VQ technology enables regional changes in ventilation and perfusion to be quantified and visualised, allowing a detailed assessment of V/Q mismatch. Clinically these scans are primarily used for diagnosing and managing pulmonary embolism, but they can also be employed to assess conditions such as chronic obstructive pulmonary disease, pulmonary hypertension, lung parenchymal diseases, and evaluating pulmonary vascular disorders.

Acute Pulmonary Embolus (PE) is a serious, yet difficult, diagnosis for clinicians, where pulmonary perfusion is a critical component to aid diagnosis. Current imaging modalities for PE include CT Pulmonary Angiography (CTPA) and Nuclear Medicine VQ scans, with CTPA assessing pulmonary arterial flow blockages and Nuclear Medicine VQ assessing the mismatch in ventilation and perfusion. Both of these modalities require the administration of an intravenous contrast media, and in the case of Nuclear Medicine VQ, inhalation of a radioactive contrast agent. The Company estimates the current US market size for Nuclear Medicine VQ assessment of PE is approximately 15% of the 4,000,000 patient procedures per annum, at an average cost of ~US\$1,500 per scan.

4DMedical MD/CEO and Founder Dr Andreas Fouras said:

In a matter of years, XV Technology® has set the scene for a step-change in respiratory imaging, measuring regional airflow with sensitivity far beyond the limitations of existing modalities that in some cases have been in use for over a century. Today, 4DMedical announces another significant achievement extending our capabilities beyond ventilation, and into perfusion.

Our progress with CT:VQ keeps us on track for submission to the FDA in calendar 2023, and with an average turn-around time from the FDA we expect to be in the US market around the middle of calendar 2024. Together, regional ventilation and perfusion will provide a complete picture of lung health.

—ENDS—

Authorised by the 4DMedical Board of Directors.

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About 4DMedical

4DMedical Limited (ASX:4DX) is a global medical technology company that has created a step change in the capacity to accurately and quickly understand the lung function of patients with respiratory diseases.

Through its flagship patented XV Technology[®], 4DMedical enables physicians to understand regional airflow in the lungs and identify respiratory deficiencies earlier and with greater sensitivity as they breathe. This technology powers 4DMedical's FDA-cleared XV Lung Ventilation Analysis Software (XV LVAS[®]) – the first modality to dynamically quantify ventilation throughout the lungs, and its Computed Tomography-enabled counterpart software, CT LVAS[™].

XV LVAS[®] and CT LVAS[™] reports are prepared using 4DMedical's Software as a Service delivery model using existing hospital imaging equipment or the Company's revolutionary XV Scanner.

To learn more, please visit www.4dmedical.com.

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