

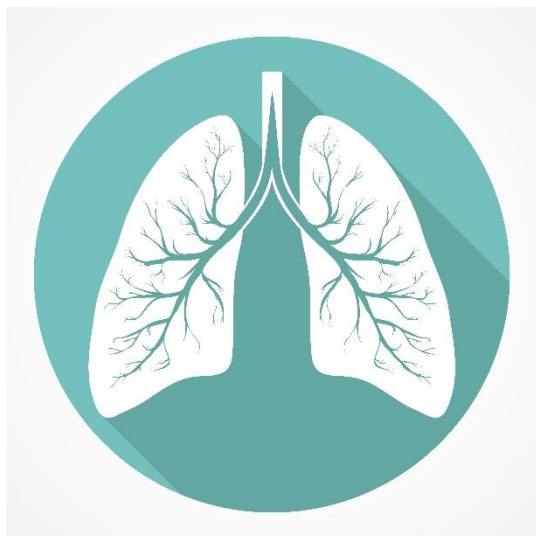
## Improved method for determining pulmonary hypertension

medical diagnostics, end-tidal partial pressure of carbon dioxide (PetCO<sub>2</sub>) electrocardiogram (ECG), pulmonary hypertension, software

### DESCRIPTION OF TECHNOLOGY

This new software-based procedure allows the diagnosis of pulmonary hypertension from a non-invasive measurement of the end-tidal partial pressure of carbon dioxide (PetCO<sub>2</sub>) and an easily determined electrocardiogram (ECG). The data required for this can be recorded as a part of a routine examination. There is no need for a complex cardiac catheter examination.

As a parameter for the presence of pulmonary hypertension, the procedure uses the correlation with the end-tidal (PetCO<sub>2</sub>) with specific parameters derived from the ECG.



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Pulmonary hypertension is a serious lung disease that clinically leads to symptoms such as dyspnoea (shortness of breath) and exhaustion. The lungs and the heart must work together precisely to ensure efficient gas exchange and thus the supply of oxygen to every body cell. This cooperation is severely affected in pulmonary hypertension.

### APPLICATION FIELDS

The method enables pulmonary hypertension to be determined on an outpatient basis and can be implemented by using standard equipment.

### AT A GLANCE ...

#### Application Fields

- medical diagnostics
- measurement of the end-tidal partial pressure of carbon dioxide (PetCO<sub>2</sub>)
- electrocardiogram (ECG)

#### Business

- medical technology
- measurement technology
- medical software

#### USP

- non-invasive diagnostics
- reliable determination
- practicable with standard devices

#### Development Status

- first clinical study carried out and published
- results positive

#### Patent Status

Priority application filed on 20.10.2023 at the European Patent Office.

## ADVANTAGES OVER THE PRIOR ART

Standard state-of-the-art methods require a right heart catheter (RHC) to definitively confirm the diagnosis of pulmonary hypertension. The cost of a single catheter is not insignificant. In addition, this catheter intervention is invasive. This examination is therefore an expensive and risky procedure which cannot be integrated into routine diagnostics.

With the new method, pulmonary hypertension can now be determined non-invasively in a routine measurement by measuring the end-tidal partial pressure of carbon dioxide (PetCO<sub>2</sub>) and the electrocardiogram (ECG). The new procedure makes it possible to avoid a RHC in patients with elevated right ventricular systolic pressure (RVSD) in echocardiography.

## STATE OF THE PRODUCT DEVELOPMENT

The new method has already been tested at Giessen and Marburg University Hospital. Initial studies have already been carried out and it has been shown that this non-invasive procedure is a very good alternative to the usual invasive methods used to diagnose pulmonary hypertension.

## COOPERATION OPPORTUNITIES

On behalf of its shareholder Justus-Liebig-Universität Giessen TransMIT GmbH is looking for cooperation partners or licensees for further development in Germany, Europe, US, and Asia.

### A TECHNOLOGY OF



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