

# Automated PE clot detection and RV/LV ratio measurement using AI-based deep learning algorithms: A preliminary validation study

## Background

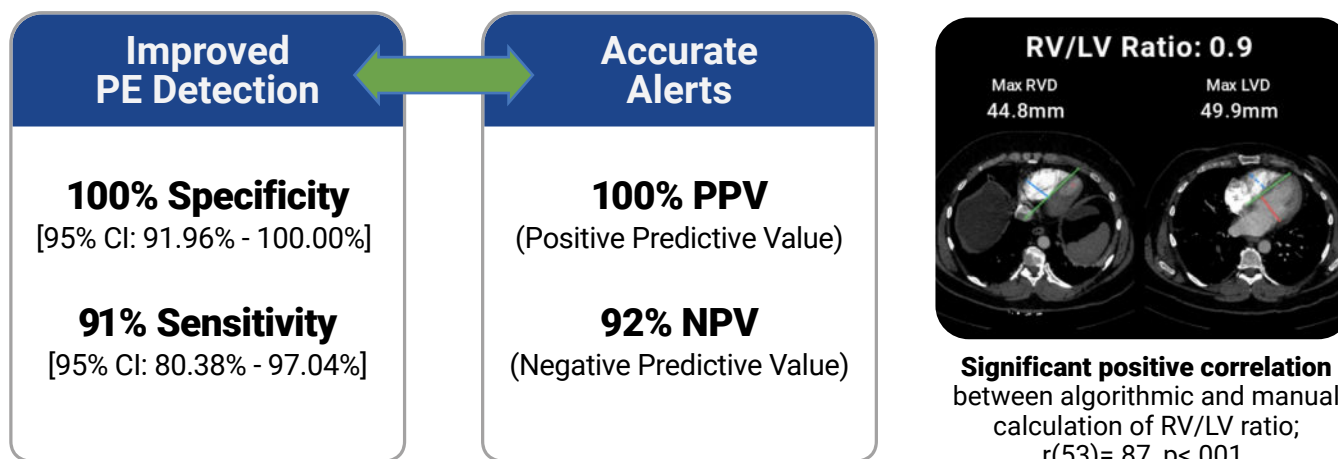
Pulmonary Embolism (PE) is a life-threatening condition often subject to misdiagnosis as signs and symptoms can overlap with other diseases. Artificial intelligence (AI) technologies have been increasingly used in medicine and may assist with the detection of PE and associated right heart strain. Timely and accurate PE diagnosis may accelerate care coordination and initiation of treatment leading to better patient outcomes.

## Methodology

Researchers conducted an algorithm validation study for PE clot detection and automated RV/LV ratio measurement. Viz PE was run on 100 retrospectively collected CTPA images. Subsequently, the Viz RV/LV algorithm was run to compare automated measurements against manual calculations in the 55 cases alerted by Viz PE.

## Key Findings

### Reliable PE Detection with Automated RV/LV Ratio



## Conclusion

The routine use of Viz PE and Viz RV/LV in clinical practice has the potential to increase the detection rate of PE and associated right heart strain, as well as reduce the risk of misdiagnosis and missed findings.

## Implications

- This study provides evidentiary support of the accuracy of Viz RV/LV to capture right heart strain using real-world data. The sensitivity and specificity outcomes for Viz PE are consistent with previous findings and underscore its reliability in a clinical setting.
- A larger study will build on these preliminary findings and establish the longer-term impact of automated PE detection and RV/LV measurement on patient triage and outcomes.