aidoc

AI FOR THE MODERN PULMONARY EMBOLISM RESPONSE TEAM (PERT)

Accelerate Workflows and Patient Care With AI

Mobilize PERTs Faster With AI-Powered Solutions

When a pulmonary embolism (PE) is suspected, care teams need to move fast. Existing communication workflows can slow teams down, delaying care that could cause life-altering implications.

Aidoc's PERT Solution uses AI to help:

- Prioritize findings for radiology
- Automate dynamic risk stratification
- Streamline communications to facilitate appropriate treatment decisions
- Decrease time-to-treatment
- Reduce length of stay[1]

Powered by the aiOS™

Aidoc's aiOS™ platform seamlessly integrates with your existing systems to automate PE triage, reporting and care coordination— without disrupting your workflow.

- Optimize clinical workflows
- Streamline operations
- Maximize opportunities for interventions and medical therapy
- Coordinate triaged care
- Improve patient outcomes

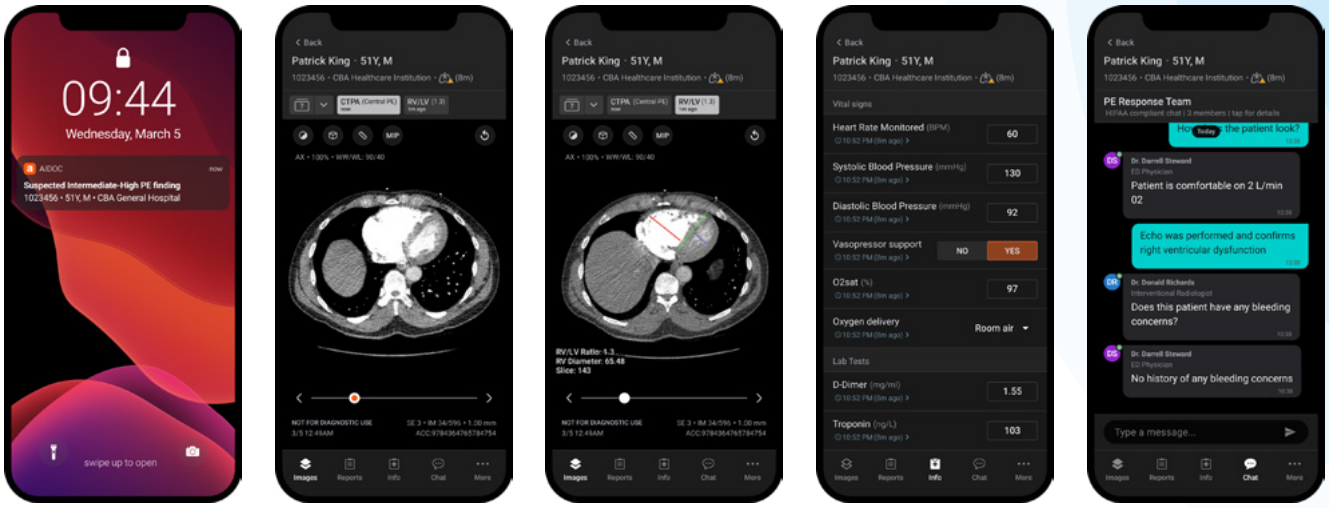
The PERT Solution

Aidoc's PERT Solution leverages multiple components — including the proprietary aiOS™ platform, AI radiology algorithms and a mobile application — to help teams expedite decision-making and care coordination, no matter where they are in the facility.

Care Coordination via Mobile App

Aidoc's Care Coordination solution sends automatic notifications to PERTs via mobile app when it flags a patient with a suspected pulmonary embolism (PE). With automated dynamic PE risk stratification built into the mobile app, patients are categorized by risk type and the information is displayed on screen.

Within the app, clinicians can view that patient's imaging and data while they're on the move. It provides real-time electronic health record (EHR) integration and a HIPAA-compliant chat function to help coordinate care across multidisciplinary teams — all from one streamlined, mobile place.



90+%

of patients received catheter-directed treatment after response teams were activated by an Aidoc PERT alert.[2]

How do the alerts work?

Alerts are only helpful if they're accurate and actionable. That's why Aidoc's AI only sends notifications when it suspects PE in the main, left or right pulmonary arteries and is accompanied by an elevated RV/LV ratio as well as automated PE risk stratification according to your health system's criteria.

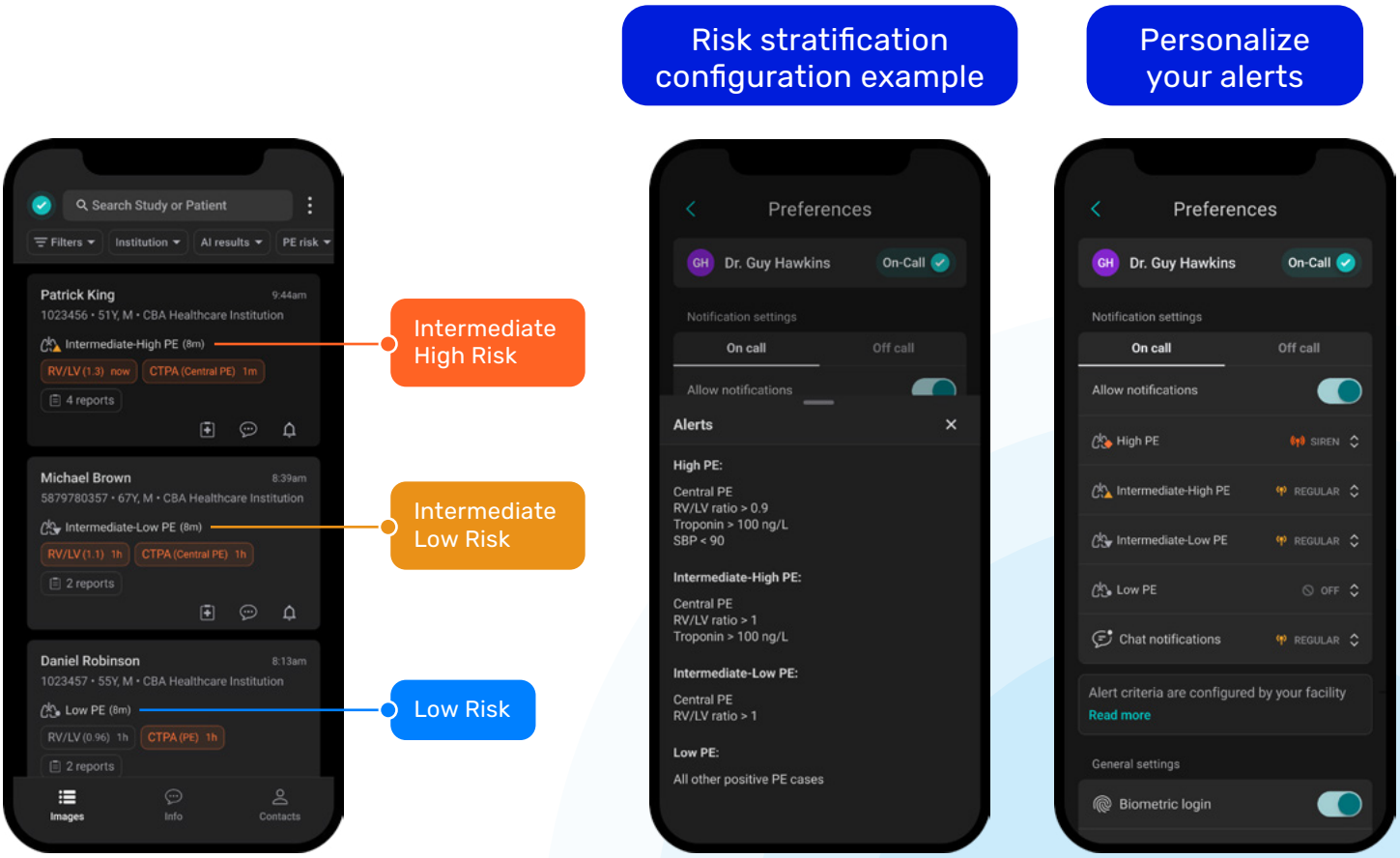
Automated Dynamic Risk Stratification

The mobile app also includes adjustable stratification logic to categorize patients by risk type. The dynamic risk stratification uses suspected imaging findings and relevant EHR data, including labs and vitals, to display a patient's current risk based on the facility's protocol.

While site configurations and risk level thresholds vary, common parameters include:

- RV/LV ratio
- Troponin levels
- Systolic blood pressure
- BNP

Clinicians can adjust their notification settings, including the option to receive real-time status updates to continue monitoring a patient after treatment.



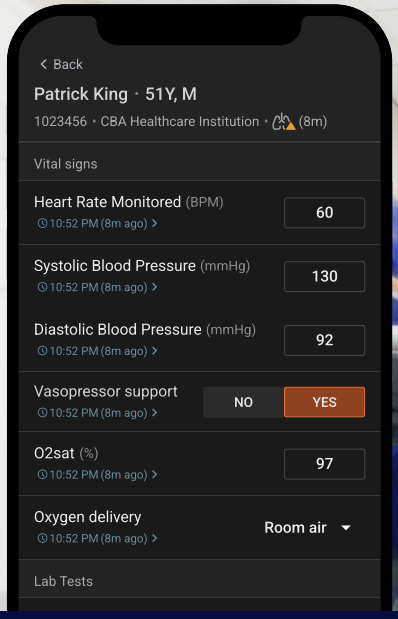
The Benefits of Automation

Automated stratification helps PERTs:

- Immediately view a patient's risk level
- Prioritize at-risk patients for treatment decisions
- Make treatment decisions faster
- Enhance workflow automation and efficiency
- Standardize risk assessment across the site for a unified approach to patient evaluation
- Reduce cognitive burden and manual workload

The Benefits of Dynamic Stratification

A patient's condition can change rapidly. Aidoc's aiOS™ is always on, integrating the latest vitals, labs and other patient information to assess and dynamically adjust risk based on the latest data, saving PERTs from manually determining a patient's current status at every step.



"At Mount Sinai, we perform over 16,000 CT pulmonary angiograms a year. And while 1,500 are positive, there are about 400 that are actually clinically relevant. In those 400, there's about seven or eight a week that are real intermediate or high-risk cases that we need to know about instantly. **Aidoc curates and organizes all of this data automatically.**

It's a very, very powerful tool when you're doing population management. The risk stratification tool also helps us understand how we can recruit certain demographics for relevant clinical trials, and understand what our outcomes should be or could be moving forward as we implement a more rigid quality control mechanism."

Robert Lookstein, MD
Professor of Radiology and Surgery
Icahn School of Medicine at Mount Sinai Health System

How the PERT Solution Works

Traditional Workflow

- Diagnostic Radiology reads CTPA
- When a PE is identified, DR alerts the primary team
- Primary team consults Pulmonology
- Pulmonology assesses patient
- Pulmonology engages IR/Cardiology
- IR/Cardiology assesses patient
- Case is discussed verbally, and the team decides treatment
- Appropriate treatment begins

With Aidoc

- AI algorithm automatically runs on all relevant exams to check for PEs
- AI send alerts to relevant clinicians*
- Team reviews patient information and coordinate care through the AI-powered mobile app
- Appropriate treatment begins. As the patient's condition changes and updated vitals and labs occur, the app will dynamically update the patient's risk type

*When a PE is suspected, AI will:

- Alert Diagnostic Radiology (DR)
- Identify the facility's PERT trigger criteria, including its customized risk stratification protocol
- Alert PERT to begin coordinating care, if the PE risk type meets the facility's trigger criteria
- Surface the patient's imaging, clinical data and risk type in the mobile app

Aidoc's Clinical Evidence

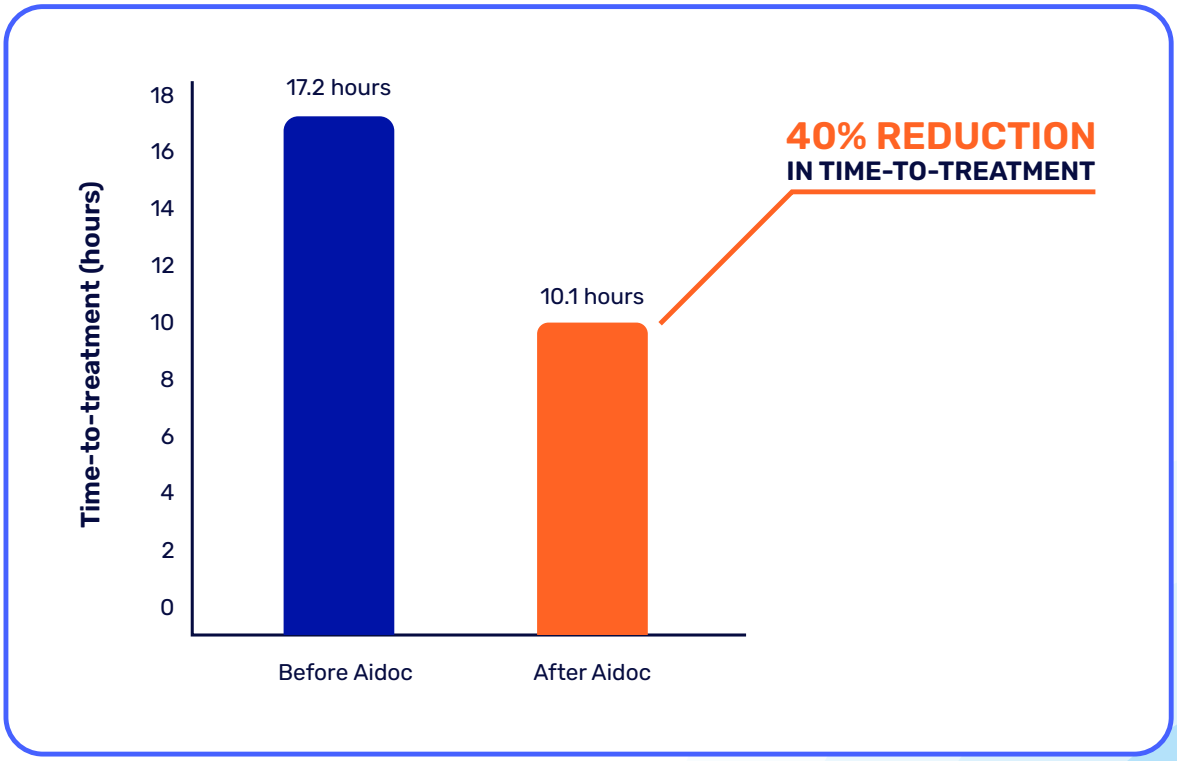
Faster time-to-treatment

Time-to-treatment is an important factor of PERT success. To expedite interpretation, Aidoc's triage solutions can prioritize suspected PEs within the imaging workflow. Additionally, access to key clinical data from the EHR, image viewing and cross-departmental chat help clinicians make treatment decisions faster.

Cedars-Sinai reduced their time-to-treatment by

40%

after implementing Aidoc's PERT Solution.[3]



For patients requiring a mechanical thrombectomy, HCA Methodist reduced their time-to-treatment by 24% and reduced the patients' ICU length of stay (LoS) by 55.4%.[4]

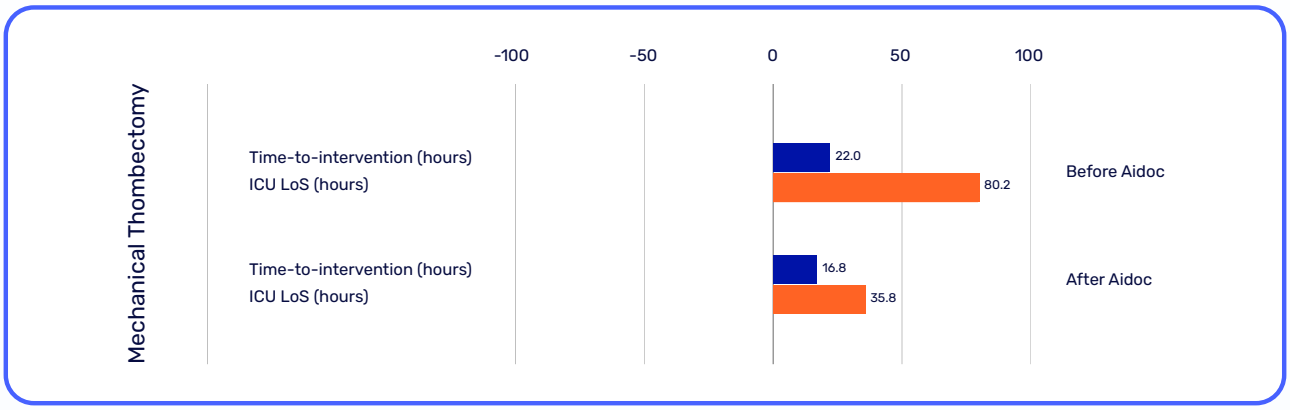


Table 1.0: Comparison of the pre-AI to the post-AI time-to-intervention and ICU LoS for mechanical thrombectomy.

Time-to-intervention (hours)

-5.2

Difference

ICU LoS (hours)

-44.4

Difference

Time-to-intervention (hours)

-24.0%

Difference

ICU LoS (hours)

55.4%

Difference

For patients undergoing ultrasound-assisted thrombolysis (USAT), HCA Methodist reduced their time-to-treatment by 48.7% and reduced the patients' ICU LoS by by 61.8%.[3]

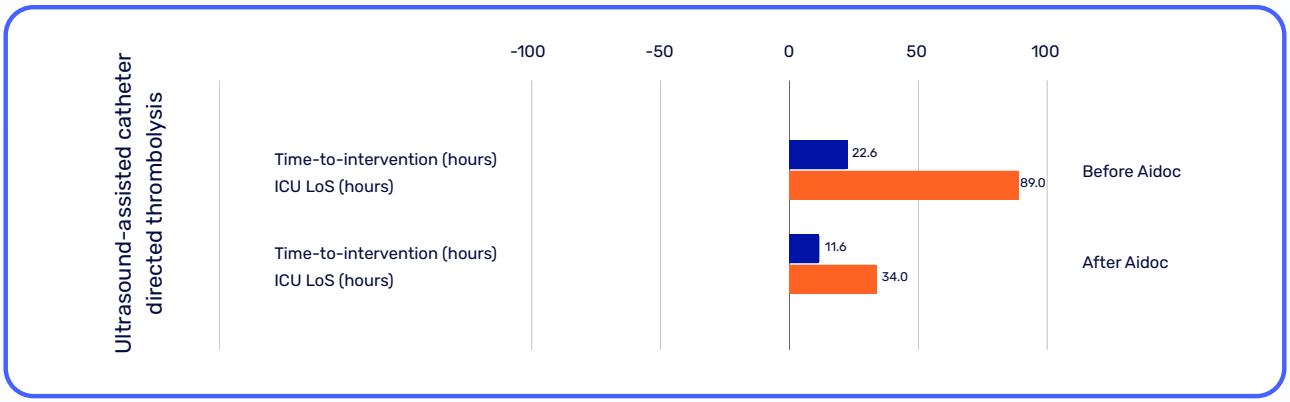


Table 2.0: Comparison of the pre-AI to the post-AI time-to-intervention and ICU LoS for USAT.

Time-to-intervention (hours)

-11

Difference

ICU LoS (hours)

-55.0

Difference

Time-to-intervention (hours)

48.7%

Difference

ICU LoS (hours)

-61.8%

Difference

Route All Suspected PE Findings and Risk Stratification Results

Algorithms run on every CT scan to flag unexpected cases along with suspected PE. Alerting on incidental pulmonary embolisms with risk stratification allows PERTs to determine the appropriate care pathway.

Jamaica Hospital Medical Center utilized Aidoc and based on the findings and risk stratification, routed

60%

more patients for appropriate advanced interventions.[5,6]

Reduced cost

Expediting time-to-treatment can also provide cost savings for a hospital. ICU and hospital stays can be shortened, resulting in overall reduced costs.

Cedars-Sinai realized annual cost savings of

>$500k

(based on a savings of $10,500 per patient).[7,8]

Improving Workflows and Expediting Care Coordination for the Modern PERT

Faster care coordination can make all the difference for patients with PEs. If you're ready to optimize your facility's workflow and experience faster time-to-treatment, contact us.

- Automate and standardize dynamic risk stratification
- Enhance workflows
- Improve time-to-treatment
- Reduce LoS
- Increase appropriate interventions
- Reduce cost

The Aidoc Difference: Always On for Patient Outcomes

Aidoc empowers care teams to streamline workflows to support accelerated, collaborative and accurate decision-making. Our AI-powered and AI-enabled solutions help break down silos that are barriers to improved patient outcomes, clinical efficiency and economic value for healthcare systems. A pioneering force in clinical AI since 2016, Aidoc has one of the largest install bases in the industry and is regularly recognized for groundbreaking innovations, including the enterprise aiOS™ platform.

Used in more than
1,500+
medical centers

CLEARED FDA CLEARED

Market leader in FDA clearances
(18)

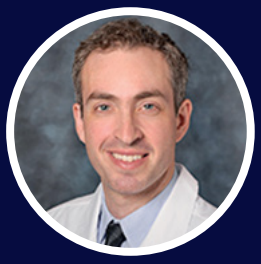
170+
clinical studies illustrating value

3 million
patients analyzed in clinical settings each month

$10.8 million
annual net contribution potential from enterprise solution*

~60%
of employees in AI research and development

This is an example calculation assuming a 1k bed health system with 25% net contribution margin. Payor mix of private/self pay/other 67%; Medicare/Medicaid 28%; and no pay 5%. To understand the potential ROI for your facility, please reach out to Aidoc to understand how we can provide a customized calculation for you.



"The risk stratification has very significant implications in terms of prognosis for patients. Being able to identify the patients who are most at risk for clinical deterioration and death is extremely important in terms of guiding intervention in a prioritized, timely fashion. With Aidoc, we saw a 40% reduction in time-to-intervention and a reduced ICU length of stay by approximately three days."

Jonathan Steinberger, MD
Interventional Radiologist
Cedars-Sinai

Aidoc is a pioneering force in clinical AI.

We focus on aiding and empowering healthcare teams to optimize patient treatment, which results in improved economic value and clinical outcomes.

Since 2016, Aidoc's clinically proven AI solutions have eliminated silos, increased efficiencies and improved outcomes by delivering critical information when and where care teams need it - leading to immediate collective action.

Powered by Aidoc's exclusive aiOS™, we analyze and aggregate medical data to enable care teams to operationalize the unexpected and work seamlessly with a continued focus on the patient.

Aidoc AI is always on, running in the background to change the foreground.

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[8] Tran et al. Cost-Comparison of Mechanical Thrombectomy and Catheter-Directed Thrombolysis in Intermediate-Risk Pulmonary Embolism. JSCAI 2023 doi.org/10.1016/j.jscai.2023.101187