Table. Effect of CSRS-based decision support (1) on change in disposition for the entire cohort and (2) on adherence to monitoring recommendations for home-going patients, with 30-day serious arrhythmia outcomes.

	Canadian Syncope Risk Class (Score Range) N=1,013		
Characteristic	**Low** (-3 to 0)	**Medium** (1 to 3)	**High** (4 to 11)
ALL PATIENTS	N=551 (54.4)*	N=343 (33.9)	N=119 (11.7)
Change in Disposition			
Downgraded from admission to discharge home	23 (4.2)	36 (10.5)	6 (5.0)
Upgraded from discharge home to admission	31 (5.6)	36 (10.5)	13 (10.9)
Sum	54 (9.8)	72 (21.0)	19 (15.9)
HOME-GOING PATIENTS	N=485 (71.4)	N=172 (25.3)	N=22 (3.2)
Physician Adherence to Monitoring Recommendations			
Adherent	408 (84.1) discharged without monitoring	101 (58.7) discharged with monitoring	9 (40.9) discharged with monitoring
Overruled	77 (15.9) discharged with monitoring	71 (41.3) discharged without monitoring	13 (59.1) discharged without monitoring
Serious Arrhythmia Outcomes within 30 Days			
With home monitoring, n/N	3/77	3/101	0/9
Without home monitoring, n/N	1/408	0/71	0/13
* n (column %) throughout except Serious Arrhythmia Outcomes (n/N)			

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173 Radiation-Reducing Strategies in Antenatal Pulmonary Embolism Diagnostics: Differences in Testing Efficiency and Specialty-Specific Use Patterns

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Study Objectives: Pulmonary vascular (PV) imaging (ie, computed tomography pulmonary angiography and lung scintigraphy) during antenatal pulmonary embolism (PE) diagnostics exposes the pregnant patient and fetus to radiation with associated long-term malignancy risks. Two radiation-reducing strategies are available: (1) PE can be ruled in if compression ultrasonography (CUS) diagnoses deep vein thrombosis (DVT) in patients with symptoms suggestive of acute PE, allowing a presumptive PE diagnosis; (2) PE can be safely ruled out using validated D-dimer (DD)-based algorithms, eg, pregnancy-adapted YEARS and revised Geneva algorithms. To investigate contemporary practice, we compared prevalence and efficiencies of radiation-reducing strategies overall and by setting: emergency department (ED) vs obstetrics (OB), which included Labor and Delivery and OB clinics.

Methods: We undertook this retrospective cohort study across 21 U.S. community medical centers from 10/01/2021 through 3/31/2023. We included pregnant outpatient health plan members who underwent PE diagnostics with DD, CUS, or PV imaging. To focus on CUS as a rule-in strategy, CUS was included only if completed before PV imaging was ordered, if applicable. To identify physician intention, we included PV imaging that was pursued, which encompassed completed imaging and imaging that was intended but declined by the patient. We calculated the number needed to test (NNT) to forgo 1 PV imaging study by dividing the number of those tested by the number of those who were spared PV imaging. The safety outcome of DD-based rule-out strategies was the 90-day diagnostic failure rate, ie, the 90-day incidence of adjudicated venous thromboembolism (VTE), identified by automated and manual chart review.

Results: Among 679 outpatients undergoing diagnostic testing, 593 (87.3%) were evaluated in ED and 86 (12.7%) in OB settings. Median age was 30 years (interquartile range 26-34). Among 303 patients who underwent PV imaging, PE was diagnosed in 5 (1.7%). Overall, 214 (31.5%) underwent CUS, the prevalence of which was similar across settings: 31.2% of ED and 33.7% of OB patients. Patients with DVT symptoms underwent CUS in 50 of 58 (86.2%) ED and 15 of 15 (100%) OB patients (P=0.19). Those without DVT symptoms underwent CUS in 135 of 535 (25.2%) ED and 14 of 71 (19.7%) OB patients (P=0.31). Yield was low overall (0.9% [2/214]) and varied by DVT symptoms: 3.1% (2/65) with vs 0% (0/149) without (P=0.09). Both DVT patients with PE symptoms were spared PV imaging. CUS NNT was 107. Overall, 496 (73.0%) underwent DD testing, varying by trimester (84.2% [1st], 78.8% [2nd], 60.0% [3rd], P<0.001) and setting: 80.8% of ED and 19.8% of OB patients (P<0.001). Physicians documented which risk score was used in 20.8% (103/496) of DD-tested patients, with YEARS the most common (80.6% [83/103]). PV imaging was not pursued in 96.6% (143/148) of those with low (<0.5 mg/L) and 46.3% (76/164) with intermediate DD values (≥0.5<1.0 mg/L). DD NNT was 1.4. Index PE (including presumptive and PV imaging-confirmed PE) was more prevalent in patients with higher DD values: 0% (0/148) with low, 0% (0/164) with intermediate, and 3.3% (6/184) with high D-dimer values. No 90-day VTE or deaths occurred following PE rule-outs.

Conclusion: Radiation-reducing strategies were commonly used during antenatal PE diagnostics in this community health setting, with DD algorithms far more efficient than CUS (NNT 1.4 vs 107, respectively). Patterns of D-dimer use were significantly different between ED and OB settings. Opportunities exist in both specialties to improve use of evidence-based radiation-reducing strategies in antenatal PE diagnostics. Efficiencies could be improved by employing symptom-driven CUS and more comprehensive DD use across settings and trimesters.

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174 Comparison of Large-Bore Mechanical Thrombectomy to Other Therapies for High-Risk Pulmonary Embolism Using Propensity-Score Matched Analysis of the FLAME Study

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Study Objectives: Mortality for high-risk pulmonary embolism (PE) patients remains high with in-hospital rates exceeding 25%. Results from the recent FLAME study of high-risk PE patients showed lower rates of in-hospital mortality and other adverse outcomes in patients treated with mechanical thrombectomy than in patients receiving other contemporary treatments, but disease severity and comorbidity differences make comparisons challenging. The objective of this study was to use propensity score matching (PSM) to obtain more comparable treatment cohorts for outcome comparisons.

Methods: The FLAME study (NCT04795167) evaluated outcomes in acute, high-risk PE patients treated with large-bore mechanical thrombectomy with the FlowTriever (FT) System (Inari Medical, Irvine CA) or other contemporary treatment options. All treatments were physician-selected. Mechanical thrombectomy patients were enrolled in the FT Arm, while those receiving any other therapy were enrolled in the Context Arm. Patients were followed through hospital discharge or 45 days, whichever was sooner. The primary endpoint was a composite of in-hospital adverse events: all-cause mortality (ACM), clinical deterioration, bailout to an alternate therapy, and major bleeding. PSM was performed by matching patients 1:1 from the FT and Context Arms on 2 disease severity variables: presence of advanced cardiogenic shock as assessed by the Society for Cardiovascular Angiography and Intervention (SCAI) shock stage (a supervariable of multiple clinical features of cardiogenic shock) and presence of centrally located thrombus. Logistic regression was then used to adjust for additional baseline differences.

Results: The FLAME study enrolled 115 patients, including 53 in the FT Arm and 61 in the Context Arm. Data for PSM were available in 106 patients, from which 38 matched pairs were identified (n=76, 72%). Context Arm treatments in the matched cohort included systemic thrombolytics (73.3%), anticoagulation alone (21.1%), and catheter-directed thrombolytics (5.3%). In the matched cohorts, the primary endpoint was met in 18.4% of FT Arm vs. 55.3% of Context Arm patients (Table, P=0.0017). ACM was 0% in the FT Arm vs. 18.4% in the Context Arm (P=0.0116). Bailout rates were 5.3% in the FT Arm vs. 28.9% in the Context Arm (P=0.0125). Logistic regression in the matched cohorts revealed that compared to Context Arm patients receiving other therapies, patients who received FT treatment were 86% less likely to meet the primary endpoint (OR=0.14; 95% CI=0.03-0.51; P=0.0050) and were 93% less likely to undergo bailout therapy (OR=0.07, 95% CI=0.00-0.43, P=0.0165).

Conclusion: After matching on shock status and thrombus location and adjusting for other covariates, high-risk PE patients treated with FlowTriever mechanical thrombectomy were 86% less likely (OR=0.14) to experience adverse clinical outcomes compared to patients who received a different treatment. These data suggest that large-bore thrombectomy is both safe and effective in high-risk PE patients, though additional evidence from randomized controlled trials is warranted.