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Annie Huyler  
*Maine Medical Center*

Casey Z. MacVane  
*Maine Medical Center*

Andrew Perron  
*Maine Medical Center*

Tania D Strout  
*Maine Medical Center*

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# Outpatient Treatment of Pulmonary Embolism: A Single-Center Case Series

Annie Huyler, MD; Casey Z. MacVane, MD, MPH; Andrew D. Perron, MD; Tania D. Strout, PhD, RN, MS

Maine Medical Center, Department of Emergency Medicine, Portland, ME & Tufts University School of Medicine, Boston, MA



## BACKGROUND & OBJECTIVE

Pulmonary embolus (PE) is associated with significant utilization of health care resources and financial burden

Several additions that have allowed us to look at safely treating patients with PEs as outpatients:

- Simplified Pulmonary Embolism Severity Index (sPESI)  
-Risk stratifies patients based on their age, vital signs, and past medical history
- Novel oral anticoagulants

**Primary Objective:** To describe the population, treatment strategies, short-term complications and outcomes associated with outpatient management of PE following treatment in the ED.

## METHODS

**Retrospective health records survey** investigated a **4-year cohort of consecutive patients** presenting with PE who received treatment in an **academic, tertiary ED** and were **discharged to home**.

151 patients with median age 56 years (20-94 years), 58% male and 96% white, for which the following data was collected:

- sPESI score
- Treatment strategy
  - NOAC vs. LMWH vs. Warfarin with bridge
- Return visits within 7 and 30 days

## RESULTS

### DISCHARGE DATA

- 118 (58%) were discharged directly home
- 28 (19%) were discharged following treatment in the ED clinical decision unit
- 1 (0.7%) left against medical advice

### TREATMENT DATA

- 61 (40%) received a NOAC
- 33 (22%) low molecular weight heparin
- 55 (36%) low molecular weight heparin with a bridge to warfarin

### Simplified PESI (Pulmonary Embolism Severity Index)

Predicts 30-day outcome of patients with PE, with fewer criteria than the original PESI.

Age >80 years	No	Yes
History of cancer	No	Yes
History of chronic cardiopulmonary disease	No	Yes
Heart rate $\geq$ 110	No	Yes
Systolic BP < 100 mm Hg	No	Yes
O2 saturation < 90%	No	Yes

Low Risk  
1.1% risk of death in the "low" risk group (0 points), with 1.5% having recurrent thromboembolism or non-fatal bleeding.

No financial conflicts of interest to disclose

## RESULTS

### SEVEN DAY COMPLICATIONS DATA

- 14 (9%) returned with continued PE symptoms
  - Chest pain
  - Shortness of breath

### THIRTY DAY COMPLICATIONS DATA

- 26 (17%) returned with related symptoms
  - Chest pain
  - Shortness of breath
  - Limb pain/swelling

### ALL COMPLICATIONS (Combined 7 and 30 day)

- 1 patient (0.7%) experienced myocardial infarction
- 4 patients (3%) required hospital admission

### MEDICATION SIDE EFFECTS (Within 30 days)

- 6 (4%) returned with medication side effects
  - Hemoptysis
  - Hematuria
  - Vaginal bleeding
- None required hospital admission

## CONCLUSIONS

- Outpatient management was **safe and effective** for the large majority of patients.
- Outpatient management was associated with **few complications** with a **low return hospitalization rate**.
- Future studies are needed with a **larger sample size** and a **more diverse population**.