



# Methods in Prevention of Blood Clots in Post-Operative Orthopedic Surgery Patients

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## Introduction

Blood clots are a major risk in surgical orthopedic post-op patients. Orthopedic patients can be at a higher risk due to immobilization after surgery. Every year, thousands of patients develop blood clots. Orthopedic surgical patients are at a greater risk for developing deep vein thrombosis, which can lead to pulmonary embolisms. PE's are a prominent risk in this population, and are one of the most preventable causes of hospital deaths.

## PICO Question

**Population:** Post-operative orthopedic surgery patients

**Intervention:** Pharmaceutical and non pharmaceutical blood clot prevention

**Comparison:** Patients with/without adequate interventions

**Outcome:** Identify patients with blood clot risks and decrease their risk while in hospital and after discharge

**Question:** What is the most effective means to prevent blood clots in the post op orthopedic patient?

## Methods

A literature search was conducted using CINAHL, EbscoHost, Healio, PubMed datatbases

**Keywords:** *Orthopedic surgeries, DVTS, PEs, VTE prophylaxis*

**Inclusion Criteria:** Articles within 10 years orthopedic surgery.

The initial search yielded hundreds of articles, 6 were included for this project.

## Results

Article	Methods	Results
Pellegrini, V.D., (2008)	A cohort study of 1,300 patients for 6 months after a total knee replacement over a 20 year period. One group received warfarin and one group did not. Venogram studies were done as well.	Prevalence of venographic clots in both cohorts was not different. Readmission rates were different for positive and negative venograms. Negative venograms and no Coumadin use had a 1% readmission rate. Patient's who went home on Coumadin had a 0.2% readmission rate.
Navarro, R.A., (2011)	Retrospective study of 2,574 patients with an average age of 72.3 years who underwent a shoulder arthroplasties between 2005-2009. Used an ICD algorithm to screen for 90 day symptomatic post VTE events	Overall VTE was 1.01%. The major difference was the rate of VTE and trauma patients was double the rate of elective patients surgeries.
Hardwick, M.E., Pulido, P.A., Coldwell Jr., C.W.	Sample size of 395 patients at 9 healthcare sites in the U.S. were randomized to receive mobile compression device or heparin for VTE prophylaxis or heparin	Major bleeding events occur in only 11 patients . 5.1% in MCD in 5.3i% in the heparin

## Discussion

Nurses play a key role in preventing blood clots in their patients. Educating patients on the signs and symptoms of DVT's, and how to prevent them is crucial to this specific patient population. Lastly, nurses must advocate for patients by open communication with physicians and other healthcare team members.

## Conclusions

Our results suggest a combination of approaches such as SCD's, pharmaceutical prophylaxis, early mobilization, and patient education is the most effective ways to prevent blood clots in the post-operative orthopedic patient. Nurses must educated themselves and out patient's on prevention measures. The evidence recommends a VTE protocol for all post-surgical orthopedic patients.

## References

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