Improving Venous Thromboembolism Prophylaxis Compliance among Bariatric Surgery Patients

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Aim Statement

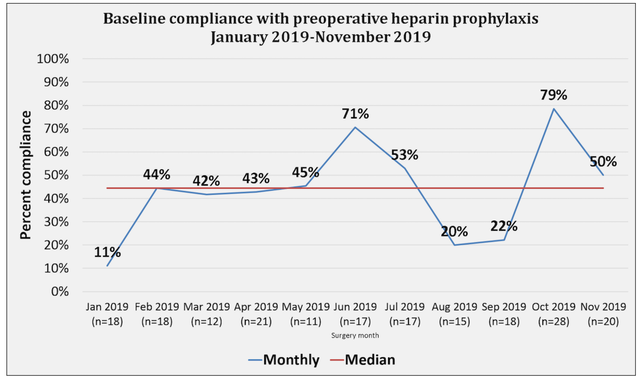
We aim to increase preoperative heparin usage by > 50% over 6 months without increasing bleeding events AND identify key barriers to postoperative VTE prophylaxis compliance, reducing these errors by 15%.

Background

Metabolic and bariatric surgery patients are at high risk for venous thromboembolism (VTE) events. Expected postoperative VTE rates are very low but significantly increase the risk of 30-day mortality and hospital readmissions. Current institutional VTE chemoprophylaxis prescribing practices are variable with historically low compliance rates. The purpose of this study was to:

1) create a standardized VTE chemoprophylaxis protocol for bariatric surgery,
2) track protocol compliance, and
3) identify barriers to drug administration.

Baseline Conditions



Methods

Date	Interventions
9/2019	Multidisciplinary group of bariatric clinicians reviewed the literature and considered institutional Heparin shortages
12/2019	Standardized protocol developed and education provided
12/2019 - 3/2020	Assessed monthly compliance rates for important administration timeframes through chart review and disseminated results
1/2020 - 3/2020	Identified underlying barriers contributing to non-compliance through clinician interviews

Measures

Measures	Definition
Outcome	VTE events (deep vein thrombosis and/or pulmonary embolism)
Process	• Pre- and postop VTE prophylaxis (ppx) administration rates • Time between preop heparin and anesthesia start • Time between postop doses
Balance	Transfusion rates

VTE PPX Protocol

***All index bariatric surgery cases (9/2019-3/2020)**
***All orders placed by surgical team**

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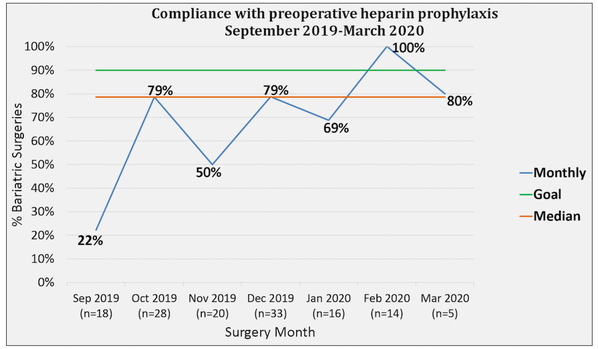
Heparin SC (subcutaneous) 5000 units within 60 minutes of anesthesia start

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Postop Lovenox SC 40 mg POD0 (9pm)
Lovenox SC 40 mg BID POD1 (9am – 9 pm)

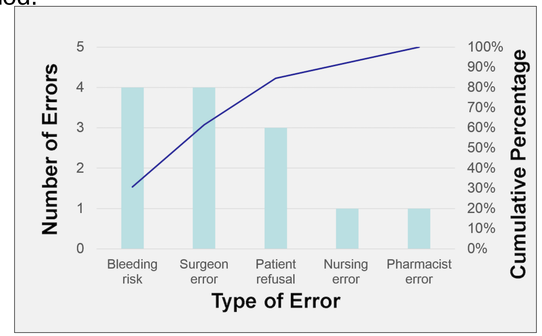
Results

Overall, 129 patients were included. Preoperative Heparin administration increased from 22% to 80% after 6 months.



Results

POD 0–1 Lovenox dosing compliance improved from 6% to almost 85%, respectively. There was a 22% protocol deviation rate (n=13/60) translating to 50% of patients (n=10/20). Key reasons for deviation from the protocol included bleeding risk (n=4), surgical team error (n=4), and patient refusal (n=3) (Figure below). No VTE events or transfusions occurred in the study period.



Conclusions

VTE chemoprophylaxis administration among bariatric surgery patients improved at all timeframes during a 6-month review. Next steps include patient education, standardized order sets, and continued surveillance to identify barriers to compliance.