Easy Identification of Missed DVT Prophylaxis-A Chance for Intervention

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A young patient with metastatic cancer presented to Jefferson with a pathologic knee fracture. She was admitted to a medical service and surgery was planned to fix the fracture. On admission the patient had a CT angiography which was negative for a pulmonary embolism. The patient’s OR date was postponed several times secondary to scheduling issues, and there were several days when the patient did not receive DVT prophylaxis. When reasons for missed prophylaxis were investigated, it was found that the patient refused some doses, and others were missed in the setting of her rescheduled surgery. The medical team was not notified of missed prophylaxis in this high-risk patient. The patient developed an acute pulmonary embolism one day after surgery.

**CASE DESCRIPTION**

**CURRENT PRACTICE**

- In our current EHR, it is difficult to identify medications that were not administered as prescribed.
- Nurses are required to document missed or refused medications.
- This documentation is not incorporated into physician workflow, and is not displayed in a user-friendly actionable fashion.
- Communication regarding missed meds is not well standardized, and medications that are viewed as “routine” or are frequently refused may be less likely to get discussed as a team.

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**GOAL**

“To minimize the number of missed or refused medications for inpatients so that adverse patient events such as PE or DVT are prevented”

**SMART AIM:** Within 3 months of initiating an EMR based electronic identification system for refused and missed medications, we will decrease the rate at which DVT prophylaxis was ordered however not eventually administered by 50%.

**PROPOSED INTERVENTION**

- We propose to implement an easily visualized system within the EMR, identifying prescribed medications that are missed or refused.

**PATIENT MED LIST**

- **Given**
  - HEPARIN SUBCUTANEOUS 5000 UNITS Q12H
  
- **Missed/Refused**
  - METOPROLOL PO 50MG BID

- **Subcutaneous heparin will be the representative medication we will be using to address a wider issue of communicating missed and refused medications. This is because it is commonly ordered in the hospital, frequently missed or refused, and often unrecognized and addressed by the caring team.**

- **These colored labels will be visible on printed progress notes and EPIC EMR.**

- **This will allow a clear protocol for nursing to document any missed or refused medications.**

- **Physicians will then have the opportunity to differentiate high-risk missed medications and address them in a timely and appropriate manner.**

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**NEXT STEPS**

- **Acquire baseline data:** Prospectively follow EPIC-identified “Moderate and High risk for DVT” patients in a general medicine unit with no contraindications to pharmacological therapy for one month. Collect a convenience sample and quantify on how many occasions DVT prophylaxis was not administered as ordered.

- **Enact above described system in EPIC with help from the IT department.**

- **Host a brief educational session for the different services involved (i.e., nursing, attending’s/housestaff, pharmacy) to be conducted during patient centered rounds once per week, led by an IT representative.**

- **Acquire follow up data:** Prospectively follow the same unit for one month and re-quantify similar data after the intervention was carried out.

- **If goals for improving adherence to DVT prophylaxis are not met, conduct survey for housestaff on if and how they addressed the missed or refused medication after identifying them via the new system.**

**References**