

ABSTRACT NO. 35

STOPPING THE CLOT: PREVENTION OF THROMBOEMBOLIC EVENTS IN SURGICAL PATIENTS THROUGH THE CREATION AND IMPLEMENTATION OF AN ELECTRONIC MEDICAL RECORD-BASED RISK ASSESSMENT PROGRAM

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Introduction: Deep vein thrombosis (DVT) is a common complication of surgical procedures that can result in fatal pulmonary emboli. Prophylaxis against DVT has been demonstrated to be effective in preventing DVT in surgical patients, but remains underutilized. We hypothesized that compliance with published DVT prophylaxis guidelines for surgical patients could be increased through the creation and implementation of a guided DVT risk assessment in the electronic medical record.

Methods: A standardized DVT risk assessment program was developed based on the American College of Chest Physicians guidelines and incorporated into the CPRS electronic medical record system for all surgical patients at the Jesse Brown VAMC. The program assists physicians in determining patient DVT risk and automatically generates electronic orders for appropriate DVT prophylaxis. 400 patients pre- and 237 patients post-implementation were evaluated (3/07-12/07). The prescription and administration of pharmacological and mechanical DVT prophylaxis was evaluated.

Results: With implementation of the DVT risk assessment program for only 4 months, the number of patients for which pharmacological pre-operative DVT prophylaxis was ordered rose from 21.6% to 39.5% ($p < 0.001$). Before implementation of the program, 36.9% of these orders were cancelled >12 hours before the operation, making the medication non-therapeutic at the time of surgery. After implementation of the program, only 8% of orders were cancelled before surgery. Thus, the number of patients receiving correct pharmacological prophylaxis rose from 13.6% to 36.5% ($p < 0.001$). Use of sequential compression devices (SCD) before surgery also rose from 53.8% to 71.7% after implementation of the program. Overall, the percentage of at-risk patients receiving the recommended combined DVT prophylaxis of early ambulation, SCD, and medication increased significantly from 3.9% to 24.9% ($p < 0.001$).

Conclusions: The creation and implementation of a standardized DVT risk assessment program in the electronic medical record significantly increased use of pharmacological and mechanical DVT prophylaxis before surgery.