An interdisciplinary evidence based practice approach to effective mechanical thrombolytic therapy
Franklin Square Hospital Center

Program/Project Description.
Approximately 600,000 patients develop a deep vein thrombosis (DVT) every year in U.S. hospitals. Complications arising from DVTs are serious and cost thousands of dollars including prolonged length of stay, increased cost of hospitalization and emotional stress. The standard of practice at our hospital was inconsistent. Our hospital used both anti-embolic stockings and sequential compression devices (SCDs) for mechanical treatment of DVT. Three years ago an effort had been made to remove anti-embolic stockings from par stock however the plan was never fully implemented. The question arose as to whether anti-embolic stockings or sequential compression devices were most effective in reducing the incidence of clot formation in patients. At our hospital, approximately three patients develop an acute venous embolism (453.40, 453.41 or 453.42 diagnostic code) while in the hospital on a quarterly basis.

Process.
An interdisciplinary team including the Chief of Surgery, a medical surgical nurse educator and a clinical nurse specialist reviewed the literature regarding sequential compression devices (SCDs) and anti-embolic stockings. The literature revealed that SCDs are more effective in reducing DVT especially when combined with drug therapy.

Solution.
A plan to remove anti-embolic stockings from the hospital was developed as follows: the Chief of Surgery and the Vice President of Medical Affairs sent a letter to all MDs explaining the rationale for eliminating anti-embolic stockings from the hospital and included the date that this practice change would be effective. Nurse Educators reviewed the evidence regarding sequential compression devices with nursing staff on their units. A date of April 30, 2010 was established with the Director of Purchasing to remove anti-embolic stockings from par level. All anti-embolic stockings were removed from the hospital as agreed upon. To date, all inpatients are now receiving SCDs for mechanical thrombolytic therapy.

Measurable Outcomes.
For the quarter following implementation of sequential compression devices, two patients developed an acute venous embolism (453.40, 453.41 or 453.42 diagnostic code) while in the hospital. This represents a decrease in the number of patients developing DVT in our hospital on a quarterly basis. While there are many factors involved in the development of DVT, standardizing mechanical thrombolytic treatment is important in reducing the development of DVT amongst patients at our hospital.

Sustainability.
Standardization of mechanical anti-embolic therapy at our hospital has been implemented throughout our hospital to reflect the use of sequential compression devices. The Value Added Team (VAT) has approved the standardization of mechanical thrombolytic therapy to reflect the use of SCDs. Purchasing is aware of this change in practice and this is reflected in the product purchases for the hospital. Continued monitoring of the incidence of DVT will occur to ensure sustainability of results. Results will be disseminated within the nine hospital MedStar network through consortiums including the Medstar Nursing Research Consortium (MNRC) and the MedStart Nurse Educator Consortium (MNEC) for their consideration and implementation.

Role of Collaboration and Leadership.
The interdisciplinary approach to standardization of effective mechanical thrombolytic therapy was essential to achieve effective results. Physicians were often unaware of the effectiveness of SCDs in preventing DVTs and often ordered anti-embolic stockings despite an earlier initiative to remove from the hospital. Education and discussion with both doctors and nurses helped us achieve our goal of one consistent approach to mechanical thrombolytic therapy. Partnership with the Director of Purchasing was essential in removing all anti-embolic stockings from par stock. Support from the VAT team was essential in communicating this practice change to both physicians and nurses. Leadership support was demonstrated on all levels for the successful implementation of this project.
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