

## 2015 CDC HA-VTE PREVENTION HONORABLE MENTION



### ORGANIZATION:

Sheppard Pratt Health System | Baltimore, Maryland

### PATIENT POPULATION:

- 9,139 inpatient admissions in 2014; over 300 beds.
- 30% belong to a racial or ethnic minority.
- 36% are enrolled in Medicaid.

### BACKGROUND

Sheppard Pratt Health System is the largest private provider of psychiatric care in Maryland. The Sheppard and Enoch Pratt Hospital, part of the Sheppard Pratt Health System, is a stand-alone inpatient psychiatric facility that uniquely serves the acute needs of the psychiatric population. Patients span across all age groups from children to geriatric populations and specialty populations including eating disorders, developmental disorders, and complex trauma disorders. Today, Sheppard Pratt is one of the leading mental health providers in the United States, and has been consistently ranked in the top 10 psychiatric hospitals by *U.S. News and World Report*.

The risk of venous thromboembolism (VTE) increases in psychiatric patients diagnosed with schizophrenia, bipolar disorder or those receiving antipsychotics or antidepressants. Age itself is identified as an independent risk factor for VTE. Given these additional risks, the geropsychiatric population deserves further assessment. Despite the abundance of evidence for reduction of VTE events with the use of Low Molecular Weight Heparins (LMWH),

stockings and ambulation, psychiatric institutions in the United States have not established a standard screening process to identify patients who would benefit from risk reducing interventions.

### OBJECTIVES

- To systematize screening of VTE risk in the inpatient psychiatric population.
- To increase the frequency of pharmacologic and mechanical prophylaxis.
- To increase the awareness of staff members to the symptoms of deep vein thrombosis (DVT).

### METHODS

#### **Developing a VTE Prophylaxis Program for Psychiatric Inpatients**

An interdisciplinary team comprised of internists, physician assistants, psychiatrists, pharmacists and nurses convened to review the literature and collaborate with other regional psychiatric institutions in the United States to learn from existing VTE prophylaxis programs.

A two-step VTE screening process was implemented to the existing medical history and physical in the electronic medical record (EMR). The physician assistant first screened patients on four questions:

- 1) Has the patient had a past DVT, PE, past stroke or malignancy?
- 2) Does the patient have a family history of a DVT or PE?
- 3) Is the patient immobile or non-ambulatory?
- 4) Does the patient have active cardiac, inflammatory bowel disease or cancer?

A positive response to any one of these risks prompted the clinician to complete a full screen developed specifically for the psychiatric population. This included risk factors unique to psychiatric inpatients such as immobility from catatonia, treatment with electroconvulsive therapy and mechanical restraints.

Based on the total risk score, patients were identified as low risk, moderate risk or high risk for an event and prescribed appropriate VTE prevention.

- High-risk patients were prescribed appropriate doses of LMWH. Patient refusal was documented in the electronic medical chart and the benefits of LMWH were discussed with the patient along with the benefits of compression stockings and the importance of ambulation.
- Medium-risk patients were prescribed LMWH and/or compression stockings.
- Low-risk patients were offered compression stockings if non-ambulatory.

Compression stockings were chosen for mechanical prophylaxis as they induce less stress in patients with psychotic and anxious symptoms who may be more sensitive to noises and touch. If the patient underwent electroconvulsive therapy during the hospital admission, or was placed in restraints, a full screen was completed again.

## Ambulation Program

To further promote mobility, an ambulation program was developed by a geriatric physical therapist, an occupational therapist, a music therapist, a pharmacist and nursing staff. Examples of some of the components incorporated into the program include:

- 1) Patients should not be in a wheel chair while seated in group meeting rooms; instead, they will be transferred to a chair in the group room.
- 2) Ankle and leg exercises will be done between all groups, 8 repetitions complete one exercise.
- 3) Patients will walk to the pantry for their cup of water during morning group session rather than staff bringing the water to the group room.
- 4) A walking group will be held in the afternoon on a daily basis, either to the garden, gift shop or in the halls of the unit.

Attending psychiatrists encouraged patients to participate and highlighted all the benefits of ambulation including decreasing the risk of VTE, muscle strength building, increasing energy level and enhancement of mental status.

## Education and VTE Awareness

All medical staff including hospital psychiatrists, physician assistants, psychiatric residents, internists, pharmacists and nursing staff were educated to the screening process, interventions, administration and monitoring of LMWH in the form of grand round sessions, unit discussions and one-on-one sessions. This education continues to be provided to new employees during orientation and has also been made available on a DVD for review.

Staff members were also educated on signs and symptoms of DVT. Patients that develop symptoms of DVT were transferred from Sheppard Pratt to an acute care emergency room for further evaluation.

## RESULTS

Prior to the implementation of the VTE prophylaxis program in 2007, a total of 27 LMWH orders were processed. After implementation of VTE screening for all inpatients, the number of LMWH orders increased to 281 in 2010, 223 in 2011 and 171 in 2012. This was a tenfold increase compared to 2007 for the entire hospital. No associated gastrointestinal bleeds have been reported since implementation of the program.

In 2007, a total of 66 compression stocking orders were processed. After the implementation of the VTE program, the number of orders increased to 148 in 2010, 169 in 2011, and 240 in 2012; a fourfold increase.

In 2005, there were a total of 53 transfers (from 8,014 admissions) to the emergency room for a medical evaluation to rule out or treat a DVT. In 2012, improved staff awareness for signs and symptoms of a DVT resulted in 124 patients (from 6,343 admissions) sent to the emergency room to rule out or treat a DVT.

## CONCLUSIONS

After the implementation of this patient-centered VTE program, the number of LMWH orders increased by tenfold, compression stocking orders increased by fourfold and all patients screened as high risk on the geriatric unit were given guidance to increase their level of ambulation. With increased staff awareness, more patients with possible signs and symptoms of a DVT were transferred to an acute care center where appropriate treatment of DVT could be provided to prevent the further development of PE and its complications. Screening patients in a systematic process through the EMR ensured consistency in the assessment for all patients admitted and efficient reviews by multidisciplinary staff members who prompted patient centered interventions to reduce the risk of a VTE event.