How Educating Nurses Can Effect Sequential Compression Device Therapy.

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Background

- The development of a DVT/VTE is one of the most highly preventable nosocomial complications, and the prevention of VTE in hospitalized patients is a patient safety quality indicator identified by the Agency for Healthcare Research and Quality (AHRQ).
- The use of sequential compression devices (SCDs), either alone or in conjunction with anticoagulant medication, has been shown to be highly effective in preventing the development of VTE when used correctly (Adams, 2015).
- Currently, SCD compliance for FY16 is suboptimal. Compliance rates for SCD application on 6K and 7B are as follows:
  - 6K – 92.6% (Oct –Dec 2016)
  - 7B – 81.9% (Oct –Dec 2016)

Evidence

- Deep vein thrombi (DVT) are blood clots that develop in deep veins, usually in the lower extremities. Venous stasis, tissue injury, decreased mobility, and hypercoagulability are risk factors contributing to the development of DVT's (Ashworth, 2014).
- Sequential compression devices (SCD) are compression devices applied to the patient's calf, which inflate intermittently in order to prevent the stasis of blood in the lower extremities. The purpose of their use is to assist in moving blood from the veins back to the heart (LVHN. (2013). DVT Prevention Device-Sequential Compression Device (SCD)).
- Evidence shows that an estimated 2,000,000 people are affected by venous thrombosis (Beck, 2006), (McNamara, 2014). The development of these conditions will increase patient length of stay and can lead to complications, or even death (McNamara, 2014).
- According to a study, the cost of an initial episode of DVT per patient is approximated at $7,712. Whereas any recurrent DVT episode can potentially cost up to $12,326 per episode (Kaczorowski & Pattillo, 2011).

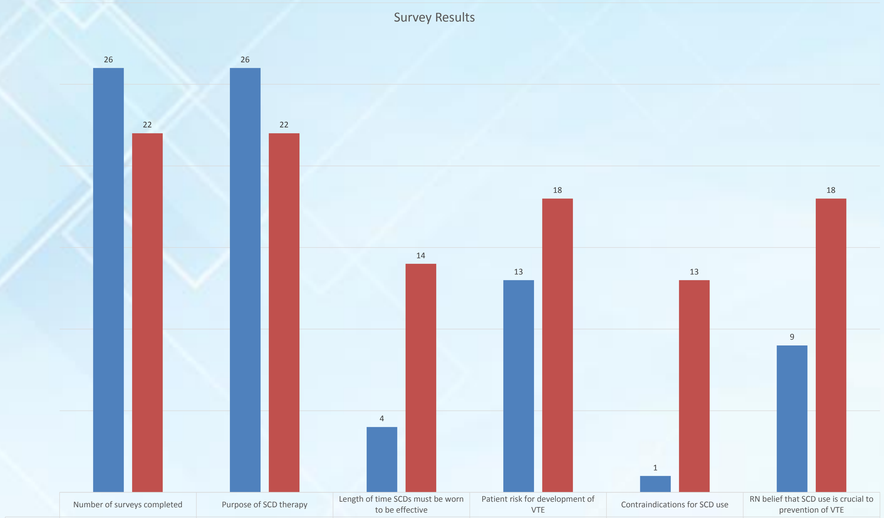
Purpose

The purpose of this project is to improve RN knowledge about the necessity of SCDs in the prevention of VTE and appropriate SCD use.

- P – Registered nurses on units 6K and 7BP.
- I – Education on SCD necessity and proper use.
- C – No education on SCD necessity and proper use.
- O – Increased nursing knowledge on SCD necessity and increased compliance with SCD use.

Methods

- Literature review completed in CINAHL database with the following keywords: DVT, nursing, compression garments, attitudes of health personnel, venous thromboembolism, venous thrombosis, nursing knowledge, compression garments, practice patterns, attitudes of health personnel, risk assessment as a guide to thrombosis prophylaxis.
- Implementation of pre-education survey to RNs on 6K and 7BP. Paper surveys were provided to all RNs across both units with questions regarding the purpose of SCD use, patient education, and LVHN policy. Surveys were left in prominent area on unit, and RNs were encouraged to complete. 26 RNs completed the pre-survey.
- Educational intervention provided to RNs across both units via power point distributed electronically through email. It is unknown how many RNs viewed the education.
- Implementation of post-education survey to all RNs on 6K and 7BP. Surveys were distributed in the same manor as the pre-education surveys. 22 RNs completed the post-survey.
- Both pre and post-education surveys were scored by hand, and verified by another member of the group. The results were then compared respectively.



	Number of surveys completed	Purpose of SCD therapy	Length of time SCDs must be worn to be effective	Patient risk for development of VTE	Contraindications for SCD use	RN belief that SCD use is crucial to prevention of VTE
Pre-survey	26	26	4	13	1	9
Post-survey	22	22	14	18	13	18

Conclusion

- The survey results showed that there was a significant lack of nursing knowledge regarding VTE and SCD use, especially regarding contraindications for use and length of time SCDs must be worn to be optimally effective. The education did show a significant increase in knowledge in both of these areas.
- The education did also increase how many RNs found SCDs to be a crucial therapy for the prevention of DVT/VTE.
- Compliance observation rates for the month of May (pre-education) are as follows:
  - 6K – 100%
  - 7B – 93.1%
- Compliance observation rates for the month of June (post-education) are as follows:
  - 6K – Exempt from education survey as goal was achieved
  - 7B – 100%
- One lesson learned is that there should have been a process to determine how many nurses actually viewed the education (such as a "read receipt" in email or an attestation on the post-survey). This would have been useful information to determine the overall participation rate.

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