

Improving Venous Thromboembolism (VTE) Prophylaxis in Tallaght Orthopaedics

C. O'Driscoll, C. Casey, S. O'Sullivan, N. MacAuley, B. O'Daly

Tallaght University Hospital, Dublin 24.

Dear Editor

A heightened risk of Venous Thromboembolism has long been associated with orthopaedic surgery. This holds true in both the trauma¹ and elective setting² and is due to a number of factors including immobilization with resultant stasis and the physiological insult of surgery with local tissue damage.¹

A key focus of best practice guidelines is the prevention of venous thromboembolism. There is a gap between guideline recommendations and clinical practice and internationally adherence to these guidelines though improving, still leaves room for improvement.³

In Tallaght University Hospital we carried out a closed loop audit of venous thromboembolism prophylaxis within the Orthopaedic Department, to evaluate the department's performance on VTE prophylaxis and implement strategies and improve on the overall performance. The Tallaght Adult Medicines Guide VTE guidelines were used as our audit standard. These are derived from the 2018 NICE Guideline 89, the ACCP endorsed Padua Score and the National Medication Safety Improvement Programme's Preventing Clots in Hospitals Toolkit.

Cycle 1 consisted of a 2 day audit of orthopaedic inpatients in TUH on 2 separate timepoints in November and December 2019 consisting of 74 inpatients. Each patient's medical and nursing charts were examined to identify each patient's reason for admission, VTE risk factors and contraindications to VTE prophylaxis. The patient's Medication Kardex was then checked to see whether appropriate chemical and mechanical prophylaxis was prescribed. Finally each patient was examined to assess whether mechanical VTE prophylaxis was physically worn at that time.

Results of cycle 1 were then presented and discussed at a weekly orthopaedic education meeting. From this meeting a number of simple recommendations were made, including a re-emphasis on VTE prophylaxis, a focus on prescribing mechanical prophylaxis for those patients with contraindications to anticoagulation such as Spinal surgery patients. A Comprehensive flow sheet was also produced in collaboration with the consultants, and displayed prominently within the TUH Orthopaedic wards and offices, to act both as a guide and reminder.

Audit cycle was repeated in January 2020, 34 patients were included and results compared. In terms of appropriate chemical prophylaxis an improvement from 92% (68/74 incl 7/72 C/I) to 100% (34/34 incl 4/34 C/I) was observed. For mechanical prophylaxis, albeit from a lower base, appropriate prescribing improved 69% (51/72 incl 3/72 C/I) to 78% (27/34 incl 4/34 C/I). Levels of application improved from 53% (38/71) to 70% (21/30).

Improvement in all areas of VTE prophylaxis between audit cycles was observed, with the excellent rate of appropriate chemical VTE prophylaxis. This study is relevant to other departments as it highlights the benefits of regular VTE prophylaxis re-education within hospitals.

Corresponding Author:

Conor O'Driscoll
Tallaght University Hospital,
Dublin 24.
E-mail: coodrisc@tcd.ie

References:

1. Flevas DA, Megaloikonomos PD, Dimopoulos L, Mitsiokapa E, Koulouvaris P, Mavrogenis AF. Thromboembolism prophylaxis in orthopaedics: an update. *EFORT Open Rev.* 2018;3:136–148. DOI: 10.1302/2058-5241.3.170018.
2. Perrotta C, Chahla J, Badariotti G, Ramos J. Interventions for preventing venous thromboembolism in adults undergoing knee arthroscopy. *Cochrane Database of Systematic Reviews* 2020, Issue 5. Art. No.: CD005259. DOI: 10.1002/14651858.CD005259.pub4.
3. Farfan M, Bautista M, Bonilla G, et al. Worldwide adherence to ACCP guidelines for thromboprophylaxis after major orthopedic surgery: A systematic review of the literature and meta-analysis. *Thromb Res* 2016;141:163-170. DOI: 10.1016/j.thromres.2016.03.029