

Webinar on

# OSTEOPOROSIS, ARTHRITIS AND MUSCULOSKELETAL DISORDERS

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## Compliance of venous thromboembolism (VTE) prophylaxis in elective hip replacements and hip fractures

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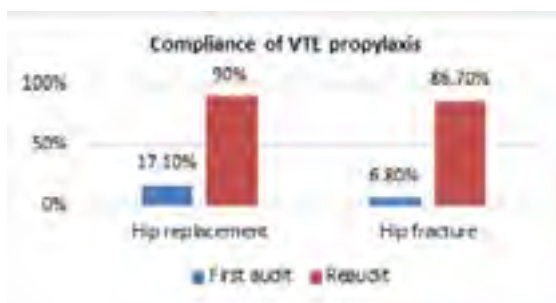
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**Statement of the Problem:** VTE is a common complication after orthopaedic surgery.[1] An estimated 25,000 people in the UK die every year from preventable hospital required VTE.[2] Without pharmacologic thromboprophylaxis the rates of Deep vein thrombosis detected with routine contrast venography were in order of 54% after total hip arthroplasty.[3] Symptomatic VTE incidence was found to be between 2-3% after total hip arthroplasty without pharmacologic prophylaxis in one study.[4] Hence, it is recommended by the NICE guidelines to offer chemical prophylaxis for elective hip replacement with 28-days Low Molecular Weight Heparin (LMWH) or 10-days LMWH with further 28-days of aspirin; and for fragility hip fractures with 1 month of LMWH or fondaparinux as per March 2018 update[2], the duration of which is less than previous 35-days protocol, which was being followed in Medway NHS Foundation Trust.

**Methodology & Theoretical Orientation:** Following a retrospective audit from January to March 2021 where patient's  $\geq 18$  years of age with fragility fractures of hip and elective hip replacements with risk of VTE outweighing risk of bleeding were taken into study, an intervention was made via presentation of findings in clinical governance meetings. Then a reaudit was done in first three months of 2022 to assess improvements.

**Findings:** All patients in the sample received the chemical thromboprophylaxis. Compliance of VTE chemical prophylaxis was only 6.8% in hip fractures which improved to 86.7% after intervention and was only 17.1% which improved to 90% after intervention.

**Conclusion & Significance:** Chemical thromboprophylaxis is essential as primary prevention to reduce the incidence of VTE.[5] Old guidelines were followed prior to intervention, with improvement adhering to the newer guidelines has shown to reduce the duration of chemical prophylaxis with potential to reduce cost, reduction in risk of excessive anticoagulation and efficient use of NHS staffing and resources



**Recent Publications**

- [1] J. Edelsberg, D. Ollendorf, and G. Oster, "Venous thromboembolism following major orthopedic surgery: Review of epidemiology and economics," *American Journal of Health-System Pharmacy*, vol. 58, no. suppl\_2, pp. S4–S13, Nov. 2001, doi: 10.1093/ajhp/58.suppl\_2.S4.
- [2] M. F. G. Greig, S. B. Rochow, M. A. Crilly, and A. A. Mangoni, "Routine pharmacological venous thromboembolism prophylaxis in frail older hospitalised patients: where is the evidence?," *Age and Ageing*, vol. 42, no. 4, pp. 428–434, Jul. 2013, doi: 10.1093/ageing/afp041.
- [3] W. H. Geerts et al., "Prevention of Venous Thromboembolism," *CHEST*, vol. 119, no. 1, pp. 132S–175S, Jan. 2001, doi: 10.1378/chest.119.1\_suppl.132S.
- [4] Warwick D, Williams MH, Bannister GC. Death and thromboembolic disease after total hip replacement. A series of 1162 cases with no routine chemical prophylaxis. *J Bone Joint Surg Br*. 1995;77:6–10.
- [5] S. Granziera and A. T. Cohen, "VTE primary prevention, including hospitalised medical and orthopaedic surgical patients," *Thromb Haemost*, vol. 113, no. 06, pp. 1216–1223, Nov. 2015, doi: 10.1160/TH14-10-0823

**Biography**

Nitish Raj has completed his MBBS from Tribhuvan University from Nepal. He has been academically active since his medical school showing outstanding performance. He has been an integral part of organizing Basic Science Olympiad in Nepalese Army Institute of Health Sciences from 2012 to 2019 as Student Ambassador for Elsevier. After registration with the General Medical Council of the United Kingdom in 2019, he has served the prestigious NHS with clinical experience in Trauma and Orthopaedics as well as General Surgical Department. Having has a special interest to develop a career in Trauma radiology and Intervention Radiology.

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