
VTE AWARD – MATERNITY.

Excellent Quality Improvement programme that advanced practice in thrombosis prevention or management

NEWHAM UNIVERSITY HOSPITAL

How evaluating venous thromboembolism (VTE) risk in the context of maternal third trimester and postnatal weight impacts thromboprophylaxis to reduce VTE

Venous thromboembolism (VTE) is a leading cause of maternal death, with its incidence increasing despite being preventable. The reasons for this rise remain unclear. National guidance recommends prescribing thromboprophylaxis (which usually involves anti-clot injections) based on booking (first trimester) or most recent weights. In practice, it is usually the booking weights that are utilised and will ultimately determine the thromboprophylaxis prescribed. Despite weight and body mass index (BMI) influencing VTE risk scoring and prescribing, there is little consensus on the importance of weighing women in the third trimester/postnatal period.

Currently, there is no recommendation for the ideal range of weight gain in pregnancy, neither is there consensus on when to weigh women in pregnancy, apart from at booking. As a result, there is a risk that this could lead to undertreatment if thromboprophylaxis prescribing is based solely on booking weights.

The Newham team aimed to determine whether weighing women during this period improved the accuracy of thromboprophylaxis prescriptions and positively affected VTE incidence rates. The project consisted of a closed-loop two-cycle audit which has evolved into an ongoing quality improvement project.

The team installed weighing scales on the postnatal ward, ensuring all mothers were weighed in the third trimester (with optional concealment) before individualised postpartum VTE risk assessment.

In the first cycle, they retrospectively analysed 142 patient records examining:

- Chemical VTE prophylaxis (i.e. anti-clot injections) prescribing practices for postnatal women admitted during April-May 2023.
- Data on demographics, weight, BMI and type of birth (vaginal delivery, instrumental delivery, elective or emergency caesarean section).
- Low molecular weight heparin dose/duration if prescribed.
- Rates of re-admissions and VTE incidence.

Risk scores were then recalculated and compared to prescriptions made at the time of discharge. After introducing weighing scales, data from the August-September 2024 period was audited (37 patient records), and analysed. It indicated that weighing women in the third trimester/postnatal period increased thromboprophylaxis accuracy.

The work showcased:

- 74.6% (n=106) of patients in the first cycle received the appropriate thromboprophylaxis.
- 25.4% (n=36) would have required different thromboprophylaxis to that prescribed, primarily due to dose/duration prescription errors for increased weights.
- 8.5% (n=12) were potentially undertreated.
- Mean duration of treatment was 23.8 days \pm 15.9 (SD).
- Total mean BMI was 28.3 \pm 5.7 in the first cycle.
- In the second cycle, 81.1% (n=30) received the appropriate thromboprophylaxis.
- The mean duration of treatment was 27.7 \pm 17.9.
- Total mean third trimester/postnatal BMI was 31.8 \pm 6.1.
- There were no cases of VTE recorded within 12 weeks postpartum in either cycle.
- There was a statistically significant mean increase in weight when comparing booking and third trimester weights of 9.0% (p=0.04).

In conclusion, the initiative has shown that updated weights improved prescribing accuracy when re-auditing the data after implementing the intervention.

The work has led to new local recommendations to weigh women in the third trimester/postnatal period to identify high-risk patients. This inexpensive intervention requires minimal training and is easy to implement, therefore potentially applicable to other postnatal settings as well.

The maternity department will continue to audit data on a six-monthly basis and collect this through the hospital's patient record systems.

Future efforts include extending this intervention to other populations to inform guidance and providing further training for healthcare staff to optimise thromboprophylaxis prescriptions.