VENOUS THROMBOSIS
An Old Problem Revisited

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FRCPath
**Prevalence of VTE**

Annual frequency per 100,000:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep vein thrombosis (DVT)</td>
<td>160</td>
</tr>
<tr>
<td>Symptomatic, non-fatal PE</td>
<td>20</td>
</tr>
<tr>
<td>Fatal, autopsy-detected PE</td>
<td>50</td>
</tr>
</tbody>
</table>

250,000 hospitalisations annually due to VTE
Required Organizational Practice

The team identifies medical and surgical clients at risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) and provides appropriate thromboprophylaxis.
CAPRINI SCORE

Each Risk Factor Represents 1 Point

Age 41-60 years
Minor surgery planned
History of prior major surgery (<1 month)
Varicose veins
History of inflammatory bowel disease
Swollen legs (current)
Obesity (BMI > 25)
Acute myocardial infarction
Congestive heart failure (<1 month)
Sepsis (<1 month)
Serious lung disease incl. pneumonia (<1 month)
Abnormal pulmonary function (COPD)
Medical patient currently at bed rest
Other risk factors

Each Risk Factor Represents 1 Point

Age 60-74 years
Arthroscopic surgery
Malignancy (present or previous)
Major surgery (>45 minutes)
Laparoscopic surgery (> 45 minutes)
Patient Confined to bed (>72 hours)
Immobilizing plaster cast (<1 month)
Central venous access

Each Risk Factor Represents 1 Point

Elective major lower extremity
Hip, pelvis or leg fracture
Stroke (<1 month)
Multiple spinal cord injury (para...)
### PADUA Score

<table>
<thead>
<tr>
<th>Factor</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>An active cancer</td>
<td>3</td>
</tr>
<tr>
<td>Previous VTE</td>
<td>3</td>
</tr>
<tr>
<td>Reduced mobility</td>
<td>3</td>
</tr>
<tr>
<td>Already know thrombophilic condition</td>
<td>3</td>
</tr>
<tr>
<td>Recent (&lt;1 month) trauma and or surgery</td>
<td>2</td>
</tr>
<tr>
<td>Age 70 years and above</td>
<td>1</td>
</tr>
<tr>
<td>Heat and or respiratory failure</td>
<td>1</td>
</tr>
<tr>
<td>Ami or ischemic stroke</td>
<td>1</td>
</tr>
<tr>
<td>Acute infection and or rheumatologic disorder</td>
<td>1</td>
</tr>
<tr>
<td>Obesity BMI &gt; 30 kg/m²</td>
<td>1</td>
</tr>
<tr>
<td>Ongoing hormonal therapy</td>
<td>1</td>
</tr>
</tbody>
</table>
# RCOG Risk Stratification

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-eclampsia</td>
<td>1</td>
</tr>
<tr>
<td>Dehydration/hyperemesis/OHSS</td>
<td>1</td>
</tr>
<tr>
<td>Multiple pregnancy or ART</td>
<td>1</td>
</tr>
<tr>
<td>Elective caesarean section</td>
<td>1</td>
</tr>
<tr>
<td>Mid-cavity or rotational forceps</td>
<td>1</td>
</tr>
<tr>
<td>Prolonged labour (&gt; 24 hours)</td>
<td>1</td>
</tr>
<tr>
<td>PPH (&gt;1 litre or transfusion)</td>
<td>1</td>
</tr>
<tr>
<td>Current systemic infection</td>
<td></td>
</tr>
<tr>
<td>Immobility</td>
<td>1</td>
</tr>
</tbody>
</table>
RCOG RISK STRATIFICATION

- Previous recurrent VTE
- Previous VTE – unprovoked or estrogen related
- Previous VTE – provoked or Known thrombophilia
- Medical comorbidities
- Caesarean section in labour
- Surgical procedure in pregnancy or 6² weeks postpartum
  - Age (> 35 years)
    - Obesity
    - Parity ³
  - Smoker
    - Gross varicose veins

1 2/1a
1 1 1
2 2 2
2 2 2
3 3 3


Guidelines on oral anticoagulation with warfarin – fourth edition


Keywords: warfarin, anticoagulation, vitamin K antagonist.

The writing group was advised to be representative of UK-based experts. This guideline is an update of the previous guidelines written in 2005 and published in 2006 (Baglin et al. 2006). The guidance is updated with reference to relevant publications from 2006. Publications relevant to the writing group were supplemented with additional papers identified by the writing group. The panel reviewed and discussed all the key evidence and draft clinical trial and randomized controlled trial, meta-analysis, human, non-clinical, animal, and English language. The writing group produced the draft guideline, which was subsequently revised by consensus by members of the Haemostasis and Thrombosis Task Force of the British Committee for Standards in Haematology. The guideline was then reviewed by a standing panel of representatives of UK hematologists, the BCSH (British Committee for Standards in Haematology), the British Cardiovascular Society and the British Society for Haematology and committee incorporated where appropriate. The CRAGS system was used to assess level and quality of evidence, details of which can be found in the British Thoracic Society's (2015). For full details, please refer to the guideline or online supplement.

1. Indications for warfarin and recommended international normalized ratio (INR)

This guideline refers to target INR rather than target ranges, although the target range is generally taken to be within 3 of the target, i.e. a target INR 2.5 results in a target range of 2.0–3.0.

- Lowering target INR to 2.0 should be considered for high-risk patients.
- Higher target INR to 3.0 should be considered for lower-risk patients.

2. Reducing the Risk of Venous Thromboembolism Pregnancy and the Puerpera

Green-top Guideline No. 37a
April 2015

Correspondence: Dr David M. Keeling, (on BCSH list). British Committee for Standards in Haematology, UH Authority for Haematology, Dax White House, Swindon SN1 0AG, UK. Email: david.keeling@bcshguidelines.org.uk

Original Article

Thromboprophylaxis and mortality among patients who developed venous thromboembolism in seven major hospitals in Saudi Arabia


CONCLUSION: Thromboprophylaxis was underutilized in major Saudi hospitals denoting a gap between guideline and practice. This gap was more marked in medical than surgical patients. Hospital-acquired VTE was associated with significant mortality. Efforts to improve thromboprophylaxis utilization are warranted.

Keywords:
Deep vein thrombosis, diagnosis, pulmonary embolism, Saudi Arabia, thromboprophylaxis, venous
Smart-phone Application

Widely Available
No need for internet connection
Amenable for updates
Thrombosis Consult

User friendly and Comprehensive
Evidence based guidelines
Interactive
Calculates risk scores without the use of explicit risk charts
Heparin exclusion center
Platelets calculator
Creatinine clearance : LMWH
Present the results to health professionals quickly.
THROMBOSIS CONSULT
By MohammadAlameen Zaher
https://appstore.re/us/Lru5.i
Can enhance clinical performance in terms of drug dosing
Not a replacement for a haematologist
AT the infancy stage
Validation of the application for VTE risk in hospitalised medical patients and Obstetrics and gynaecology.

Ninety-seven patients, admitted to the medical ward and 188 female patients admitted to obstetric and gynaecology ward.

There was a strong agreement between the CDSS and the expert hematologist opinion on the need for thromboprophylaxis as well as the type of prophylaxis.

Zaher and Adam. Validation of smart phone Application for assessment of risk of venous thromboembolism in medical patients. J Hematolo Thrombi Dis 2016. ISSN 8790-2329

Thank you ....

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