

# THROMBOPROPHYLAXIS IN ELECTIVE FOOT AND ANKLE SURGERY

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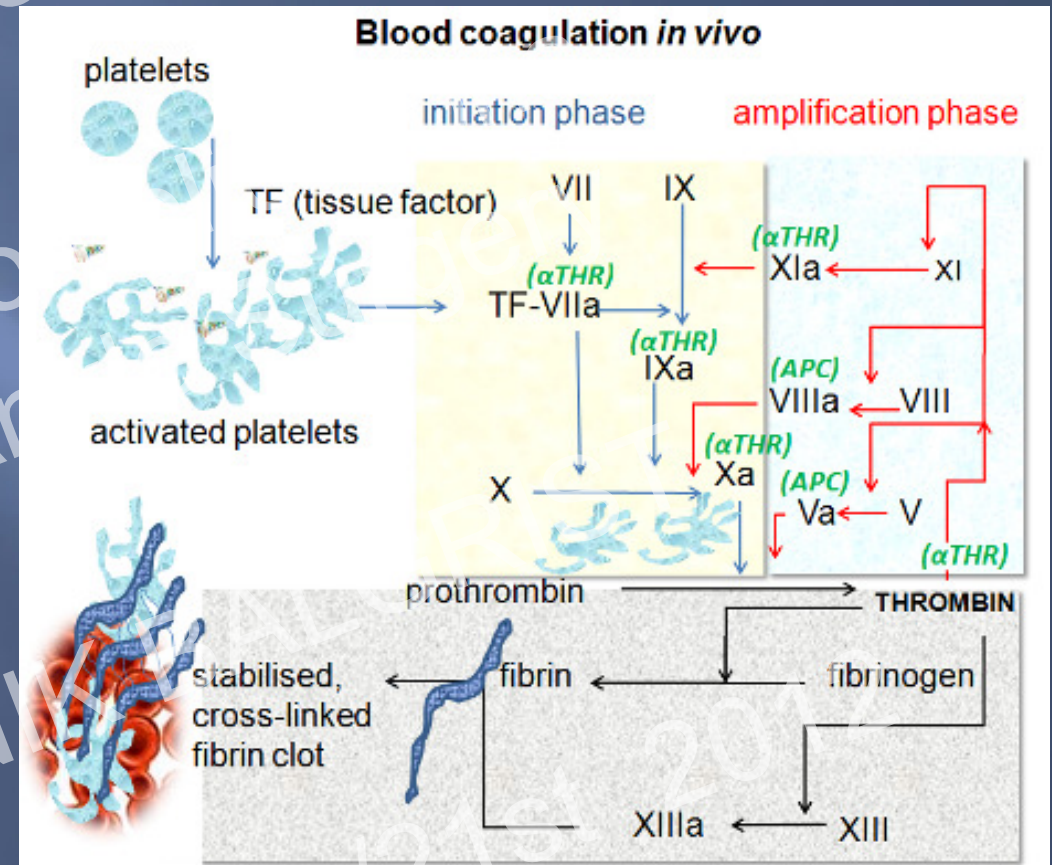
- ▣ Pathology /signs / investigation (brief!)
- ▣ What is the evidence?
- ▣ What do people do?
- ▣ What should we do?

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# Virchows Triad

- ▣ Venous stasis
- ▣ Endothelial dysfunction
- ▣ Hypercoagulability



# Signs / Symptoms

- ▣ Increasing pain
- ▣ Swelling
- ▣ Warmth to leg





# Investigation

- ▣ D-dimer blood test
- ▣ Thrombo
- ▣ Venography
- ▣ Ultrasound



- ▣ Localised tenderness along venous system +1
- ▣ Entire leg swollen +1
- ▣ Calf circumference 3cm > contralateral +1
- ▣ Pitting oedema on affected leg only +1
- ▣ Collateral dilated veins +1
- ▣ Active cancer +1
- ▣ Prolonged immobility /paralysis +1
- ▣ Recent surgery +1
- ▣ Alternative diagnosis -2

- ▣  $>3$  = high probability = investigate
- ▣ 1-3 = moderate probability = refer
- ▣ 1 or less = repeat clinical assessment in 1 week

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## Why Important?

Managing Complications  
in Foot & Ankle Surgery

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- Estimated 25000 preventable deaths per year in NHS
- Can have significant morbidity
- Government priority!
- >95% people need to have DVT assessment otherwise fine ensues
- TO SAFEGUARD PATIENTS

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# Evidence

- ▣ Lapidus et al Acta Orthopaedica 2007
- ▣ 272 pts
- ▣ No difference
- ▣ 3 vs 4% DVT rate

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# Evidence

- ▣ Griffiths, Calder et al JBJS Br 2012
- ▣ DVT 0.27%
- ▣ PE 0.15%
- ▣ No difference between aspirin and nothing

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# Evidence

- ▣ Jameson et al, JBJS Br 2011
- ▣ Forefoot DVT 0.12%, PE 0.17%
- ▣ Hindfoot DVT 0.03%, 0.11%

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# Evidence

- ▣ Jones, Perera et al (submitted)
- ▣ 721 patients (including trauma)
- ▣ DVT 3.2%
- ▣ PE 0.7%
- ▣ No prophylaxis

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# What should we do?



**Quick reference guide**

**National Institute for  
Health and Clinical Excellence**

Issue date: January 2010

## **Venous thromboembolism: reducing the risk**

Reducing the risk of venous thromboembolism  
(deep vein thrombosis and pulmonary embolism)  
in patients admitted to hospital

This guideline updates NICE clinical guideline 46  
and replaces it

# Guidance

- ▣ Arthroplasty
- ▣ Neck of femur fracture
- ▣ Foot and ankle surgery

SHOULD CONSIDER ITS USE?!?!

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# What do I do

- ▣ Risk factors = dalteparin as inpatient
- ▣ Achilles = dalteparin until weightbearing

# Risk factors

- ▣ Active malignancy or cancer therapy including chemotherapy and radiotherapy
- ▣ Personal history of VTE
- ▣ Inherited Thrombophilia
- ▣ First degree relative with a history of VTE
- ▣ Obesity (BMI>35Kg/m<sup>2</sup>)
- ▣ Pre-existing illness promoting thrombosis formation
- ▣ Tourniquet time > 1.25 hours
- ▣ Concurrent injuries / immobility preventing mobilisation and discharge
- ▣ >70 years old



- ▣ All patients should have the risk of DVT and PE discussed with them. The suggested rates of clinically significant DVT and PE that should be discussed are respectively:
- ▣ Ankle fractures 0.12% and 0.17%
- ▣ Less complex Forefoot surgery 0.01% and 0.02%
- ▣ All other foot and ankle surgery 0.3% and 0.2%
- ▣ As part of this process, all patients should be given the foot and ankle surgery leaflet which outlines the worrying signs and symptoms as well the necessary mobilisation exercises to promote lower limb venous return
- ▣ RISK IN GENERAL POPULATION 1 IN 1000 = 0.001%

# What do I do

- ❑ Exercise leaflet
- ❑ Based on submitted work by Perera et al
- ❑ Calf venous blood flow not significantly different with toe exercises to gentle active ankle ROM

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# Balgrist Clinic

- ▣ Forefoot = clexane 1 day
- ▣ Other = clexane then rivoroxiban 6-8/52

# NWU Clinic, Chicago

- ▣ If risks = rivoroxiban 6/52

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# Myerson, Baltimore, USA

- ▣ Advise aspirin 6/52 for everyone
- ▣ 3 consultants = Lovenox 2/52
- ▣ 1 consultant = Lovenox 2/52 if risks

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# What should you do?

- ▣ There is evidence for anything (or nothing that) you want to do!
- ▣ Make a policy for your department that everyone is comfortable with
- ▣ If not giving / giving **EXPLAIN WHY**
- ▣ Leaflet for exercises
- ▣ **AGAIN EXPLAIN!!!!**

# THANK YOU

