CancerCare Manitoba

Blood Day for Primary Care

How long should I anticoagulate for after DVT or PE?

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Disclosures

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Consultant	**No relevant conflict of interest to declare**
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Objectives

1. Review risk stratification models aiming to help the decision of length anticoagulation therapy for patients with idiopathic/unprovoked venous thromboembolism (VTE)

2. Review the evidence supporting different secondary prevention strategies (anti-platelets, warfarin, novel oral anticoagulant (NOACs)

Who to stop?

1. **Answer is clear**- Discontinue after short term (3 months)
    - Clear temporary provoked
        - Post-surgical, casts, immobilization (>3 days)

2. **Answer is clear**- Continue long-term
    - Ongoing malignancy
    - Recurrent unprovoked VTE
    - Potent thrombophilia (e.g. APLA, anti-thrombin, etc.)

3. **Answer AMBIGUOUS**
    - Unprovoked proximal DVT and/or PE (i.e. major VTE)
    - Weakly provoked
        - Minor trauma, minor immobilization, ante-partum pregnancy, estrogens, prolonged flights, etc.

Mr. MT

50 year old ♂ completes 6 months of anticoagulant therapy for unprovoked proximal DVT.

Physical:

- BMI 25, hyper pigmentation and edema in the affected limb.

Labs:

- US shows a residual non-occlusive popliteal vein thrombus.
- D-Dimer of 200ng/ml while on anticoagulants and 350ng/ml off of anticoagulants 1 month later.

Mr. MT

You would recommend…

A. Discontinue anticoagulants
B. Continue anticoagulants for an additional 6 months
C. Continue anticoagulants an additional 1 year
D. Continue anticoagulants an additional 2 years
E. Continue anticoagulants indefinitely

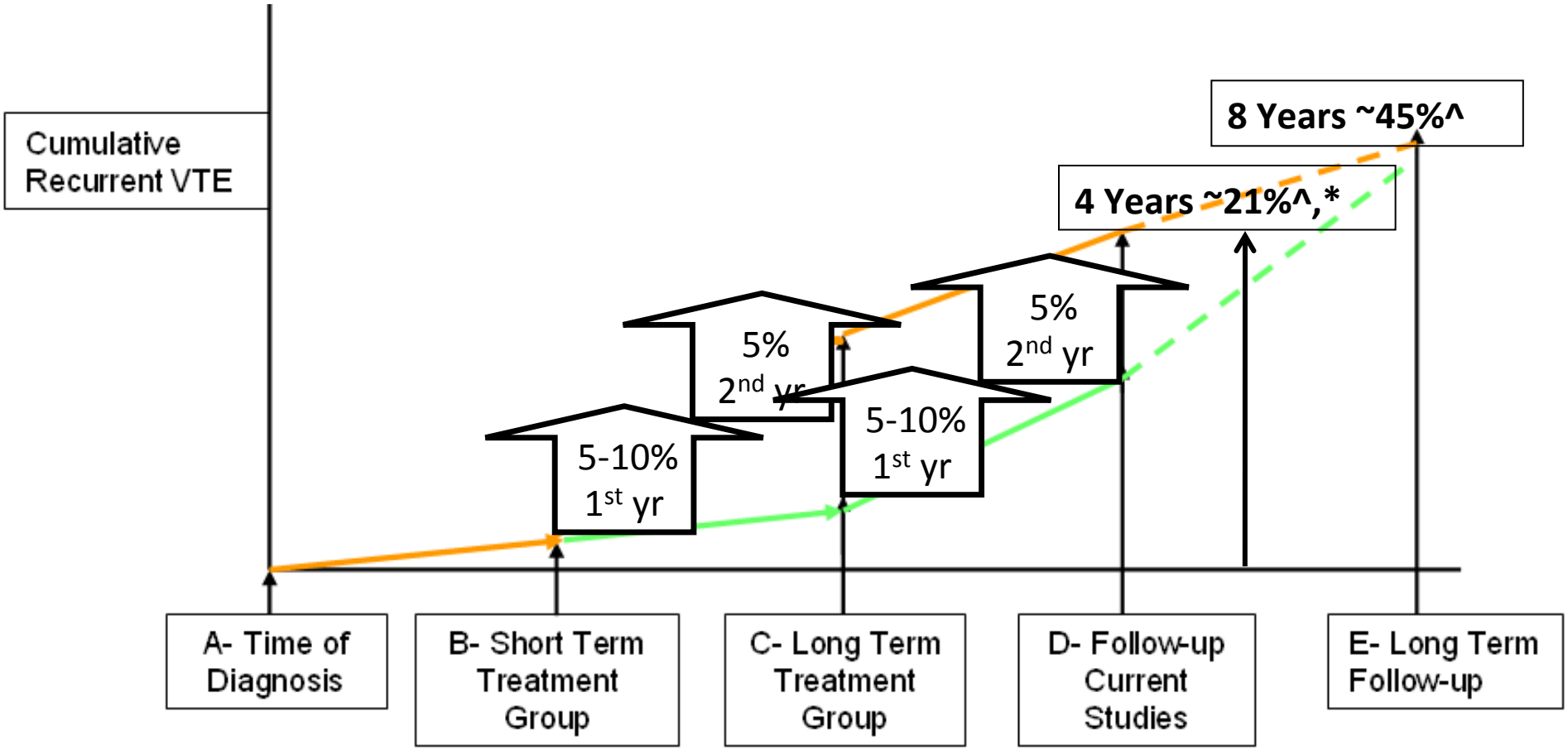
Duration of anticoagulation for unprovoked VTE?

1. One of the most important unanswered questions in clinical management of VTE
   - Short term (3-6 months) or forever
   - ACCP guidelines increasingly suggests longer term
     - Unless high bleeding risk (but don't tell us how to determine bleeding risk)
     - Not universally accepted

2. Clinicians/Patients
   - Balance 0.9-2.0% per year risk of major bleed with VKA, lifestyle (diet, monitoring, costs etc)

Oral anticoagulants are very effective at preventing recurrent VTE (>90% relative risk reduction) in "unprovoked" VTE…

while on therapy



^Prandoni, Haematologica 92(2):199-205, 2007; * Rodger, ISTH, 2011

Balancing Risks…

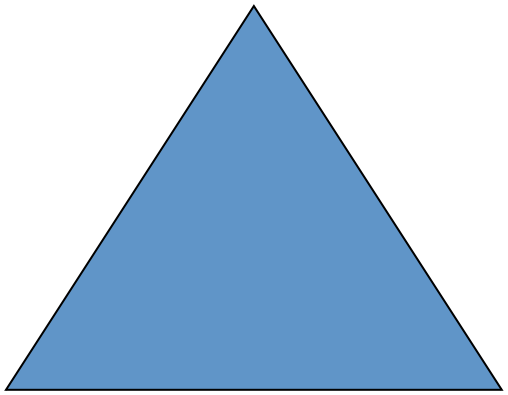
Major

Major Bleed events are 3x more likely to

Decision ambiguous if long-term risk of recurrent VTE between 2.5-6.5% per year

95% CI 1.9-5.7)

CI 7.5-15.9)



Carrier M et al, Ann Int Med, 2010: 152(9):578-89.

Single predictors that are not good enough to identify low risk group…

1. Normal D-Dimer off of anticoagulants

   - 3.6% per year
   - ~2 years follow-up

   Verhovsek, M., Ann Intern Med 2008;149:481-490

2. Normal Compression Ultrasound at completion of therapy

   - ~6% per year
   - ~1 year follow-up

   Donadini, M., Thrombosis Hemostaisis 2013;109:34-8

Clinical predictive rules – **"Men Continue and HERDOO2"**

- **Men continue** anticoagulants
  -13.9% annual risk of recurrent VTE
- Women with ≤ 1 point discontinue anticoagulants
  -1.6% annual risk of recurrent VTE
- **Women with ≥ 2 points continue** anticoagulants
  -14.1% annual risk of recurrent VTE

HERDOO Predictors

- Hyperpigmentation or Edema or Redness (HER) on exam either leg
- Vidas D-Dimer ≥ 250
- Obesity, BMI ≥ 30
- Older age ≥ 65 years

Rodger M, CMAJ 2008;179(5):417-26

Clinical predictive rules – **"DASH Score"**

DASH Score ≤1

3.1% annual risk of rVTE (95% CI: 2.3-3.9%)

51.6% of study patients

DASH Score =2

6.4% annual risk of rVTE (95% CI: 4.8-7.9%)

DASH Score ≥3

12.3% annual risk of rVTE (95% CI: 9.9-14.7%)

Tosetto A, J Thromb Haemost. 2012;10:1019-25.

***DASH* Predictors**

- Abnormal ***D***-Dimer after stopping anticoagulants=2 points
- ***A***ge < 50 years= 1 point
- Male ***S***ex= 1 point
- ***H***ormone associated index VTE= -2 points

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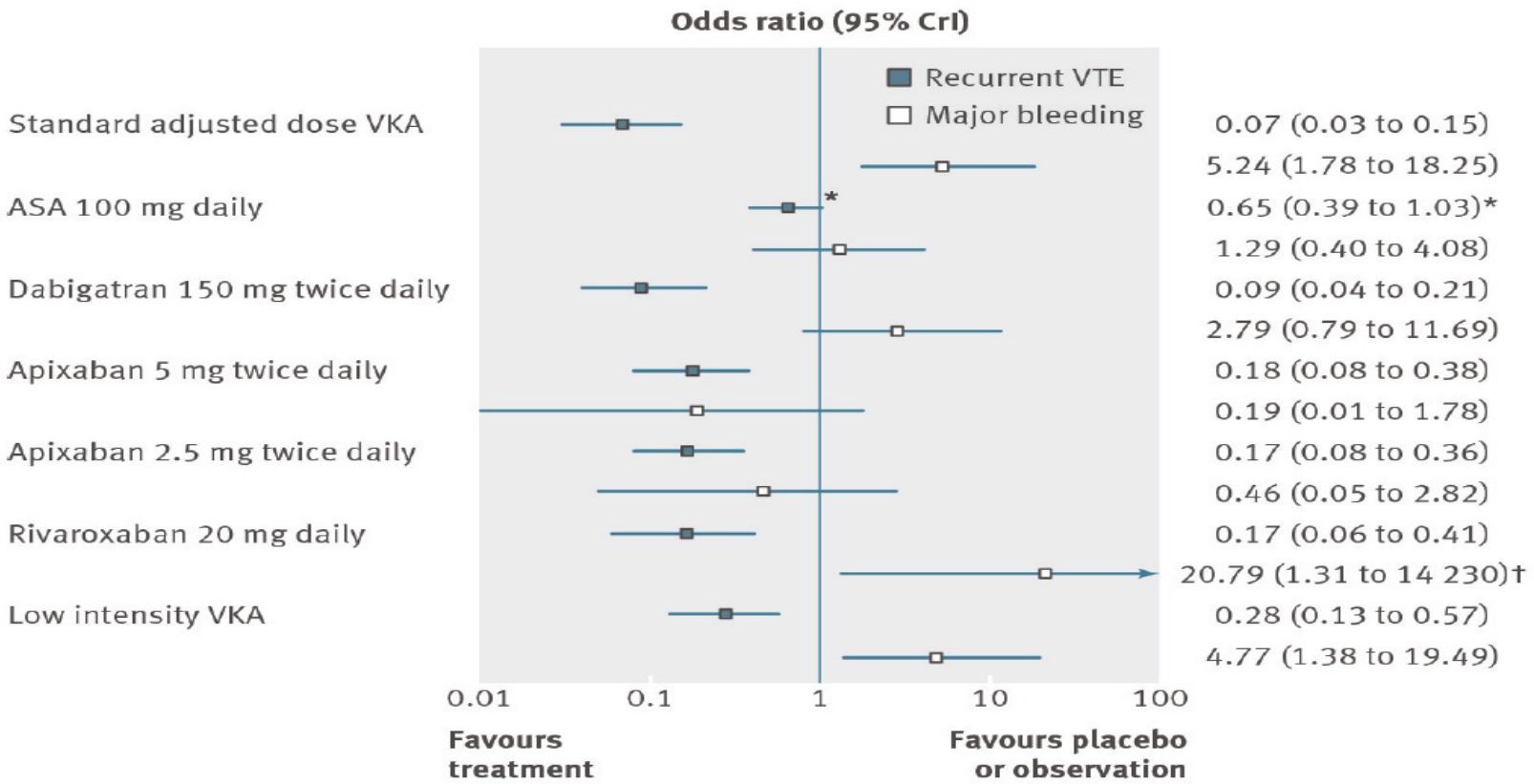
4- Continue anticoagulants an additional 2 years

5- **Continue anticoagulants indefinitely**

Oral anticoagulation (warfarin vs. NOAC) or ASA?



Take Home Messages

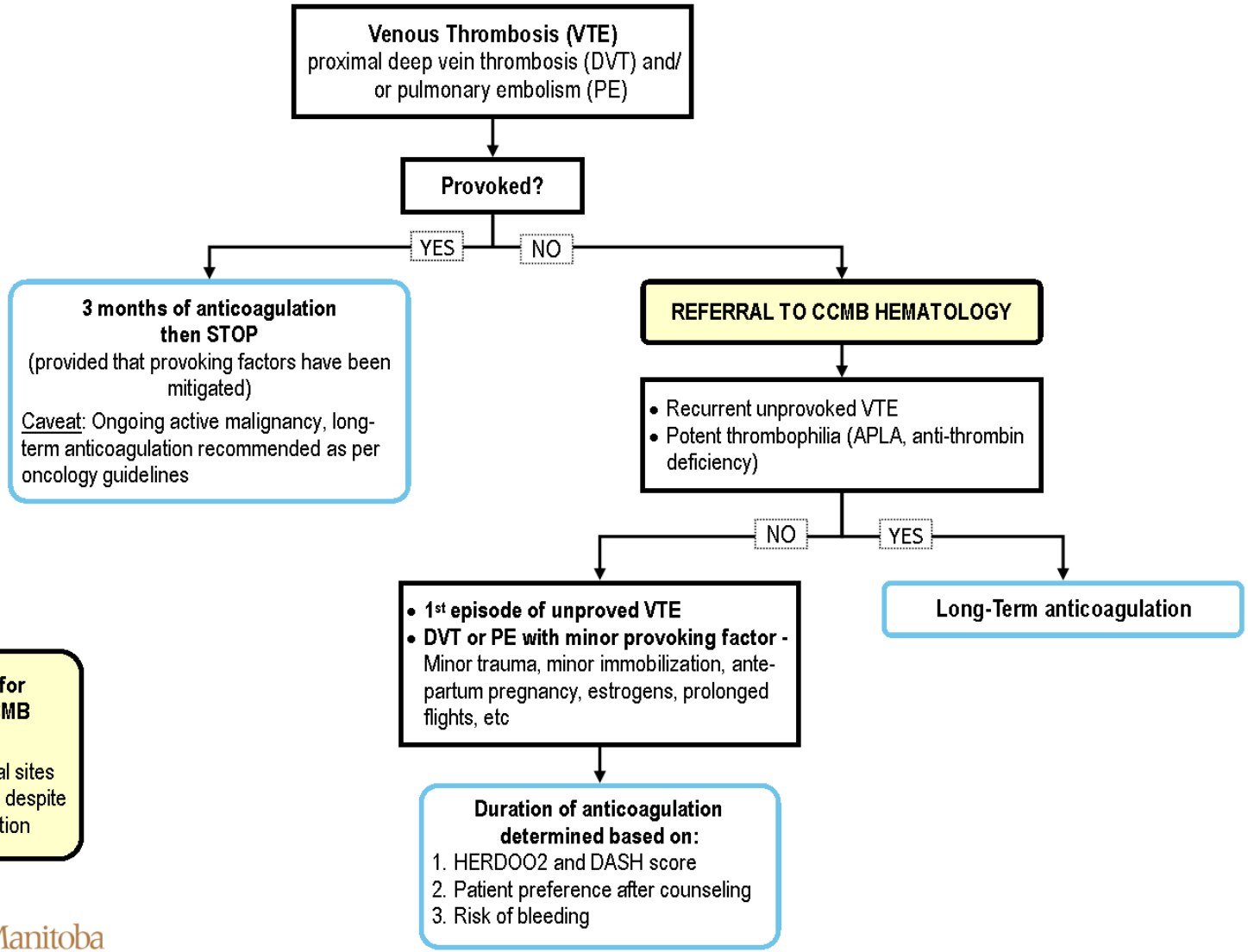
- Predictors that identify patients with long-term risk of <3% annual risk should be used to discontinue anticoagulants

- To risk stratify unprovoked VTE patients
  - Don't use:
    - D-Dimer off anticoagulants alone
    - Residual vein imaging alone
  - Consider:
    - "Men Continue and HERDOO2"
    - DASH Score

Duration of Anticoagulation after DVT/PE

PRACTICE POINTS: Typical Provoking factors➔ • a post operative state or trauma (within 4 weeks) • immobilization >3 days (casting, hospitalization, bed ridden) • active malignancy • peripherally inserted central catheter (PICC) or central venous access device (CVAD)

Risk of major bleeding on anticoagulation ~0.9-2% per year



Other indications for REFERRAL TO CCMB HEMATOLOGY

1. Thrombosis at unusual sites
2. Recurrent thrombosis despite adequate anticoagulation

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Pathways are subject to clinical judgment and actual practice patterns may not always follow the proposed steps in this pathway.

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When to consider referral to hematology

- Unprovoked VTE
- Thrombosis at unusual sites
- Recurrent thrombosis despite adequate anticoagulation

Questions?

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