



DVT Science \ Pseudoscience

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Things I am asked all the time Asked?

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- ETOH

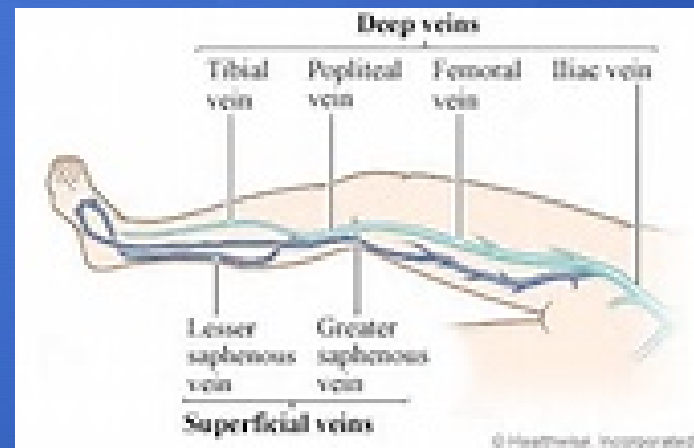
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Is crossing your legs a risk

No Greater Risk
Pseudo-Science



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Dehydration

- American College of Chest Physicians (ACCP)
- "no definitive evidence" that dehydration is linked with an increased risk of DVT.

AIRPLANE FLIGHT

Is there evidence that
airplane flight is dangerous

- Drink Fluids NOPE
- Avoid Coffee and ETOH NOPE
- Don't wear short, tight socks, and try not to cross your legs a lot. You might want to wear compression stockings. They'll help your blood flow and keep swelling down..

Chest guidelines

Commercial Airline Pilots and VTE

- The symptomatic VTE rate within 30 days of a long-haul flight has been estimated to be approximately one in 2 million arriving passengers with a case fatality rate of only 2%.⁷²²
- In another study,⁷²³ the risk of fatal PE associated with air travel > 8 h was 1.3 per million people < 60 years old.

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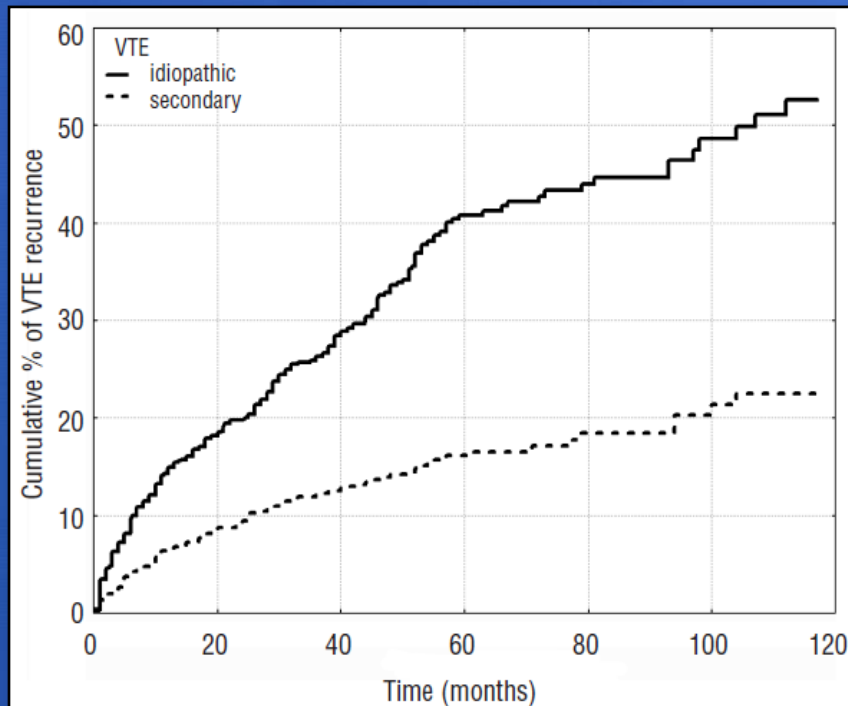
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Role of Prevention of Recurrent VTE

Cumulative Incidence of Recurrent Thromboembolism by VTE Type¹



Study	Intervention	Recurrent VTE
PREVENT ^{2,3}	Warfarin, INR 1.5–2 vs placebo	↓64%
ELATE ⁴	Warfarin, INR 2–3 vs INR 1.5–2	↓63%
AMPLIFY-EXT ⁵	Apixaban vs placebo	↓81%
RE-SONATE ⁶	Dabigatran vs placebo	↓93%
RE-MEDY ⁶	Dabigatran vs warfarin, INR 2–3	No inferior
EINSTEIN-DVT ⁷	Rivaroxaban vs. placebo	↓82%

The figure was obtained from the *Haematologica Journal* website <http://www.haematologica.org>. Reproduced with permission.

1. Prandoni P et al. *Haematologica*. 2007;92:199-205. 2. Goldhaber SZ et al. *Circulation*. 2011;123:664. 3. Ridker PM et al. *N Engl J Med*. 2003;348:1425-1434. 4. Kearon C et al. *N Engl J Med*. 2003;349:631-639. 5. Agnelli G et al; AMPLIFY-EXT Investigators. *N Engl J Med*. 2013;368:699-708. 6. Schulman S et al; RE-MEDY and RE-SONATE Trial Investigators. *N Engl J Med*. 2013; 368:709-718. 7. The EINSTEIN-DVT Investigators. *N Engl J Med*. 2010;363:2499-2510.

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Location Location Location

- Upper Extremity
- Proximal
- Calf clot
- Mesenteric
- Mondor's

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Compression stockings

Sox Trial

- Do they reduce your chance of DVT?
- "Compression stockings must be properly fitted to be effective, can't prevent all clots, and can have side-effects,"
- For instance, they can increase superficial phlebitis (inflammation of the surface veins), lead to blistering and local skin allergies.

Compression Stockings

Pseudo-Science we can live with!

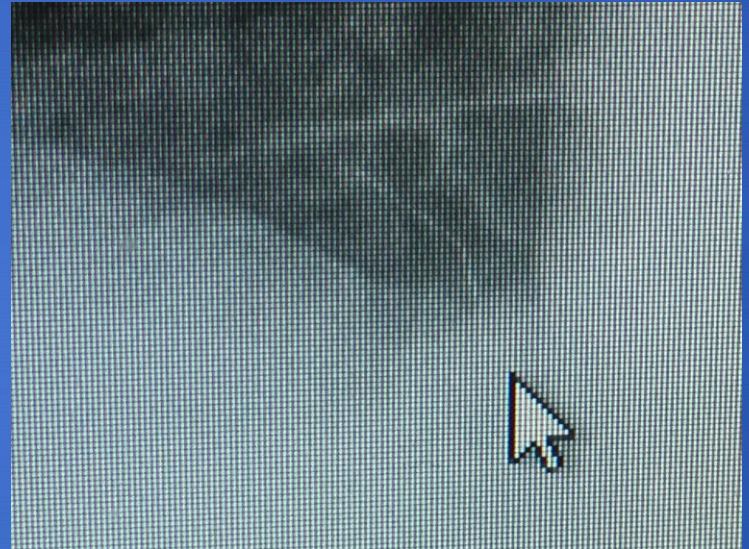
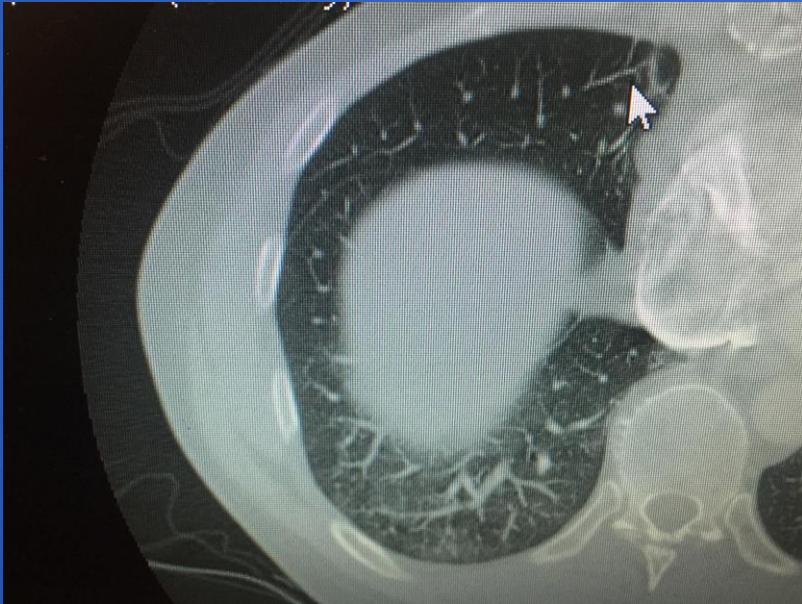
- Clinicians need to realize that despite the ubiquity of compression stockings, the net benefits and risks of this seemingly innocuous intervention remain uncertain,” concludes an editorial that accompanies the study in the **Annals of Internal Medicine.**

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Why don't we just put in a filter ?



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DVT ,Clinical Exam

- Normal 50% to 80% (Venogram proven DVT)

- Abnormal 30% (Normal



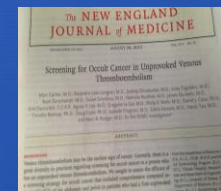
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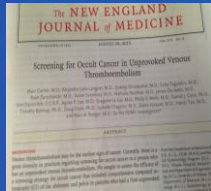
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Screening for Occult Cancer in Unprovoked Venous Thromboembolism

- **Unprovoked venous thromboembolism may be the earliest sign of cancer**
- up to 10% of patients with unprovoked venous thromboembolism receive a diagnosis of cancer in the year after their diagnosis of venous thromboembolism.
- More than 60% of occult cancers are diagnosed shortly after the diagnosis of unprovoked venous thromboembolism.⁶ Thereafter, the incidence rate of cancer diagnosis gradually declines and returns to the rate in the general population after 1 year.⁵⁻⁷





DISCUSSION

- **screening strategy for occult cancer that included comprehensive CT of the abdomen and pelvis did not lead to fewer missed cancers than the number missed with a limited screening strategy.**
- **The screening strategy that included CT did not appear to detect significantly more occult cancers (including early cancers), shorten the time to cancer diagnosis, or reduce cancer-related mortality.**

NJEM Trial

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Thrombophilia

Predisposition to thrombosis.

- May be associated with disease, drug exposure or may be inherited
- Most patients with a a thrombophilia **do not** develop thrombosis
- Thrombophilia must be considered in context of other risk factors for thrombosis and predictors of recurrence



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Chest Guidines

- We recommend against the use of aspirin alone as thromboprophylaxis for any patient group (Grade 1A), and we recommend that mechanical methods of thromboprophylaxis be used primarily for patients at high bleeding risk (Grade 1A) or possibly as an adjunct to anticoagulant thromboprophylaxis (Grade 2A).

Role of aspirin:

- In patients with unprovoked venous thromboembolism (VTE) who stop anticoagulation, aspirin is suggested.

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Obesity

- 30 are more likely than people of normal weight to get a blood clot deep in a
- Extra fat around your belly will also stop blood from moving easily through the deep veins.
- deep vein thrombosis, or DVT.



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Varicose veins



■ 132 out of 2,357 (5.6 %) DVT episodes among patients with VV compared to 728 out of 80,588 (0.9 %) in the patient cohort without VV ($p < 0.0001$).

Strong associations between VV and DVT in a general practice population with documented VV.

Special medical attention is required for patients with VV, a history of previous venous thromboembolism, comorbid malignancy, and recent hospital discharge, particularly those with a combination of these factors.



Are stasis ulcers benign and what is the best antibiotic?



Varicose Veins.

Will I bleed to death?



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H.I.T

Can you ever use heparin again after Heparin antibody has been diagnosed?

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Smoking

large population-based case–control
studies

Smoking is a moderate risk factor for venous thrombosis, which acts synergistically with oral contraceptive use.

Joint effect of smoking with the factor V Leiden mutation or the prothrombin 20210A mutation was also slightly higher than the sum of the separate effects

Smoking

Smoking Cessation Rapidly Increases
Circulating Progenitor Cells in Peripheral
Blood in Chronic Smokers

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Hematologic Changes during Pregnancy

- Maternal plasma volume increases 50%
- RBC increases yet there is a physiologic anemia due to dilution of 15%



Statistics

- Incidence of VTE is estimated at 0.76 to 1.72 per 1000 pregnancies (four times as great as the risk in the non-pregnant population)
- 2/3 of DVT occur in the ante-partum period equally among the three trimesters
- 43 to 60 % of pregnancy related episodes of pulmonary embolism appear to occur in the puerperium

OB-GYN/VTE Facts

- PE is the leading cause of maternal mortality
- 40% of all deaths following gynecologic surgery are directly attributable to PE
- Most patients who succumb to a post-operative PE do so within 2 hours of onset



Prevention is preferred
over treatment

- Skyla – A New IUD, Suitable for Women at Risk for DVT and PE
- Yasmin, Yaz and Other Drospirenone Contraceptives: Risk for VTE

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Is screening Screening for DVT Before Hospital Discharge reasonable?

- Historically, some clinicians have advocated for high-risk orthopedic surgery groups the routine screening for and subsequent treatment of asymptomatic DVT before the thrombus could extend to produce symptomatic DVT or PE.⁴³²
- We do not advocate this approach because it has not been shown to be effective in preventing clinically important VTE.
- Routine screening for asymptomatic DVT using DUS was not show to be sensitive.

Screening DVT

- For patients undergoing TKR, we recommend against the use of any of the following as the only method of thromboprophylaxis: aspirin(Grade 1A), LDUH (Grade 1A), or VFP (Grade 1B).

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Alcohol intake to clots

- ACCP "no definitive evidence" linking alcohol intake to clots it's not a good idea to overdo the alcohol, largely because of its sedative effect.

