



QI TALK TIME

Building an Irish Network of Quality Improvers

hello
my name is...

VTE – tackling an increasing problem during COVID-19

6th Oct 2020

Prof Fionnuala Ní Áinle and Ann Marie O’Neill

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Introductions:

Prof Fionnuala Ní Ainle

is a Consultant Haematologist at the Mater Misericordiae University Hospital and Rotunda Maternity Hospital, Dublin. She is also a Professor in the School of Medicine, UCD. She is Director of the Irish Network for VTE Research and with Prof Patricia Maguire, she co-directs the SPHERE Research Group, UCD Conway Institute.

She is a Member of the World Thrombosis Day International Steering Committee and of the INVENT Council (International Network of VENous Thromboembolism Clinical Research Networks). She is an Associate Director of the Wellcome Trust-HRB Irish Clinical Academic Training (ICAT) Programme. Prof Ní Áinle is privileged to treat patients affected with thrombosis and has a strong interest in women's issues in thrombosis and haemostasis.

Ann Marie O'Neill

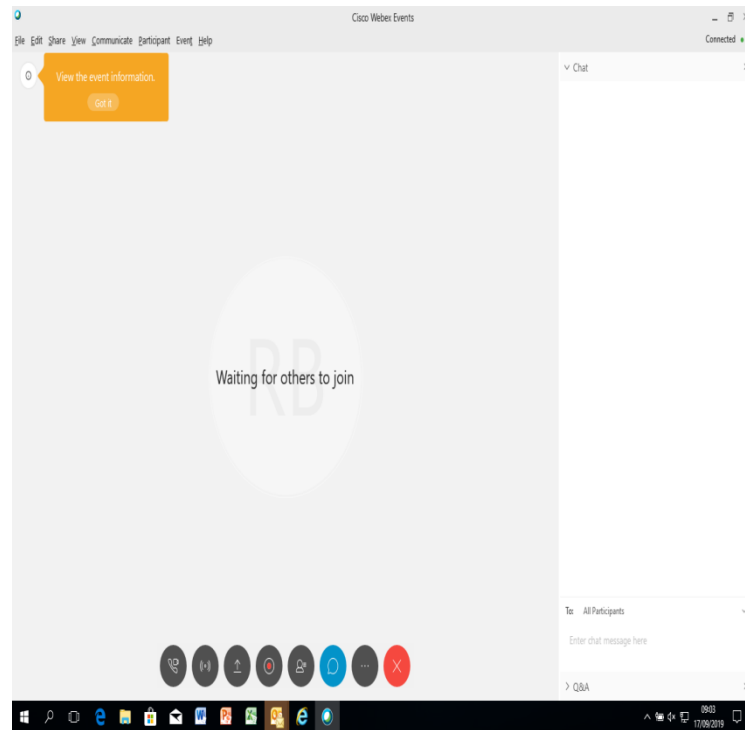
is a Thrombosis Patient and founder of Thrombosis Ireland. She is determined that every household will know Thrombosis Risks, signs and the need to get medical attention fast if you suspect a clot. Her mission is to see both a mandatory VTE Risk Assessment in our hospitals and Statistics for VTE made available to all.



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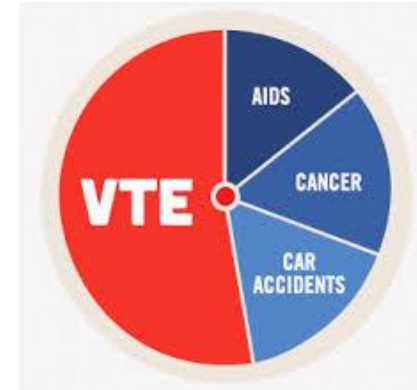
Housekeeping

- Sound: Computer or dial in:
Telephone no: 01-5260058
Event number: 137 162 5050#
- Chat box function
 - Comments/Ideas
 - Keep the questions coming
- **Twitter: @QITalktime/
#QITalktime**
- **Recording**



VTE: deep vein thrombosis (DVT) & Pulmonary embolism (PE)

- Affects millions of individuals worldwide every year (1)
- Over 350,000 people annually die as a result in 6 European countries (2)
- **TOP CAUSE OF DIRECT MATERNAL DEATH IN UK & IRELAND (3)**



VTE is responsible for more deaths than AIDS, breast cancer, prostate cancer and motor vehicle accidents combined (2)

(1) ISTH Steering Committee for World Thrombosis Day. J Thromb Haemost, 2014. **12**(10): p. 1580-90

(2) Cohen, A.T., et al., Thromb Haemost, 2007. **98**(4): p. 756-64

(3) Knight M, et al (Eds.) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers' Care - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2013–15. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2017.



VTE causes long term morbidity

- 400,000 individuals in Europe every year (1)
 - Chronic thromboembolic pulmonary hypertension (CTEPH)
 - Post-thrombotic syndrome
 - Economic burden (2)
 - PTS markedly reduces **DVT patients' QOL similar to COPD and arthritis** (3)



- (1) Cohen, A.T., et al., Thromb Haemost, 2007. **98**(4): p. 756-64
(2) Ashrani et al, Journal of Thrombosis and Thrombolysis 2009
(3) Nayak et al, [Semin Intervent Radiol](#). 2012 Mar; 29(1): 16–22.

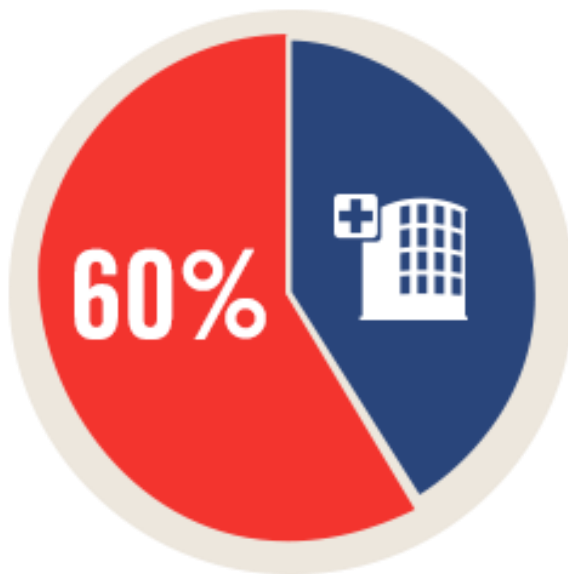
Hospital Acquired Thrombosis (HAT)

- Any VTE that occurs during a hospital admission
- Or
- Within 90 days of discharge



Hospital-acquired thrombosis

- At least ~50-60% related to hospital admissions
- Leading preventable cause of hospital death



Why not simply implement universal thromboprophylaxis?

- American College of Chest Physicians Systematic review 2011
- Thromboprophylaxis reduced PE in hospitalized medical patients,
- But did so at the expense of increased risk of major hemorrhage

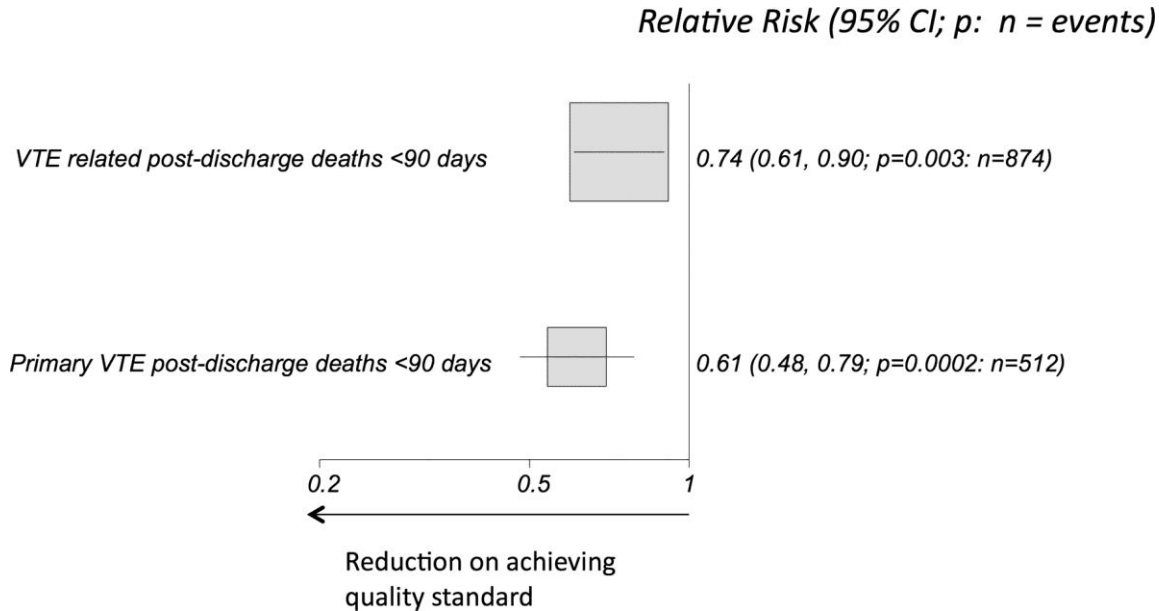
No effect on overall mortality



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VTE risk assessment and appropriate thromboprophylaxis can reduce VTE-related death



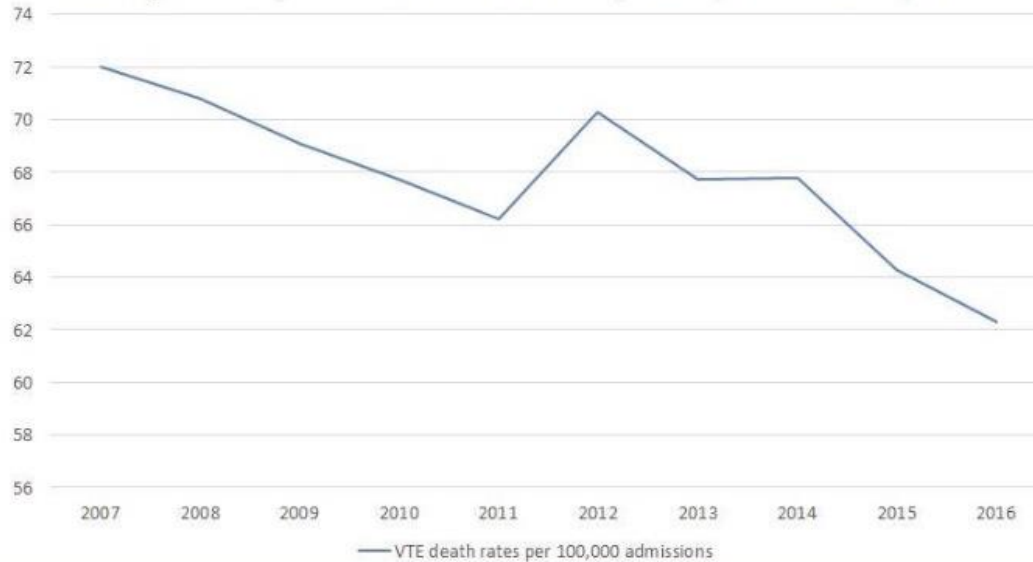
Lester et al. Heart 2013;99:1734-1739



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Deaths from VTE related events within 90 days post discharge from hospital (NHS Outcomes Framework Indicator 5.1) Rate per 100,000 adult admissions, 2007/08 to 2016/2017



BMJ Open Venous thromboembolism incidence in the Ireland east hospital group: a retrospective 22-month observational study

Barry Kevane,^{1,2} Mary Day,² Noirin Bannon,² Leo Lawler,^{2,3} Tomas Breslin,^{2,4} Claire Andrews,^{1,2} Howard Johnson,^{2,5} Michael Fitzpatrick,² Karen Murphy,^{2,6} Olivia Mason,⁷ Annemarie O'Neill,^{2,8} Fionnuala Donohue,⁵ Fionnuala Ní Áinle^{1,2,9}

- 2727 VTE events during 22 months
- Incidence: 1.44 (95% CI 1.36 to 1.51) per 1000 per annum.
- 1273 (47%) of VTE events were recorded as secondary VTE.
- Highest incidence in people > 85 years of age
 - 16.03 per 1000; 95% CI 12.81 to 19.26

HSE Key Performance Indicator Metadata 2020 (Acute Hospitals)

Metadata 2020

No	Steps	Detail supporting KPI
1	KPI title & Number A112	Rate of venous thromboembolism (VTE, blood clots) associated with hospitalisation
1b	KPI Short Title	VTE associated with hospitalisation
2	KPI Description	Rate of VTE occurring during hospitalisation or resulting in emergency readmission to the same hospital within 90 days of discharge in adult in-patients with a length of stay greater than 1 day, per 1000 discharges
6	Data Sources	HIPE
6a	Data sign off	HPO
13	KPI report period	Monthly 5 months in arrears M - 5 mths Jan data reported in July
15	KPI is reported in which reports?	Performance Report/Profile and VTE trend Report

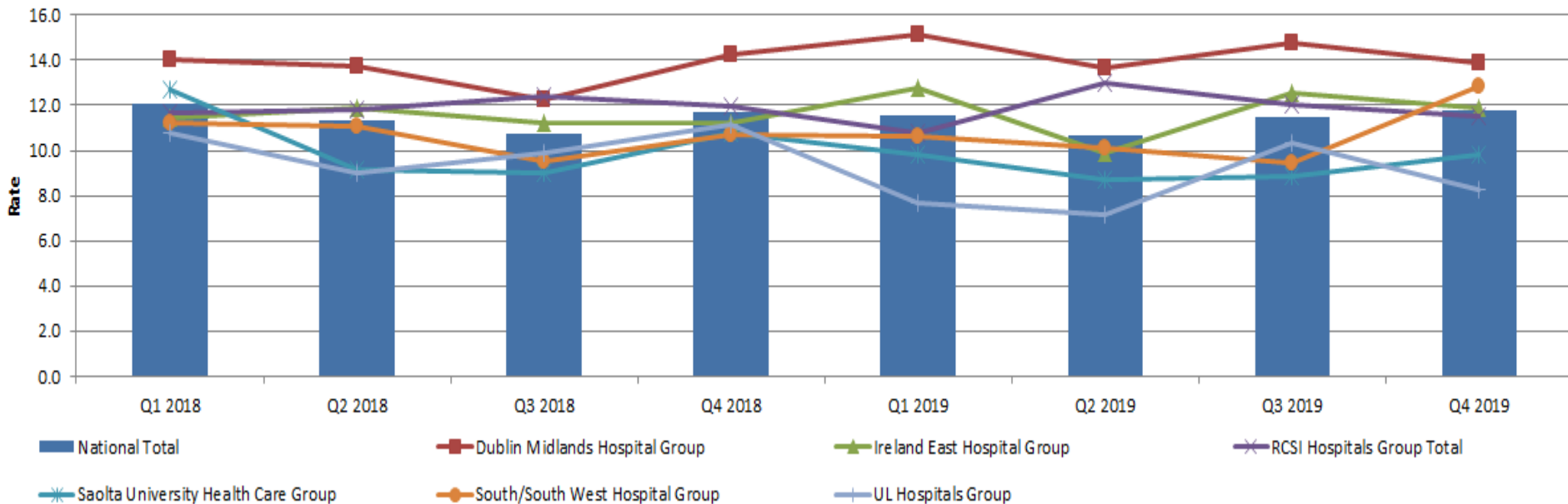
<https://www.hse.ie/eng/services/publications/kpis/2020-acute-hospitals-metadata.pdf>

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A112) Rate of venous thromboembolism (VTE, blood clots) associated with hospitalisation

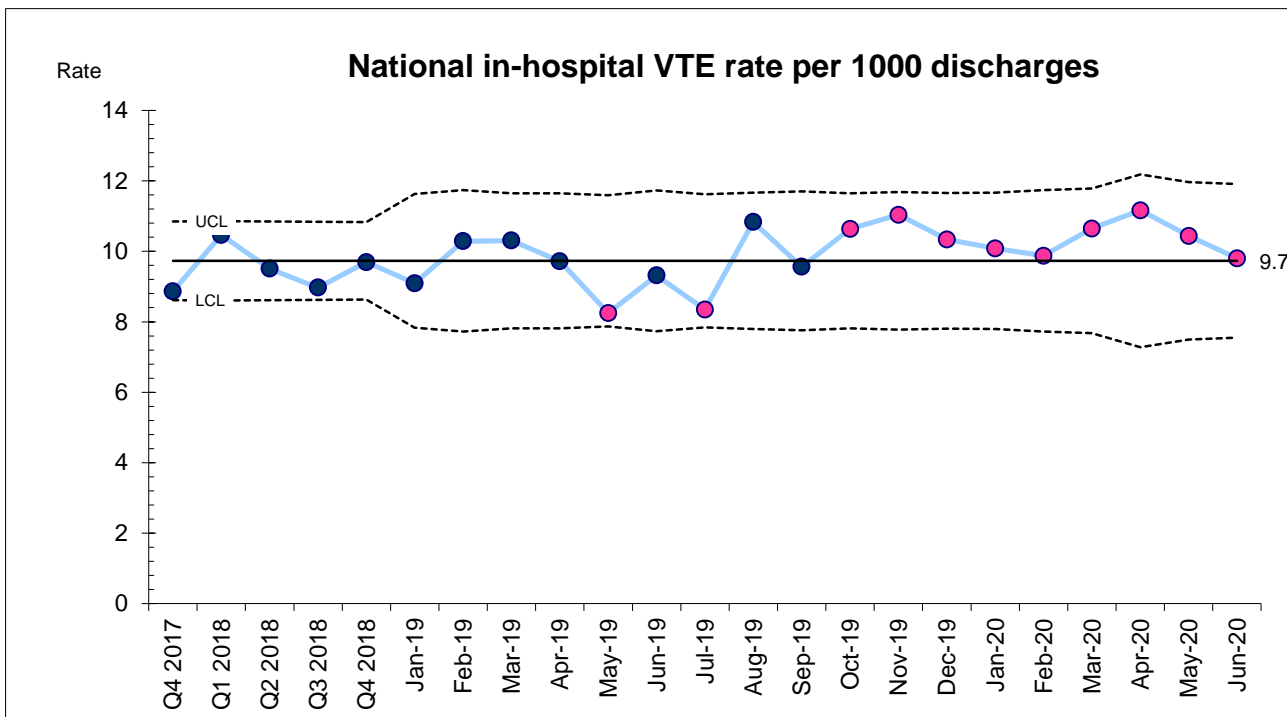
National Total and Group Performance

Chart 1 Rate of hospital-acquired venous thromboembolism (VTE, blood clots) - secondary and primary diagnosis



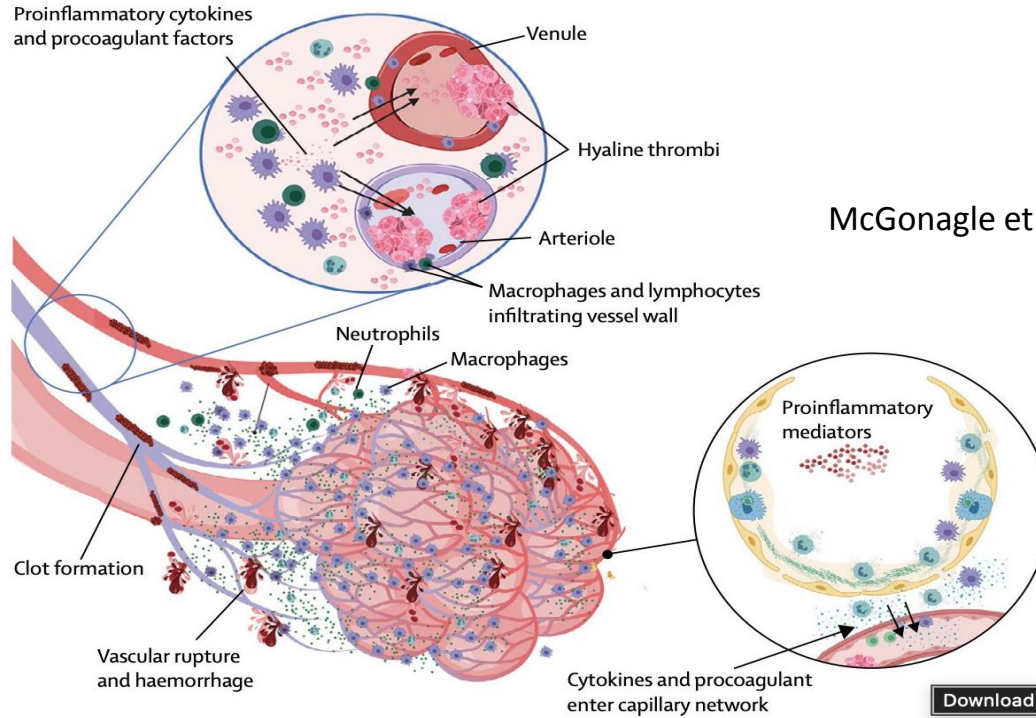
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In-patient VTE rate Oct 2019



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Immunothrombosis in COVID-19

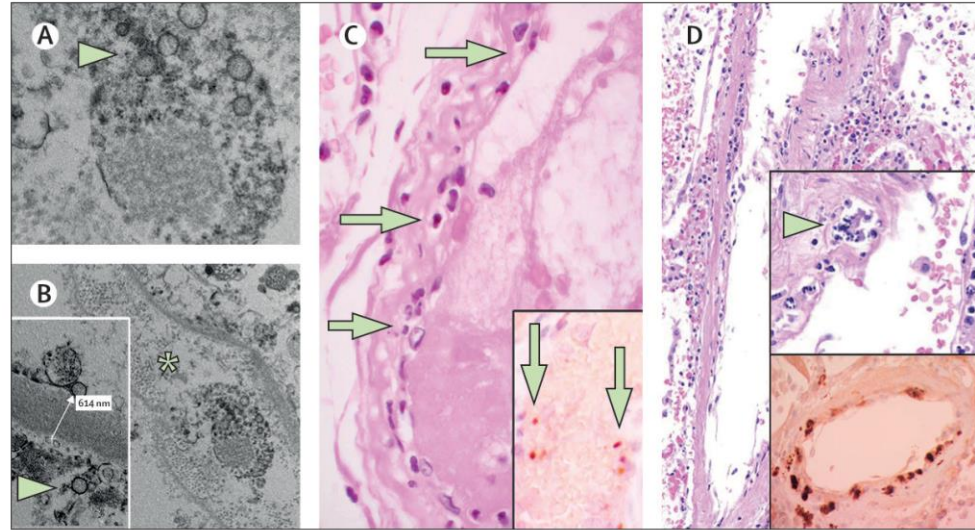


McGonagle et al, Lancet Rheumatol 2020

Endothelial activation/endothelitis

Endothelial cell infection and endotheliitis in COVID-19

Cardiovascular complications are rapidly emerging as a key threat in coronavirus disease 2019 (COVID-19) in addition to respiratory disease. The mechanisms underlying the disproportionate effect of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection on patients with cardiovascular comorbid-



↑ Von Willebrand Factor
↑ Factor VIII

www.thelancet.com Published online April 17, 2020 [https://doi.org/10.1016/S0140-6736\(20\)30937-5](https://doi.org/10.1016/S0140-6736(20)30937-5)



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HSE Covid Interim Clinical Guidance

- <https://hse.drsteevenslibrary.ie/Covid19V2>
- Or Google HSE Covid Repository and search VTE
- [Interim guidance VTE prevention in people with COVID19 in community or residential settings](#)
- [COVID-19 Interim Clinical Guidance - VTE protocol and patient information for acute hospitals \(CD-120 V1 / 21.04.20\)](#)

VTE Prophylaxis Protocol

for In-Patients aged 16 or Over with COVID-19 or Medical Conditions

Assess all patients as soon as possible (within 14 hours) after the decision to admit. Reassess at consultant review and if clinical condition changes.

Step 1: VTE risk assessment: VTE risk factors		Padua score	VTE risk factors continued	Padua score
Confirmed COVID-19			At risk, proceed to step 2	
Presumed COVID-19			At risk, proceed to step 2. Assess according to Padua Prediction Score (below) if not COVID-19	
Immobility expected for at least 3 days (confined to bed +/- bathroom)	3		Significant heart, metabolic, endocrine, respiratory disease	1
Active cancer or treatment (chemo-or radiotherapy within 6 months or metastases)	3		Acute infection or Acute or chronic inflammatory disorder	1
Previous DVT/PE	3		Ischaemic stroke or Acute MI	1
Thrombophilia	3		Aged 70 or over	1
Taking oestrogen-containing contraceptive or HRT	1		Surgery in previous 30 days	2
BMI 30 or greater (obese)	1		Pregnant or up to 6 weeks post-partum*	4*
<p>Patients with COVID-19: all patients are at risk of VTE; proceed to step 2.</p> <p>Medical patients: Padua Prediction Score 4 or greater = at risk of VTE; proceed to step 2.</p> <p>Padua Prediction Score 3 or less = at low risk of VTE; no prophylaxis required.</p> <p>*Pregnant or post-partum: Medical admission = at risk of VTE. Maternity = follow maternity guidance.</p>				

VTE Prophylaxis Protocol for In-Patients aged 16 or Over with COVID-19 or Medical Conditions

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Step 2: Bleeding risk assessment	
Active bleeding	On anticoagulant at therapeutic levels/dose, e.g. warfarin, dabigtran, rivaroxaban, edoxaban, apixaban, heparin, enoxaparin, tinzaparin. No additional prophylaxis except while anticoagulant held
Platelets less than $30 \times 10^9/L$ in COVID-19 Platelets less than $50 \times 10^9/L$ in other medical patients	
Bleeding disorder, e.g. haemophilia, Von Willebrand's	Heparin-Induced Thrombocytopenia (HIT) history: Consult haematology/pharmacy
Acquired bleeding disorder e.g. liver failure with PT over 15	Undergoing procedure with high bleeding risk, e.g. neurosurgery, eye surgery
Acute stroke (discuss with stroke team)	Epidural, spinal or lumbar puncture in last 4 hours or expected in next 12 hrs
Blood pressure 230 systolic or 120 diastolic or greater	
Other bleeding risk: if VTE risk outweighs bleeding risk, consider pharmacological prophylaxis. If bleeding risk outweighs VTE risk, consider mechanical VTE prophylaxis	
Any risk factor above = contra-indication (C/I) to low molecular weight heparin (LMWH) or heparin	



VTE Prophylaxis Protocol for In-Patients aged 16 or Over with COVID-19 or Medical Conditions

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Step 3: Recommended prophylaxis				
All patients		Adequate hydration, early mobilisation		
Pharmacological prophylaxis	Weight 50-100 kg and GFR over 30 mL/min	Weight 101-150 kg	Weight less than 50 kg	GFR less than 30 mL/min
High-risk: COVID-19 or Medical patient with Padua score 4 or greater And no C/I to heparins	Tinzaparin 4500 units or enoxaparin 40 mg once daily	Tinzaparin 4500 units bd or enoxaparin 40 mg bd	Tinzaparin 3500 units or enoxaparin 20mg once daily	Heparin 5000 units twice daily or Tinzaparin 3500 units daily (caution) or Enoxaparin 20 mg daily (C/I in GFR less than 15 mL/min)
Mechanical prophylaxis				
COVID-19 patient or Medical patient with Padua score 4 or greater With contra-indication to heparins	Anti-embolism stockings* +/- intermittent pneumatic compression devices (IPCD)/ foot pumps * Do not use in suspected or proven peripheral arterial disease, severe dermatitis, massive leg oedema, leg deformity preventing correct fit, peripheral neuropathy, recent skin graft, allergy to fabric or acute stroke. Use caution and clinical judgement if applying stockings over venous ulcers or wounds. Use IPCD if available, particularly in COVID-19 or acute stroke.			
COVID-19 patient	Consider IPCD in addition to low molecular weight heparin in patients with COVID-19 considered to be at high risk of VTE, if IPCD available.			
Low-risk medical (score 3 or lower)	No heparin or low molecular weight heparin Medical patients: no mechanical compression unless patient is high-risk with contra-indication to heparins			
Duration: local decision; e.g. until low-risk or until discharged. May consider case-by-case prolonged prophylaxis.				



VTE Prophylaxis Protocol for In-Patients aged 16 or Over with COVID-19 or Medical Conditions

Assess all patients as soon as possible (within 14 hours) after the decision to admit. Reassess at consultant review and if clinical condition changes.

Step 4: Inform the patient about the signs and symptoms of VTE. Prescribe appropriate prophylaxis.

Step 5: As part of the discharge plan, give patients (and family members/carers if appropriate) verbal information and the patient alert card. Give those discharged with prophylaxis information about its how to use it effectively and safely and notify their GP.

Community and residential care settings

- In people in the community or in residential care settings
 - VTE prophylaxis is not routinely recommended for people who do not have COVID-19.
 - The risk of VTE is not known to be raised in people with mild COVID-19. VTE prophylaxis is not recommended for people who have asymptomatic or mild COVID-19.
 - People with moderate or severe COVID-19 in the community or in residential settings who are transferred to hospital should be risk assessed and receive prophylaxis in hospital.
 - Pending the emergence of further evidence and on an interim basis, VTE prophylaxis may be considered in people with significant functional decline from baseline due to COVID-19 who are remaining in a residential setting. The senior clinical decision maker (in most cases the person's GP) may consider whether prophylaxis is appropriate on an individual basis, having regard for the resident's treatment goals and care plan, and the balance of potential benefits and bleeding risks.



HSE/Thrombosis Ireland VTE alert card


For more information:
www.thrombosisireland.ie

BLOOD CLOT ALERT CARD

WHAT IS A BLOOD CLOT?

This is the formation of a clot inside a blood vessel, usually in the leg, which may break off and go to the lungs. This can be fatal.

60% of clots happen in **HOSPITAL** or in the **90 DAYS** following admission. 

 Blood clots can be very serious - but there are effective treatments to deal with them and help prevent them

SIGNS AND SYMPTOMS OF A BLOOD CLOT

- Swelling or pain in one leg or calf
- Warmth or redness in the leg
- Short of breath or rapid breathing
- Chest pain (particularly when breathing deeply)
- Coughing or coughing up blood

If you have one or more of these, you may have a clot and need urgent treatment

 **THROMBOSIS** IRL CSN: 20154240



Seirbhís Sláinte
Níos Fearr
á Forbairt

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Service

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Thrombosis Ireland VTE alert card

BLOOD CLOT ALERT CARD

BLOOD CLOTS - am I at risk?

WHAT CAN I DO TO HELP MYSELF?

- Ask for your risk of blood clots to be assessed especially if you are in the higher risk group listed opposite
- Walk and move as much as possible
- Drink plenty of fluids
- If directed to use stockings or medication to prevent or treat a clot follow instructions exactly
- Remember, a clot can form up to 90 days after being in hospital
- If you have any signs or symptoms of a clot, take **immediate action** to seek medical help

You have a HIGHER CHANCE of getting a clot in **HOSPITAL**   Than on an **AEROPLANE!**

YOU MAY BE AT HIGHER RISK IF YOU:

- are admitted to hospital and for 90 days after you go home
- have active cancer or receiving cancer treatment
- are pregnant or have had a baby less than 6 weeks ago
- become immobile (more than 3 days in bed / travel non-stop more than 6 hours / in a leg cast)

RISK MAY INCREASE FURTHER IF:

- you or a close relative had a blood clot
- you have surgery in the last 90 days
- you have thrombophilia (tendency to clot)
- you are on the oral contraceptive pill or HRT
- you have heart, lung or inflammatory disease
- you are over 60 years of age or are overweight
- you have varicose veins that become red and sore

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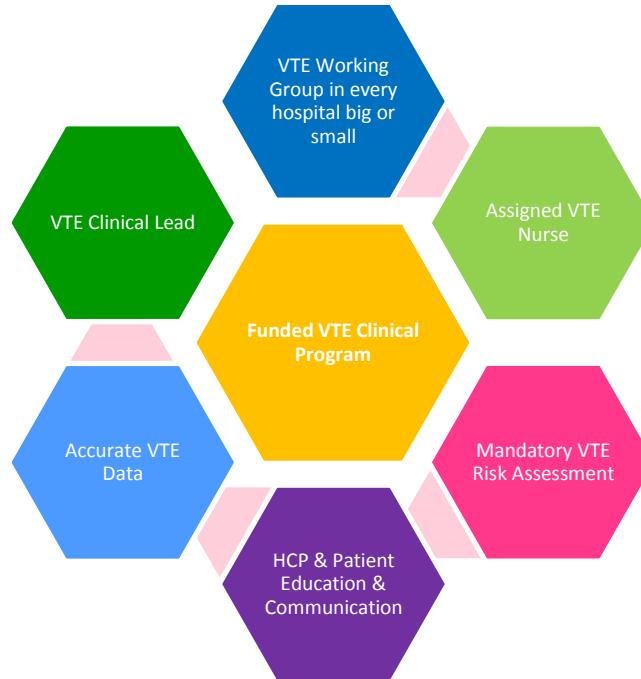
Your Patient's trust you are providing the best available VTE Risk Assessment, prevention, diagnosis, treatment & recovery pathway



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How to achieve this.....together?



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The Alternative is unacceptable PREVENTABLE DEATH!



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SPOT THE SIGNS-SAVE A LIFE



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Improving VTE prevention

- Road well travelled, learn from what we learned!
- www.safermeds.ie
- Report, recommendations, toolkit, measurements from quality improvement collaborative
- Alert cards from safermeds@hse.ie (hospitals have a large supply already)



Key learnings

- What works: Protocol + prompts/alerts + independent checks + education/info for staff and patients
- Improvement team, measurement of appropriate prophylaxis 24 hours into admission, governance – agenda item on committee



QUESTIONS AND FEEDBACK?





Missed a webinar – Don't worry you can watch recorded webinars on HSEQID QITalktime page

Dates of QITalktime 2020	Topic	Speakers
Tues 20 th Oct	Global Health - QI during COVID 19 Pandemic	Dr. David Weakliam Global Health Programme Director, HSE
Tues 3 rd Nov	Managing Open Disclosure during COVID 19	Angela Tysall Lead in Open Disclosure for the HSE
Tues 17 th Nov	Stop watch Early warning Tool	Sandra O'Reilly, Quality and Practice Nurse in Cheeverstown
Tues 1 st Dec	Importance of stories / what makes an effective team during COVID	Dr. Aoife De Brun & Dr. John Fitzsimons (UCD Health Systems) & (National QI Team)

Thank you from all the team @QITalktime

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