



**“The patient voice in collaborative academic research”
Prof Fionnuala Ní Áinle and Ms Annmarie O’Neill**

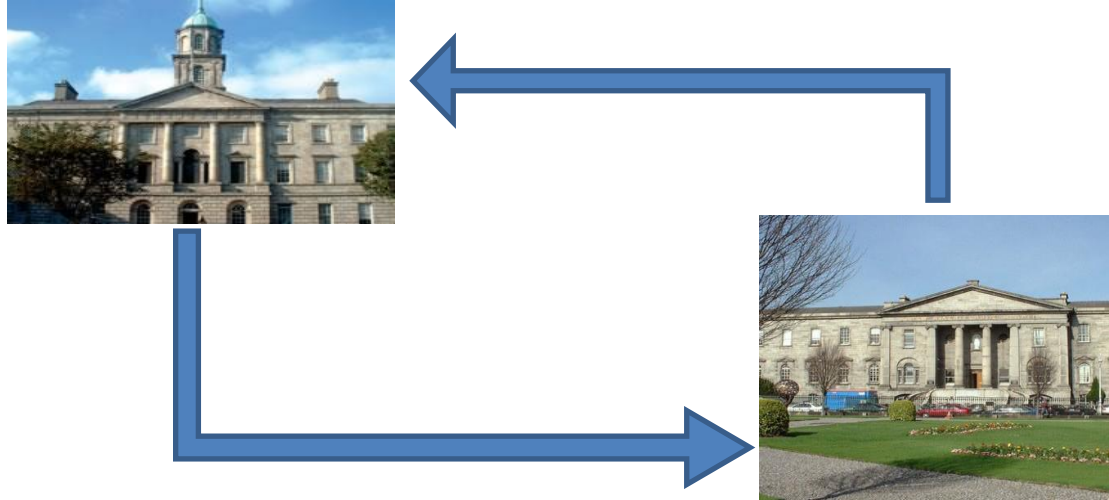


**@fniainle
@Thrombosisirl**



The patient voice in collaborative research

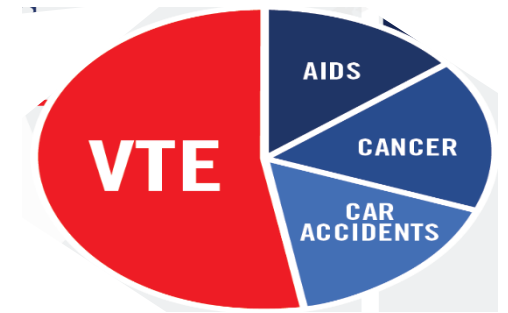
- Mater and Rotunda Hospitals, Dublin



- Thrombosis Ireland
- UCD Conway SPHERE Research Group
- VTE Ireland
- Ireland East Hospital Group VTE Committee
- Irish Network for VTE Research
- World Thrombosis Day Scientific Committee

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

- Affects millions of individuals worldwide every year (1)
- One death every 37 seconds in the western world(2)
- **TOP CAUSE OF DIRECT MATERNAL DEATH IN UK & IRELAND (3)**
- **Affects >5000 people every year in Ireland**
- **VTE is responsible for more deaths than HIV, 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.

Overview

1. Journey from PhD to independent Principal Investigator
2. UCD Conway SPHERE Research Group
3. The Irish Network for VTE Research
4. The patient voice: VTE in pregnancy
5. The journey to VTE awareness in Ireland



Illustration by Renata Donciu



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Molecular Medicine Ireland Clinician Scientist PhD Fellowship Programme: Modulation of Activated Protein C (APC) anticoagulant and cytoprotective function

jbc THE JOURNAL OF
BIOLOGICAL CHEMISTRY

0, January 14, 2011
Printed in the U.S.A.

Activated Protein C N-Linked Glycans Modulate Cytoprotective Signaling Function on Endothelial Cells*[§]

Received for publication, July 2, 2010, and in revised form, October 22, 2010. Published, JBC Papers in Press, November 2, 2010, DOI 10.1074/jbc.M110.159475

Fionnuala Ní Áinle^{†1}, James S. O'Donnell^{†§1,2}, Jennifer A. Johnson[‡], Laura Brown[‡], Eimear M. Gleeson[‡],
Owen P. Smith[¶], and Roger J. S. Preston[‡]

From the [†]Haemostasis Research Group, Institute of Molecular Medicine, Trinity College Dublin, Dublin 2, the [§]National Centre for Hereditary Coagulation Disorders, St. James's Hospital, James Street, Dublin 8, and the [¶]Department of Haematology, Our Lady's Children's Hospital, Crumlin, Dublin 12, Ireland



blood[®]

2009 114: 1658-1665

doi:10.1182/blood-2009-05-222109 originally published
online June 16, 2009

Protamine sulfate down-regulates thrombin generation by inhibiting factor V activation

Fionnuala Ni Ainle, Roger J. S. Preston, P. Vincent Jenkins, Hendrik J. Nel, Jennifer A. Johnson,
Owen P. Smith, Barry White, Padraic G. Fallon and James S. O'Donnell







2013: PI
HRB €327K

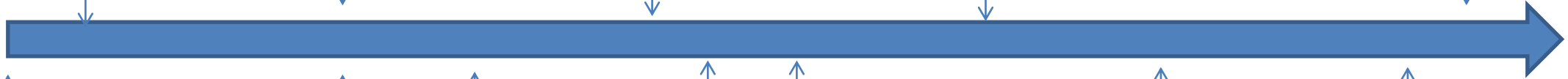
2014: Co-PI
IRC €72K

2015
€90K



2016
€180,000

2019: EI feasibility award



2013 €55K



2015:
PI, SFI TIDA
€128K



2014:PI
Leo Pharma
€13.5 K

2015 PI
Leo Pharm
€31K



2018: PI
SFI TIDA
€130K



2012 Co-PI
€195,375



2015: PI
HRB KEDS
€32K

2017: PI
HRB DIFA
€658K

PI HRB KEDS
€60K



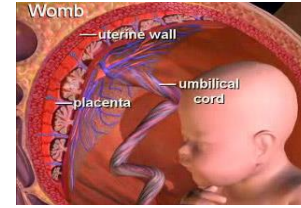
Overview

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 - FIRST “BIG BREAK”: HRB Health Research Award
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Preeclampsia

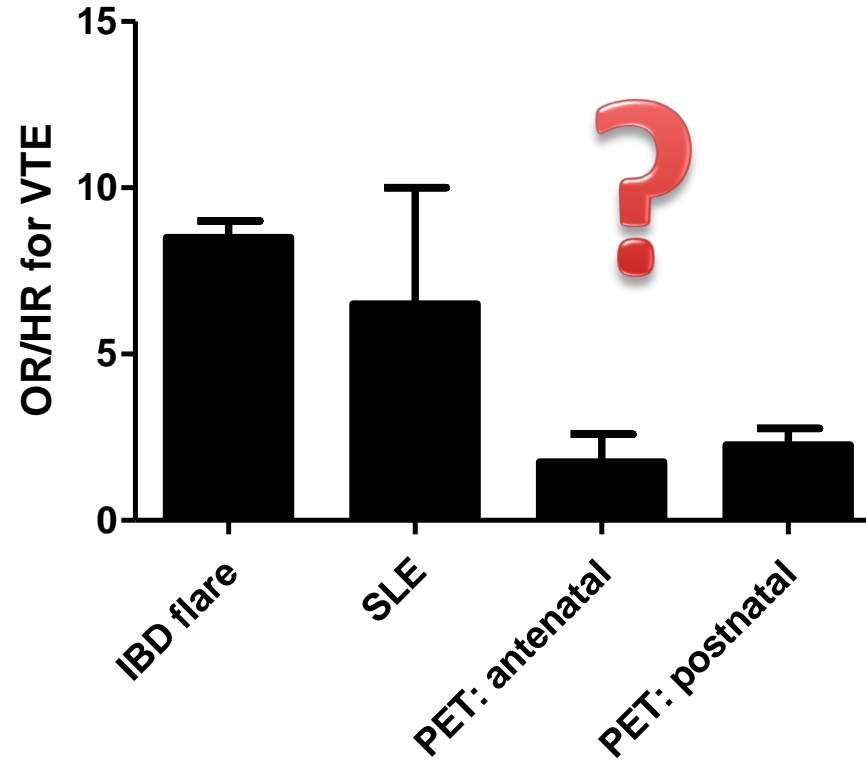
- Inspired by a patient story (MC)
- A multisystem disorder of pregnancy
- Characterized by:
 - Maternal hypertension and proteinuria
 - Developing after 20/40 gestation
 - **Platelet activation**
 - **Thrombosis risk**



Challenges in reducing VTE risk in preeclampsia

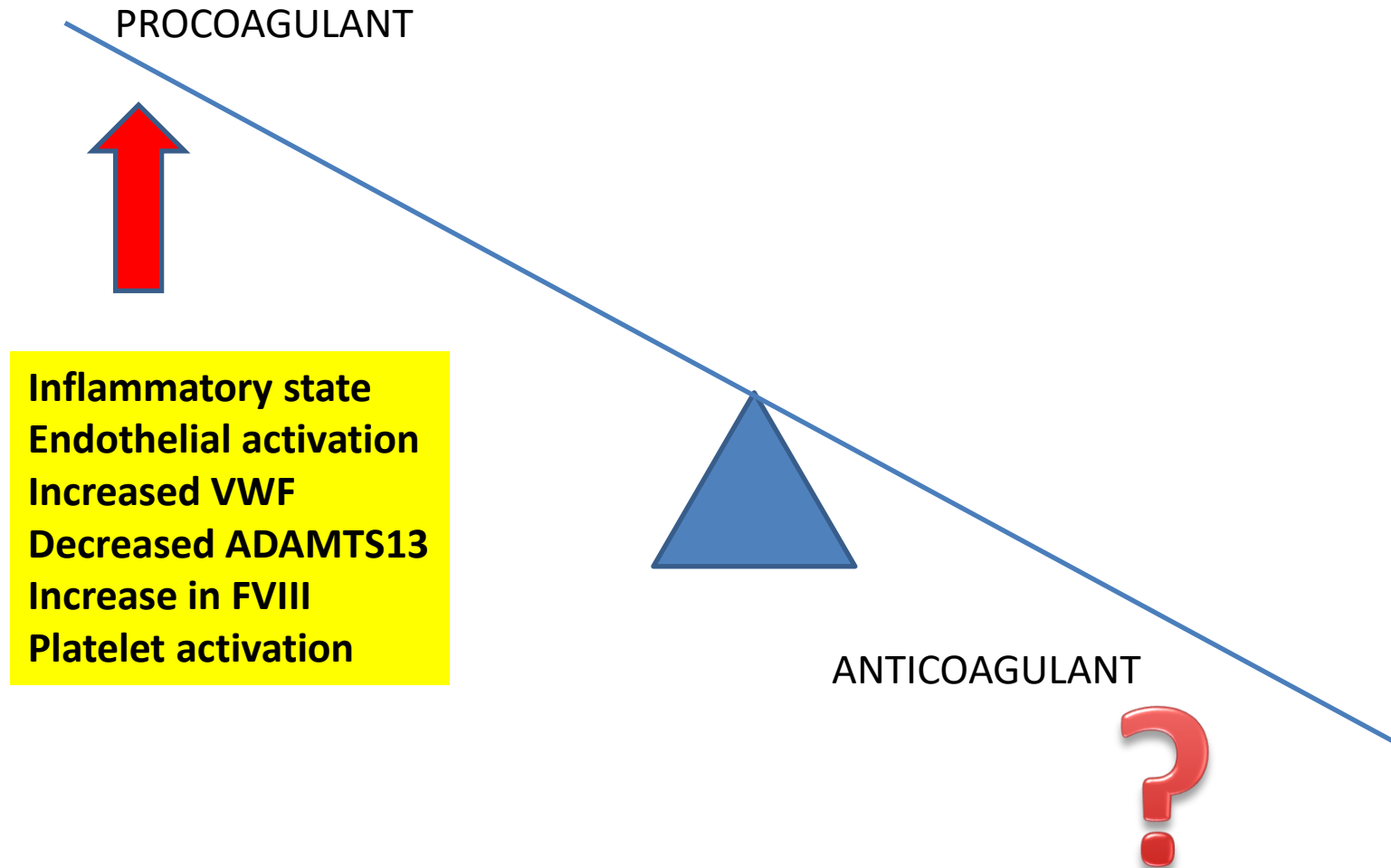
- Thromboprophylaxis may be indicated to prevent thrombosis
- However, patients may have competing bleeding risks
- **THE MAGNITUDE OF THE VTE RISK IS CRITICAL!**

VTE risk in preeclampsia relative to other proinflammatory disorders

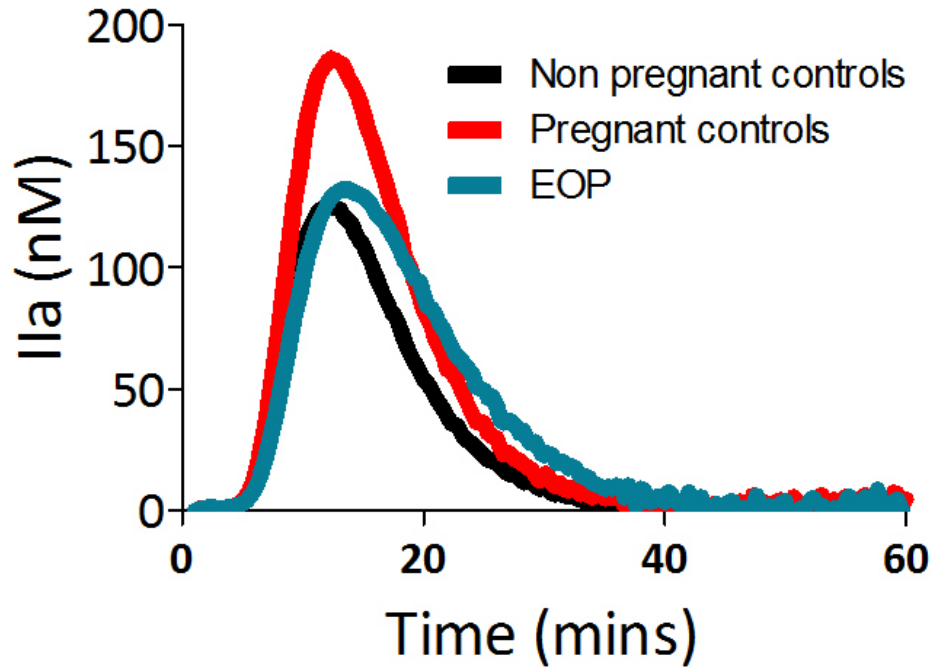


- (1) Graine *et al*, Lancet 2010
- (2) Zoller *et al*, Lancet 2002

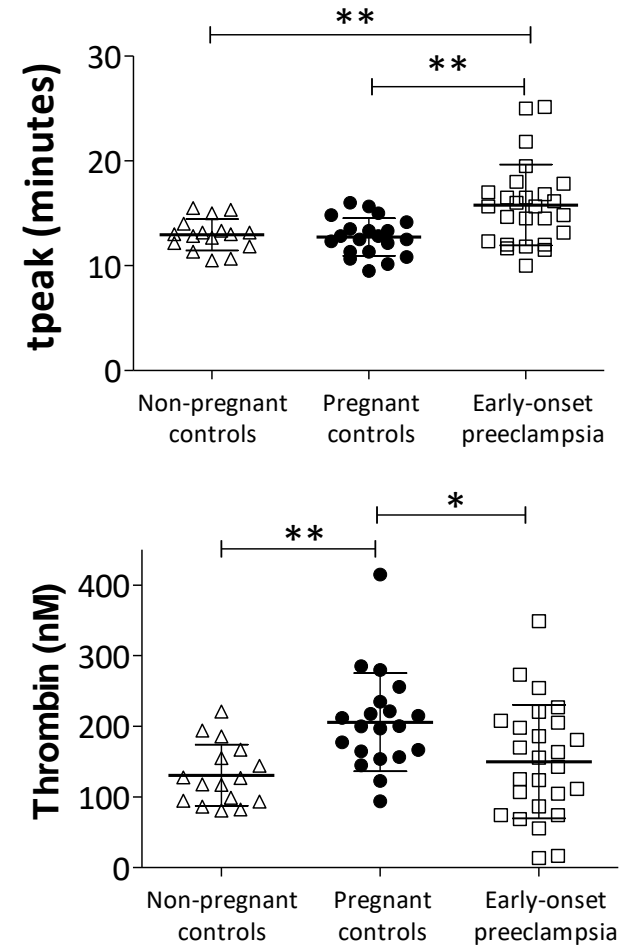
Why is the VTE risk not as high in preeclampsia as in other conditions?



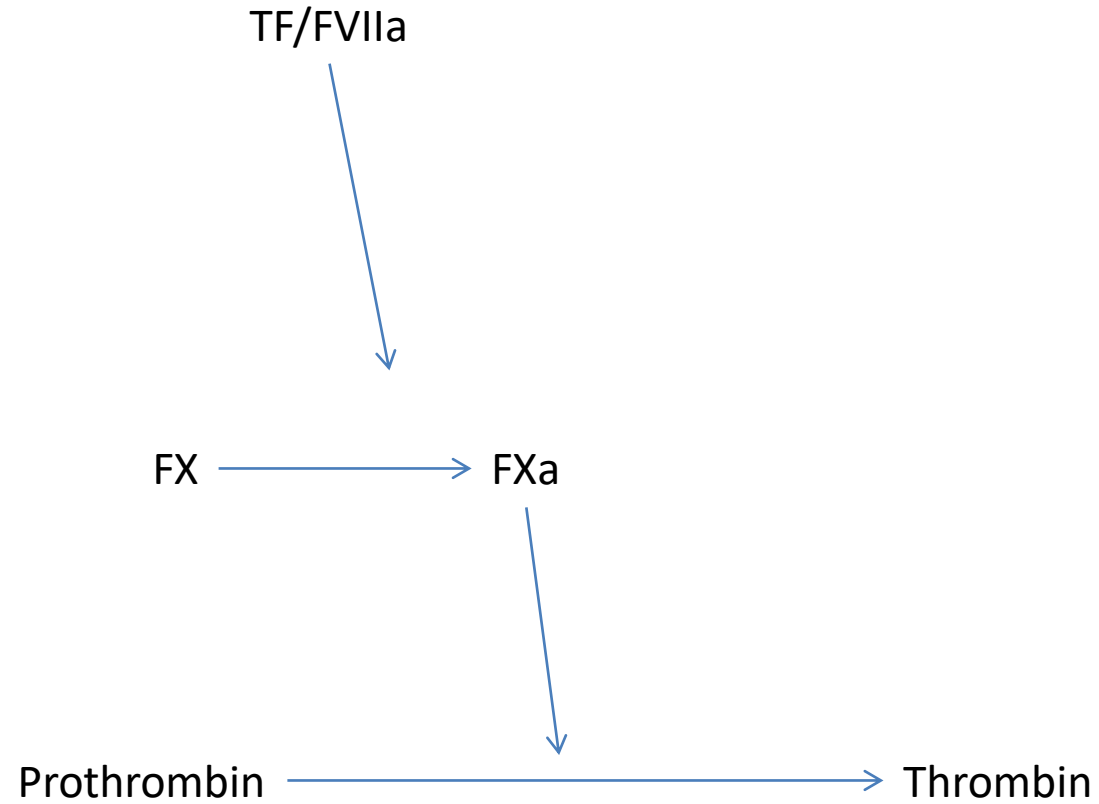
Thrombin generation is attenuated in Early Onset Preeclampsia



“less blood clotting”

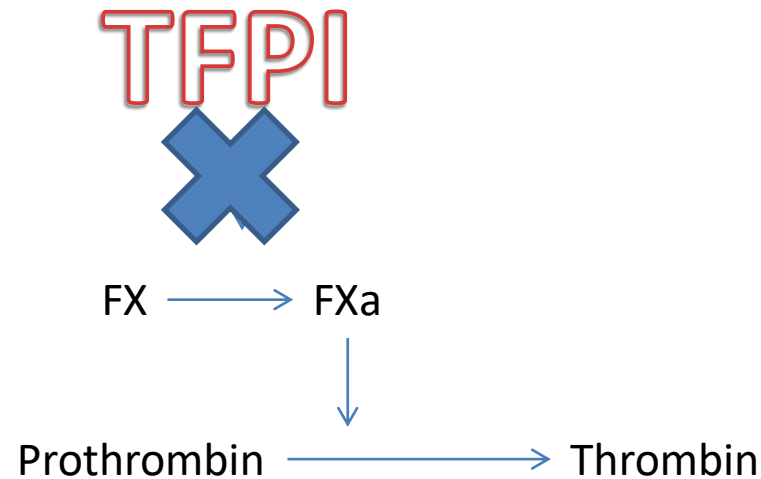


“Extrinsic” blood clotting pathway



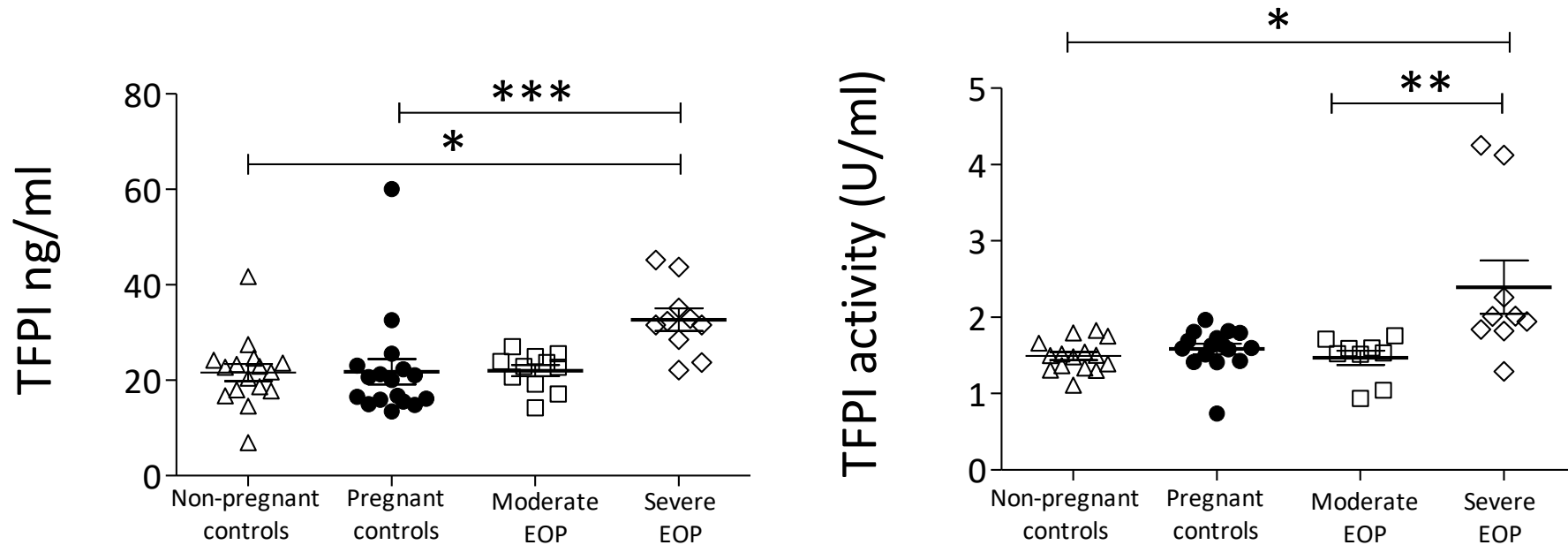
Tissue factor pathway inhibitor (TFPI) inhibits blood clotting via the extrinsic pathway

- TFPI Increased in PET: why?
 - Endothelial activation
 - TFPI along with tissue factor is expressed on trophoblast-derived vesicles

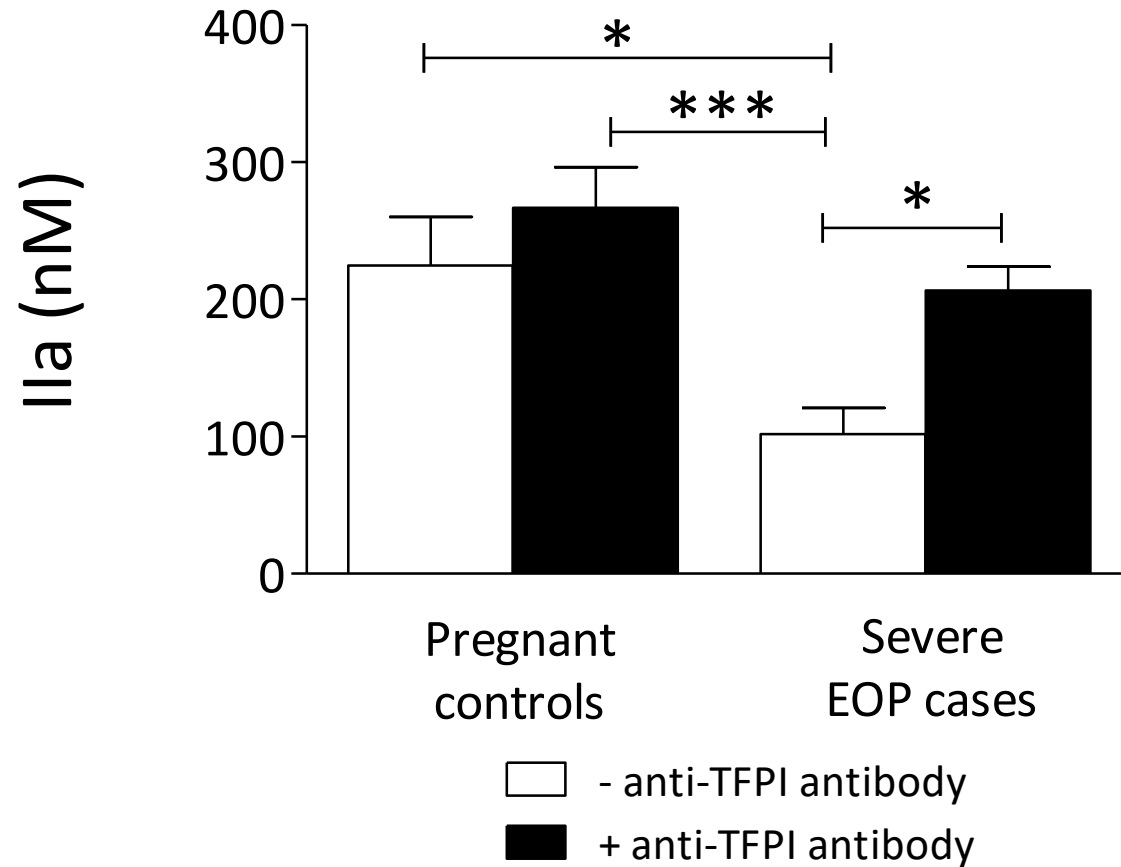


Hypothesis:
TFPI mediates ↓ blood clotting in Early Onset Preeclampsia

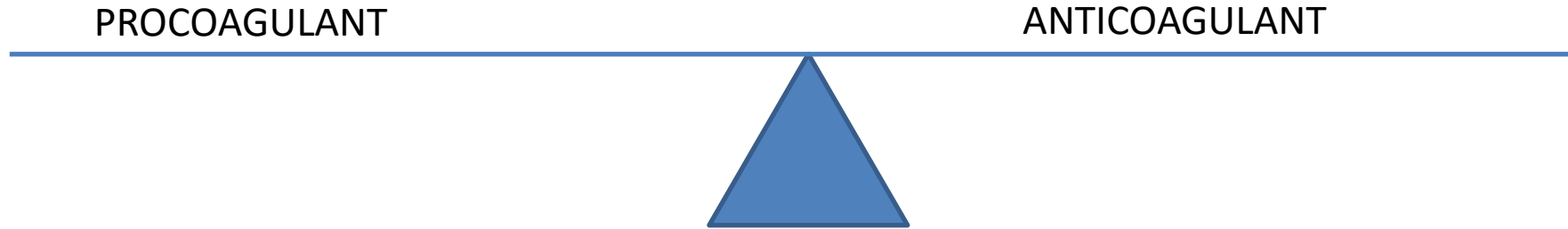
TFPI is increased in Early Onset Preeclampsia relative to normal pregnancy



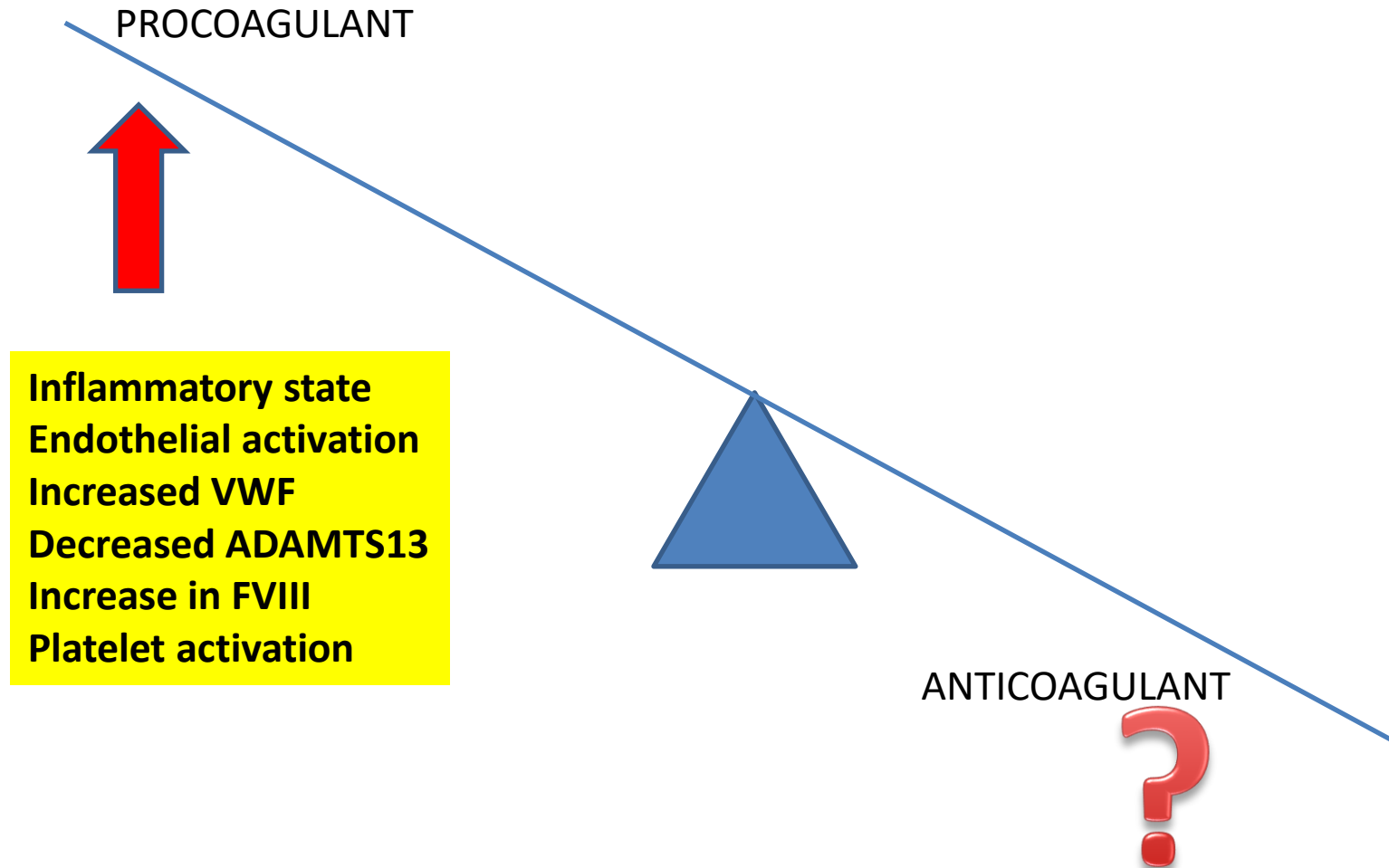
TFPI mediates attenuated thrombin generation in Early Onset Preeclampsia



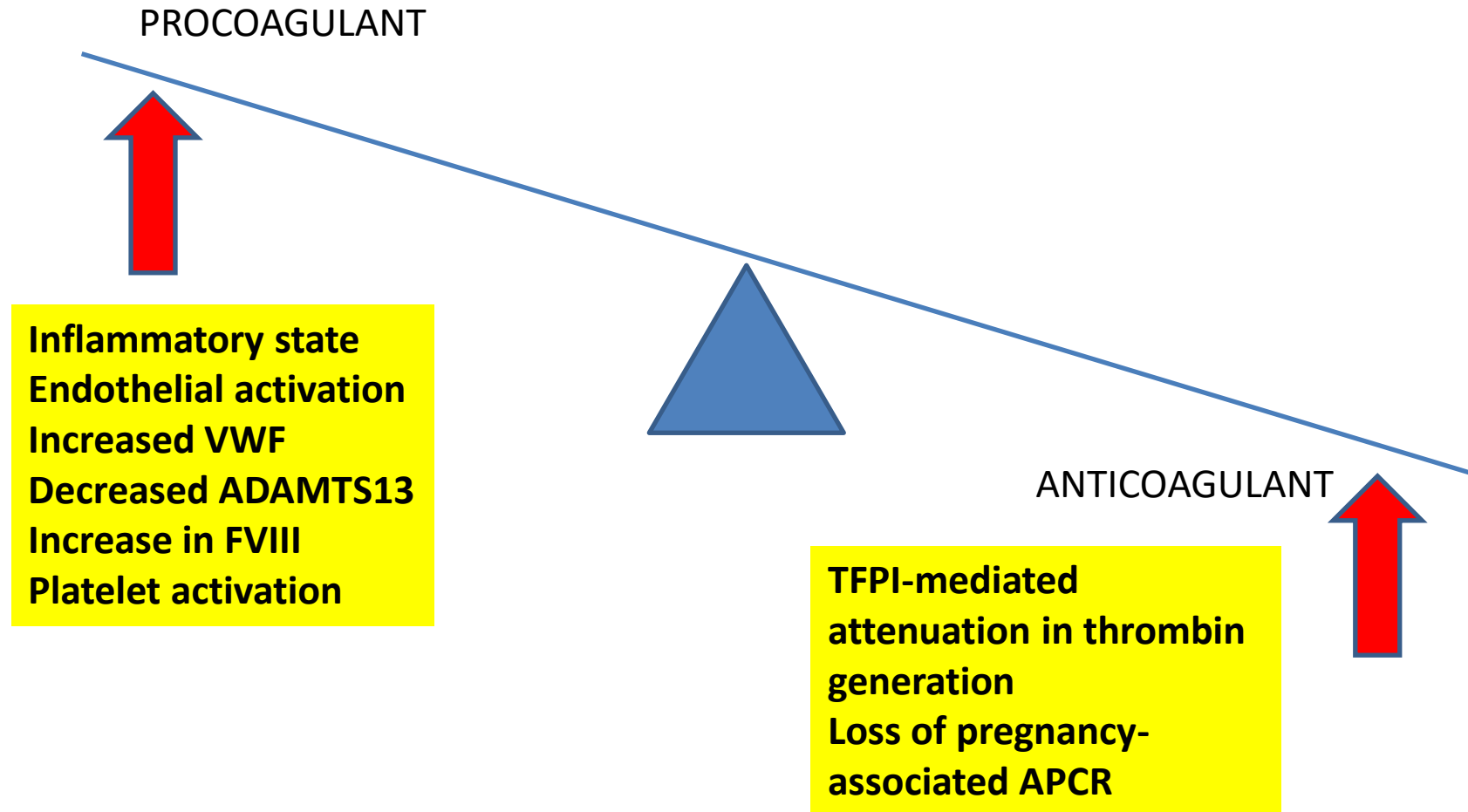
Overall procoagulant state in Early Onset Preeclampsia



Overall procoagulant state in Early Onset Preeclampsia



Overall procoagulant state in early onset PET



Overview

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UCD Conway SPHERE



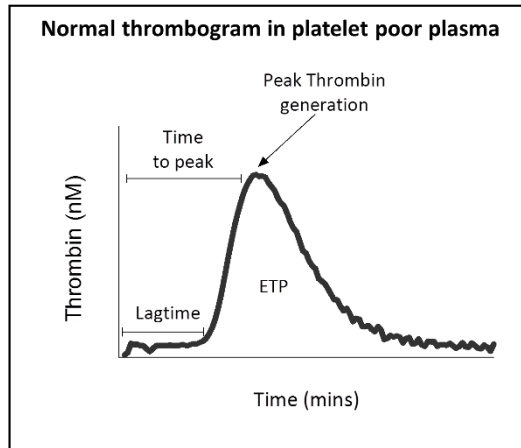
Patricia Maguire
Associate Professor in Biochemistry, UCD
Director of the UCD Institute for Discovery

- **Launched Sept 2015**
- **Translational Team based in the UCD Conway Institute**
- **Study Platelets & Thrombosis in Inflammatory Disease**
- **Funding: €3 million**

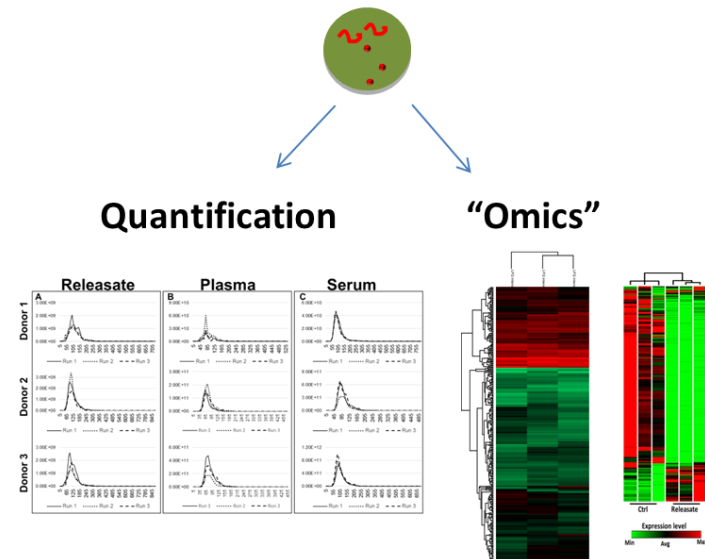
SPHERE

Systemic inflammatory disorders: role of blood Particles, Haemostatic factors and ExtRacEllular vesicles

Coagulation Factors/Thrombin generation



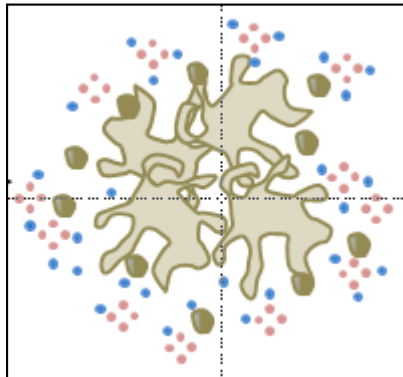
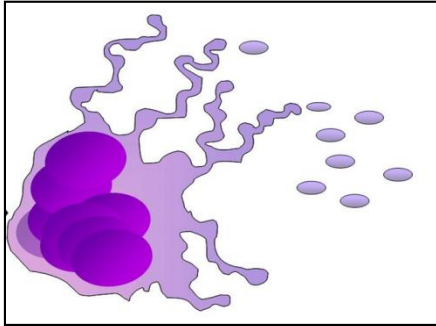
Extracellular Vesicles



Disease-specific alterations?

Platelets and their contents play a much broader role than just clotting: Disease-specific interests of UCD Conway SPHERE

Megakaryocytes → Platelets



Immune response
Inflammation
Angiogenesis
Bone formation
Foetal vascular remodelling^o

Haemostasis
Thrombosis

Inflammation
Atherosclerosis
Calcification
MS plaque formation
Tumour metastasis

Ischaemic Stroke
Multiple Sclerosis
Early-onset Preeclampsia
Pulmonary hypertension
Liver Cirrhosis

Coronary Artery Disease
Alzheimer's Disease
Rheumatoid Arthritis
Cancer

Recent Publications:

Sklanna *et al*, Proteomics Clin Applic 2019 (Pregnancy; patent application submitted)

Parsons *et al*, Proteomics 2018 (MS/platelet releasate)

Kevane *et al*, J Thromb Haemost 2018 (Pulmonary hypertension)

Kevane *et al*, RPTH 2017 (cancer)

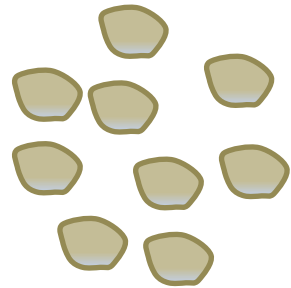
Egan *et al*, Thromb Haemost 2017 (preeclampsia)

Dillon *et al*, RPTH 2018 (Liver cirrhosis)

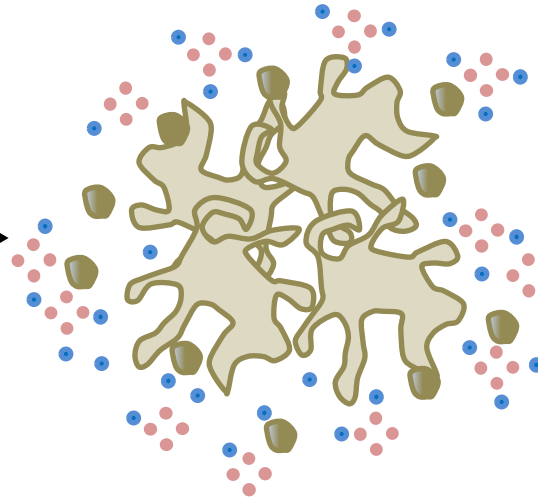
Neary *et al*, J Thromb Haemost 2016 (neonatology)

Platelets store their “secrets” in their ‘Releasate’

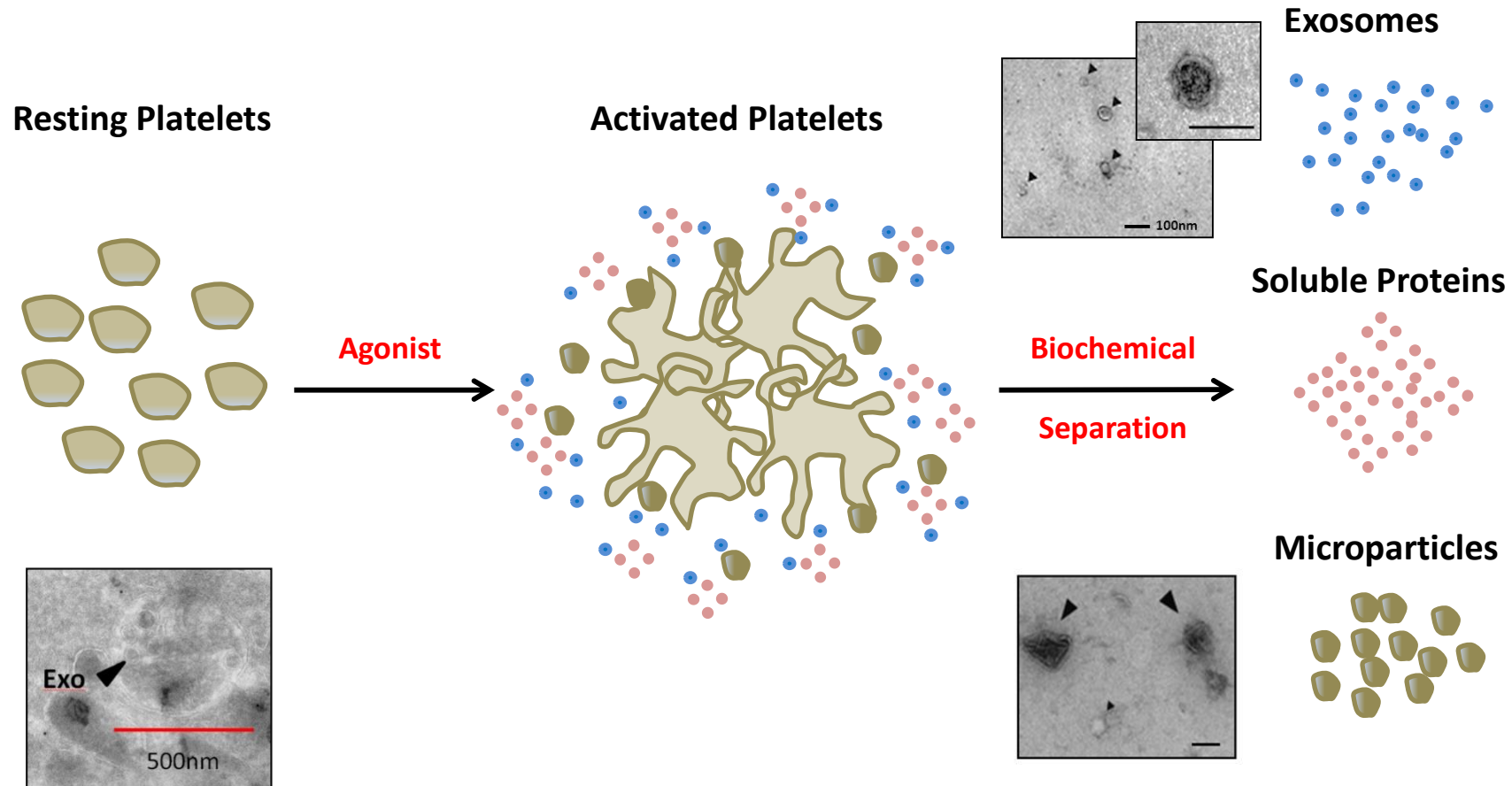
Resting Platelets



Activated Platelets



This Releasate contains EVs and soluble proteins

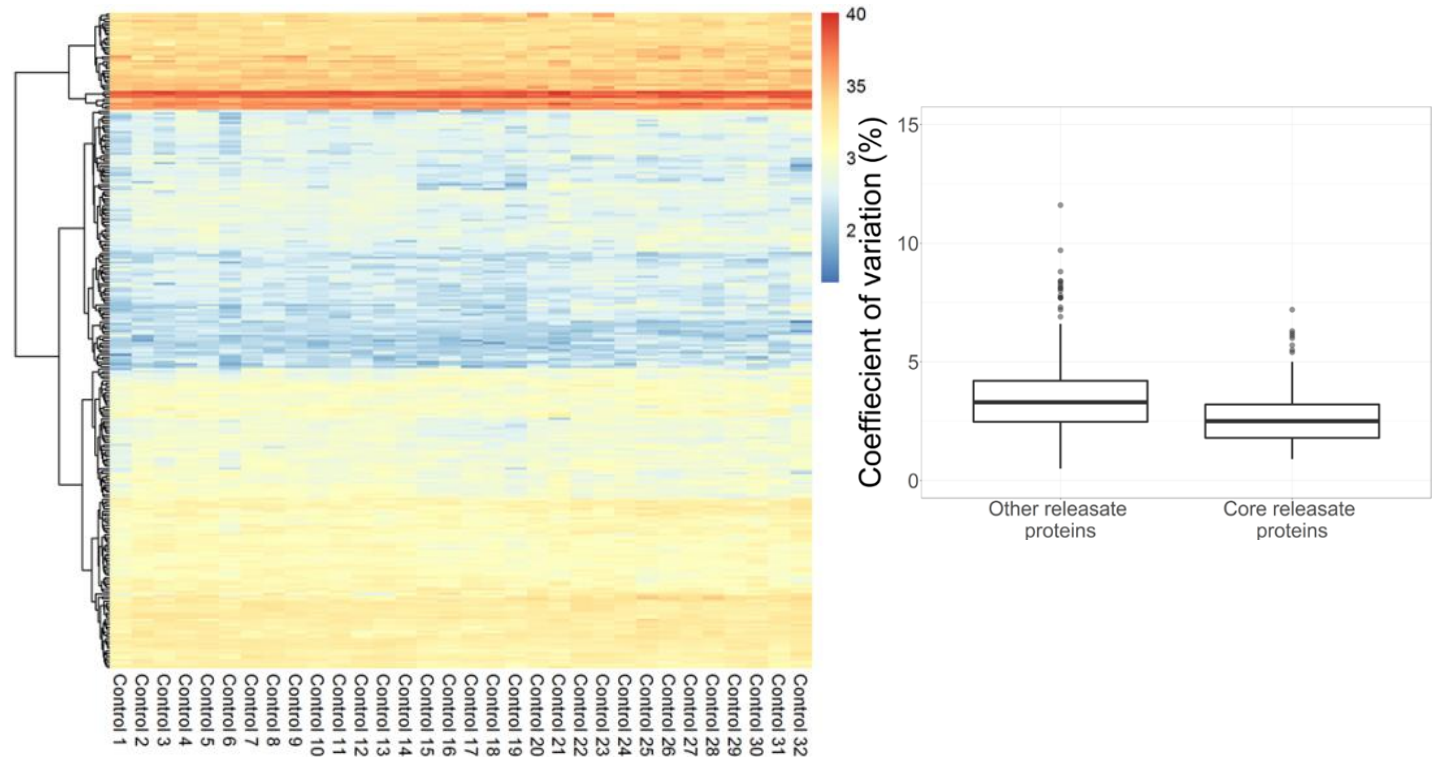


Heijnen et al, 1999
Coppinger et al, 2004
Piersma et al, 2009
van Holten et al, 2014
Parsons et al, 2018

Garcia et al, 2005
Coppinger et al, 2007
Wijten et al, 2013
Aatonen et al, 2014
Szklańska et al, 2018

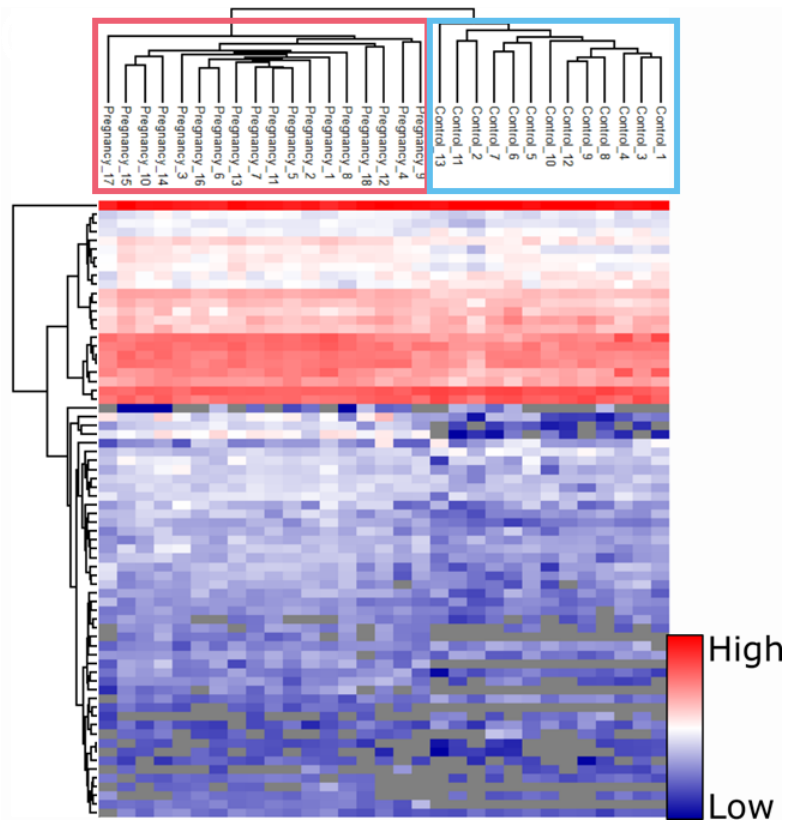
“Barcoding” the Platelet Releasate (PR)

- Coined the term “Platelet Releasate” in 2004.
- Have shown it is stable, reproducible and has low variability in healthy people.
- The platelet releasate is suitable for biomarker discovery.



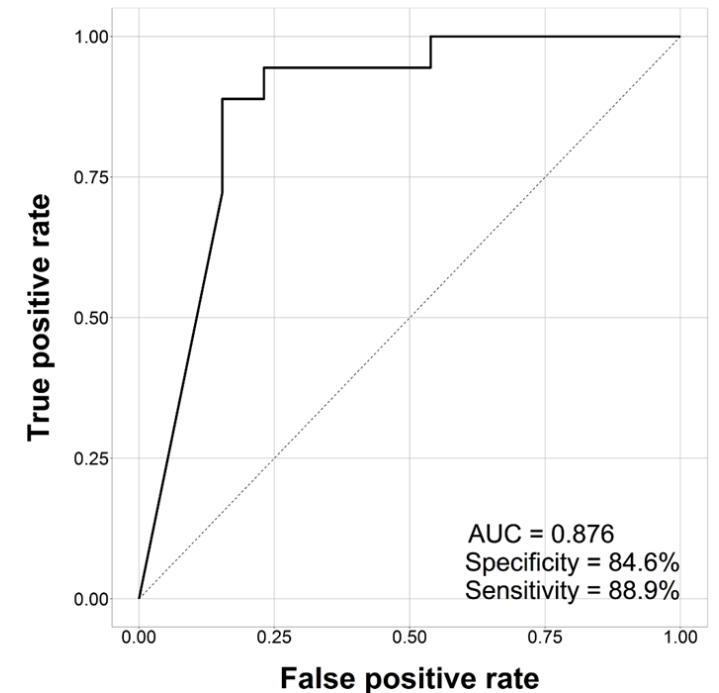
Proof of concept: Pregnancy test

The “barcode” of the platelet releasate changes in pregnancy



11 predictive proteins: 87.6% accuracy in correctly classifying pregnant vs non-pregnant women

11 predictive proteins	
Up in Pregnancy	Down in pregnancy
AGT	HRG
C9	IGKVD-28
CPB2	
FBLN1	
HPSE	
PLG	
SERPINA1	
SERPINA7	
VTN	



Overview

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 - COLLABORATE!
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Neonatology

Prof Naomi McCallion
Neary et al, J Thromb Haemost. 2015



Cardiovascular

Dr J Keaney & Prof S. Murphy, MMUH
ASH 2019



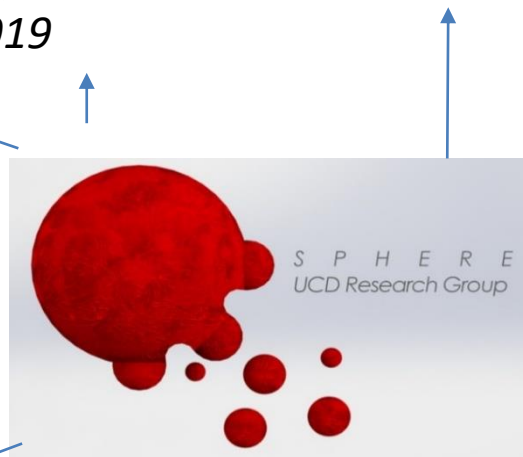
Congenital Heart Disease

Dr Kevin Walsh
Kevane et al J Thromb Haem 2017



"Inflamm-aging"

Ass. Prof Cliona Ni Cheallaigh
ASH 2019



Oncology

Kevane et al RPTH 2017
ASH 2016

Maternal Medicine

Scully et al, Blood 2015
Van der Pol et al, NEJM 2019



Pregnancy Thrombosis

HIGHLOW RCT (recruiting): HRB DIFA 2017
Bleker et al, Thromb res 2016
ASH 2016, ISTH 2017
O'Shaughnessy et al, JTH 2019
Gillespie et al, Thromb Res 2019



Early Onset Preeclampsia

Rotunda Hospital
Egan et al, Thromb. Haemost. 2017
Parsons et al Proteomics 2018
Sklanna et al, Proteomics Clin App 2019



Overview

1. Journey from PhD to independent Principal Investigator
2. UCD Conway SPHERE Research Group
 - PLAN THE RESEARCH JOURNEY WITH PATIENTS
3. The Irish Network for VTE Research
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Tweet



Fionnuala Ní Áinle
@fniainle

Truly inspirational conversations with Prof @maguirepatr of #UCDConwaySPHERE and Dr @_sarahkelliher of #INViTEresearch at #VTEDub19 #tinybubbles #EV @hrbireland @scienceirel @IrishResearch #KEDS #pregnancyVTE #meetthescientist #PPI @UCDMedicine @ThrombosisIrl



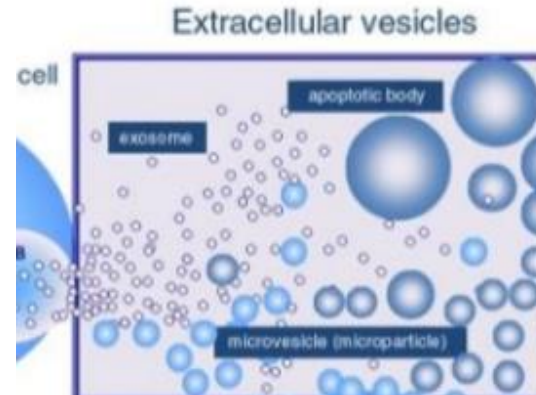
“Tiny Bubbles”



“Powerful messengers”



EVs are really tiny



You can fit about 1000 EVs across the width of one human hair!

Billions of EVs in blood...



From lots of different sources

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Sowing the seeds: VTE Dublin International Conference



International friends: >5 years of Network- Building



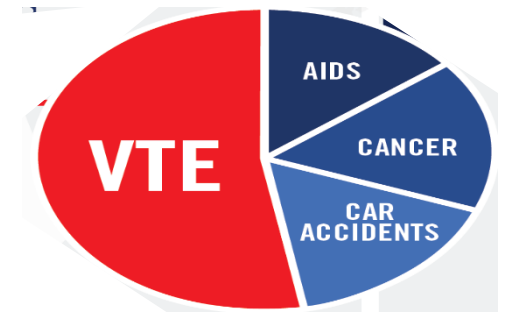
INVITE

- An Irish, patient-oriented research network
- **Mission: To develop and participate in excellent National and International Venous Thromboembolism (VTE)-related research.**
- We are honoured to work with Thrombosis Ireland



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

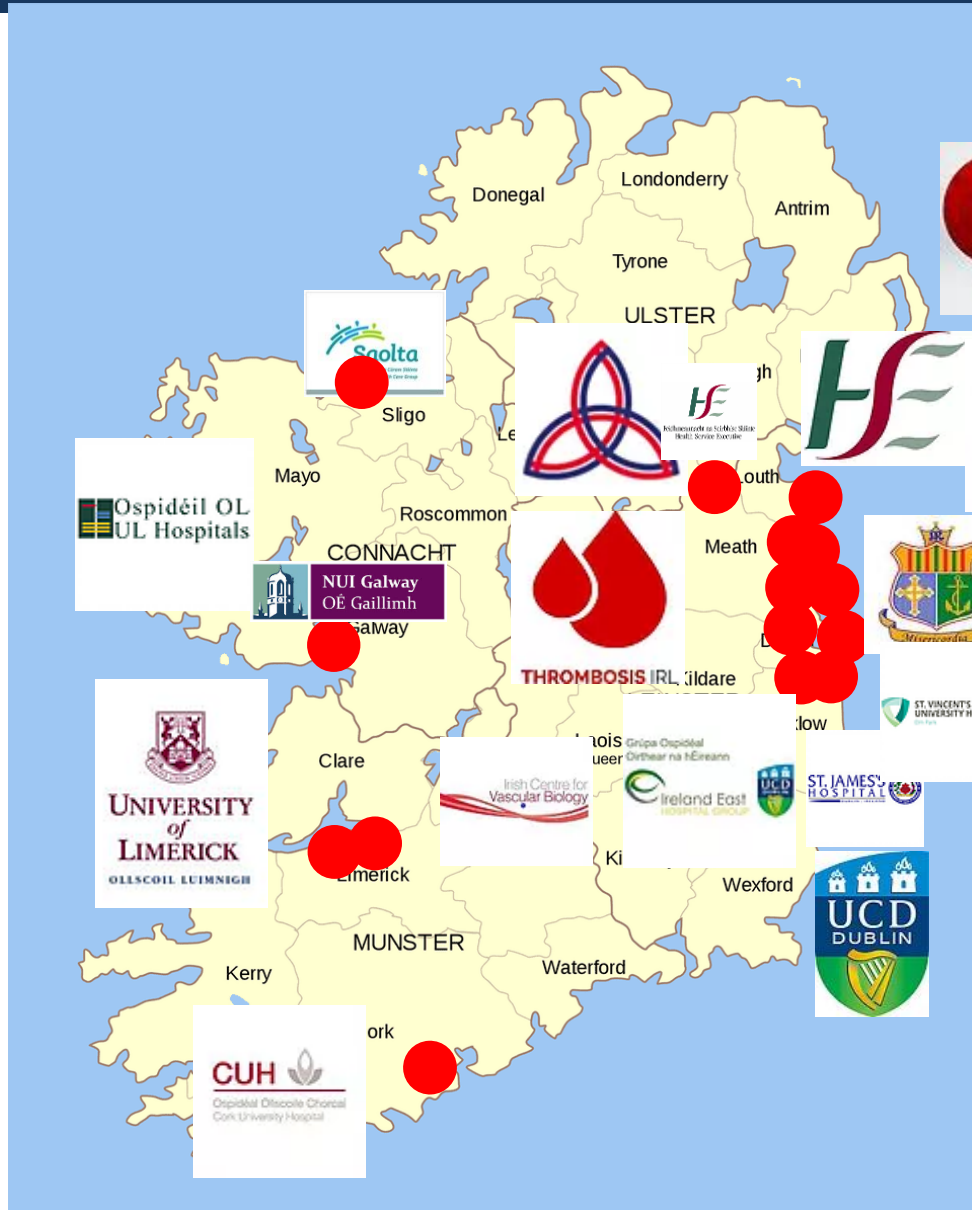
- One death every 37 seconds in the western world (1)
- **TOP CAUSE OF DIRECT MATERNAL DEATH IN UK & IRELAND (2)**
- **Affects >5000 people every year in Ireland (HSE BIU)**



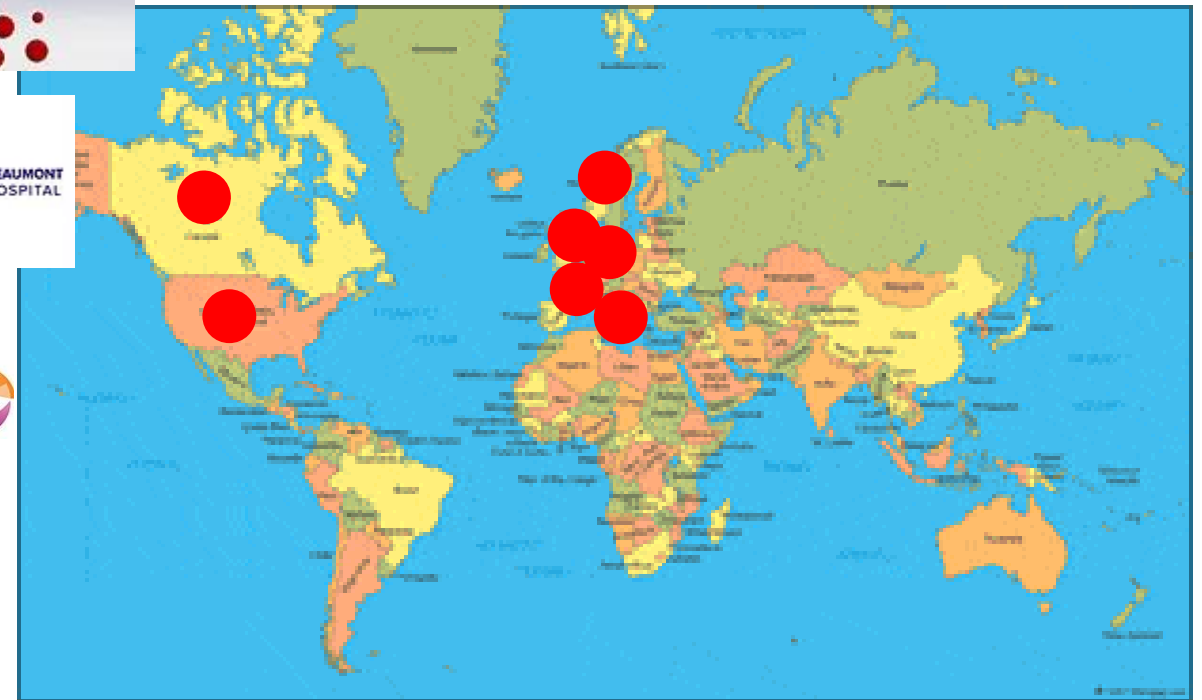
(1)Cohen, A.T., et al., Thromb Haemost, 2007. **98**(4): p. 756-64

(2)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.

Partner organizations



INVENT-VTE



Launch: 12th Sept 2018

- INViTE was launched at VTE Dublin 2018 by Minister for Business, Enterprise and Innovation Heather Humphries



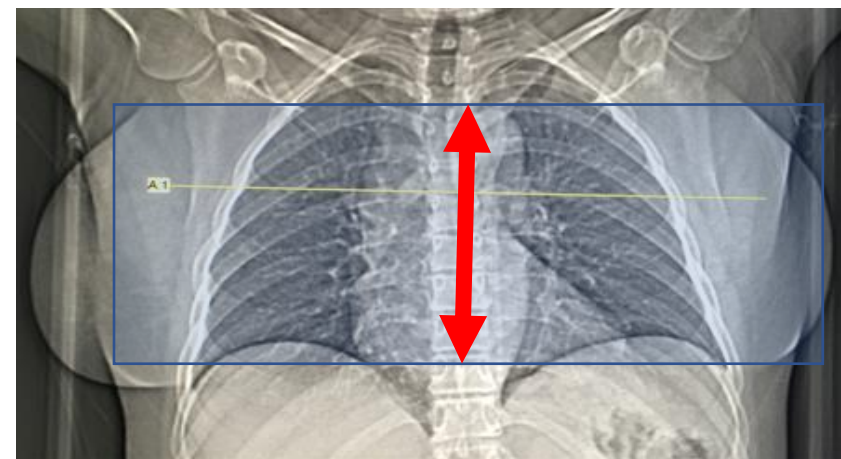
A Prospective multicentre study to assess the risk factors that contribute to (T) thrombosis in patients with (L) lower (L) limb (I) injuries (R)requiring (I) immobilization to identify a group of patients with a high predicted VTE risk. (TiLLIRI study)

Steering Committee: Dr D O’Keeffe, Prof. Mike Watts, Prof. F Ni Ainle, Dr T. Breslin and Dr D Horner (UK)

- Inclusion Criteria
 1. Age \geq 18 years
 2. Lower limb trauma
 3. Requirement for lower limb immobilisation
- Sample size: 3,500 (**400 recruited to date**)
- Based on VTE rate of 4% ($\pm 0.4\%$)
- Planned interim review @ 1,000 patients to assess VTE rate and factors

OPTICA Study

- A Prospective Trial Assessing Quality and Safety of an **Optimised CTPA** protocol in Pregnancy
- **A LOW-DOSE CTPA protocol can reliably achieve low breast doses at NOISE levels (Image Quality) that are SAFE in pregnancy**
- Aims
 - DEFINE a low-dose CTPA protocol OPTIMISED for pregnancy
 - Prospectively demonstrate safety of out-ruling PE in the pregnant/post partum population
- Outcome: Incidence of PE at 3 months
 - Subsequent diagnosis or mortality attributed to PE
 - Telephone follow up



Gillespie *et al*, Oral presentation, VTE Dublin 2018; First prize VTE Dublin 2019
Gillespie *et al*, Thrombosis Research 2019 (protocol publication)
Gillespie *et al*, WHITH conference 2019



Partnering with HSE, patients and knowledge users: the “VIP” project

VTE in Inclusion Health Populations

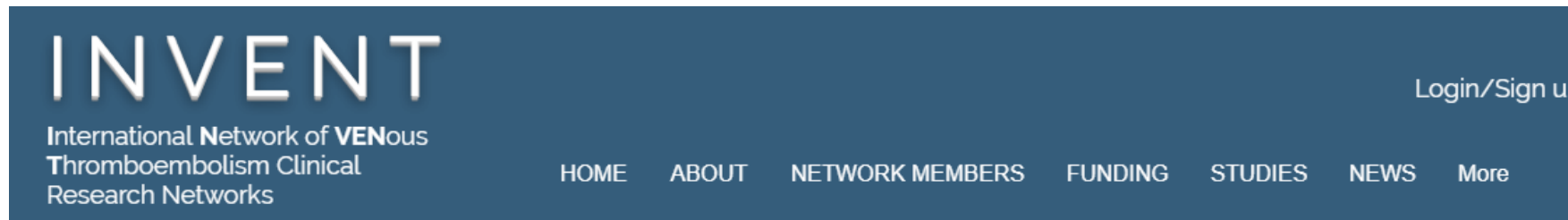
- PI: Prof Cliona Ní Cheallaigh (Clinical Lead: Inclusion Health Service SJH; Founder: All-Ireland Inclusion Health Forum)
- Partnership with HSE Knowledge Users
 - Dr Vida Hamilton: National Clinical Advisor and Group Lead for the Acute Hospitals Division
 - HSE dept of Health Intelligence
- Partnership with UCD PPI Ignite team, Thrombosis Ireland and De Paul Ireland

The screenshot shows the top navigation bar of The Guardian website with options for 'Support The Guardian', 'Contribute', 'Subscribe', 'Search jobs', 'Sign in', and 'Search'. The main navigation menu includes 'News', 'Opinion', 'Sport', 'Culture', 'Lifestyle', and 'More'. The article title is 'Inclusion health: an Irish answer to the homelessness crisis' under the sub-header 'The Upside Homelessness'. The author is Jules Montague in Dublin, with a date of Fri 14 Dec 2018. The article text begins: 'A Dublin experiment is trying to close the revolving door that recycles people from the street to the hospital ward, and back again.' A photograph shows a person sitting on a sidewalk with a sign that reads 'Irish AND HOMELESS PLEASE HELP THANK YOU'. A social media share count of 252 is visible.



International partners: INVENT-VTE

- On 16th January 2019, the Irish Network for VTE Research (INViTE) became a member of the prestigious INVENT-VTE (International Network of Venous Thromboembolism Clinical Networks; www.invent-vte.com).



INVENT Welcomes New Network Member: The Irish Network for VTE Research (INViTE)

January 25, 2019

January 25, 2019: INVENT officially welcomes a new member to the INVENT Network: [The Irish Network for VTE Research \(INViTE\)](#). INVENT Council approved the new network member at the latest council meeting on Wednesday, January 16, 2019.

The Irish Network for VTE Research (INViTE) is an Irish, patient-oriented research network aimed at developing and participating in excellent National and International venous thromboembolism (VTE)-related research. INViTE was launched on September 12, 2018 by the Irish Minister for Business, Enterprise and Innovation Heather Humphries in Croke Park, Dublin.

The organization is led by an multidisciplinary executive committee team of clinicians and patient representatives from the organization's [partner institutions](#). INViTE is Chaired by Prof Fionnuala Ní Áinle, Consultant Haematologist, Mater Misericordiae University Hospital, Chair, ...

Featured Posts



INVENT Endorsed High Low Study Reaches 75% of Recruitment Total - 767 of 1000 Patients Recruited

February 25, 2019



INVENT Endorsed RIVASVT-100 Pilot Study Nears Recruitment Completion with 64 of 100 Patients



Outputs 2019: Publications

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Pregnancy-Adapted YEARS Algorithm for Diagnosis of Suspected Pulmonary Embolism

L.M. van der Pol, C. Tromeur, I.M. Bistervels, F. Ni Ainle, T. van Bommel, L. Bertoletti, F. Couturaud, Y.P.A. van Dooren, A. Elias, L.M. Faber, H.M.A. Hofstee, T. van der Hulle, M.J.H.A. Kruij, M. Maignan, A.T.A. Mairuhu, S. Middeldorp, M. Nijkeuter, P.-M. Roy, O. Sanchez, J. Schmidt, M. ten Wolde, F.A. Klok, and M.V. Huisman, for the Artemis Study Investigators*

Open access

Research

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}

Thrombosis Research 177 (2019) 172-179



Contents lists available at ScienceDirect

Thrombosis Research

journal homepage: www.elsevier.com/locate/thromres



Full Length Article

The OPTICA study (Optimised Computed Tomography Pulmonary Angiography in Pregnancy Quality and Safety study): Rationale and design of a prospective trial assessing the quality and safety of an optimised CTPA protocol in pregnancy

Ciara Gillespie^{a,b,*}, Shane Foley^c, Michael Rowan^d, Karl Ewins^{b,e}, Fionnuala NiAinle^{b,e}, Peter MacMahon^{a,b}

^a Department of Radiology, Mater Misericordiae University Hospital, Eccles Street, Dublin 7, Ireland and UCD School of Medicine, Belfield, Dublin 4, Ireland

^b Irish Network for VTE Research (INVITE), Ireland

^c Radiography & Diagnostic Imaging, School of Medicine, University College Dublin (UCD), Belfield, Dublin 4, Ireland

^d Department of Medical Physics and Bioengineering, St James' Hospital, Dublin 8, Ireland

^e Department of Haematology, Mater Misericordiae University Hospital, Eccles Street, Dublin 7, Ireland and UCD School of Medicine, Dublin, Ireland



INVITE
Irish Network for VTE Research

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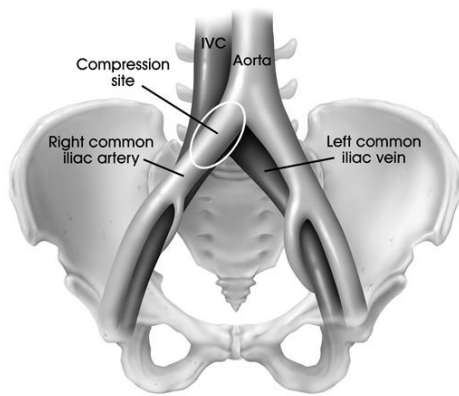
Impact of VTE in pregnancy



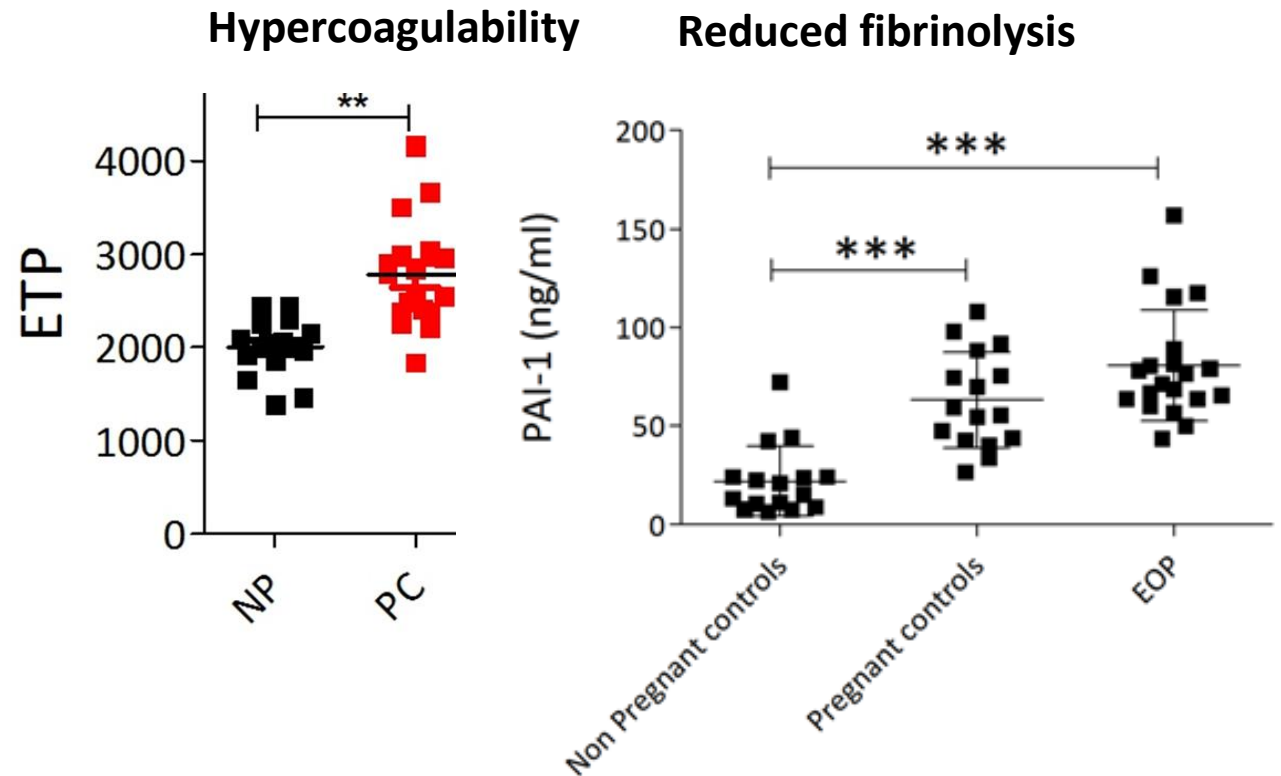
Illustration by Renata Donciu

↑ VTE risk during pregnancy is mediated by multiple mechanisms

- Venous stasis
- Pelvic venous compression by the gravid uterus
- Pulsatile compression of left iliac vein by right iliac artery
- Changes in pro & anticoagulant and fibrinolytic pathways



Kevane (Ní Áinle) *et al*, *J. Perinat. Med.* 2014 Jul;42(4):417-25
Rodger, *Hematology Am Soc Hematol Educ Program.* 2014 Dec 5;2014(1):387-92
Abbasi *et al*, *Arch Gynecol Obstet* 2014;289(2):275-84
Egan (Ní Áinle) *et al*, *Thromb Haemost.* 2017 Jul 26;117(8):1549-1557
Hehir (Ní Áinle) *et al*, *Eur J Obstet Gynecol Reprod Biol.* 2019 (in press)



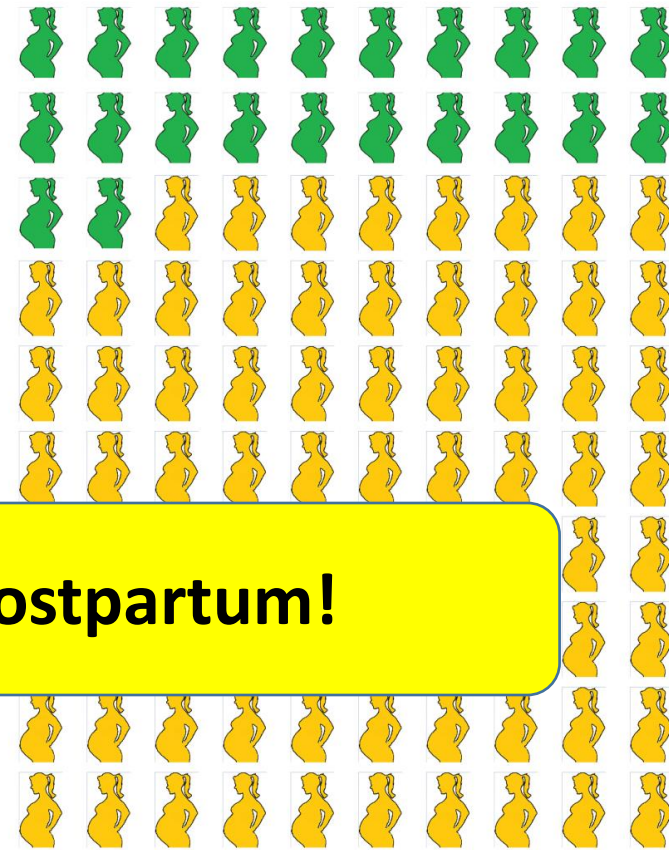
VTE risk factors are common in pregnancy AND POSTPARTUM

- Cross-sectional study of prospectively collected data
- 21,019 postpartum electronic VTE risk assessments
- Representing >90% of all women giving birth in a single institution



VTE risk factors are common in pregnancy AND POSTPARTUM

- 78% of women had at least 1 VTE risk factor including:
 - Overweight and obesity (36%)
 - Age ≥ 35 (35%)
- >40% had 2 or more VTE risk factors.
- **One fifth of women** had no VTE risk factors prior to delivery, but developed them during delivery/postpartum period.



It is important to repeat a VTE risk assessment postpartum!

There is huge variation in % women would “qualify” for thromboprophylaxis according to international guidelines!

21,019 consecutive postpartum women in whom VTE risk factors were prospectively evaluated

Guideline	Year	Jurisdiction	Estimated proportion of women recommended postpartum thromboprophylaxis (N=20775)					
			Total (N=21019)		Caesarean delivery (n=6717)		Vaginal delivery (n=14302)	
			n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Australia and New Zealand ²⁰	2012	Australia & New Zealand	4895	23% (23-24)	4559	68% (67-69)	336	2.3% (2.1-2.6)
American College of Chest Physicians (ACCP) ¹⁷	2012	United States	1521	7% (5.9-7.6)	1435	21% (20-22)	86	0.6% (0.5-0.7)
American College of Obstetricians and Gynecologists (ACOG) ³¹	2018	United States	1678	8% (7.6-8.4)	1594	24% (23-25)	84	0.6% (0.5-0.7)
National Partnership for Maternal Safety (NPMS) ¹⁹	2016	United States	4381	21% (20-21)	4268	63% (62-65)	113	0.8% (0.7-1.0)
Royal College of Obstetricians and Gynaecologists (RCOG) ¹⁵	2015	United Kingdom	7858	37% (37-38)	5673	85% (84-85)	2185	15% (15-16)
Swedish Society of Obstetrics and Gynecology (SFOG) ¹⁸	2011	Sweden	2302	11% (11-11)	2074	31% (30-32)	228	1.6% (1.4-1.8)
Society of Obstetricians and Gynecologists of Canada (SOGC) ¹⁶	2014	Canada	3091	15% (14-15)	2306	34% (33-36)	785	5.5% (5.1-5.9)

Can we ↓VTE risk with pharmacological thromboprophylaxis?

- Guidelines mainly based on expert opinion rather than high-quality evidence



Illustration by Renata Donciu

HighLow Study

- RCT: Low vs intermediate dose LMWH
- Prevention of pregnancy-related VTE recurrence
- NCT 01828697
- Netherlands, France, Ireland, Belgium, Norway, US, Canada, ...
- **901/ ~1200 inclusions to date**

HIGH
LOW



INVITE
Irish Network for VTE Research



www.highlowstudy.org
PI: Prof. dr. Saskia Middeldorp
AMC, Netherlands

Eligibility criteria:

- Age ≥ 18 years
- < 14 weeks pregnant
- Previous objectively confirmed VTE:
 - Unprovoked
 - Provoked by hormones
 - VTE in pregnancy
 - VTE postpartum (PP)
 - Minor provoking factor


Primary efficacy outcome:

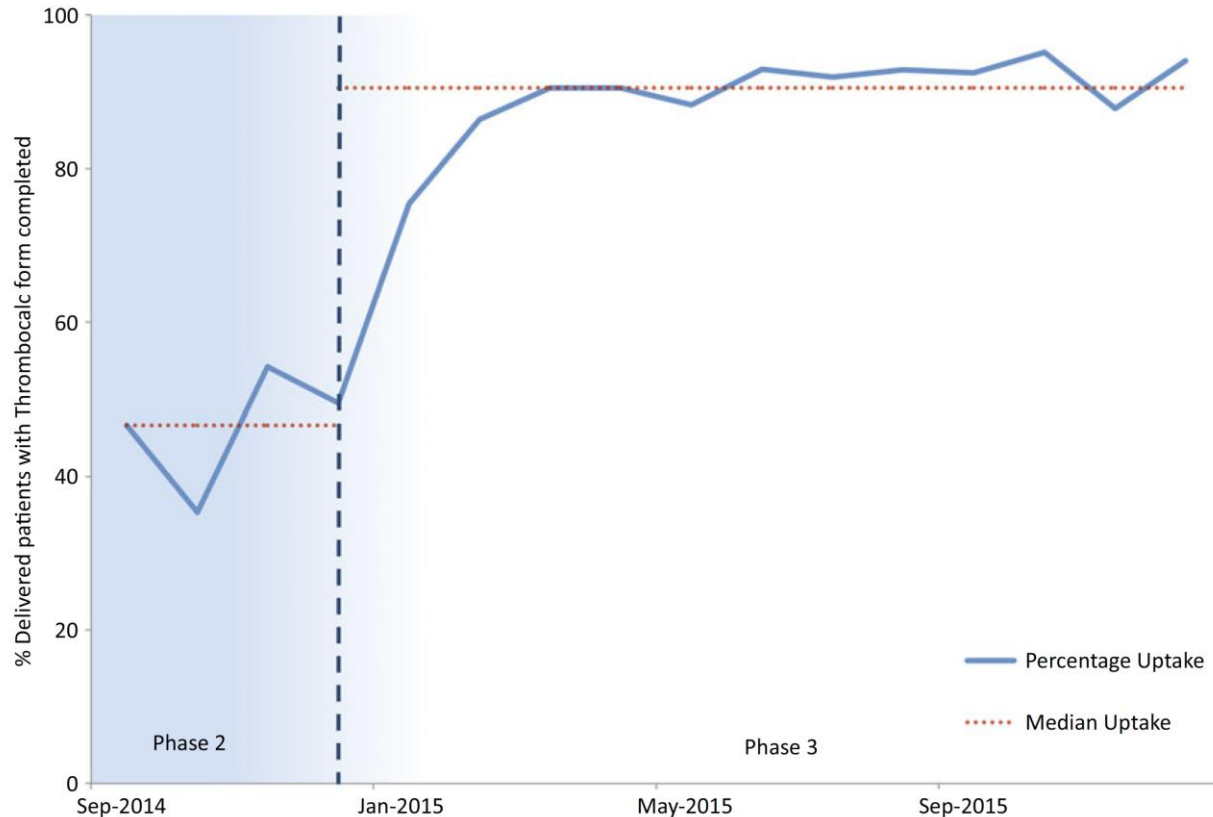
- Symptomatic recurrent VTE up to 6 weeks PP

Primary safety outcomes:

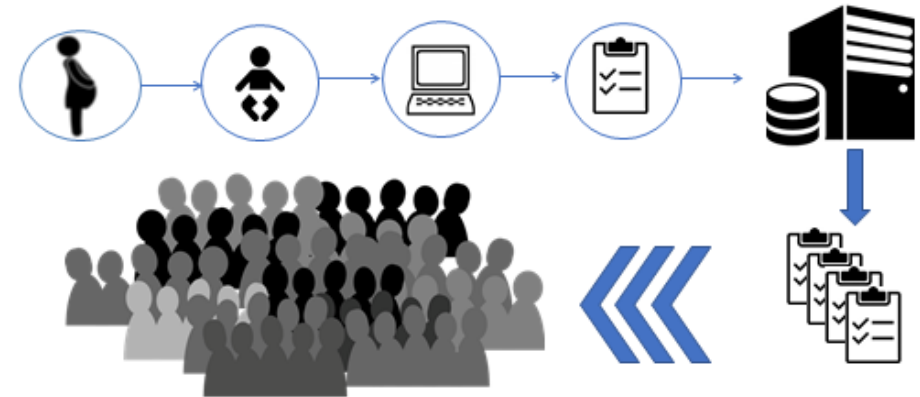
- Major bleeding
- Composite: major & clinically relevant non-major bleeding
- Early & late PP haemorrhage
- PP blood transfusion
- Mortality

Thrombocalc: implementation and uptake of personalized postpartum venous thromboembolism risk assessment in a high-throughput obstetric environment

FERGAL O'SHAUGHNESSY^{1,2,*} , JENNIFER C. DONNELLY^{3,4,*}, SHARON M. COOLEY³, MARY DEERING⁵, AJITA RAMAN⁵, GERALDINE GANNON⁵, JANE HICKEY⁵, ALAN HOLLAND⁶, NIAMH HAYES⁷, KATHLEEN BENNETT², FIONNUALA NÍ ÁINLE^{8,9,10,†} & BRIAN J. CLEARY^{1,11,†}



Individualised VTE risk assessment



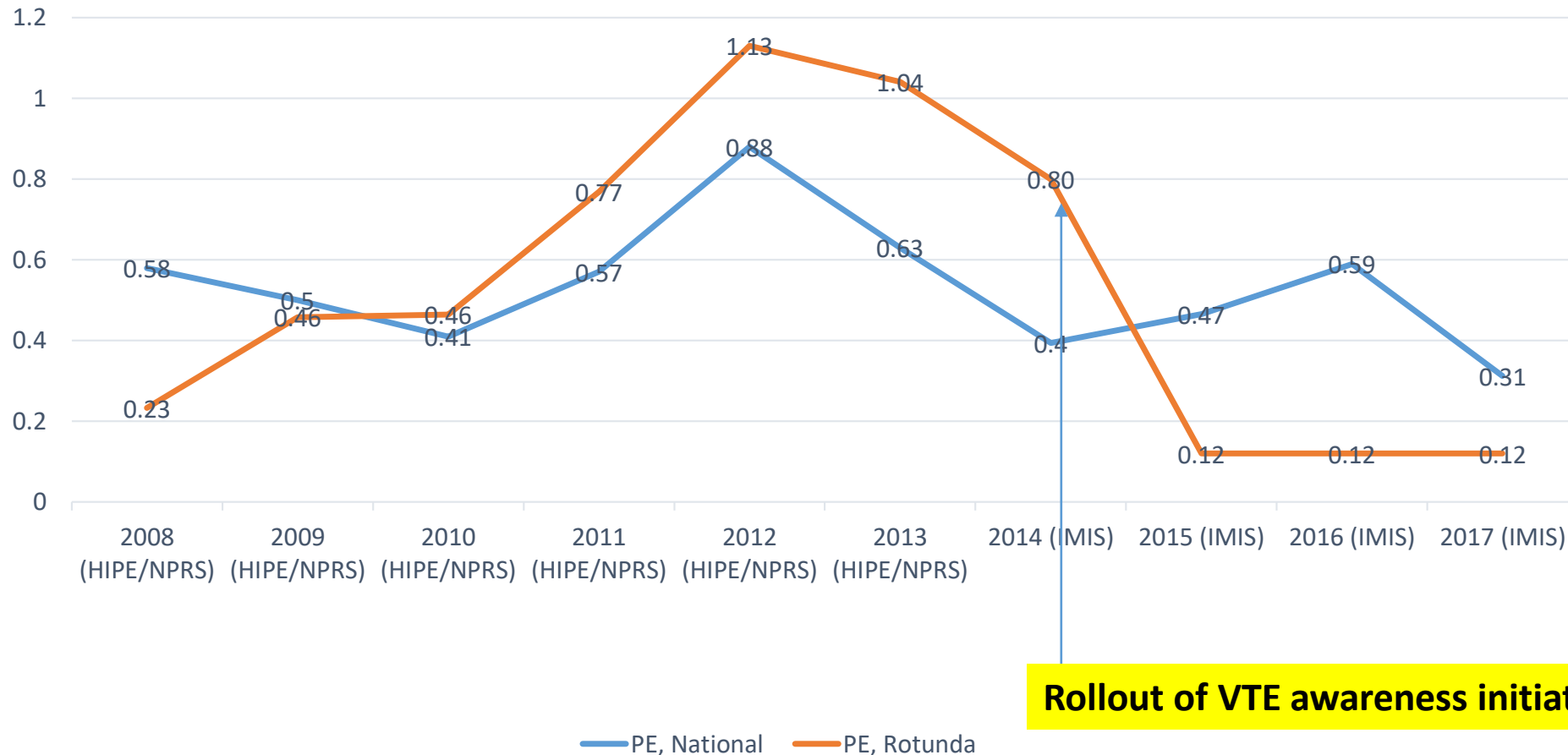
O'Shaughnessy (Ní Áinle) *et al*, AOGS. 2017

Honorable Mention, US CDC 2015 Healthcare-Associated Venous Thromboembolism prevention Challenge.

O'Shaughnessy (Ní Áinle) *et al*. J. Thromb Haemost. 2019

Does a package consisting of VTE AWARENESS, risk assessment and appropriate thromboprophylaxis ↓ VTE?

Pulmonary embolism, 2008-17



Excellent multicentre studies ARE achievable in pregnancy!

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Pregnancy-Adapted YEARS Algorithm for Diagnosis of Suspected Pulmonary Embolism

L.M. van der Pol, C. Tromeur, I.M. Bistervels, F. Ni Ainle, T. van Bommel, L. Bertoletti, F. Couturaud, Y.P.A. van Dooren, A. Elias, L.M. Faber, H.M.A. Hofstee, T. van der Hulle, M.J.H.A. Kruip, M. Maignan, A.T.A. Mairuhu, S. Middeldorp, M. Nijkeuter, P.-M. Roy, O. Sanchez, J. Schmidt, M. ten Wolde, F.A. Klok, and M.V. Huisman, for the Artemis Study Investigators*

Annals of Internal Medicine

Diagnosis of Pulmonary Embolism During Pregnancy

A Multicenter Prospective Management Outcome Study

Marc Righini, MD; Helia Robert-Ebadi, MD; Antoine Elias, MD, PhD; Olivier Sanchez, MD, PhD; Emmanuelle Le Moigne, MD; Jeannot Schmidt, MD; Catherine Le Gall, MD; Jacques Cornuz, MD, PhD; Drahomir Aujesky, MD, MSc; Pierre-Marie Roy, MD, PhD; Céline Chauleur, MD, PhD; Olivier T. Rutschmann, MD; Pierre-Alexandre Poletti, MD; and Grégoire Le Gal, MD, PhD; for the CT-PE-Pregnancy Group*



Contents lists available at ScienceDirect

Thrombosis Research

journal homepage: www.elsevier.com/locate/thromres



Full Length Article

Low-molecular-weight heparin to prevent recurrent venous thromboembolism in pregnancy: Rationale and design of the Highlow study, a randomised trial of two doses



Suzanne M. Bleker^{a,*}, Andrea Buchmüller^b, Céline Chauleur^c, Fionnuala Ní Áinle^d, Jennifer Donnelly^d, Peter Verhamme^e, Anne Flem Jacobsen^f, Wessel Ganzevoort^g, Martin Prins^h, Jan Beyer-Westendorfⁱ, Maria DeSancho^j, Stavros Konstantinides^k, Ingrid Pabinger^l, Marc Rodger^{m,n}, Hervé Decousus^b, Saskia Middeldorp^a

HIGH
LOW

ORIGINAL RESEARCH

INVITE
Irish Network for VTE Research



2019 ESC Guidelines for the diagnosis and management of acute pulmonary embolism developed in collaboration with the European Respiratory Society (ERS)

The Task Force for the diagnosis and management of acute pulmonary embolism of the European Society of Cardiology (ESC)

Authors/Task Force Members: Stavros V. Konstantinides* (Chairperson) (Germany/Greece), Guy Meyer* (Co-Chairperson) (France), Cecilia Becattini (Italy), Héctor Bueno (Spain), Geert-Jan Geersing (Netherlands), Veli-Pekka Harjola (Finland), Menno V. Huisman (Netherlands), Marc Humbert¹ (France), Catriona Sian Jennings (United Kingdom), David Jiménez (Spain), Nils Kucher (Switzerland), Irene Marthe Lang (Austria), Mareike Lankeit (Germany), Roberto Lorusso (Netherlands), Lucia Mazzolai (Switzerland), Nicolas Meneveau (France), Fionnuala Ní Áinle (Ireland), Paolo Prandoni (Italy), Piotr Pruszczyk (Poland), Marc Righini (Switzerland), Adam Torbicki (Poland), Eric Van Belle (France), José Luis Zamorano (Spain)

Overview

1. Journey from PhD to independent Principal Investigator
2. UCD Conway SPHERE Research Group
3. The Irish Network for VTE Research
4. The patient voice: VTE in pregnancy
5. The journey to VTE awareness in Ireland



Think Big!

“Stop the
CLOT”
Roadshow
2019



The Big Red Bus...

Virgin Media IE LTE 08:22 94%



Tweet activity



Fionnuala Ní Áinle @fniainle
And we're off! The #StopTheClot Roadshow leaves the Mater hospital on the journey to #WTD19: 6 weeks, 11 hospitals&communities and >1 million people @tomasbreslin @annmarieo9 @_sarahkelliher @BarryKevane @IEHospitalGroup @ThrombosisIrL @hrbireland @HealthyIreland #pregnancyVTE pic.twitter.com/c0wPVKBL3D

Impressions 8,690
times people saw this Tweet on Twitter

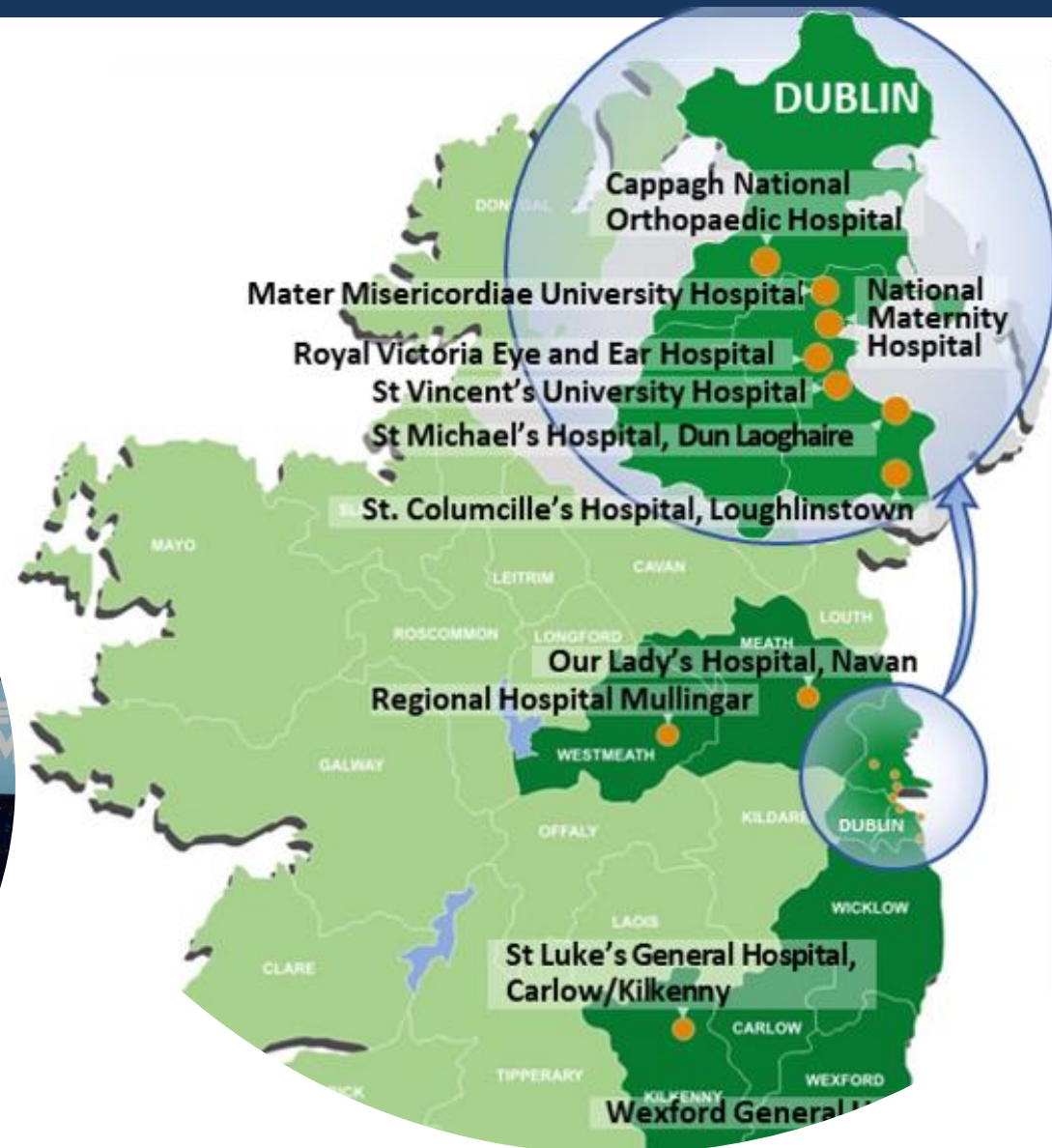
Total engagements 723
times people interacted with this Tweet

[View all engagements](#)



“Stop the CLOT” Roadshow 2019

- 5 Weeks, 11 Hospital, 11,000 staff & Over 1 Million Patients
- Tour hospitals starting September 12st thru to October 13th ([World Thrombosis Day](#))
- Location
 - Hospital
 - Community
- Reach
 - Healthcare Professionals
 - Patients
 - Public



Patients urged to stay active in order to avoid 'silent killer' clots

Blood clots, many of them acquired in hospital, linked to one in four deaths in Ireland

Mon, Sep 9, 2019, 21:41

Paul Cullen



Home > News

NEWS

Stop the Clot: Major awareness campaign around one of Kilkenny's biggest killers rolls into town

By Kilkenny Now 12th September 2019



CATCH UP KCLR LIVE KCLR LIVE

KCLR Live: Stop the Clots Roadshow

The 'Big Red Bus' will be coming to Carlow and Kilkenny

KCLR96FM News & Sport 10/09/2019

SHANNONSIDE

PODCAST: Special event to highlight danger of blood clots in Mullingar next week

By Shannonside News - 12th September 2019



After surviving a number of blood clots in the past two decades, and still needing more information on a condition which affects 5,000 Irish people annually, Ann Marie O'Neill believes information is crucial to saving lives.

In 2016, she set up www.thrombosisireland.ie to raise awareness.

????????????



Stop the Clot Roadshow with Anne-Marie O'Neill



Thrombosis Ireland/HSE Alert Card

Admitted to hospital?
- Ask for your risk of blood
clots to be assessed

 **THROMBOSIS IRL**
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

Charitable Status Number: 20154240

www.thrombosisireland.ie

Thrombosis Ireland/HSE Alert Card

Admitted to hospital?
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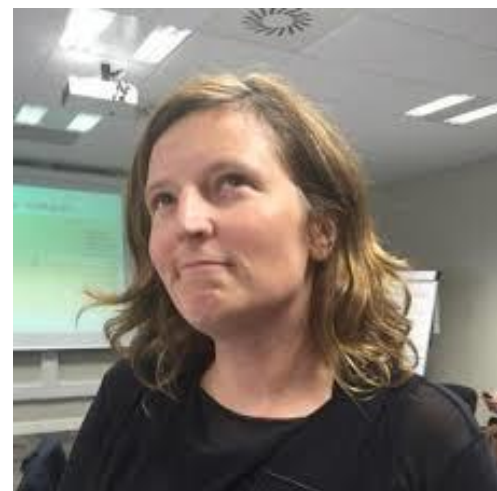


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**Surround yourself with colleagues and friends who inspire you
Thank you!**





@fniainle
@thrombosisIrl
@maguirepatr
#UCDConwaySPHERE
#INViTEresearch
#PregnancyVTE
#Stoptheclot

