

Section/topic	#	Checklist item	Reported on page #				
TITLE							
Title	1	Identify the report as a systematic review, meta-analysis, or both.	Pg.1				
ABSTRACT							
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	Pg.3				
INTRODUCTION							
Rationale	3	Describe the rationale for the review in the context of what is already known.	Pgs.5-6				
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, butcomes, and study design (PICOS).					
METHODS	•						
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.					
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	Pgs.6-7				
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	Pgs.6-7				
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Pgs. 6-7				
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	Pgs. 7-8				
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	Pg. 9				
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.					
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.					
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	Pgs.10- 11				



PRISMA 2009 Checklist

Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency				
		(e.g., I ²) for each meta-analysis.	11]		

		Page 1 of 2					
Section/topic	#	Checklist item	Reported on page #				
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	Pg.10				
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	Pg.10				
RESULTS							
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	Pg.11				
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	Pgs.11- 12				
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Pg. 12				
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each ntervention group (b) effect estimates and confidence intervals, ideally with a forest plot.					
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.					
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	Pg. 12				
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	Pgs.13- 14-15-16- 17				
DISCUSSION							
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	Pg.18				
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).					
Conclusions	26	ovide a general interpretation of the results in the context of other evidence, and implications for future research.					
FUNDING	<u>.</u>		<u> </u>				



PRISMA 2009 Checklist

Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the	Pgs.11
		systematic review.	and 22

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: www.prisma-statement.org.

Page 2 of 2

Online only supplemental materials

Supplemental Tables:

sTable 1: Search Strategies (Medline and Embase) sTable 2: Risk of bias assessments using PROBAST for risk assessment model studies sTable 3: Risk of bias assessments using Quips for prognostic factor studies sTable 4: Sensitivity analysis of studies that report an association between prognostic factors and symptomatic VTE only.

Supplemental Tables

sTable 1: Search Strategies (Medline and Embase)

Medline

Search name: z - Prognostic SR_Medline2

OVERVIEW								
Interface:	Ovid							
Database:	Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid							
	MEDLINE(R) 1946 to Present							
Date of Search:	28 October 2017- alerts till May 2018							
Study Types:	All							
Limits:	Publication date: No limit							
Search Strategy:	search terms (number of results)							
VTE Block:								
1 Primary Prev	vention/ (17503)							
2 Venous Thro	Venous Thrombosis/pc [Prevention & Control] (4385)							
3 Venous Thro	Venous Thromboembolism/pc [Prevention & Control] (3582)							
4 Pulmonary E	Pulmonary Embolism/pc [Prevention & Control] (4886)							
5 Prevent*.m	Prevent*.mp. (1332101)							

6 Thromboprophylax*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (4072)

7 Prophylax*.mp. (104027)

8 1 or 2 or 3 or 4 or 5 or 6 or 7 (1405763)

9 exp Venous Thromboembolism/ or exp Thromboembolism/ (53573)

10 exp Pulmonary Embolism/ (37750)

11 exp Venous Thrombosis/ (53428)

12 Thrombophlebitis/ (22521)

13 (DVT or VTE or PE).mp. [mp=title, abstract, original title, name of substance word,

subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (48782)

14 ((Pulmon* or vein or venous or lung) adj (Emboli* or thromb*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (107521)

15 (thrombus* or thrombotic* or thrombolic* or thromboemboli* or thrombos* or embol*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (377373)

16 (((deep or thromb* or stasis) adj2 (vein* or venous)) or (blood flow stasis or blood clot)).mp. [mp=title, abstract, original title, name of substance word, subject heading word,

keyword heading word, protocol supplementary concept word, rare disease supplementary

concept word, unique identifier, synonyms] (79440)

- 17 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 (425979)
- 18 8 and 17 (55938)

Prognosis filter:

- 19 Incidence.sh. (240248)
- 20 exp Mortality/ (359024)
- 21 Follow-Up Studies.sh. (628038)
- 22 Prognos:.tw. (524700)
- 23 Predict:.tw. (1363351)
- 24 Course:.tw. (580752)
- 25 19 or 20 or 21 or 22 or 23 or 24 (3152981)
- 26 18 and 25 (11256)

Clinical prediction guide filter:

- 27 predict:.mp. (1444321)
- 28 scor:.tw. (814052)
- 29 observ:.mp. (3283307)
- 30 27 or 28 or 29 (5007508)
- 31 18 and 30 (11822)
- 32 26 or 31 (17981)

Records Retrieved: 17981

Embase

Search name: z - Prognostic SR_Embase2

OVERVIEW								
Interface:	Ovid							
Database:	Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and C							
	MEDLINE(R) 1946 to Present							
Date of Search:	28 October 2017- alerts till May 2018							
Study Types:								
Limits:	Publication date: No limit							
Search Strategy:	search terms (number of results)							
VTE Block:								
1 Primary Prev	vention/ (35278)							
2 Venous Thro	ombosis/pc [Prevention & Control] (785)							
3 Venous Thro	omboembolism/pc [Prevention & Control] (7088)							
4 Pulmonary E	4 Pulmonary Embolism/pc [Prevention & Control] (1752)							
5 Prevent*.mp	5 Prevent*.mp. (2477729)							
6 Thrombopro	6 Thromboprophylax*.mp. [mp=title, abstract, heading word, drug trade name, original							
title, device manufacturer, drug manufacturer, device trade name, keyword, floating								
subheading wor	subheading word] (6379)							
7 Prophylax*.ı	7 Prophylax*.mp. (195774)							
8 1 or 2 or 3 o	3 1 or 2 or 3 or 4 or 5 or 6 or 7 (2548335)							

9 exp Venous Thromboembolism/ or exp Thromboembolism/ (433469)

10 exp Pulmonary Embolism/ (80922)

11 exp Venous Thrombosis/ (114178)

12 Thrombophlebitis/ (15800)

13 (DVT or VTE or PE).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word] (144215)

14 ((Pulmon* or vein or venous or lung) adj (Emboli* or thromb*)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word] (192152)

15 (thrombus* or thrombotic* or thrombolic* or thromboemboli* or thrombos* or embol*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word] (597995)

16 (((deep or thromb* or stasis) adj2 (vein* or venous)) or (blood flow stasis or blood clot)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word] (182911)

17 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 (752356)

18 8 and 17 (147813)

Prognosis filter:

19 follow-up.mp. (1606000)

- 20 prognos:.tw. (730265)
- 21 ep.fs. (986253)
- 22 19 or 20 or 21 (3063360)
- 23 18 and 22 (30227)

Clinical prediction guide filter:

- 24 validat:.mp. (630471)
- 25 index.tw. (873592)
- 26 model.tw. (2141395)
- 27 24 or 25 or 26 (3382557)
- 28 18 and 27 (15370)
- 29 23 or 28 (42534)

Records Retrieved: 42534

Author	Year	Participants	Predictors	Outcome	Analysis	Overall
Decousus	2011	+	+	+	-	-
Grant	2016	+	+	+	-	-
Mahan	2014	+	+	+	-	-
Rosenberg	2014	+	+	-	+	-
Rothberg	2011	+	+	+	-	-
Spyropoulos	2011	+	+	+	-	-
Zakai	2004	+	+	-	-	-
Zakai	2013	+	+	-	-	-
Zhou	2018	+	+	-	+	-

sTable 2: Risk of bias assessments using PROBAST for risk assessment model studies

Author	Year	Study	Study	Prognostic	Outcome	Study	Statistical
		participation	attrition	factor	measurem	confounding	analysis and
				measurem	ent		reporting
				ent			
Barclay	2013	Yes	Not	Yes	Yes	Yes	No
			reported				
Bembenek	2011	Yes	29.6	Yes	Yes	Yes	Yes
Fan	2011	Yes	26.8	Yes	Yes	Yes	No
Kelly	2004	Yes	23.6	Yes	Yes	Yes	No
Mahan	2013	Yes	32.6	Yes	No	Yes	No
Ota	2009	Yes	0	Yes	Yes	Yes	No
Patell	2017	Yes	3.8	Yes	No	Yes	No
Yi	2012	Yes	4	Yes	Yes	Yes	No

sTable 3: Risk of bias assessments using Quips for prognostic factor studies

sTable 4: Sensitivity analysis of studies that report an association between prognostic factors

Prognostic	Analysis	Number	Number	Sample	Pooled	95%	6 CI
factor		of effect	of	size	OR		
		estimates	studies				
Age	Primary analysis	13	9	130,349	1.34	1.17	1.55
	Sensitivity analysis	10	7	128,867	1.31	1.11	1.55
Sex	Primary analysis	5	5	48,262	1.03	0.80	1.33
	Sensitivity analysis	2	2	47,403	1.00	0.68	1.48
Immobility	Primary analysis	11	8	83,134	2.92	2.09	4.08
	Sensitivity analysis	8	6	81,652	2.69	1.64	4.40
Paresis	Primary analysis	4	4	16,214	2.97	1.20	7.36
	Sensitivity analysis	3	3	16,112	2.48	0.77	8.05
Previous VTE	Primary analysis	9	8	84,403	6.08	3.71	9.97
	Sensitivity analysis	8	7	83,945	6.51	3.81	11.12
Active	Primary analysis	9	9	128,853	2.65	1.79	3.91
malignancy	Sensitivity analysis	7	7	128,293	2.81	1.89	4.18
Critical illness	Primary analysis	7	7	65,777	1.65	1.39	1.95
	Sensitivity analysis	6	6	65,319	1.63	1.37	1.93
Infections	Primary analysis	9	5	66,898	1.48	1.16	1.89
	Sensitivity analysis	8	4	66,440	1.42	1.09	1.87
Acute heart	Primary analysis	2	2	64,006	0.82	0.42	1.60
failure	Sensitivity analysis	1	1	63,548	1.08	0.84	1.39
History of	Primary analysis	4	3	2,291	2.68	1.11	6.44
heart failure	Sensitivity analysis	3	2	1,992	2.96	1.03	8.49
Severe stroke	Primary analysis	5	4	66,227	1.79	0.77	4.18
	Sensitivity analysis	4	3	65,769	2.00	0.69	5.78
Respiratory	Primary analysis	6	4	66,710	1.04	0.69	1.58
failure	Sensitivity analysis	5	3	66,252	1.05	0.68	1.61
Coronary	Primary analysis	4	4	65,912	1.01	0.33	3.09
artery	Sensitivity analysis	2	2	65,352	2.02	0.32	12.64
disease							

and symptomatic VTE only.

Online only supplemental figures

Part 1

Supplemental Figures:

sFigure 1: Forest plots showing the association between candidate prognostic factors and the outcome venous thromboembolism-

Part 1 (From sFigure 1A- sFigure 1R)

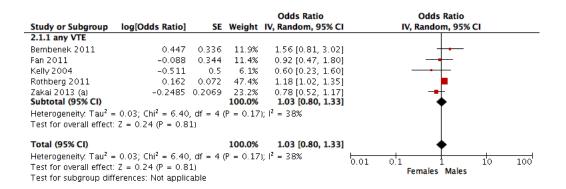
sFigure 1: Forest plots showing the association between candidate prognostic factors and the outcome venous thromboembolism-

Part 1 (From sFigure 1A- sFigure 1R)

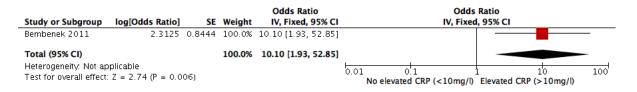
sFigure 1A: Forest plots showing the association between age and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
1.1.2 ≥60					
Grant 2016 (a)	0.239	0.135	14.1%	1.27 [0.97, 1.65]	-
Grant 2016 (b)	0.058	0.154	12.3%	1.06 [0.78, 1.43]	+
Kelly 2004	1.308	0.605	1.3%	3.70 [1.13, 12.11]	
Mahan 2014	0.27	0.238	6.9%	1.31 [0.82, 2.09]	+•
Rosenberg 2014	0.708	0.239	6.8%	2.03 [1.27, 3.24]	_
Rothberg 2011	0.412	0.184	9.9%	1.51 [1.05, 2.17]	
Spyropoulos 2011	0.491	0.211	8.2%	1.63 [1.08, 2.47]	_
Yi 2012	0.577	0.297	4.8%	1.78 [0.99, 3.19]	
Yi 2012 (b)	0.489	0.297	4.8%	1.63 [0.91, 2.92]	
Zakai 2013 (a)	-0.3011	0.283	5.2%	0.74 [0.42, 1.29]	
Zakai 2013 (b)	0	0.268	5.7%	1.00 [0.59, 1.69]	_ _
Zhou 2018 (Caprini)	0.182	0.208	8.4%	1.20 [0.80, 1.80]	
Zhou 2018 (Padua)	0.322	0.164	11.4%	1.38 [1.00, 1.90]	
Subtotal (95% CI)			100.0%	1.34 [1.17, 1.55]	•
Heterogeneity: Tau ² =	= 0.02; Chi ² = 16.8	7, df =	12 (P = 0)), 15); I ² = 29%	
Test for overall effect:	Z = 4.10 (P < 0.0)	001)			
Total (95% CI)			100.0%	1.34 [1.17, 1.55]	•
Heterogeneity: Tau ² = Test for overall effect: Test for subgroup diff	Z = 4.10 (P < 0.0)	001)	12 (P = 0	0.15); I ² = 29%	0.01 0.1 1 10 100 <60 ≥60

sFigure 1B: Forest plot showing the association between sex and the outcome VTE



sFigure 1C: Forest plot showing the association between C-reactive protein and the outcome VTE

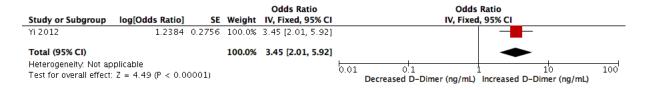


sFigure 1D: Forest plots showing the association between D-Dimer and the outcome VTE

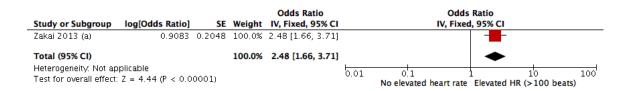
sFigure 1.1D: D-dimer (categorical)

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Fixed, 95% CI	Odds Ratio IV, Fixed, 95% CI
27.1.1 Any VTE					
Fan 2011 Subtotal (95% CI)	0.9019 0.37	709		2.46 [1.19, 5.10] 2.46 [1.19, 5.10]	
Heterogeneity: Not ap Test for overall effect:					
Total (95% CI) Heterogeneity: Not ap Test for overall effect: Test for subgroup diff			100.0%	2.46 [1.19, 5.10]	0.01 0.1 1 10 100 < 500ng/mL > 500ng/mL

sFigure 1.2D: D-dimer (continuous)



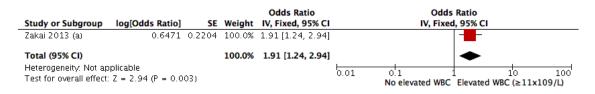
sFigure 1E: Forest plot showing the association between heart rate and the outcome VTE



sFigure 1F: Forest plot showing the association between thrombocytosis and the outcome VTE

Study or Subgroup	log[Odds Ratio] SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Zakai 2004 (a)	1.099 0.389	31.6%	3.00 [1.40, 6.43]	_
Zakai 2013 (a)	0.6206 0.2588	68.4%	1.86 [1.12, 3.09]	
Total (95% CI)		100.0%	2.16 [1.40, 3.35]	◆
	0.01; $Chi^2 = 1.05$, df = 1 Z = 3.47 (P = 0.0005)	(P = 0.31	.); I ² = 5%	0.01 0.1 1 10 100 No thrombocytosis Thrombocytosis

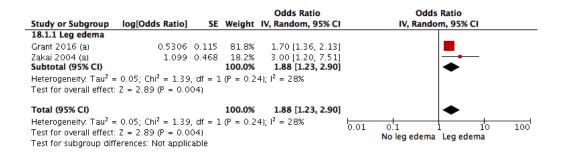
sFigure 1G: Forest plot showing the association between leukocytosis and the outcome VTE



sFigure 1H: Forest plot showing the association between fever and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Zakai 2004 (a)	0.6419 0.44	13 38.0%	1.90 [0.80, 4.51]	
Zakai 2013 (a)	0.6259 0.34	55 62.0%	1.87 [0.95, 3.68]	+∎-
Total (95% CI)		100.0%		◆
Heterogeneity: Tau ² = Test for overall effect:	= 0.00; Chi ² = 0.00, df = : Z = 2.32 (P = 0.02)	1 (P = 0.98	$3); ^2 = 0\%$	0.01 0.1 1 10 100 No fever Fever (>38-38.5°C)

sFigure 1I: Forest plot showing the association between leg edema and the outcome VTE



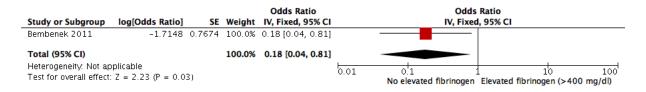
sFigure 1J: Forest plot showing the association between varicose veins and the outcome VTE

				Odds Ratio	Odds Ratio
Study or Subgroup	log[Odds Ratio]	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Grant 2016 (a)	0.1989	0.4158	52.2%	1.22 [0.54, 2.76]	
Zhou 2018 (Caprini)	0.678	0.4349	47.8%	1.97 [0.84, 4.62]	+
Total (95% CI)			100.0%	1.53 [0.85, 2.76]	•
Heterogeneity. Tau ² =		0.01 0.1 1 10 100			
Test for overall effect:	Z = 1.42 (P = 0.1)	5)			No varicose veins Varicose veins

sFigure 1K: Forest plot showing the association between obesity and the outcome VTE

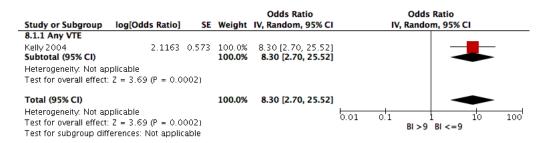
Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Rothberg 2011	0.2469	0.1311	51.5%	1.28 [0.99, 1.66]	
Zakai 2013 (a)	-0.0305	0.2803	26.4%	0.97 [0.56, 1.68]	-+-
Zhou 2018 (Padua)	0.7793	0.3219	22.1%	2.18 [1.16, 4.10]	
Total (95% CI)			100.0%	1.34 [0.94, 1.91]	•
Heterogeneity: Tau ^z : Test for overall effect			(P = 0.16); I ² = 46%	0.01 0.1 1 10 100 No obesity Obesity (BMI > 30 kg/m2)

sFigure 1L: Forest plot showing the association between Fibrinogen levels and the outcome VTE

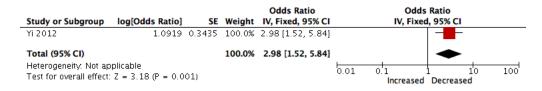


sFigure 1M: Forest plots showing the association between Barthel index score and the outcome VTE

sFigure 1.1M: Barthel index score (categorical)



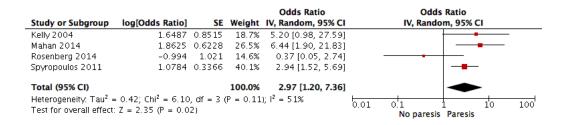
sFigure 1.2M: Barthel index score (continuous)



sFigure 1N: Forest plot showing the association between immobility and the outcome VTE

				Odds Ratio	Odds Ratio
/ / /	[Odds Ratio]	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI
7.1.1 Any VTE (Immobilit					
Kelly 2004	2.728	0.605	5.8%	15.30 [4.67, 50.09]	
Rosenberg 2014	0.104	0.214	11.6%	1.11 [0.73, 1.69]	
Yi 2012 (DVT)	1.579	0.436	8.0%	4.85 [2.06, 11.40]	
Yi 2012 (PE)	0.751	0.038	13.5%	2.12 [1.97, 2.28]	
Zhou 2018 (Padua) Subtotal (95% CI)	1.442	0.256	10.9% 49.7%	4.23 [2.56, 6.98] 3.09 [1.76, 5.42]	→ →
Heterogeneity: Tau ² = 0.3	1; Chi ² = 30.66	, df = 4	(P < 0.00)	$(001); I^2 = 87\%$	
Test for overall effect: Z =					
7.1.2 Any VTE (Immobilit	y >72hrs)				
Grant 2016 (a)	0.582	0.215	11.6%	1.79 [1.17, 2.73]	
Zakai 2004 (a)	0.693	0.468	7.5%	2.00 [0.80, 5.00]	+
Zhou 2018 (Caprini)	2.219	0.371	9.0%	9.20 [4.45, 19.03]	
Subtotal (95% CI)			28.1%	3.18 [1.10, 9.16]	
Heterogeneity: Tau ² = 0.7	5; Chi ² = 14.93	, df = 2	(P = 0.00)	006); I ² = 87%	
Test for overall effect: Z =	2.14 (P = 0.03))			
7.1.3 Any VTE (Immobilit	y >7 days)				
Mahan 2014	2.0656	0.2896	10.3%	7.89 [4.47, 13.92]	
Spyropoulos 2011	0.568	0.1922	11.9%	1.76 [1.21, 2.57]	
Subtotal (95% CI)			22.3%	3.67 [0.85, 15.93]	
Heterogeneity: Tau ² = 1.0	6; Chi ² = 18.56	df = 1	(P < 0.00	001); l ² = 95%	
Test for overall effect: Z =	1.74 (P = 0.08))			
Total (95% CI)			100.0%	3.17 [2.18, 4.62]	•
Heterogeneity: Tau ² = 0.2	7; Chi ² = 67.82	, df = 9	(P < 0.00	0001); I ² = 87%	0.01 0.1 1 10 10
Test for overall effect: Z =					0.01 0.1 1 10 10 Favours [experimental] Favours [control]
Test for subgroup differen	a				ravours [experimental] ravours [control]

sFigure 1O: Forest plot showing the association between paresis and the outcome VTE



sFigure 1P: Forest plot showing the association between previous VTE and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Barclay 2013	3.276	0.684	7.6%	26.47 [6.93, 101.15]	
Fan 2011	1.266	0.58	9.0%	3.55 [1.14, 11.05]	
Grant 2016 (a)	1.085	0.105	16.7%	2.96 [2.41, 3.64]	+
Mahan 2014	2.082	0.497	10.3%	8.02 [3.03, 21.24]	_
Rosenberg 2014	1.163	0.294	13.9%	3.20 [1.80, 5.69]	— —
Spyropoulos 2011	1.521	0.224	15.1%	4.58 [2.95, 7.10]	
Zakai 2013 (a)	0.9895	0.3118	13.6%	2.69 [1.46, 4.96]	— —
Zhou 2018 (Caprini)	3.657	0.745	6.9%	38.74 [9.00, 166.86]	 >
Zhou 2018 (Padua)	3.869	0.738	7.0%	47.89 [11.27, 203.46]	
Total (95% CI)			100.0%	6.08 [3.71, 9.97]	•
Heterogeneity: Tau ² = Test for overall effect:			(P < 0.0	0001); $I^2 = 80\%$	0.01 0.1 1 10 100
rescrot overall effect.	2 = 7.15 (F < 0.0	0001)			No previous VTE Previous VTE

sFigure 1Q: Forest plot showing the association between thrombophilia and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Mahan 2013	2.8214	1.0338	13.4%	16.80 [2.21, 127.44]	
Rosenberg 2014	1.1019	1.4096	7.2%	3.01 [0.19, 47.69]	
Rothberg 2011	1.3863	0.7176	27.9%	4.00 [0.98, 16.33]	
Spyropoulos 2011	1.3556	0.6112	38.4%	3.88 [1.17, 12.85]	_
Zhou 2018 (Padua)	3.1108	1.0511	13.0%	22.44 [2.86, 176.08]	
Total (95% CI)			100.0%	5.88 [2.80, 12.35]	•
Heterogeneity: Tau ² =	0.00 ; $Chi^2 = 3.63$				
Test for overall effect:	Z = 4.67 (P < 0.0)	0001)			0.01 0.1 1 10 100 No thrombophilia Thrombophilia

sFigure 1R: Forest plots showing the association between malignancy and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
9.1.1 Any VTE Active					,
Barclay 2013	2.17	0.628	6.7%	8.76 [2.56, 29.99]	
Fan 2011	-0.994	1.021	3.2%	0.37 [0.05, 2.74]	
Grant 2016 (a)	0.7227	0.0803	19.3%	2.06 [1.76, 2.41]	+
Kelly 2004	1.163	1.208	2.4%	3.20 [0.30, 34.15]	
Mahan 2014	2.0656	0.2896	14.0%	7.89 [4.47, 13.92]	
Rothberg 2011	0.537	0.259	14.9%	1.71 [1.03, 2.84]	
Spyropoulos 2011	1.0818	0.2017	16.5%	2.95 [1.99, 4.38]	
Zakai 2004 (a)	1.03	0.639	6.5%	2.80 [0.80, 9.80]	
Zakai 2013 (a)	0.47	0.2053	16.4%	1.60 [1.07, 2.39]	
Subtotal (95% CI)			100.0%	2.65 [1.79, 3.91]	•
Heterogeneity: Tau ² =	0.20; Chi ² = 33.6	6. df = 8	(P < 0.0	001 : $ ^2 = 76\%$	
Test for overall effect:					
9.1.2 Any VTE Histor	y of cancer				
Rosenberg 2014	1.1632	0.2053	100.0%	3.20 [2.14, 4.79]	- <mark></mark>
Subtotal (95% CI)			100.0%	3.20 [2.14, 4.79]	
Heterogeneity: Not ap	plicable				-
Test for overall effect:		0001)			
					0.01 0.1 1 10 100' No Cancer Cancer

Online only supplemental figures

Part 2

Supplemental Figures:

sFigure 1: Forest plots showing the association between candidate prognostic factors and the outcome venous thromboembolism-

Part 2 (from sFigure 1S- sFigure 1AC)

sFigure 2: Forest plots showing the association between candidate prognostic factors and the outcome bleeding

sFigure 1: Forest plots showing the association between candidate prognostic factors and the outcome venous thromboembolism-

Part 2 (from sFigure 1S- sFigure 1AC)

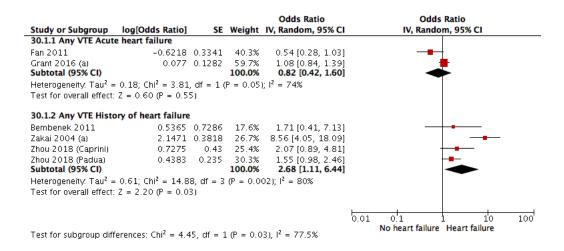
sFigure 1S: Forest plot showing the association between critical illness and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Fan 2011	1.229	0.692	1.5%	3.42 [0.88, 13.27]	
Mahan 2014	0.3646	0.3397	6.4%	1.44 [0.74, 2.80]	
Rosenberg 2014	0.372	0.297	8.3%	1.45 [0.81, 2.60]	+•
Rothberg 2011	0.4762	0.121	50.3%	1.61 [1.27, 2.04]	₩
Spyropoulos 2011	0.539	0.2404	12.7%	1.71 [1.07, 2.75]	- - -
Zakai 2013 (a)	0.6313	0.2291	14.0%	1.88 [1.20, 2.95]	
Zhou 2018 (Padua)	0.438	0.332	6.7%	1.55 [0.81, 2.97]	+
Total (95% CI)			100.0%	1.65 [1.39, 1.95]	•
Heterogeneity: Tau ² =	= 0.00; Chi ² $= 1.88$				
Test for overall effect:	: Z = 5.82 (P < 0.0	0001)			0.01 0.1 1 10 100 No critical illness Critical illness

sFigure 1T: Forest plot showing the association between infections and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% Cl
4.1.1 Acute infection	IS			, ,	
Fan 2011	0.73	0.341	9.6%	2.08 [1.06, 4.05]	_ _
Grant 2016 (a)	0.247	0.158	21.5%	1.28 [0.94, 1.74]	
Zakai 2004 (a)	0.916	1.258	1.0%	2.50 [0.21, 29.42]	
Zakai 2004 (b)	0.993	0.721	2.8%	2.70 [0.66, 11.09]	
Zakai 2013 (a)	0.0862	0.362	8.8%	1.09 [0.54, 2.22]	_
Zakai 2013 (b)	0.207	0.267	13.2%	1.23 [0.73, 2.08]	- -
Zhou 2018 (Padua)	0.723	0.113	25.8%	2.06 [1.65, 2.57]	-
Subtotal (95% CI)			82.6%	1.59 [1.23, 2.06]	•
Heterogeneity: Tau ² = Test for overall effect:			(P = 0.1	3); l ² = 40%	
4.1.2 Sepsis					
Grant 2016 (b)	0.058	0.217	16.5%	1.06 [0.69, 1.62]	- - -
Zakai 2004 (c) Subtotal (95% CI)	0.262	1.292	0.9% 17.4%	1.30 [0.10, 16.35] 1.07 [0.70, 1.62]	—
Heterogeneity. Tau ² = Test for overall effect:			(P = 0.8	:8); I ² = 0%	
Total (95% CI) Heterogeneity: Tau ² = Test for overall effect: Test for subgroup diff	Z = 3.13 (P = 0.0)	02)		08); I ² = 43%	0.01 0.1 1 10 100 No infections Infections

sFigure 1U: Forest plots showing the association between heart failure for the outcome VTE



sFigure 1V: Forest plot showing the association between autoimmune disease and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% Cl
Grant 2016 (a)	-0.2357	0.2437	26.3%	0.79 [0.49, 1.27]	
Rothberg 2011	1.1346	0.3423	23.7%	3.11 [1.59, 6.08]	
Zakai 2013 (a)	2.0451	0.4343	21.1%	7.73 [3.30, 18.11]	_
Zhou 2018 (Padua)	0.723	0.113	28.9%	2.06 [1.65, 2.57]	+
Total (95% CI)			100.0%	2.33 [1.13, 4.83]	◆
Heterogeneity: Tau ² = Test for overall effect:	,	·	(P < 0.0	001); I ² = 88%	0.01 0.1 1 10 100 No autoimmune disease Autoimmune disease

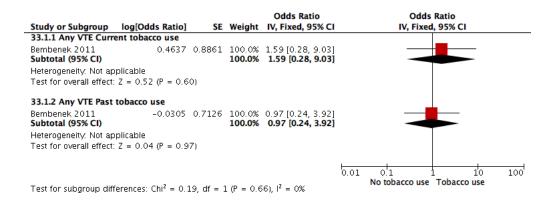
sFigure 1W: Forest plot showing the association between central venous catheters and the outcome VTE

				Odds Ratio	Odds Ratio
Study or Subgroup	log[Odds Ratio]	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Grant 2016 (a)	1.2355 0.	.0942	49.9%	3.44 [2.86, 4.14]	
Rothberg 2011	0.1989 0.	.0814	50.1%	1.22 [1.04, 1.43]	-
Total (95% CI)			100.0%	2.05 [0.74, 5.65]	
	0.53; Chi ² = 69.33,	0.01 0.1 1 10 100			
rest for overall effect.	Z = 1.38 (P = 0.17)				No CVC CVC

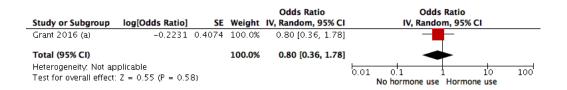
sFigure 1X: Forest plot showing the association between severe stroke and the outcome VTE

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Fan 2011	0.278	0.431	20.0%	1.32 [0.57, 3.07]	
Grant 2016 (a)	-0.9416	0.2694	22.8%	0.39 [0.23, 0.66]	
Mahan 2013	0.536	0.0466	24.9%	1.71 [1.56, 1.87]	
Zhou 2018 (Caprini)	1.649	0.559	17.6%	5.20 [1.74, 15.56]	
Zhou 2018 (Padua)	2.165	0.723	14.7%	8.71 [2.11, 35.95]	
Total (95% CI)			100.0%	1.79 [0.77, 4.18]	-
Heterogeneity: Tau ² = Test for overall effect:		$0001); ^2 = 90\%$	0.01 0.1 1 10 100 No stroke Stroke		

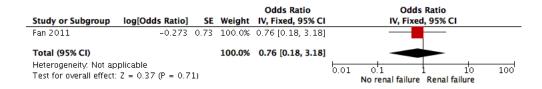
sFigure 1Y: Forest plots showing the association between tobacco and the outcome VTE



sFigure 1Z: Forest plot showing the association between hormone use and the outcome VTE



sFigure 1AA: Forest plot showing the association between renal failure and the outcome VTE



sFigure 1AB: Forest plot showing the association between respiratory failure and the outcome VTE

				Odds Ratio	Odds Ratio
Study or Subgroup	log[Odds Ratio]	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI
5.1.1 Acute respirato	ry illness				
Grant 2016 (a)	-0.0101	0.119	22.3%	0.99 [0.78, 1.25]	+
Grant 2016 (b)	0.2469	0.129	22.1%	1.28 [0.99, 1.65]	
Zakai 2013 (b)	-0.5798	0.339	14.9%	0.56 [0.29, 1.09]	
Zhou 2018 (Caprini) Subtotal (95% CI)	0.7419	0.1169	22.4% 81.7%		▲ ⁺
Heterogeneity: Tau ² =	0.17; Chi ² = 27.9	8, df = 3	(P < 0.0)	0001 ; $ ^2 = 89\%$	
Test for overall effect:	Z = 0.74 (P = 0.4)	6)			
5.1.2 Chronic respira	tory illness				
Fan 2011 (b)	-0.1393	1.0107	3.7%	0.87 [0.12, 6.31]	
Zakai 2013 (a) Subtotal (95% CI)	-0.5978	0.347	14.6% 18.3%		
Heterogeneity: Tau ² =	0.00; Chi ² = 0.18	, df = 1 (P = 0.67); $ ^2 = 0\%$	_
Test for overall effect:	Z = 1.67 (P = 0.0)	9)			
Total (95% CI)			100.0%	1.04 [0.69, 1.58]	•
Heterogeneity: Tau ² =	0.19; Chi ² = 34.5	6. df = 5	(P < 0.0	0001); $ ^2 = 86\%$	
Test for overall effect:	,	·	,	.,	0.01 0.1 1 10 100
Test for subgroup diff			L(P = 0.0))7), I ² = 69.0%	No respiratory failure Respiratory failure

sFigure 1AC: Forest plot showing the association between coronary artery disease and the outcome VTE

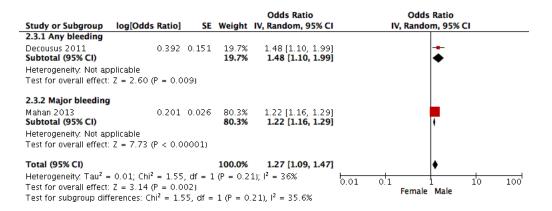
Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Fan 2011	-0.6218	0.3341	26.9%	0.54 [0.28, 1.03]	
Grant 2016 (a)	-0.2231	0.3411	26.8%	0.80 [0.41, 1.56]	— — —
Kelly 2004	-0.9163	0.7073	20.3%	0.40 [0.10, 1.60]	
Zhou 2018 (Caprini)	1.6487	0.3945	26.0%	5.20 [2.40, 11.27]	
Total (95% CI)			100.0%	1.01 [0.33, 3.09]	
Heterogeneity: Tau ² =	1.09; Chi ² = 22.9	7, df = 3	(P < 0.0)	$001); ^2 = 87\%$	
Test for overall effect:	Z = 0.03 (P = 0.9)	B)			0.01 0.1 1 10 100 Reduces risk Increases risk

sFigure 2: Forest plots showing the association between candidate prognostic factors and the outcome bleeding

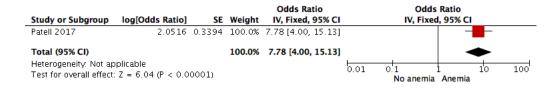
eFigure 2A: Forest plots showing the association between age and the outcome bleeding

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Decousus 2011	1.085	0.371	6.7%	2.96 [1.43, 6.12]	
Mahan 2013	0.53	0.064	45.5%	1.70 [1.50, 1.93]	
Mahan 2013 (b)	0.74	0.055	47.7%	2.10 [1.88, 2.33]	•
Total (95% CI)			100.0%	1.95 [1.59, 2.38]	◆
Heterogeneity: Tau ² =	= 0.02; Chi ² = 7.55,	df = 2	(P = 0.0	2); I ² = 73%	0.01 0.1 1 10 100
Test for overall effect:	Z = 6.51 (P < 0.00)	0001)			Age <65 Age ≥65

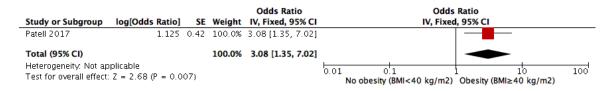
sFigure 2B: Forest plot showing the association between sex and the outcome bleeding



sFigure 2C: Forest plot showing the association between anemia as a reason for admission and the outcome bleeding



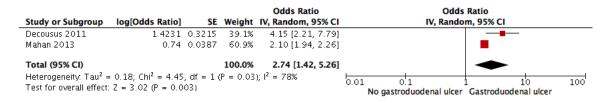
sFigure 2D: Forest plot showing the association between obesity and the outcome bleeding



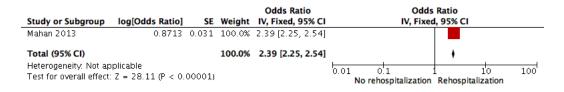
sFigure 2E: Forest plot of low hemoglobin for the outcome bleeding



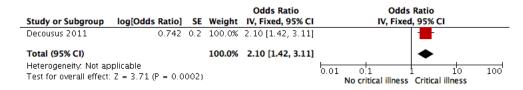
sFigure 2F: Forest plot showing the association between gastro-duodenal ulcers and the outcome bleeding



sFigure 2G: Forest plot showing the association between rehospitalisation and the outcome bleeding



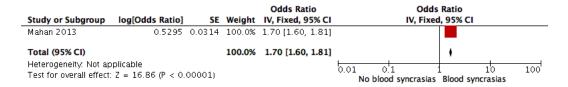
sFigure 2H: Forest plot showing the association between critical illness and the outcome bleeding



sFigure 2I: Forest plot showing the association between thrombocytopenia and the outcome bleeding

				Odds Ratio	Odds Ratio	
Study or Subgroup	log[Odds Ratio]	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI	
16.3.1 Thrombocyto	penia (<150x10*9	/L)				
Mahan 2013	0.149	0.113	39.2%	1.16 [0.93, 1.45]		
Patell 2017 Subtotal (95% CI)	0.531	0.271	31.5% 70.6%		→	
Heterogeneity: Tau ² =	= 0.03; Chi ² = 1.69	, df = 1	(P = 0.1)	9); $ ^2 = 41\%$		
Test for overall effect	Z = 1.50 (P = 0.1)	3)				
16.3.2 Platelet count	t (<50x10*9/L)					
Decousus 2011 Subtotal (95% CI)	1.215	0.309	29.4% 29.4%		•	
Heterogeneity. Not ap	plicable				-	
Test for overall effect	Z = 3.93 (P < 0.0	001)				
Total (95% CI)			100.0%	1.79 [0.97, 3.29]	•	
Heterogeneity. Tau ² = Test for overall effect	: Z = 1.87 (P = 0.0	6)			0.01 0.1 1 10 10 No thrombocytopenia Thrombocytopenia	00
Test for subgroup dif	terences: Chi ² = 7.2	25, df =	1 (P = 0	.007), 1° = 86.2%		

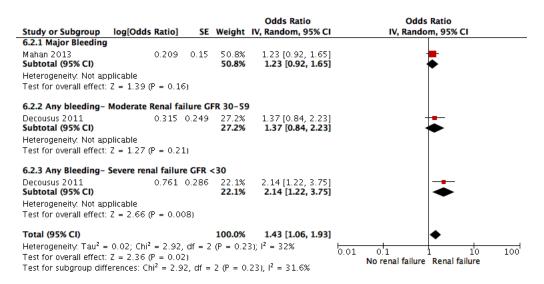
sFigure 2J: Forest plot showing the association between blood syncrasias and the outcome bleeding



sFigure 2K: Forest plot showing the association between hepatic disease and the outcome bleeding

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI		Ratio m, 95% CI	
Decousus 2011	0.7793	0.349	19.6%	2.18 [1.10, 4.32]		 •	
Mahan 2013	0.3393	0.0626	80.4%	1.40 [1.24, 1.59]			
Total (95% CI)			100.0%	1.53 [1.09, 2.15]		◆	
Heterogeneity: Tau ² = Test for overall effect:			P = 0.21); I ² = 35%	0.01 0.1 No hepatic disease	1 10 Hepatic disease	100

sFigure 2L: Forest plot showing the association between renal failure and the outcome bleeding



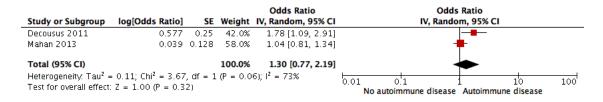
sFigure 2M: Forest plot showing the association between antithrombotic medication and the outcome bleeding

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Odds Ratio IV, Random, 95% CI
Decousus 2011	0.4511	0.188	21.1%	1.57 [1.09, 2.27]	
Decousus 2011 (b)	0.1906	0.16	24.3%	1.21 [0.88, 1.66]	
Decousus 2011 (c)	0.571	0.248	15.6%	1.77 [1.09, 2.88]	_ _
Mahan 2013	0.0491	0.0407	39.0%	1.05 [0.97, 1.14]	•
Total (95% CI)			100.0%	1.28 [1.01, 1.64]	◆
Heterogeneity. Tau ² = Test for overall effect:	· ·	· · ·	P = 0.03); ² = 66%	0.01 0.1 1 10 100 No antithrombotic medication Antithrombotic medication

sFigure 2N: Forest plot showing the association between central venous catheters and the outcome bleeding

				Odds Ratio		Odds Ratio		
Study or Subgroup	log[Odds Ratio]	SE	Weight	IV, Random, 95% CI		IV, Random, 95%	i CI	
Decousus 2011	0.615 (0.229	42.0%	1.85 [1.18, 2.90]				
Mahan 2013	0.095	0.097	58.0%	1.10 [0.91, 1.33]		-		
Total (95% CI)			100.0%	1.37 [0.83, 2.26]		•		
Heterogeneity: Tau ² = Test for overall effect:			(P = 0.0	4); l ² = 77%	0.01 0.1		10	100

sFigure 2O: Forest plot showing the association between autoimmune disease and the outcome bleeding



sFigure 2P: Forest plot showing the association between hormone use and the outcome bleeding

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Fixed, 95% CI	Odds Ratio IV, Fixed, 95% CI
Mahan 2013	-0.051	0.075	100.0%	0.95 [0.82, 1.10]	—
Total (95% CI)			100.0%	0.95 [0.82, 1.10]	+
Heterogeneity: Not ap Test for overall effect:	•	0)			0.01 0.1 1 10 100 No hormone use Hormone use

sFigure 2Q: Forest plot showing the association between malignancy and the outcome bleeding

Study or Subgroup	log[] Sl	: Weight	IV, Random, 95% CI	IV, Random, 95% CI
Decousus 2011	0.577 0.203	1 48.0%	1.78 [1.20, 2.64]	
Mahan 2013	-0.386 0.055	; 52.0%	0.68 [0.61, 0.76]	•
Total (95% CI)		100.0%	1.08 [0.42, 2.77]	-
			1 (P < 0.00001); l^2 = 95%	0.01 0.1 1 10 100
l est for overall effect:	Test for overall effect: $Z = 0.16$ (P = 0.87)			No malignancy Malignancy