Appendix A.

Appendix A.
Acronyms and Abbreviations

AIS	Abbreviated Injury Scale
BMI	Body Mass Index
CAT	Computed Axial Tomography
CT	Computed Tomography
CTA	Computed Tomography Angiography
CUS	Compression Ultrasonography
DVT	Deep Vein Thrombosis
GCS	Glasgow Coma Scale
Hr(s)	Hour(s)
ICU	Intensive Care Unit
INR	International Normalized Ratio
IPG	Impedance Phlebography
ISS	Injury Severity Score
IVC	Inferior Vena Cava
IVCF	Inferior Vena Cava Filter
LE	Lower Extremity
LMWH	Low Molecular Weight Heparin
Mg	Milligram
NIH	National Institutes of Health
NR	Not Reported
PE	Pulmonary Embolism
P-IVCF	Prophylactic Inferior Vena Cava Filter
RCT	Randomized Controlled Trial
R-IVCF	Retrievable Inferior Vena Cava Filter
RYGB	Roux-en-Y gastric bypass
SCD	Sequential Compression Device
SCI	Spinal Cord Injury
SQ	Subcutaneous
TBI	Traumatic Brain Injury
UFH	Unfractionated Heparin
USS	Ultrasound Scan
U	Units
VCF	Vena Cava Filter
V/Q Scan	Ventilation Perfusion Scan
VTE	Venous Thromboembolism

Appendix B.

Appendix B. Detailed Search Strategies

August 15th, 2011

Pubmed search string=13366

((“pulmonary embolism”[mh] OR PE[tiab] OR “Pulmonary embolism”[tiab] OR thromboembolism[mh] OR thromboembolism[tiab] OR thromboembolisms[tiab] OR Thrombosis[mh] OR thrombosis[tiab] OR DVT[tiab] OR VTE[tiab] OR clot[tiab]) AND (Anticoagulants[mh] OR Anticoagulants[tiab] OR Anticoagulant[tiab] OR “thrombin inhibitors”[tiab] OR Aspirin[mh] or aspirin[tiab] OR aspirins[tiab] or clopidogrel[nm] OR clopidogrel[tiab] OR Plavix[tiab] or ticlopidine[mh] or ticlopidine[tiab]OR ticlid[tiab] OR prasugrel[nm]Or prasugrel[tiab]OR effient[tiab]OR ticagrelor[NM] OR ticagrelor[tiab]OR Brilinta[tiab] OR cilostazol[NM] OR cilostazol[tiab]OR pletal[tiab] OR warfarin[mh]OR warfarin[tiab]OR coumadin[tiab] OR coumadine[tiab] OR Dipyridamole[mh]OR dipyridamole[tiab]OR persantine[tiab] OR dicoumarol[MH] OR dicoumarol[tiab] OR dicumarol[tiab] OR Dextran sulfate[mh] OR dextran sulfate[tiab] OR“thrombin inhibitors”[tiab] OR “thrombin inhibitor”[tiab] OR heparin[mh] OR Heparin[tiab] OR Heparins[tiab] OR LMWH[tiab] OR LDUH[tiab] OR Enoxaparin[mh] OR Enoxaparin[tiab] OR Lovenox[tiab] OR Dalteparin[tiab] OR Fragmin[tiab] OR Tinzaparin[tiab] OR innohep[tiab] OR Nadroparin[tiab] OR Fondaparinux[nm] OR Fondaparinux[tiab] OR Arixtra[tiab] OR Idraparinux[nm] OR Idraparinux[tiab] OR Rivaroxaban[nm] OR Rivaroxaban[tiab] OR novastan[tiab] OR Desirudin[nm] OR Desirudin[tiab] OR Iprivask[tiab]OR “direct thrombin inhibitor”[tiab] OR Argatroban[nm] OR Argatroban[tiab] OR Acova[tiab] OR Bivalirudin[nm] OR Bivalirudin[tiab] OR Angiomax[tiab] OR Lepirudin[nm] OR Lepirudin[tiab] OR Refludan[tiab] OR Dabigatran[nm] OR Dabigatran[tiab] OR Pradaxa[tiab] OR “factor xa”[mh] OR “factor Xa”[tiab] OR vena cava filters[mh] OR filters[tiab] OR filter[tiab] OR compression stockings[mh] OR intermittent pneumatic compression devices[mh] OR compression [tiab] OR “Venous foot pump”[tiab])) AND(prevent*[tiab] OR prophyla*[tiab] OR prevention and control[subheading]) NOT (animals[mh] NOT humans[mh]) NOT (editorial[pt] OR comment[pt]) NOT ((infant[mh] OR infant[tiab] OR child[mh] OR child[tiab] OR children[tiab] OR adolescent[mh] OR adolescent[tiab] OR "teen-age"[tiab] OR pediatric[tiab] OR perinatal[tiab]) NOT (adult[tiab] OR adults[tiab] OR adult[mh])) NOT ("mechanical valve"[tiab] OR “heart valve”[tiab] OR “atrial fibrillation”[mh] OR “atrial fibrillation”[tiab] OR thrombophilia[mh] OR thrombophilia[tiab] OR pregnancy[mh])

CINAHL = 2778

International pharmaceutical abstracts = 1333

TX “Pulmonary embolism” OR TX thromboembolism OR TX thromboembolisms OR TX Thrombosis OR TX DVT OR TX VTE OR TX clot

AND

TX Anticoagulants OR TX Anticoagulant OR TX “thrombin inhibitors” OR TX “thrombin inhibitor” OR TX aspirin OR TX aspirins OR TXclopidogrel OR TX Plavix OR TX ticlopidine OR TX ticlid OR TX prasugrel OR TX effient OR TX ticagrelor OR TX Brilinta OR TX cilostazolOR TX pletal OR TX warfarinOR TX coumadin OR TX coumadine OR TX dipyridamoleOR Tx persantine OR TX dicoumarol OR TX dicumarol OR TX dextran sulfate OR TX Heparin OR TX Heparins OR TX LMWH OR TX LDUH OR TX Enoxaparin OR TX Lovenox OR TX Dalteparin OR TX Fragmin OR TX Tinzaparin OR TX innohep OR TX Nadroparin OR TX Fondaparinux OR TX Arixtra OR TX Idraparinux OR TX Rivaroxaban OR TX novastan OR TX Desirudin OR TX Iprivask OR TX “direct thrombin inhibitor” OR TX Argatroban OR TX Acova OR TX Bivalirudin OR TX Angiomax OR TX Lepirudin OR TX Refludan OR TX Dabigatran OR TX Pradaxa OR TX “factor Xa” OR TX vena cava filters OR TX filters OR TX filter OR TX compression stockings OR TX intermittent pneumatic compression devices OR TX compression OR TX “Venous foot pump”TX Anticoagulants OR TX Anticoagulant OR TX “thrombin inhibitors” OR TX “thrombin inhibitor” OR TX Heparin OR TX Heparins OR TX LMWH OR TX LDUH OR TX Enoxaparin OR TX Lovenox OR TX Dalteparin OR TX Fragmin OR TX Tinzaparin OR TX innohep OR TX Nadroparin OR TX Fondaparinux OR TX Arixtra OR TX Idraparinux OR TX Rivaroxaban OR TX novastan OR TX Desirudin OR TX Iprivask OR TX “direct thrombin inhibitor” OR TX Argatroban OR TX Acova OR TX Bivalirudin OR TX Angiomax OR TX Lepirudin OR TX Refludan OR

AND

TX prevent* OR TX prophyla*

EMBASE : 7758

'thromboembolism'/exp OR 'pulmonary embolism':ab,ti OR thromboembolism:ab,ti OR thromboembolisms:ab,ti OR thrombosis:ab,ti OR dvt:ab,ti OR vte:ab,ti OR clot:ab,ti AND ('thrombin inhibitor'/exp OR aspirin:ab,ti OR aspirins:ab,ti OR clopidogrel:ab,ti OR warfarin:ab,ti OR coumadin:ab,ti OR coumadine:ab,ti OROR heparins:ab,ti OR 'lmwh':ab,ti OR lduh:ab,ti OR enoxaparin:ab,ti OR lovenox:ab,ti OR dalteparin:ab,ti OR fragmin:ab,ti OR tinzaparin:ab,ti OR innohep:ab,ti OR nadroparin:ab,ti OR fondaparinux:ab,ti OR arixtra:ab,ti OR idraparinux:ab,ti OR rivaroxaban:ab,ti OR novastan:ab,ti OR desirudin:ab,ti OR iprivask:ab,ti

OR 'direct thrombin inhibitor':ab,ti OR argatroban:ab,ti OR acova:ab,ti OR bivalirudin:ab,ti OR angiomax:ab,ti OR lepirudin:ab,ti OR refludan:ab,ti OR dabigatran:ab,ti OR pradaxa:ab,ti OR 'factor xa':ab,ti OR 'vena cava filters':ab,ti OR 'compression stockings':ab,ti OR 'intermittent pneumatic compression devices':ab,ti OR compression:ab,ti OR 'venous foot pump':ab,ti) AND (prevent*:ab,ti OR prophyla*:ab,ti) NOT ('infant'/exp OR infant:ab,ti OR 'child'/exp OR child:ab,ti OR children:ab,ti OR 'adolescent'/exp OR adolescent:ab,ti OR 'teen-age':ab,ti OR pediatric:ab,ti OR perinatal:ab,ti NOT (adult:ab,ti OR adults:ab,ti) NOT ('animal'/exp OR animal:ab,ti NOT ('human'/exp OR human:ab,ti)) NOT ('mechanical valve':ab,ti OR 'heart valve':ab,ti OR 'atrial fibrillation':ab,ti OR 'elective knee replacement':ab,ti OR 'elective hip replacement':ab,ti OR thrombophilia:ab,ti OR pregnancy:ab,ti))

Cochrane: 3120

D	Search	Hits	Edit	Delete
#1	"pulmonary embolism":ti,ab,kw OR thromboembolism:ti,ab,kw OR thromboembolisms:ti,ab,kw	3187	edit	delete
#2	MeSH descriptor **Thromboembolism** explode all trees	1328	edit	delete
#3	"pulmonary embolism":ti,ab,kw OR thromboembolism:ti,ab,kw OR thromboembolisms:ti,ab,kw OR Thrombosis:ti,ab,kw	7800	edit	delete
#4	"pulmonary embolism":ti,ab,kw OR thromboembolism:ti,ab,kw OR thromboembolisms:ti,ab,kw OR Thrombosis:ti,ab,kw OR DVT:ti,ab,kw	7863	edit	delete
#5	"pulmonary embolism":ti,ab,kw OR thromboembolism:ti,ab,kw OR thromboembolisms:ti,ab,kw OR Thrombosis:ti,ab,kw OR DVT:ti,ab,kw OR VTE:ti,ab,kw	7882	edit	delete
#6	"pulmonary embolism":ti,ab,kw OR thromboembolism:ti,ab,kw OR thromboembolisms:ti,ab,kw OR Thrombosis:ti,ab,kw OR DVT:ti,ab,kw OR VTE:ti,ab,kw OR clot:ti,ab,kw	9505	edit	delete
#7	(#2 OR #6)	9598	edit	delete
#8	MeSH descriptor **Anticoagulants** explode all trees	7437	edit	delete

#9	Anticoagulants:ti,ab,kw	4323	edit	delete
#10	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw	4323	edit	delete
#11	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw	4334	edit	delete
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#17	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw	9484	edit	delete
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	Dalteparin:ti,ab,kw			
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#25	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR	9671	edit	delete

	innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw			
#26	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw	9679	edit	delete
#27	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw	9708	edit	delete
#28	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw	9708	edit	delete
#29	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw	9711	edit	delete
#30	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR	9711	edit	delete

	heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw			
#31	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw	9711	edit	delete
#32	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw	9732	edit	delete
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#34	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw	9740	edit	delete
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	innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw			
#38	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw OR Dabigatran:ti,ab,kw	9762	edit	delete
#39	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw OR Dabigatran:ti,ab,kw OR Pradaxa:ti,ab,kw	9762	edit	delete
#40	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR	9808	edit	delete

	Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw OR Dabigatran:ti,ab,kw OR Pradaxa:ti,ab,kw OR "factor xa":ti,ab,kw			
#41	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw OR Dabigatran:ti,ab,kw OR Pradaxa:ti,ab,kw OR "factor xa":ti,ab,kw OR "vena cava filters":ti,ab,kw	9822	edit	delete
#42	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw OR Dabigatran:ti,ab,kw OR Pradaxa:ti,ab,kw OR "factor xa":ti,ab,kw OR "vena cava filters":ti,ab,kw OR filters:ti,ab,kw	11706	edit	delete
#43	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw	11914	edit	delete

	OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw OR Dabigatran:ti,ab,kw OR Pradaxa:ti,ab,kw OR "factor xa":ti,ab,kw OR "vena cava filters":ti,ab,kw OR filters:ti,ab,kw OR "compression stockings":ti,ab,kw			
#44	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw OR Dabigatran:ti,ab,kw OR Pradaxa:ti,ab,kw OR "factor xa":ti,ab,kw OR "vena cava filters":ti,ab,kw OR filters:ti,ab,kw OR "compression stockings":ti,ab,kw OR "intermittent pneumatic compression devices":ti,ab,kw	11970	edit	delete
#45	Anticoagulants:ti,ab,kw OR Anticoagulant:ti,ab,kw OR "thrombin inhibitors":ti,ab,kw OR Aspirin:ti, ab, kw OR aspirins:ti, ab, kw OR clopidogreal:ti, ab, kw OR warfarin: ti, ab, kw OR coumadin: ti, ab, kw OR coumadina:ti, ab, kw OR "thrombin inhibitor":ti,ab,kw OR heparin:ti,ab,kw OR Heparins:ti,ab,kw OR LMWH:ti,ab,kw OR LDUH:ti,ab,kw OR Enoxaparin:ti,ab,kw OR Lovenox:ti,ab,kw OR Dalteparin:ti,ab,kw OR Fragmin:ti,ab,kw OR Tinzaparin:ti,ab,kw OR innohep:ti,ab,kw OR Nadroparin:ti,ab,kw OR Fondaparinux:ti,ab,kw OR Arixtra:ti,ab,kw OR Idraparinux:ti,ab,kw OR Rivaroxaban:ti,ab,kw OR novastan:ti,ab,kw OR Desirudin:ti,ab,kw OR Iprivask:ti,ab,kw OR "direct thrombin inhibitor":ti,ab,kw OR Argatroban:ti,ab,kw OR Acova:ti,ab,kw OR Bivalirudin:ti,ab,kw OR Angiomax:ti,ab,kw OR Lepirudin:ti,ab,kw OR Refludan:ti,ab,kw OR Dabigatran:ti,ab,kw OR Pradaxa:ti,ab,kw OR "factor xa":ti,ab,kw OR "vena cava filters":ti,ab,kw OR filters:ti,ab,kw OR "compression	14236	edit	delete

stockings":ti,ab,kw OR "intermittent pneumatic compression devices":ti,ab,kw OR compression:ti,ab,kw OR "Venous foot pump":ti,ab,kw

#46	(#8 OR #45)	16191	edit	delete
#47	prevent*:ti,ab,kw OR prophyla*:ti,ab,kw	103114	edit	delete
#48	(#7 AND #46 AND #47)	3120	edit	delete

Scopus 4834

(TITLE-ABS-KEY(“pulmonary embolism”) OR TITLE-ABS-KEY(thromboembolism) OR TITLE-ABS-KEY(thromboembolisms) OR TITLE-ABS-KEY(thrombosis) OR TITLE-ABS-KEY(dvt) OR TITLE-ABS-KEY("VTE") OR TITLE-ABS-KEY(clot)) AND (TITLE-ABS-KEY(anticoagulants) OR TITLE-ABS-KEY(anticoagulant) OR TITLE-ABS-KEY(“thrombin inhibitors”) OR TITLE-ABS-KEY(“thrombin inhibitor”) OR TITLE-ABS-KEY(Aspirin) OR TITLE-ABS-KEY(clopidogrel) OR TITLE-ABS-KEY(ticlopidine) OR TITLE-ABS-KEY(prasugrel) TITLE-ABS-KEY(warfarin) OR TITLE-ABS-KEY(coumadin) TITLE-ABS-KEY(coumadine) OR TITLE-ABS-KEY(heparin) OR TITLE-ABS-KEY(heparins) OR TITLE-ABS-KEY("LMWH") OR TITLE-ABS-KEY("LDUH") OR TITLE-ABS-KEY(enoxaparin) OR TITLE-ABS-KEY(lovenox) OR TITLE-ABS-KEY(dalteparin) OR TITLE-ABS-KEY(fragmin) OR TITLE-ABS-KEY(tinzaparin) OR TITLE-ABS-KEY(innohep) OR TITLE-ABS-KEY(nadroparin) OR TITLE-ABS-KEY(fondaparinux) OR TITLE-ABS-KEY(arixtra) OR TITLE-ABS-KEY(idraparinux) OR TITLE-ABS-KEY(rivaroxaban) OR TITLE-ABS-KEY(novastan) OR TITLE-ABS-KEY(desirudin) OR TITLE-ABS-KEY(iprivask) OR TITLE-ABS-KEY(“direct thrombin inhibitor ")OR TITLE-ABS-KEY(Argatroban)OR TITLE-ABS-KEY(Acova)OR TITLE-ABS-KEY(Bivalirudin)OR TITLE-ABS-KEY(Angiomax)OR TITLE-ABS-KEY(Lepirudin)OR TITLE-ABS-KEY(Refludan)OR TITLE-ABS-KEY(Dabigatran)OR TITLE-ABS-KEY(Pradaxa)OR TITLE-ABS-KEY(“factor xa”)OR TITLE-ABS-KEY(" vena cava filters ")OR TITLE-ABS-KEY(filters)OR TITLE-ABS-KEY(filter)OR TITLE-ABS-KEY(" compression stockings ")OR TITLE-ABS-KEY(" intermittent pneumatic compression devices ") OR TITLE-ABS-KEY(compression)OR TITLE-ABS-KEY(“Venous foot pump")) AND (TITLE-ABS-KEY(prevent*) OR TITLE-ABS-KEY(prophyla*))

Appendix C.

Title Review

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Refid: 12, Skateboards: Are they really perilous? A retrospective study from a district hospital.
Rethnam U, Yesupalan RS, Sinha A.

Submit Form and go to or Skip to Next

1. Does this article POTENTIALLY apply to any of our Key Questions?

- Yes
- No

Clear Response

Submit Form and go to or Skip to Next

Abstract Review (Selected: No)

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Refid: 12, Skateboards: Are they really perilous? A retrospective study from a district hospital.
Rethnam U, Yesupalan RS, Sinha A.

Submit Form and go to or Skip to Next

1. Does this article POTENTIALLY apply to ANY of the key questions?

- (●) No, this article DOES NOT apply to any of the Key Questions (check all of the reasons that apply)
  - [ ] No original data (systematic reviews, editorial, commentary)
  - [ ] Does not evaluate a population of interest
  - [ ] Drug is not available in the U.S.
  - [ ] Not conducted in humans
  - [ ] Treatment of VTE
  - [ ] Not relevant to key questions
  - [ ] Other
- ( ) Yes, this article may apply to one or more of the key questions
- ( ) Unclear - No abstract or cannot tell from abstract alone

Is the article written in a language other than English?

- ( ) Yes (no response needed if language is English)

Clear Response

Please click below to see:
Key Questions
List of drugs available in USA

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Abstract Review (Selected: Yes)

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Refid: 12, Skateboards: Are they really perilous? A retrospective study from a district hospital.
Rethnam U, Yesupalan RS, Sinha A.

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1. Does this article POTENTIALLY apply to ANY of the key questions?

- ○ No, this article DOES NOT apply to any of the Key Questions (check all of the reasons that apply)
- ◉ Yes, this article may apply to one or more of the key questions
- ○ Unclear - No abstract or cannot tell from abstract alone

Is the article written in a language other than English?

- ○ Yes (no response needed if language is English)

Clear Response

Please click below to see:
Key Questions
List of drugs available in USA

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Article Review (Selected: No)

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Rethnam U, Yesupalan RS, Sinha A.

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Please click below to see:
Helpful points
List of drugs available in USA

Does this article POTENTIALY apply to ANY of the key questions?

- NO, this article DOES NOT apply to any of the Key Questions (check only one reason):
  - No original data (systematic reviews, editorial, commentary)
  - Not conducted in humans
  - Does not evaluate a population of interest
  - Treatment of VTE
  - Comparator drug is not available in the U.S. and intervention arm has no data on subgroup
  - Subgroup data is not available for our special populations (Trauma, antiplatelet, liver disease, obesity, underweight, renal disease)
  - Case report of known complications of drugs (e.g. Bleeding, HIT)
  - Not relevant to key questions
  - Other
- Yes, this article may apply to one or more of the following key questions (CHECK ALL THAT APPLY):

Check this box ONLY for excluded articles

- Flag article for report writing

Clear Response

Comments:

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Article Review (Selected: Yes)

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Rethnam U, Yesupalan RS, Sinha A.

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Please click below to see:
Helpful points
List of drugs available in USA

Does this article POTENTIALY apply to ANY of the key questions?

- NO, this article DOES NOT apply to any of the Key Questions (check only one reason):
- Yes, this article may apply to one or more of the following key questions (CHECK ALL THAT APPLY):
  - KQ1a:What is the comparative effectiveness and safety of inferior vena cava filters to prevent pulmonary embolism in hospitalized patients with trauma?
  - KQ1b:What is the comparative effectiveness and safety of pharmacological and mechanical strategies to prevent venous thromboembolism in hospitalized patients with trauma?
  - KQ2a:What is the comparative effectiveness and safety of pharmacological and mechanical strategies to prevent venous thromboembolism in hospitalized patients with traumatic brain injury?
  - KQ2b:What is the optimal timing of initiation and duration of pharmacological prophylaxis to prevent venous thromboembolism in hospitalized patients with traumatic brain injury?
  - KQ3:What is the comparative effectiveness and safety of pharmacological and mechanical strategies to prevent venous thromboembolism in hospitalized patients with burns?
  - KQ4:What is the comparative effectiveness and safety of pharmacological and mechanical strategies to prevent venous thromboembolism in hospitalized patients with liver failure with or with out thrombocytopenia ar
  - KQ5:What is the comparative effectiveness and safety of pharmacological and mechanical strategies to prevent venous thromboembolism in hospitalized patients receiving antiplatelet therapy?
  - KQ6:What is the comparative effectiveness and safety of pharmacological and mechanical strategies to prevent venous thromboembolism in patients having bariatric surgery?
  - KQ7:What is the comparative effectiveness and safety of pharmacological prophylaxis for prevention of venous thromboembolism during hospitalization of obese and underweight patients?
  - KQ8:What is the comparative effectiveness and safety of pharmacological prophylaxis for prevention of venous thromboembolism during hospitalization of patients with acute kidney injury, moderate renal impairment,

Comments:

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Intervention Characteristics (Selected: No)

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1. Please select the study intervention

- Pharmacologic agent versus placebo/control
- Pharmacologic agent versus pharmacologic agent
- Pharmacologic agent versus mechanical agent
- Pharmacologic agent versus IVC filter
- Pharmacologic agent versus pharmacological + mechanical agents (or vice versa)
- Mechanical agent versus placebo/control
- Mechanical agent versus mechanical agent
- Mechanical agent versus IVC filter
- IVC filter versus No IVC filter
- Prolonged versus standard duration pharmacological prophylaxis
- Others (SPECIFY)

Concurrent Standard Therapies/Interventions (therapies which given to all patients regardless of arm to which they were randomized)

- Yes
- No

ARM1 - always use for control group	Arm 2	Arm 3	Arm 4	Arm 5
No control/all arms were active	Name of the Arm 2	Name of the Arm 3	Name of the Arm 4	Name of the Arm 5
Usual care/ No Intervention	Pharmacologic	Pharmacologic	Pharmacologic	Pharmacologic
Other	Mechanical	Mechanical	Mechanical	Mechanical
	Inferior vena cava filter	Inferior vena cava filter	Inferior vena cava filter	Inferior vena cava filter

R2 only: If you are reviewing R1 data entry, enter you initials when you have completed the audit

Submit Form and go to or Skip to Next

Intervention Characteristics (Selected: Yes)

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Refid: 12, Skateboards: Are they really perilous? A retrospective study from a district hospital.
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1. Please select the study intervention

- Pharmacologic agent versus placebo/control
- Pharmacologic agent versus pharmacologic agent
- Pharmacologic agent versus mechanical agent
- Pharmacologic agent versus IVC filter
- Pharmacologic agent versus pharmacological + mechanical agents (or vice versa)
- Mechanical agent versus placebo/control
- Mechanical agent versus mechanical agent
- Mechanical agent versus IVC filter
- IVC filter versus No IVC filter
- Prolonged versus standard duration pharmacological prophylaxis
- Others (SPECIFY)

Concurrent Standard Therapies/Interventions (therapies which given to all patients regardless of arm to which they were randomized)

- Yes
  - Concurrent mechanical (e.g. stockings):
  - Mobilization regimen:
  - Concurrent medications:
  - Other:
- No

ARM1 - always use for control group	Arm 2	Arm 3	Arm 4	Arm 5
No control/all arms were active	Name of the Arm 2	Name of the Arm 3	Name of the Arm 4	Name of the Arm 5
Usual care/ No Intervention	Pharmacologic	Pharmacologic	Pharmacologic	Pharmacologic
Other	Mechanical	Mechanical	Mechanical	Mechanical
	Inferior vena cava filter	Inferior vena cava filter	Inferior vena cava filter	Inferior vena cava filter

R2 only: If you are reviewing R1 data entry, enter you initials when you have completed the audit

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Study characteristics

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Please click her for helpful points

1. Should this study be included? If no, please specify reason for exclusion
   - Yes
   - No
3. Does this study have a name/ NCT (clinical trial registration number) ?
   - Yes, specify
   - No
4. Is this a secondary study of a large clinical trial? (If yes, please include the author and year of the study)
   - Yes, specify
   - No
5. Please select a study design:
   - RCT
   - Controlled trial, non-randomized
   - Prospective cohort
   - Retrospective cohort
   - Case control
   - Case report
   - Cross sectional
   - Case series
   - Other study design
6. Study site
   - Single center
   - Multiple center
7. Study location - Check all that apply
   - North America
   - South America
   - Europe
   - Asia
   - Africa
   - Australia
8. Recruitment/Enrollment (Please enter only YEAR)
   - Start year of recruitment
   - End year of recruitment
   - Not Reported
9. Planned length of follow-up
   - Please specify:
   - Not Reported
10. Did the article report the method of **surveillance for VTE?**
    - No
    - Yes- specify the method and frequency
11. Funding source:
    - Government

- Non-profit
- Industry
- Other-please specify
- Not Reported

Please specify Inclusion/Exclusion criteria for all populations (Specify the additional criteria for Trauma and Liver failure at the end of the form)

Age	Inclusion	Exclusion	Not Reported
Male	Inclusion	Exclusion	Not Reported
Female	Inclusion	Exclusion	Not Reported
Pregnancy	Inclusion	Exclusion	Not Reported
Weight	Inclusion	Exclusion	Not Reported
BMI	Inclusion	Exclusion	Not Reported
INR	Inclusion	Exclusion	Not Reported
APTT	Inclusion	Exclusion	Not Reported
Platelets	Inclusion	Exclusion	Not Reported
Liver disease or Cirrohosis	Inclusion	Exclusion	Not Reported
Length of stay -Overall	Inclusion	Exclusion	Not Reported
Length of stay - ICU	Inclusion	Exclusion	Not Reported
Creatinine clearance	Inclusion	Exclusion	Not Reported
Creatinine level	Inclusion	Exclusion	Not Reported
History of VTE	Inclusion	Exclusion	Not Reported
History of GI bleeding	Inclusion	Exclusion	Not Reported
On antiplatelet (Aspirin)	Inclusion	Exclusion	Not Reported

On anti-coagulants

Inclusion Exclusion Not Reported

Type of surgery (elective knee or hip anthroplasty)

Inclusion Exclusion Not Reported

Immobility

Inclusion Exclusion Not Reported

1991 NIH guidelines **(Only for Bariatric surgery patients)**

Inclusion Exclusion Not Reported Clear Response

Total body surface area burnt **(Only for Burn patients)**

Inclusion Exclusion Not Reported Clear Response

Other please specify

Inclusion Exclusion Clear Response

Other please specify

Inclusion Exclusion Clear Response

Please click below for additional criteria for Trauma and Liver Failure

Trauma Liver Failure

R2 only: If you are reviewing R1 data entry, enter you initials when you have completed the audit

Submit Form and go to or Skip to Next

Participant Characteristics

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Participant Characteristics at Baseline

1. Total N at baseline

N
Not reported

Define Groups

INSTRUCTIONS:
If information is available for the total populations at baseline, complete the first column and ONLY the first column.
If information is only available by intervention/exposure groups, complete the Groups columns.
If information is not available by intervention/exposure groups, select *other* and briefly describe group.
If the Group Ns at baseline do not add up to the Total Population N at baseline, please contact the 2nd reviewer before abstracting.
Specify the additional criteria for Trauma and Liver failure at the end of the form

Be consistent in Arm designations. This should match the Arm/Group you described in the Interventions form.
If the study is reported not only by intervention arm, but also by subgroup use the "other" option for the arm and describe.

Overall group	2. **Arm 1** (always use for control) Leave blank if there is no control group Select an Answer	3. **Arm 2** Select an Answer	4. **Arm 3** Select an Answer	5. **Arm 4** Select an Answer	6. **Arm 5** Select an Answer
7. N	8. n	9. n	10. n	11. n	12. n

13. Sex

reported

Overall Group	**Arm 1**	**Arm 2**	**Arm 3**	**Arm 4**	**Arm 5**
14. Male, n Male, %	15. Male, n Male, %	16. Male, n Male, %	17. Male, n Male, %	18. Male, n Male, %	19. Male, n Male, %

20. If sex differs by group, please describe/ Other comments

not reported

21. Age

reported

Overall Group	**Arm 1**	**Arm 2**	**Arm 3**	**Arm 4**	**Arm 5**
22. mean Median Range	23. mean Median Range	24. mean Median Range	25. mean Median Range	26. mean Median Range	27. mean median range

28. If age differs by group, please describe/Other comments

not reported

29. Race/ethnicity.

Reported

	Overall Group	**Arm 1**	**Arm 2**	**Arm 3**	**Arm 4**	**Arm 5**
White, non-Hispanic	30. n %	31. n %	32. n %	33. n %	34. n %	35. n %
Black, non-Hispanic	36. n %	37. n %	38. n %	39. n %	40. n %	41. n %

Latino/Hispanic	42. ☐ n ☐ %	43. ☐ n ☐ %	44. ☐ n ☐ %	45. ☐ n ☐ %	46. ☐ n ☐ %	47. ☐ n ☐ %
Asian/Pacific Islander	48. ☐ n ☐ %	49. ☐ n ☐ %	50. ☐ n ☐ %	51. ☐ n ☐ %	52. ☐ n ☐ %	53. ☐ n ☐ %
American Indian/Alaska Native	54. ☐ n ☐ %	55. ☐ n ☐ %	56. ☐ n ☐ %	57. ☐ n ☐ %	58. ☐ n ☐ %	59. ☐ n ☐ %
60. Other	61. ☐ n ☐ %	62. ☐ n ☐ %	63. ☐ n ☐ %	64. ☐ n ☐ %	65. ☐ n ☐ %	66. ☐ n ☐ %
67. Other	68. ☐ n ☐ %	69. ☐ n ☐ %	70. ☐ n ☐ %	71. ☐ n ☐ %	72. ☐ n ☐ %	73. ☐ n ☐ %
74. Other	75. ☐ n ☐ %	76. ☐ n ☐ %	77. ☐ n ☐ %	78. ☐ n ☐ %	79. ☐ n ☐ %	80. ☐ 2n ☐ %

81. If race/ethnicity differs by group, please describe/ Other comments

○ not reported

82. BMI

◉ reported

Overall Group	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
83. ☐ mean ☐ Median ☐ Range	84. ☐ mean ☐ Median ☐ Range	85. ☐ mean ☐ Median ☐ Range	86. ☐ mean ☐ Median ☐ Range	87. ☐ mean ☐ Median ☐ Range	88. ☐ mean ☐ median ☐ range

89. If BMI differs by group, please describe/Other comments

○ not reported

90. Weight

◉ reported

Overall Group	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
91. ☐ mean ☐ Median ☐ Range	92. ☐ mean ☐ Median ☐ Range	93. ☐ mean ☐ Median ☐ Range	94. ☐ mean ☐ Median ☐ Range	95. ☐ mean ☐ Median ☐ Range	96. ☐ mean ☐ median ☐ range

97. If Weight differs by group, please describe/Other comments

○ not reported

98. Prior history of VTE

◉ reported

Overall Group	Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
99. ☐ n ☐ %	100. ☐ n ☐ %	101. ☐ n ☐ %	102. ☐ n ☐ %	103. ☐ n ☐ %	104. ☐ n ☐ %

105. If prior history of VTE differs by group, please describe/ Other comments

○ not reported

106. **Please click for Trauma and Burn**

☐ Trauma

☐ Burn

283. Other Comments

284. **R2 only: if you are reviewing R1 data entry, enter your initials when you have completed the audit**

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Primary Outcomes

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ritu.sharma Yoha.Chelladurai kemi.fawole tokunbo Margaret.Peterson

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Rethnam U, Yesupalan RS, Sinha A.

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Definitions:
Total VTE- includes total number of DVT and PE
Lower extremity DVT- promixal or distal is used only for deep veins of the leg. Saphenous vein is a superficial vein and will not be classified as proximal/deep. Deep veins from popliteal above (including the superficial femoral vein) are proximal. Veins below the popliteal vein, i.e.
Upper limb DVT- will be classified as catheter associated or not
PE- will be classified as central and peripheral. Central vascular zones include the main pulmonary artery, the left and right main pulmonary arteries, the anterior trunk, the right and left interlobar arteries, the left upper lobe trunk; the right middle lobe artery, and the right and left low
middle lobe, the right lower lobe, the left upper lobe, the lingula, and the left lower lobe.

If the article has reported outcomes by interventions other than the ones specified in methods section please try to capture those interventions and outcomes (For eg. In an article comparing the rates of DVT in UFH vs control g
article has also provided outcomes by doses of UFH, say low dose vs high dose, try to capture those interventions and outcomes in Arm 3 and 4. This can be used in other scenarios too:
- Time of treatment; early vs late etc
- Varying doses; Enoxaparin 50 mg vs 40 mg etc
- Renal status; moderate renal failure vs severe, normal renal function vs renal impairment etc
- BMI, obese vs normal, moderate obese vs morbid obese etc

Please submit one Form per ARM
Please make a note in the comments box if there are overlapping events in the same patient (eg are any DVTs also counted as PEs)

1. How was DVT/PE confirmed? Please specify the n or percentage of participants diagnosed in the text box if available

- [x] DVT
DVT
  - [ ] Venography
  - [ ] Ultrasonography
  - [ ] MRI
  - [ ] Plethysmorgraphy
  - [ ] CT scan
  - [ ] Autopsy
  - [ ] Other

- [x] PE
PE
  - [ ] Angiography
  - [ ] CT scan
  - [ ] MRI
  - [ ] VQ Scan (Ventilation/perfusion scan or lung scintigraphy)
  - [ ] Echocardiography
  - [ ] Autopsy
  - [ ] Other

- [ ] Study did not describe primary outcomes

Please select the Arm/Group
Select an Answer

N for analysis

6. Time point	Outcomes	Outcome measures	Point estimate	95% CI
Select an Answer	Total VTE only (only if VTE events are unspecified, you should choose this option) Total DVT only (Similarly this is for unspecified DVT) Total PE only (Unspecified PE) Total DVT + PE only Lower extremity DVT Upper extremity DVT PE Clear Response	n patient % patient n events Other- please specify	Select an Answer	
21. Time point	Outcomes 2	Outcome 2 measures	Point estimate	95% CI
Select an Answer	Total VTE only (only if VTE events are unspecified, you should choose this option) Total DVT only (Similarly this is for unspecified DVT) Total PE only (Unspecified PE) Total DVT + PE only Lower extremity DVT Upper extremity DVT PE Clear Response	n patient % patient n events Other- please specify	Select an Answer	

156. Comments

157. **R2 only: If you are reviewing R1 data entry, enter you initials when you have completed the audit**

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Secondary Outcomes

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Yoha.Chelladurai tolaunbo

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Please submit one Form per ARM

Study did not describe secondary outcomes

☐ Check this box

Please select the Arm/Group and specify

Select an Answer

N for analysis	4. Time point	Outcomes-1	6. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

N for analysis	14. Time point	Outcomes-2	16. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

N for analysis	24. Time point	Outcomes-3	26. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

N for analysis	34. Time point	Outcomes-4	36. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

N for analysis	44. Time point	Outcomes-5	46. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome		n patient % patient n events	Select an Answer	

Length of hospital stay
Length of ICU stay -days
Filter retrieval rate
INR level
PTT level
Factor Xa level
Quality of life
Cost of therapy
Clear Response

Mean
Median
Range
Other- please specify

N for analysis	64. Time point	Outcomes-6	66. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

N for analysis	69. Time point	Outcomes-7	68. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

N for analysis	74. Time point	Outcomes-8	78. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

N for analysis	84. Time point	Outcomes-9	86. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

N for analysis	94. Time point	Outcomes-10	96. Definition	Outcome measures	Point estimate	95% CI
	Select an Answer	Total Mortality Mortality due to bleeding Fatal PE Post-thrombotic syndrome Length of hospital stay Length of ICU stay -days Filter retrieval rate INR level PTT level Factor Xa level Quality of life Cost of therapy Clear Response		n patient % patient n events Mean Median Range Other- please specify	Select an Answer	

103. Comments:

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Adverse Outcomes

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ritu.sharma kemi.fawole Margaret.Peterson
Yoha.Chelladurai tokunbo

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Please submit one Form per ARM

Please select the Arm/Group and enter the Arm name

Select an Answer

N for analysis	Time point	Outcomes 1	Definition	Outcome measures
	Select an Answer	Bleeding Heparin-induced thrombocytopenia Allergic reaction Mechanical device complications - please specify Filter complications Infections Clear Response		n patient % patient n events Other - Please specify
N for analysis	Time point	Outcomes 2	Definition	Outcome measures
	Select an Answer	Bleeding Heparin-induced thrombocytopenia Allergic reaction Mechanical device complications - please specify Filter complications Infections Clear Response		n patient % patient n events Other - Please specify
N for analysis	Time point	Outcomes 3	19. Definition	Outcome measures
	Select an Answer	Bleeding Heparin-induced thrombocytopenia Allergic reaction Mechanical device complications - please specify Filter complications Infections Clear Response		n patient % patient n events Other - Please specify
N for analysis	24. Time point	Outcomes 4	26. Definition	Outcome measures
	Select an Answer	Bleeding Heparin-induced thrombocytopenia Allergic reaction Mechanical device complications - please specify Filter complications Infections Clear Response		n patient % patient n events Other - Please specify
N for analysis	31. Time point	Outcomes 5	33. Definition	Outcome measures
	Select an Answer	Bleeding Heparin-induced thrombocytopenia Allergic reaction Mechanical device complications - please specify Filter complications Infections Clear Response		n patient % patient n events Other - Please specify
N for analysis	38. Time point	Outcomes 6	40. Definition	Outcome measures
	Select an Answer	Bleeding Heparin-induced thrombocytopenia Allergic reaction Mechanical device complications - please specify Filter complications Infections Clear Response		n patient % patient n events Other - Please specify
N for analysis	45. Time point	Outcomes 7	47. Definition	Outcome measures
	Select an Answer	Bleeding Heparin-induced thrombocytopenia Allergic reaction Mechanical device complications - please specify Filter complications Infections Clear Response		n patient % patient n events Other - Please specify

51. Comments:

R2 only: If you are reviewing R1 data entry, enter you initials when you have completed the audit

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Risk of Bias

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ritu.sharma kemi.fawole Margaret.Peterson Yoha.Chelladurai

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For case studies and case series please check unable to determine for questions 11,12,13,21,22, and 23

Checklist for measuring study quality

Reporting

Question	Description	Answer
1. Is the hypothesis/aim/objective of the study clearly described?		1. Yes / No
2. Are the main outcomes to be measured clearly described in the Introduction or Methods section?	*If the main outcomes are first mentioned in the Results section, the question should be answered 'no.'*	2. Yes / No
3. Are the characteristics of the patients included in the study clearly described?	*In cohort studies and trials, inclusion and/or exclusion criteria should be given. In case-control studies, a case-definition and the source for controls should be given.*	3. Yes / No
4. Are the interventions of interest clearly described?	*Treatments and placebo (where relevant) that are to be compared should be clearly described.*	4. Yes / No
5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?	*A list of principal confounders is provided.*	5. Yes / Partially / No
6. Are the main findings of the study clearly described?	*Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).*	6. Yes / No
7. Does the study provide estimates of the random variability in the data for the main outcomes?	*In non-normally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the question should be answered 'yes.'*	7. Yes / No
8. Have all important adverse events that may be a consequence of the intervention been reported?	*This should be answered 'yes' if the study demonstrates that there was a comprehensive attempt to measure adverse events. (A list of possible adverse events is provided).*	8. Yes / No
9. Have the characteristics of patients lost to follow-up been described?	*This should be answered 'yes' where there were no losses to follow-up or where losses to follow-up were so small that findings would be unaffected by their inclusion. This should be answered 'no' where a study does not report the number of patients lost to follow-up.*	9. Yes / No
10. Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?		10. Yes / No

External Validity

Question	Description	Answer
11. Were the subjects asked to participate in the study representative of the entire population from which they were recruited?	*The study must identify the source population for patients and describe how the patients were selected. Patients would be representative if they comprised the entire source population, an unselected sample of consecutive patients, or a random sample. Random sampling is only feasible where a list of all members of the relevant population exists. Where a study does not report the proportion of the source population from which the patients are derived, the question should be answered 'unable to determine.'*	11. Yes No unable to determine
12. Were those subjects who were prepared to participate representative of the entire population from which they were recruited?	*The proportion of those asked who agreed should be stated. Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population*	12. Yes No unable to determine
13. Were the staff, places, and facilities where the patients were treated representative of the treatment the majority of patients receive?	*For the question to be answered 'yes' the study should demonstrate that the intervention was representative of that in use in the source population. The question should be answered 'no' if, for example, the intervention was undertaken in a specialist center unrepresentative of the hospitals most of the source population would attend.*	13. Yes No unable to determine

Internal Validity-bias

Question	Description	Answer
14. Was an attempt made to blind study subjects to the intervention they have received?	*For studies where the patients would have no way of knowing which intervention they received, this should be answered 'yes.'*	14. Yes No unable to determine
15. Was an attempt made to blind those measuring the main outcomes of the intervention?		15. Yes No unable to determine
16. If any of the results of the study were based on "data dredging", was this made clear?	*Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then answer 'yes.'*	16. Yes No unable to determine
17. In trials and cohort studies, do the analyses adjust for different lengths of follow-up of patients, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls?	*Where follow-up was the same for all study patients the answer should be 'yes.' If different lengths of follow-up were adjusted, for example, by survival analysis, the answer should be 'yes.' Studies where differences in follow-up are ignored should be answered 'no.'*	17. Yes No unable to determine
18. Were the statistical tests used to assess the main outcomes appropriate?	*The statistical techniques used must be appropriate to the data. For example nonparametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered 'yes.' If the distribution of the data (normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered 'yes.'*	18. Yes No unable to determine
19. Was compliance with the intervention/s reliable?	*Where there was non-compliance with the allocated treatment or where there was contamination of one group, the question should be answered 'no.' For studies where the effect of any misclassification was likely to bias any association to the null, the question should be answered 'yes.'*	19. Yes No unable to determine
20. Were the main outcome measures used accurate (valid and reliable)?	*For studies where the outcome measures are clearly described, the question should be answered 'yes.' For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered 'yes.'*	20. Yes No unable to determine

Internal Validity-confounding and selection bias

Question	Description	Answer
21. Were the patients in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited from the same population?	*For example, patients for all comparison groups should be selected from the same hospital. The question should be answered unable to determine for cohort and case-control studies where there is no information concerning the source of patients included in the study.*	21. Yes No unable to determine
22. Were study subjects in different intervention groups (trials and cohort studies) or were the cases and controls (case-control studies) recruited over the same period of time?	*For a study which does not specify the time period over which patients were recruited, the question should be answered as unable to determine.*	22. Yes No unable to determine
23. Were study subjects randomized to intervention groups?	*Studies which state that subjects were randomized should be answered yes except where method of randomization would not ensure random allocation. For example alternate allocation would score no because it is predictable.*	23. Yes No unable to determine
24. Was the randomized intervention assignment concealed from both patients and health care staff until recruitment was complete and irrevocable?	*All non-randomized studies should be answered 'no.' If assignment was concealed from patients but not from staff, it should be answered 'no.'*	24. Yes No unable to determine
25. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?	*This question should be answered 'no' for trials if: the main conclusions of the study were based on analyses of treatment rather than intention to treat; the distribution of known confounders in the different treatment groups was not described; or the distribution of known confounders differed between the treatment groups but was not taken into account in the analyses. In non-randomized studies, if the effect of the main confounders was not investigated or confounding was demonstrated but no adjustment was made in the final analyses the question should be answered 'no.'*	25. Yes No unable to determine
26. Were losses of patients to follow-up taken into account?	*If the numbers of patients lost to follow-up are not reported, the question should be answered 'unable to determine.' If the proportion lost to follow-up was too small to affect the main findings, the question should be answered 'yes.'*	26. Yes No unable to determine

Power

Question	Description	Answer
27. Did they report a power calculation?		27. Yes No

28. **Comments**

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Appendix D.

Appendix D. Excluded Studies

Appendix D lists studies that were excluded from this review, categorized by reason for exclusion and alphabetized.

Case Reports

Famularo G, Gasbarrone L, Minisola G, De Simone C. Systemic bleeding in a patient with enoxaparin-induced thrombocytopenia. Am J Emerg Med 2009; 27(6):756.e1-2.

Fargen KM, Bhasin RR, Murad GJ. Abdominal craniectomy implantation and thromboembolism prophylaxis resulting in wound hematoma. Neurosurgery 2010; 67(2):495-7.

Fryburg K, Nguyen HS, Cohen-Gadol AA. Spontaneous acute subdural hematoma due to fondaparinux: Report of two cases. Surg Neurol Int 2011; 2:44.

Han IS, Chung EY, Hahn YJ. Spinal epidural hematoma after epidural anesthesia in a patient receiving enoxaparin -A case report-. Korean J Anesthesiol 2010; 59(2):119-22.

LaBan MM, Whitmore CE, Taylor RS. Bilateral adrenal hemorrhage after anticoagulation prophylaxis for bilateral knee arthroplasty. Am J Phys Med Rehabil 2003; 82(5):418-20.

McLaughlin JA, Paulson MM, Rosenthal RE. Delayed onset of anterior tibial compartment syndrome in a patient receiving low-molecular-weight heparin. A case report. J Bone Joint Surg Am 1998; 80(12):1789-90.

Plath J, Schulze R, Barz D *et al*. Necrotizing skin lesions induced by low-molecular-weight heparin after total knee arthroplasty. Arch Orthop Trauma Surg 1997; 116(6-7):443-5.

Rowland CH, Woodford PA, De Lisle-Hammond J, Nair B. Heparin-induced thrombocytopenia-thrombosis syndrome and bilateral adrenal haemorrhage after prophylactic heparin use. Aust N Z J Med 1999; 29(5):741-2.

Salem M, Elrefai S, Shrit MA, Warkentin TE. Fondaparinux thromboprophylaxis-associated heparin-induced thrombocytopenia syndrome complicated by arterial thrombotic stroke. Thromb Haemost 2010; 104(5):1071-2.

Tsapatsaris NP. Low-dose heparin. A cause of hematoma of rectus abdominis. Arch Intern Med 1991; 151(3):597-9.

Wessler S, Avioli LV. Anticoagulants in treatment of patients with hip fracture. JAMA 1968; 204(2):140-4.

Data Not Abstractable

A Prospective Comparison of Warfarin to Aspirin for Thromboprophylaxis in Total Hip and Total Knee Arthroplasty. J Arthroplasty 2011.

Abernethy EA, Hartsuck JM. Postoperative pulmonary embolism. A prospective study utilizing low dose heparin. Am J Surg 1974; 128(6):739-42.

AbuRahma AF, Robinson PA, Boland JP *et al*. Therapeutic and prophylactic vena caval interruption for pulmonary embolism: caval and venous insertion site patency. Ann Vasc Surg 1993; 7(6):561-8.

Ageno W. Rivaroxaban for the prevention of venous

thromboembolism following major orthopedic surgery: the RECORD trials. Expert Rev Cardiovasc Ther 2009; 7(6):569-76.

Agnelli G, Bergqvist D, Cohen AT, Gallus AS, Gent M. Randomized clinical trial of postoperative fondaparinux versus perioperative dalteparin for prevention of venous thromboembolism in high-risk abdominal surgery. Br J Surg 2005; 92(10):1212-20.

Agnelli G, Cosmi B, Di Filippo P *et al*. A randomised, double-blind, placebo-controlled trial of dermatan sulphate for prevention of deep vein thrombosis in hip fracture. Thromb Haemost 1992; 67(2):203-8.

Agnelli G, Haas S, Ginsberg JS, Krueger KA, Dmitrienko A, Brandt JT. A phase II study of the oral factor Xa inhibitor LY517717 for the prevention of venous thromboembolism after hip or knee replacement. J Thromb Haemost 2007; 5(4):746-53.

Ahmad I, Yeddula K, Wicky S, Kalva SP. Clinical sequelae of thrombus in an inferior vena cava filter. Cardiovasc Intervent Radiol 2010; 33(2):285-9.

Akanmu AS, Nnodu OE, Giwa SO *et al*. Efficacy and safety of enoxaparin, a low molecular weight heparin in the prevention of deep vein thrombosis in Nigerian patients after orthopaedic surgery. Afr J Med Med Sci 2004; 33(4):335-40.

Alexander JJ, Yuhas JP, Piotrowski JJ. Is the increasing use of prophylactic percutaneous IVC filters justified? Am J Surg 1994; 168(2):102-6.

Alfaro MJ, Paramo JA, Rocha E. Prophylaxis of thromboembolic disease and platelet-related changes following total hip replacement: a comparative study of aspirin and heparin-dihydroergotamine. Thromb Haemost 1986; 56(1):53-6.

Alho A, Stangeland L, Rottingen J, Wiig JN. Prophylaxis of venous thromboembolism by aspirin, warfarin and heparin in patients with hip fracture. A prospective clinical study with cost-benefit analysis. Ann Chir Gynaecol 1984; 73(4):225-8.

Alikhan R, Cohen AT, Combe S *et al*. Prevention of venous thromboembolism in medical patients with enoxaparin: A subgroup analysis of the MEDENOX study. 2003; 14:341-6.

Amin AN, Lin J, Lenhart G, Schulman KL. Clinical and economic outcomes in patients at risk of venous thromboembolism receiving appropriate enoxaparin or unfractionated heparin prophylaxis. Thromb Haemost 2009; 102(2):321-6.

Anderson JA, Hirsh J, Yusuf S *et al*. Comparison of the anticoagulant intensities of fondaparinux and enoxaparin in the Organization to Assess Strategies in Acute Ischemic Syndromes (OASIS)-5 trial. J Thromb Haemost 2010; 8(2):243-9.

Antevil JL, Sise MJ, Sack DI *et al*. Retrievable vena cava filters for preventing pulmonary embolism in trauma patients: a cautionary tale. J Trauma 2006; 60(1):35-40.

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Appendix E.

Appendix E. Evidence Tables

Table 1. Risk of Bias

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	Q14	Q15	Q20	Q23	Q24	Q25	Q26	Risk of bias
KQ1																
Rajasekhar A, 2011 [48]	Yes	Yes	Yes	Yes	No	No	No	No	No	U/D	N/A	Yes	U/D	N/A	N/A	High
O'Keffe, T., 2011 [40]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	U/D	N/A	N/A	Yes	U/D	High
Roberts, A., 2010[50]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	No	High
Rosenthal D., 2009[56]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	U/D	High
Doody O, 2009[9]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
Gorman PH, 2009[15]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Moderate
Cherry RA, 2008[6]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	No	High
Zakhary EM, 2008[79]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Hermsen JL, 2008[19]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Moderate
Mahier A, 2008[34]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	U/D	High
Rosenthal D., 2007[57]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	Q14	Q15	Q20	Q23	Q24	Q25	Q26	Risk of bias
Keller IS., 2007[23]	N/A	No	No	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Karmy-Jones R, 2007 [22]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Moderate
Stefanidis D, 2006[73]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	No	High
Gonzalez RP, 2006[14]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
Binkert CA, 2006[2]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Rosenthal, D., 2006[59]	N/A	Yes	No	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Rosenthal, D., 2005[58]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	U/D	High
Rosenthal D, 2004[60]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	High
Hoff WS, 2004[20]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	U/D	High
Kurtoglu M, 2003[29]	N/A	Yes	No	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	High
Offner, P.J., 2003[42]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	U/D	High
Duperier T, 2003[11]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	U/D	N/A	N/A	No	U/D	High
Carlin AM, 2002[5]	N/A	No	Yes	No	Partially	N/A	N/A	N/A	N/A	N/A	U/D	N/A	N/A	U/D	No	High
Conners MS,	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	U/D	High

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	Q14	Q15	Q20	Q23	Q24	Q25	Q26	Risk of bias
2002[f]																
Sekharan, J., 2001[68]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	U/D	High
Wojcik R, 2000[78]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Tola JC, 1999[75]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	No	High
Langan EM, 1999[31]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
McMurtry AL, 1999[35]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Rogers, F.B., 1997[55]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	No	High
Nunn, C.R., 1997[39]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Rogers FB, 1997[52]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Gosin JS, 1997[16]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	No	High
Patton, J.H. Jr, 1996[45]	N/A	Yes	No	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Rodriguez, J.L., 1996[51]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Rogers FB, 1995[53]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	No	High
Zolfaghari D, 1995[80]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	Q14	Q15	Q20	Q23	Q24	Q25	Q26	Risk of bias
Millward, S.F., 1994[37]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Wilson JT, 1994[77]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Leach TA, 1994[32]	N/A	Yes	No	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	U/D	High
Meier, C., 2006[36]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Smoot RL, 2010 [72]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
Sing RF, 2001[70]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
Greenfield LJ, 2000[17]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Moderate
Khansarinia, S, 1995[24]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
Rogers, F.B., 1993[54]	N/A	Yes	No	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
KQ2a																
Scudday,T., 2010, [67]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Salottolo, K., 2010, [62]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Dudley,R.R., 2010,[10]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Moderate
Gersin.K., 1992, [13]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	Q14	Q15	Q20	Q23	Q24	Q25	Q26	Risk of bias
Kurtoglu,M., 2004, [30]	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A		N/A	N/A			
2 Minshall, C.T., 2011, [38]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
KQ2b																
Koehler D.M., 2011,[26]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Salotto K., 2011, {358}	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Kim J., 2002,[25]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	U/D	High
Reiff D.A., 2009,[49]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	U/D	High
Depew A.J., 2008,[8]	N/A	No	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
KQ6																
Singh, K., 2011 [71]	N/A	Yes	Yes	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Vaziri, K., 2010 [76]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	Q14	Q15	Q20	Q23	Q24	Q25	Q26	Risk of bias
Birkmeyer, N. J., 2010 [3]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	U/D	Medium
Overby, D. W., 2009 [44]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Raftopoulos, I., 2008 [47]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Simone, E. 2008 [69]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Ojo, P., 2008 [43]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High
Borkgren-Okonek, M. 2008 [4]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	U/D	High
Rowan, B. O. 2008 [61]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	U/D	High
Kardys, C. M. 2008 [21]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Obeid, F. N., 2007 [41]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	U/D	High
Schuster, R., [66]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	Yes	Moderate
Piano, G., Ketteler, 2007 [46]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	Yes	High
Gargiulo, N.J., 2006[12]	N/A	Yes	No	Yes	No	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Hamad, G.G., 2005 [18]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	U/D	High
Scholten, D.	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	No	No	High

Author, Year	Q1	Q2	Q3	Q4	Q5	Q6	Q8	Q10	Q14	Q15	Q20	Q23	Q24	Q25	Q26	Risk of bias
J.,2002 [65]																
Kothari, S. 2007 [27]	N/A	No	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	U/D	N/A	N/A	U/D	No	High
KQ7																
Kucher, N., 2005[28]	Yes	Yes	Yes	Yes	No	Yes	Yes	No	U/D	Yes	N/A	Yes	U/D	N/A	N/A	High
KQ8																
Schmid, 2010[64]	N/A	Yes	No	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Schmid, 2009[63]	N/A	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	U/D	Yes	High
Tincani, 2006[74]	N/A	Yes	Yes	Yes	Partially	N/A	N/A	N/A	N/A	N/A	Yes	N/A	N/A	Yes	U/D	High
Bauersachs, 2011[1]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	yes	Yes	N/A	N/A	High
Mahe, 2007[33]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	N/A	Yes	No	N/A	N/A	High

N/A= Not applicable, U/D = Unable to determine,
Q1- Hypothesis/aim/objective of the study clearly described; Q2- Main outcomes to be measured clearly described in the Introduction or Methods section; Q3- Characteristics of the patients included in the study clearly described; Q4- interventions of interest clearly described; Q5- principal confounders in each group of subjects to be compared clearly described; Q6- main findings of the study clearly described; Q8-all important adverse events that may be a consequence of the intervention been reported; Q10- Actual probability values been reported; Q14- attempt made to blind study subjects to the intervention;Q15- attempt made to blind those measuring the main outcomes of the intervention; Q20- main outcome measures used accurate; Q23- study subjects randomized to intervention groups; Q24- randomized intervention assignment concealed from both patients and health care staff; Q25- adequate adjustment for confounding in the analyses from which the main findings were drawn; Q26- losses of patients to follow-up taken into account

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Evidence Table 2. Study characteristics for KQ1

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
IVCF versus IVCF								
Karmy-Jones R, 2007 [17]	Cohort-retro	Multiple center- N. America	2005-2005	NR	6 of the 21 centers had formal protocols to screen for DVT with lower extremity duplex ultrasound in high risk patients	NR	R-IVCF or P-IVCF	NR
Keller IS., 2007[18]	Cohort-retro	Single center- Europe	1996-2005	NR	All patients with optional IVC filters used as permanent filters were followed-up once between Dec 2005 & June 2006 by means of clinical examination, venous duplex US from the popliteal vein to the IVC, and plain radiography of abdomen	NR	Filter	NR
O'Keffe, T., 2011 [30]	Cohort-retro	Single center- N. America	2006-2006	NR	No	NR	Age: 13<x<89 BMI Type of trauma: TBI or spinal cord injury, complex pelvic fractures with associated long bone fracture, multiple long bone	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
							fractures ICU Filter Contraindication to heparin anticipated to exceed 72 hours	
Rosenthal D., 2007[43]	Cohort-retro	Single center-N. America	2003-2006	NR	Venous color flow duplex	NR	Male Female Multiple trauma patients with relative or absolute contraindications to low dose heparin therapy or barriers to prevent sequential compression devices ICU Filter	NR
Rosenthal D., 2009[42]	Cohort-retro	Single center-N. America	2004-2008	NR	No	NR	Filter: Retrievable Gunther Tulip or Celect IVC catheter	NR
Smoot RL, 2010 [52]	Cohort-retro	Single center-N. America	2001-2005	NR	During the study years, no specific venous thromboembolism (VTE) surveillance protocols were in effect at our institution. Specifically, duplex ultrasound evaluation of extremities was not used for screening of patients but was	NR	Filter	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
					only obtained when there was clinical suspicion for the presence of a DVT.			
IVCF Versus Control								
Gorman PH, 2009[11]	Cohort-retro	Single center-N. America	2002-2003	NR	No	NR	Length of stay at facility > 7 days Acute spinal cord injury between C3 and L3	NR
Gosin JS, 1997[12]	Cohort-pros	Single center-N. America	1994-1996	NR	PE documented by ventilation perfusion, Angiogram or autopsy	NR	Age: 17 ≤ Length of stay-ICU: ≥48 hours Must meet one or more of the high-risk injury criteria: severe closed head injuries (abbreviated injury score of 4 or 5), complex pelvic fractures (disruption of the pelvic ring), spinal cord injuries, or lower-extremity injuries concomitant with significant injury to another body system *injury severity score >15 ICU	NR
Khansarinia S, 1995[19]	Prospective cohort with historical controls	Single center-N. America	1992-1994	All Patients Monitored Until Discharge And If Readmitted To Hospital For Any Reason	Evaluation by B-mode ultrasonography, V/Q scanning, or pulmonary arteriography to document presence or absence of PE. Weekly or twice-	NR	ISS: >9 Trauma Center: admitted to level I trauma center Expected to survive longer than 48 hrs Must meet one of the following: severe head injury with prolonged	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
					weekly lower extremity ultrasonograms obtained before any delayed PGF insertions and on all patients with ICU status greater than 3 days.		ventilator dependence, severe head injury with multiple lower extremity fractures, spinal cord injury with or without paralysis, major abdominal or pelvic penetrating venous injury, or pelvic fracture with lower extremity fractures	
Rajasekhar A, 2011 [34]	RCT	Single center-N. America	2008-2010	6 Months Post Discharge	CUS for DVT, spiral CT for PE	Industry	Age: >18 years BMI: >35 kg/m2 Immobility: ≥ 7 days Type of trauma: spinal cord injury with paralysis, multiple complex pelvic fractures, bilateral LE bone fracture except fibula, pelvic + one or more LE bone fracture excluding fibula Trauma Center: <96 hours Expected admission: ≥ 1 week	Pregnancy Filter: previous placement, contraindications Terminally ill or anticipated survival <24 hours
Rodriguez JL, 1996[36]	Cohort-retro	Single center-N. America	1991-1993	NR	Patients with lower extremity edema underwent ultrasound and pulse Doppler scan. All patients had noninvasive evaluation of lower extremities	NR	Survived > 48 hours and had three or more of the following risk factors for PE: age greater than 55 years, Injury Severity Score (ISS) > 15, the presence of severe trauma (Abbreviated Injury Scale (AIS) > 2) of the head, chest, or abdomen, multiple lower extremity fractures,	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
					and vena cava was performed before and after discharge.		pelvic fractures, spinal trauma, and/or subclavian vein cannulation	
Rogers FB, 1995[39]	Cohort-pros	Single center-N. America	1991-1994	NR	To assess for deep vein thrombosis, impedance plethysmography was done within 48 hours of filter insertion and weekly thereafter until death or discharge. Venous duplex ultrasound was used to confirm or rule out DVT if plethysmography was abnormal.	NR	Type of trauma: all trauma patients Trauma Center Filter: was placed in one of the four injury groups (spinal cord injury, severe head injury with coma lasting longer than 48 hrs, isolated hip fractures in elderly and complex pelvic fractures with concomitant long bone fracture) and who had relative or absolute contraindications to use of heparin	Elderly patients with isolated hip fractures
Rogers FB, 1997[38]	Cohort-pros	Single center-N. America	1991-	NR	Weekly impedance plethysmography	NR	Type of trauma: Pelvis, femur and/or tibial fracture Trauma Center: Admission to study center Lower extremity fracture requiring prolonged bed rest >6weeks Low impact injury or poor chance of survival	NR
Wilson JT, 1994[55]	Cohort-pros	Single center-N. America	1986-1993	6 Months To 24 Months	Weekly impedance plethysmography	NR	Type of trauma: Traumatic spinal cord injury resulting in paraplegia or quadriplegia	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
							Trauma Center: Admission to study center Filter: prospective cohort had IVC filter	
IVCF Only								
Rosenthal D, 2004[46]	Cohort-retro	Single center- N. America	2002-2003	Until Event (Thromboembolic Complication) Occurrence, Discharge Or Death Of Patient	Color flow duplex ultrasound after 2 weeks of IVCF placement	NR	Type of trauma: multiple trauma with relative or absolute contraindications to low dose heparin or barriers to placement of SCD	History of VTE Documented DVT or Pulmonary embolism
Bach JR, 1990[1]	Case report	Single center- N. America	1988-1988	NR	No	NR	NR	NR
Benjamin ME, 1999[2]	Series	Single center- N. America	NR	Until Discharge Or Death	Weekly duplex imaging	NR	All patients who were referred to the vascular surgery service for filter placement over a six month period were included in the study Trauma Center ICU	
Binkert CA, 2006[3]	Cohort-retro	Multiple center- N. America	2004-2005	NR	IVC venography at the time of retrieval of filter	NR	Recovery filter removal after more than 180days after placement	NR
Bochicchio GV, 2001[4]	Case report	Single center- N. America	NR	NR	No	NR	Type of trauma: Building collapse accident: complete open pelvic ring disruption with right acetabular and femur fracture Type of surgery: Emergent angiography, Exploratory laparotomy for control of	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
							bleeding from liver laceration and perforations from the IVCF Trauma Center Filter	
Carlin AM, 2002[5]	Cohort-retro	Single center-N. America	1991-2001	NR	No	NR	Type of trauma: BLUNT Trauma Center: Admission to study trauma center Filter: Prophylactic or therapeutic IVCF placement	NR
Cherry RA, 2008[6]	Cohort-pros	Single center-N. America	2004-2006	NR	No	NR	Age: ≥ 18 years Trauma Center Filter: Prophylactic IVC filter placement	Therapeutic IVC filter placement, major burns, deviation from a modified EAST protocol, deaths
Conners MS, 2002[7]	Cohort-retro	Single center-N. America	1995-2000	1 Year	No	NR	Filter: Duplex-directed IVCF placement	NR
Doody O, 2009[8]	Cohort-retro	Single center-Australia	2005-2007	NR	Venogram at 2 months after filter insertion	NR	NR	NR
Duperier T, 2003[9]	Cohort-retro	Single center-N. America	1999-2000	NR	Duplex before discharge	NR	Filter: Greenfield filter insertion during study period	NR
Gonzalez RP, 2006[10]	Cohort-pros	Single center-N. America	1999-2003	NR	No	NR	Trauma Center: all traumatized patient in the study centre were included Filter	NR
Greenfield LJ,	Case series of	Single center-	1990-1999	Average Follow Up	Follow up data obtained	NR	History of VTE Inclusion criteria for therapeutic	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
2000[13]	consecutive patients who received Vena cal filters after Traumatic surgery (from Michigan Filter Registry which contains prospectively collected data for IVCF patients	N. America		Time Stated In Article Is 42 Months (0-172 Months)	prospectively from routine examinations, duplex USS, plain radiographs, and CT scan.		group in this study Type of trauma: patients who had trauma as primary or secondary diagnosis during the study period Trauma Center: all trauma patients who had IVCF Filter	
Hermsen JL, 2008[14]	Cohort-retro	Single center-N. America	2004-2007	NR	Preprocedure outpatient computed abdominal tomographic (CAT) scan of the abdomen and pelvis	Government	Trauma Center: level 1 trauma center Filter: receiving a Bard RecoveryTM or G2TM R-IVCF (Bard Peripheral Vascular, Inc., Tempe, AZ) for PE prophylaxis.	NR
Hoff WS, 2004[15]	Cohort-pros	Single center-N. America	2002-2003	NR	Ultrasound	NR	Head injury (intracerebral hemorrhage) Thoracoabdominal injury Type of trauma: severe/multiple orthopedic injury Spinal cord injury lower extremity external fixation device/traction device/splints	NR
Hughes GC, 1999[16]	Case report	Single center-N. America	NR	NR	No	NR	Type of trauma: closed head injury	NR
Kurtoglu M, 2003[20]	Cohort-pros	Single center-Europe	1999-2002	6 Months, 1 Year, And 2	During follow-up Duplex ultrasound of the	NR	Trauma Center: Trauma and Surgical Emergency Service of Istanbul Medical	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
				Years	inferior vena cava and lower extremity was performed to assess patency		Faculty Filter	
Langan EM, 1999[21]	Cohort-pros	Single center-N. America	1991-1998	NR	Duplex scans	NR	Immobility: all patients anticipated to have prolonged immobility were eligible for inclusion All patients with contraindication to anticoagulation were eligible for inclusion All trauma patients expected to have prolonged immobilization (criteria used to determine this not specified) All trauma patients with a contraindication to anticoagulation (criteria used to determine this not specified)	NR
Leach TA, 1994[22]	Cohort-pros	Single center-N. America	1986-conflicting sentences on page 293: "...During the 5 years beginning July 1986..." and "...During the 6 year study period…"	NR	No	NR	History of VTE Immobility: Extended Immobilization Any patient who evidenced 4 or more of the following risk factors for DVT: 1. History of DVT 2.Age >40 years 3. Congestive heart failure 4. Obesity 5. Malignancy 6. Extended immobilization 7. Spinal cord injury:	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
							Any patient exhibiting any one of 1. Previous VTE 2. Free floating ileofemoral thrombus 3. Documented DVT, anticoagulation contraindicated 4 Recent lower extremity venous suture line Trauma Center: Level 1 Trauma Center Filter	
Lo CH, 2008[23]	Series	Single center-Australia	2001-2005	NR	No	NR	Filter Lower limb flap reconstruction(s)	NR
Mahier A, 2008[24]	Cohort-retro	Single center-Asia	2002-2005	NR	Patients with clinical suspicion of VTE had imaging	NR	Trauma Center: tertiary trauma center Filter patients who cannot be treated with anticoagulation or suffer from lower extremity trauma precluding the use of pneumatic calf compression	NR
McMurtry AL, 1999[25]	Cohort-retro	Single center-N. America	1992; 1989-1996; 1991	NR	No	NR	Absolute contraindication to coagulation (criteria not stated in the paper) Trauma Center: all patients admitted with VCFs after trauma	NR
Meier, C., 2006[27]	Cohort-retro	Single center-Europe	1998-2004	NR	No	NR	ISS: ≥16 Filter: Prophylactic IVC filter placement	NR
Meier, C.,	Series	Single center-	2003-	NR	No	NR	ISS: ≥16	Filter: Therapeutic filter

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
2006[26]		Europe						placement
Millward, S.F., 1994[28]	Cohort-pros	Multiple center- N. America	1992-1993	1 Month After Filter Removal	The presence of recurrent PE following filter removal was determined by means of clinical assessment. Duplex sonography of the insertion vein and IVC was scheduled to be performed between 1 week and 1 month following filter removal	NR	NR	NR
Nunn, C.R., 1997[29]	Cohort-pros	Single center- N. America	1995-1996	NR	Doppler US of Lower extremities prior to IVC filter placement and after placement looking for DVT	NR	Type of trauma: open abdominal wounds ISS: >15 Trauma Center: Admission to study center Filter: Prophylactic Greenfield filter placement	Patients who refused to consent
Offner, P.J., 2003[31]	Cohort-pros	Single center- N. America	2001-2002	Until Death Or Discharge	Duplex sonography was not performed unless clinically indicated by unilateral leg swelling, calf tenderness, tenderness with passive heel stretch, or	NR	Patients at high risk for venous thromboembolism with relative or absolute contraindications to low-dose anticoagulant therapy or barriers to the placement of sequential compression devices Type of trauma: major pelvic and/or acetabular fractures with or without	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
					suspected pulmonary embolism.PE was evaluated using tomography of the chest or formal pulmonary angiography if the tomography was negative.		associated lower extremity long bone fractures, bilateral lower extremity long bone fractures, spinal cord injury with neurologic deficit, and severe head injury	
Patton, J.H. Jr, 1996[32]	Cohort-retro	Single center-N. America	1991-1995	NR	Duplex ultrasonography was used or patients with suspicion for DVT; patients who exhibited signs of PE were assessed with ventilation/perfu sion scan; patients with moderate probability scans were taken to pulmonary angiography if stable enough to leave ICU, otherwise treated as if they had had a PE	NR	Type of trauma: (1) with spinal cord injury and deficit, (2) with pelvic fracture and/or long bone fracture requiring immobilization, and (3) with significant head injury and prolonged immobilization. Trauma Center ICU Filter	NR
Phelan, H.A., 2009[33]	Series	Single center-N. America	1992-2001	NR	No	Industry	Prophylactic permanent Greenfield filters placed after injury, survival to discharge from hospital	Age: Less than 18 years at time of study Preg: Pregnant at time of study

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
							Type of trauma: Severe traumatic brain injury, spinal cord injury, major pelvic or lower extremity long bone fracture, pelvic or abdominal penetrating venous injury Filter: Permanent prophylactic Greenfield filter placement	Death before discharge from hospital, therapeutic filter placement, prisoners at time of study
Roberts, A., 2010[35]	Cohort-retro	Single center-N. America	2003-2009	12 Months Post Insertion	No	Industry	Type of trauma: spinal cord injury resulting in quadriplegia or quadriparesis Trauma Center Filter severe cervical SCI resulting in quadriplegia or quadriparesis and relative contraindications to anticoagulation relative contraindications to LMWH or UFH (eg. need for spinal surgery stabilization, concomitant injuries such as cranial trauma)	NR
Rogers, F., 2001[37]	Case report	Single center-N. America	1999-not stated because this is case report ; patient was discharged from hospital after 45 days	NR	No	NR	Type of trauma: Multiple injuries after falling off a ladder: grade III splenic laceration, Anterior column fracture of 2nd thoracic vertebra, Posterior column fracture of 1st thoracic vertebra, spinal cord lesion Trauma Center ICU	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
							Filter	
Rogers, F.B., 1993[40]	two studies: one is a retrospective study, the other was prospective	Single center-N. America	1991-1992	NR	Weekly impedance plethysmograph y after filter insertion. If IPG equivocal or abnormal then duplex u/s done	NR	1. Relative or absolute contraindication to anticoagulants 2. Spinal cord injury with complete paraplegia or quadriplegia 3. Severe Pelvic fracture and long bone fractures; 4. Severe head injury with GCS ≤8 Type of trauma: as stated in inclusion criteria Glasgow Coma Scale: Severe head injury with a GCS ≤8 Trauma Center: Trauma center Filter	Warfarin therapy
Rogers, F.B., 1997[41]	Cohort-pros	Single center-N. America	1991-1996	Until Hospital Discharge	In the first 2 years of the study, patients underwent impedance plethysmograph y, duplex sonography or both after 48 hours of VCF insertion and then weekly thereafter till discharge. Later on, patients were only screened for DVT if they developed	NR	severe pelvic fracture (type III or IV) Long bone fracture Type of trauma: Spinal cord injury with paraplegia or quadriplegia Glasgow Coma Scale: ≤8 Trauma Center: all patients admitted with contraindication to anticoagulation	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
					clinical signs			
Rosenthal, D., 2005[44]	Cohort-pros	Single center-N. America	2002-2004	Until Hospital Discharge Or Death	Yes	NR	Multiple trauma patients with relative or absolute contraindication to anticoagulation (not specified)	NR
Rosenthal, D., 2006[45]	Cohort-retro	Single center-N. America	2002-2004	NR	Lower extremity venous color-flow duplex USS within 14d of placement, and prior to retrieval	NR	Multiple Trauma Patients, Relative or absolute contra-indications to heparin or barriers to placement of sequential compression devices, ICU patients, Retrievable filters Type of trauma: multiple trauma patients ICU Filter: Retrievable (Gunther tulip, recovery and Optease)	NR
Sekharan, J., 2001[47]	Cohort-retro	Single center-N. America	1992-1994	Follow Up Was Attempted In All Patients With At Least 5 Years' Duration Since Placement Of Prophylactic Green Filter	Each patient who presented for follow up had duplex USS to assess presence of DVT	NR	Type of trauma: Severe head injury with prolonged ventilator dependence; Severe head injury with multiple lower extremities fractures; Spinal cord injury with or without paralysis; Major abdominal or pelvic penetrating venous injury; Pelvic fracture with lower extremity fractures ISS: ISS greater than 9 Trauma Center: Level 1	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
							Filter Be expected to survive longer than 48 hours	
Shang, E.K., 2011[48]	Case report	Single center-N. America	NR	NR	Yes	Not funded	NR	NR
Sing RF, 2001[49]	Series	Single center-N. America	NR	Case 2 Was Followed Up For 4years	No	NR	Type of trauma: Multiple trauma Trauma Center Filter	NR
Sing RF, 2001[50]	Prospective Observational study	Single center-N. America	1996-2000	Long-Term Follow Up Consists Of Annual Outpatient Visits And Duplex USS Surveillance.	Duplex ultrasonographic surveillance annually	NR	All patients who received IVCF during the study period , ICU patients ICU Filter	NR
Sing, RF[51]	Series	Single center-N. America	NR	NR	No	NR	Immobility Trauma Center: Admission to study center ICU Filter: Bedside IVC placement in ICU	NR
Stefanidis D, 2006[53]	Cohort-pros	Single center-N. America	2004-2005	At Least 1 Month Post Hospital Discharge	No	NR	Filter: optional VCF placement	NR
Tola JC, 1999[54]	Cohort-retro	Single center-N. America	1997-1998	Duration Of Hospital Stay	Clinical monitoring for signs and symptoms of PE/venous thrombosis	NR	Severely injured patients with contraindication to anticoagulation (criteria not specified)	NR

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
Wojcik R, 2000[56]	Cohort-retro	Single center-N. America	1993-1997	NR; The Mean Duration Of Follow Up Is 28.9 months (Range:5-62)	Yes- Duplex USS	NR	History of VTE: only for patients who had VCF for therapeutic indications Trauma Center Patients admitted to trauma service who had VCF placed Filter	NR
Zakhary EM, 2008[57]	Cohort-retro	Single center-N. America	2003-2005	Attempts To Contact Patients Were Made 3 Months After Insertion; The Mean Time Between Insertion Of IVC And Retrieval Was 165 Days (90-360)	No	NR	All patients who had Recovery Filters Type of trauma Filters were inserted in blunt trauma patients who had head injury, pelvic fractures and or long bone fractures Trauma Center: Level 1 trauma center Filter: Recovery filter excluding patients with new generations recovery filters	Patients with new generations of recovery filters Patients who received G2 filter which replaced recovery filter
Zolfaghari D, 1995[58]	Cohort-retro	Single center-N. America	1990-1991	NR	Venous duplex scan	NR	All patients who received IVC filter at Level 1 Trauma center Trauma Center : Level 1 Filter	NR

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; VCF= Vena Cava Filter; VTE= Venous Thromboembolism

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Evidence Table 3. Participant Characteristics for KQ1

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
Bach, J.R., 1990[1]	Total, 1	NR	Overall Male, 0 (0)	NR	NR	NR	NR	NR	NR
Benjamin, M.E., 1999[2]	Arm 2 (Prophylactic DGFI only), 23	Mean:46 Range:19-79	Male, 20 (86.95)	NR	NR	NR	41	Other fracture (combined pelvic and lower extremity fracture): 1 (4.35)	Arm 2: Mean:14.1 Range:1-150
Benjamin, M.E., 1999[2]	Arm 3	NR	NR	NR	NR	NR	NR	NR	Arm 3: Mean:15.4 Range:2-93
Binkert, C.A., 2006[3]	(Overall), 13	Mean:46.2 Range:21-70	Male, 6	NR	NR	NR	NR	Pelvis fracture (overall): 2 Other fracture (overall):1 comment: long bone fracture	NR
Bochicchio, G.V., 2001[4]	Arm 2, 1	Mean:48	Male, 1	Reported Black: 1	NR	NR	NR	Pelvic fracture: 1 Spinal cord injury: 1	NR
Carlin, A.M., 2002[5]	Arm 1 (control)	NR	NR	NR	NR	NR	NR	Pelvic fracture (overall): (38) Spinal cord injury (overall): 16 (12) Other fracture foot-ankle (overall): 21	NR
Carlin, A.M., 2002[5]	Arm 2	NR	NR	NR	NR	NR	NR	Other fracture (tibia-fibula): 29 Other fracture (femur-shaft): 20	NR
Cherry, R.A., 2008[6]	Arm 1 (244 at	Mean:43.8	Male,	NR	NR	NR	NR	Ventilator days mean:7 Range:0-42	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
	baseline), 176		(63.5)					ISS Mean:26.7 Pelvic fracture:99 Long bone fracture:109 Spine fracture:87 Complex fracture: 53	
Conners, M.S., 2002[7]	(Overall) 284	Mean:41 Range:15-87	Male, 203 (71)	NR	NR	NR	NR	Spinal cord injury: 19	NR
Doody O, 2009[8]	Arm 2, 115	Mean:47.97 Range:19-84	Male, 74 (63.4)	NR	NR	NR	NR	NR	NR
Duperier T, 2003[9]	Arm 2, 133	NR	NR	NR	NR	NR	NR	Pelvic fracture (overall): 6 (5) Other fracture (overall)multiple long bones: 27 (20) Other fracture (overall) vertebral: 3 (2) Spinal cord injury: 3	NR
Gonzalez, R.P., 2006[10]	Arm 2, 78	Mean:38.6	NR	NR	NR	NR	NR	Spinal cord injury (overall): 11 (30)	RN
Gonzalez, R.P., 2006[10]	Arm 3, 56	Mean:39.6	NR	NR	NR	NR	NR	NR	NR
Gorman P.H., 2009[11]	Arm 1, 58	Mean:48.1	Male, 40 (69)	NR	NR	NR	NR	NR	NR
Gorman P.H., 2009[11]	Arm 2, 54	Mean:37.1	Male, 52 (96)	NR	NR	NR	24 (20.9)	NR	NR
Gosin J.S., 1997[12]	Arm 1 (control) 249	NR	NR	NR	NR	NR	NR	NR	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
Gosin J.S., 1997[12]	Arm 2, 151	NR	NR	NR	NR	NR	NR	NR	NR
Gosin J.S., 1997[12]	Arm 3, 99	Mean:42.6 Range:17-91	Male, 71	NR	NR	NR	NR	ISS mean: 23.4 Other fracture (femur): 27	NR
Greenfield, L.J., 2000[13]	Arm 2, 249	Mean:43 Range:14-88	Male, 154	NR	NR	NR	16	ISS mean: 25, Range:4-75* Spinal cord injury: 43 (27)	NR
Greenfield, L.J., 2000[13]	Arm 3, 136	Mean:46 Range:11-93	Male, 81	NR	NR	NR	NR	ISS mean:20, Range:4-54*	NR
Hermsen, J.L., 2008[14]	Arm 2, 74	Mean:38.4	Male, (68)	NR	NR	NR	NR	ISS Mean:32 Mechanism of injury blunt: (100)	NR
Hoff, W.S., 2004[15]	(Overall), 35	Mean:34 Range:15-66	Male, 25 (71.4)	NR	NR	NR	NR	ISS- mean: 30, Range:6-75 Mechanism of injury blunt(overall): 35 (100) Pelvic fracture(overall): 17 (48.6) Other fracture (overall)maxilla facial: 7 (20) Other fracture (overall)vertebral: 16 (45.7)	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
Hoff, W.S., 2004[15]	Arm 2	NR	NR	NR	NR	NR	48 (4.3)	NR	NR
Hoff, W.S., 2004[15]	Arm 3	NR	NR	NR	NR	NR	94 (3.7)	NR	NR
Hughes, G.C., 1999[16]	Arm 2 (Case 1), 1	Mean:47	Male, 1 (100)	NR	NR	NR	reported	Other fracture (bilateral lower extremity#): 1 (100)	NR
Hughes, G.C., 1999[16]	Arm 3 (Case 2), 1	NR	Male, 1 (100)	NR	NR	NR	reported	Other fracture (bilateral lower extremity#): 1 (100)	NR
Karmy-Jones R, 2007 [17]	Arm 2 (R-IVCF), 446	Mean:39.8	Male, (69)	NR	NR	NR	NR	ISS- mean: 25.3 Mechanism of injury blunt : (92) Mechanism of injury penetrated: (8) Pelvic fracture: (44) Other fracture: (53)	NR
Karmy-Jones R, 2007 [17]	Arm 3 (P-IVCF), 172	NR	NR	NR	NR	NR	NR	Pelvic fracture: (32) Other fracture: (37)	NR
Keller IS., 2007[18]	Arm 2, 92	Mean:45.6 Range:16-84	Male, 64	NR	NR	NR	19 (7.7)	NR	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
Keller IS., 2007[18]	Arm 3, 80	Mean:47.8 Range:17-86	Male, 47	NR	NR	NR	NR	NR	NR
Khansarinia, S., 1995[19]	Arm 1 (control), 216	Mean:38.3	Male, (75.5)	NR	NR	NR	NR	ISS mean: 25.4 AIS head/neck: 55 AIS abdominal score: Mean:35 Glasgow coma scale score: Mean:11.8* Mechanism of injury blunt: (81)	NR
Khansarinia, S., 1995[19]	Arm 2 (PGF), 108	Mean:35.9	Male, (76)	NR	NR	NR	NR	ISS- mean: 28.0 AIS head/neck: 40 AIS abdominal score: Mean:38 Glasgow coma scale score: Mean:10.3* Mechanism of injury blunt: (85)	NR
Kurtoglu M, 2003[20]	Arm 2, 11	NR	NR	NR	NR	NR	NR	NR	Mean:10.3 Days Range:4-39
Kurtoglu M, 2003[20]	Arm 3	NR	NR	NR	NR	NR	NR	NR	Mean:10.7 Days Range:3-75
Langan, E.M., 1999[21]	Arm 2	NR	NR	NR	NR	NR	0 (0)	Mechanism of injury blunt (overall): 27 (14.4) Other fracture (lower extremity fracture): 4 (17.39)	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
								Spinal cord injury: 11 (47.83)	
Leach, T.A., 1994[22]	NR	NR	NR	NR	NR	NR	NR	NR	Mean:18.4 Days
Leach, T.A., 1994[22]	Arm 1			NR	NR	NR	NR	Other fracture (lower extremity fracture): 8*	NR
Leach, T.A., 1994[22]	Arm 2, 201	Mean:37.5	Male, (73)	NR	NR	NR	NR	Mechanism of injury blunt: (60) Mechanism of injury penetrating: (40) Other fracture (lower extremity fracture): 0 *	Mean:21.1 Days
Lo, C.H., 2008[23]	Arm 2, 17	Median:37 Range:15-64	Male, 12	NR	NR	NR	NR	Mechanism of injury blunt: 17 Other fracture (Gustilo type IIIb tibia/fibula fractures): 11 Other fracture: (Gustilo type IIIc tibia/fibula fractures and other lower limb injuries included open fractures of patella, tibial plateau and tibial plafond): 2	NR
Mahier, A., 2008[24]	Arm 1, 80	Mean:38.5 Range:14-83	Male, 53 (66)	NR	NR	NR	NR	ISS Mean:33.5 Range:9-66	Mean:8
McMurtry, A.L., 1999[25]	Arm 2 (Years of high PVCF use), 226	Mean:34.4	Male, (68.2)	NR	NR	NR	NR	ISS mean: 9.8 Mechanism of injury blunt: (82.7) Other fracture (tibia):	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
								(5.7) Other fracture, bilateral lower extremity long bone # (overall): 7 (33.3) Spinal cord injury (overall): 4 (19) Pelvic fracture (overall): 5 (23.8)	
McMurtry, A.L., 1999[25]	Arm 3 (Years of low PVCF use), 22	Mean:33	Male, (69.6)	NR	NR	NR	NR	ISS- mean: 10.2 Mechanism of injury blunt: (83.7) Other fracture (tibia): (5.5)	NR
Meier, C., 2006[27]	Arm 2, 95	Overall: Mean:38 Range: 16-80	Overall: Male, 67 (70.5)	NR	NR	NR	Throughout hospitalization	Ventilator days comment: throughout hospitalization range: ISS-mean: Overall: Median:38 , Range:17-66 AIS head/neck: AIS face score comment: 3 (3) patients had AIS >2 AIS Chest score comment: 64 (67.4)patients had AIS.2 AIS extremity score comment: 46 (48.4) patients had AIS >2 AIS external score	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
								comment: 1 (1.1) patient had AIS integument >2	
Meier, C., 2006[26]	(Overall), 37	Mean:35 Range:17 - 73	Male, 23 (62)	NR	NR	NR	1	Ventilator days: Median:41, Range:17-59	NR
Millward, S.F., 1994[28]	Arm 2, 3	Mean:36 Range:22-55	Male, 3	NR	NR	NR	NR	Pelvic fracture: 23 Spinal cord injury: 25	NR
Nunn, C.R., 1997[29]	Arm 2	NR	NR	NR	NR	NR	0 (0)	ISS mean: reported Pelvic fracture: 1 (100) Other fracture (bilateral upper extremity #): 1 (100)	NR
Nunn, C.R., 1997[29]	Arm 3	NR	NR	NR	NR	NR	0 (0)	ISS mean: reported Pelvic Fracture: 0 (0) Other fracture (bilateral upper extremity #): 1 (100)	NR
O'Keffe, T., 2011 [30]	(Trauma group) 91	Median:32*	Male, (70)	NR	NR	NR	NR	ISS Median:29 AIS Abdominal scoreMedian:3 AIS Head/Neck score Mean:3.4 AIS Extremity score Median:2 Mechanism of injury penetrating: (4.4)	NR
O'Keffe, T., 2011 [30]	(Control - Non-trauma group), 76	Median:53*	Male, (38)	NR	NR	NR	NR	AIS Head/Neck score Mean:3.4	NR
Offner, P.J., 2003[31]	Arm 2, 44	Mean:37	Male, (55)	NR	NR	NR	12	ISS- mean: 33 Mechanism of injury	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
								blunt: (100) Pelvic fracture: 23 Other fracture (femur):15 Other fracture (multiple): 19	
Patton, J.H. Jr, 1996[32]	Arm 2, 110	Mean:47.2	Male, 68	NR	NR	NR	NR	ISS mean: 26 Glasgow coma score: mean:5	NR
Phelan, H.A., 2009[33]	Arm 1, 82	Mean:34.1	Male (63.4)	NR	NR	NR	NR	NR	NR
Rajasekhar, A., 2011[34]	Arm 1, 16	Mean:53.7	Male, 10 (62.5)	NR	NR	NR	NR	ISS Mean:24.1 GCS Mean: 13.6 Uninsured; 5 Mechanism of injury penetrating; 15 Pelvic fracture;2 Bilateral LE fracture; 8 BLE fracture +SCI; 0	NR
Rajasekhar, A., 2011[34]	Arm 2, 18	Mean:41.2	Male, 13 (72.2)	NR	NR	NR	NR	ISS Mean:26.6 GCS Mean: 13.6 Uninsured: 6 Mechanism of injury penetrating: 18 Pelvic fracture:;5 Bilateral LE fracture: 4 BLE fracture +SCI 1	NR
Roberts, A., 2010[35]	Arm 2, 45	Mean:39.7 Range:17-67	Male, 37	NR	NR	NR	NR	ISS Mean:34.2 AIS Abdominal score Arm 1 Mean:21.57, Arm 2 Mean:16.0, Arm	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
								3 Mean:18.1, Arm 4 Mean:31.3 (not clear, reported for 4 arms)* Head AIS score; (5)*	
Rodriguez, J.L., 1996[36]	Arm 1 (control), 80	Mean:41	Male, (68)	NR	NR	NR	NR	ISS mean: 29 AIS chest score: Mean:45 Glasgow coma scale: Mean:12 Mechanism of injury blunt: (98)	NR
Rodriguez, J.L., 1996[36]	Arm 2, 40	Mean:44	Male, (58)	NR	NR	NR	NR	ISS mean: 31 AIS chest score: Mean:35 Glasgow coma scale: Mean:11 Mechanism of injury blunt: (98) Pelvic Fracture: n:48 Other fracture (multiple long bone fracture): 39	NR
Rogers FB, 1997[38]	Arm 1 (control), 905	Mean:38.9 *	NR	NR	NR	NR	NR	ISS mean: 9.83*	NR
Rogers FB, 1997[38]	Arm 2, 35	Mean:58.4 *	NR	NR	NR	NR	NR	ISS mean: 22.8*	NR
Rogers, F., 2001[37]	Arm 2, 1	Mean:48	Male, 1	NR	NR	NR	3	NR	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
Rogers, F., 2001[37]	Arm 3	NR	NR	NR	NR	NR	16	NR	NR
Rogers, F.B., 1993[40]	Arm 2, 34	Mean:41.6	Sex ratio: 1.8 : 1.0	NR	NR	NR	NR	ISS mean: 28.9 AIS head/neck: NR Other fracture (head injury): 7	NR
Rogers, F.B., 1995[39]	Arm 1	NR	NR	NR	NR	NR	NR	Pelvic Fracture: (48) Other fracture (multiple lower extremity fractures): (75) Spinal cord injury: (24)	Mean:14 Range:1
Rogers, F.B., 1995[39]	Arm 2, 63	Mean:38.9	Male, (73)	NR	NR	NR	NR	ISS mean: 31.5 Pelvic Fracture: (55) Other fracture (multiple lower extremity fractures): (80) Spinal cord injury: (25)	Mean:18 Range:6
Rogers, F.B., 1995[39]	Arm 3, 3088	Mean:38.8	Male, (60)	NR	NR	NR	NR	ISS mean: 9.2	NR
Rogers, F.B., 1997[41]	(Overall) 132	Mean:39.1	Male, (73)	NR	NR	NR	NR	ISS mean: 25.1	NR
Rogers, F.B., 1997[41]	Arm 2	NR	NR	NR	NR	NR	NR	Pelvic Fracture: (5.6) Other fracture (femur): (4)	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
								Spinal cord injury: (1.1)	
Rogers, F.B., 1997[41]	Arm 3	NR	NR	NR	NR	NR	NR	Pelvic Fracture: (5.8) Other Fracture (femur): (4.4) Spinal cord injury: (1.2)	NR
Rosenthal D., 2007[43]	Arm 2, 64	NR	NR	NR	NR	NR	NR	NR	NR
Rosenthal D., 2007[43]	Arm 3, 41	NR	NR	NR	NR	NR	NR	NR	NR
Rosenthal D., 2009[42]	Arm 1, 187	Mean:44 Range:17-71	Male, 109	NR	NR	NR	NR	ISS Mean:28.5	NR
Rosenthal, D., 2004[46]	(Overall), 94	Mean:38 Range:17-66	Male, 57 (60.6)	NR	NR	NR	NR	ISS- mean: 25.1 Mechanism of injury blunt (overall): 89 (94.75) Pelvic fracture (overall): 38 (40.4) Other fracture (overall): 44 (46.8) Spinal cord injury (overall): 31 (30.1)	NR
Rosenthal, D., 2005[44]	(Overall), 103	Mean:40 Range:17-68	Male, 64 (62.1)	NR	NR	NR	NR	ISS- mean: 27.7 Mechanism of injury blunt (overall): 93(90.2) Pelvic fracture (overall):	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
								41 (39.8) Other fracture (overall): 51 (49.5)	
Rosenthal, D., 2006[45]	Arm 2, 127	Mean:42 Range:17-68	Male, 77 (60.6)	NR	NR	NR	NR	Spinal cord injury: (25)	NR
Rosenthal, D., 2006[45]	Arm 3	NR	NR	NR	NR	NR	NR	Spinal cord injury: (25)	NR
Sekharan, J., 2001[47]	Arm 2, 33	Mean:38.1	Male, 25	NR	NR	NR	NR	Spinal cord injury (overall): 167 (59)	NR
Shang, E.K., 2011[48]	Arm 2, 1	Mean: 46	Male, (0)	NR	NR	NR	NR	NR	NR
Sing, R.F., 1998[51]	Arm 2, 8	Overall Range: 19-84	Overall: Male, 7	NR	NR	NR	NR	NR	NR
Sing, R.F., 2001[49]	Arm 2, 1	Mean:54	Male, 1	NR	NR	NR	NR	Other fracture comment: Case 1: Depressed skull fracture, frontal lobe contusion, multiple facial fractures, distal right radius and ulna fractures, and thoracic spine fracture.	NR
Sing, R.F., 2001[49]	Arm 3, 1	Mean:69	Male, 0	NR	NR	NR	NR	NR	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
Sing, R.F., 2001[50]	Arm 2, 158	Mean:42.2	Male, 113	NR	NR	NR	NR	ISS- mean: 27.3	NR
Smoot RL, 2010 [52]	Arm 1, 226	Mean:49	Male, 138	NR	NR	NR	NR	ISS Median:26 Range:1-59 Pelvic fracture:92 (41) Long bone fracture:129 (57) Spine fracture:76 (34)	NR
Stefanidis, D., 2006[53]	(Overall), 83	Mean:43 Range:14 - 71	Male, 59 (71)	NR	NR	NR	NR	ISS- mean: 26	NR
Tola, J.C., 1999[54]	Arm 2	NR	NR	NR	NR	NR	0 (0)	Other fracture combined pelvic # and long bone# (overall): 3 (14.3)	NR
Tola, J.C., 1999[54]	Arm 3	NR	NR	NR	NR	NR	123 (90)	NR	NR
Wilson, J.T., 1994[55]	Arm 1 (control), 111	Mean:30.0	NR	NR	NR	NR	NR	ISS mean: 29	NR
Wilson, J.T., 1994[55]	Arm 2, 15	Mean:31.4	NR	NR	NR	NR	16	ISS mean: 30	NR
Wojcik, R., 2000[56]	Arm 2, 105	Mean:54.8 Range:18-87	Male, 75	NR	NR	NR	NR	ISS- mean:26.1, Range:5-75 AIS head/neck: NR Other fracture comment: Case 2: Facial fractures,	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n (%)	ICU Duration
								multiple rib fractures, a sacral fracture, and a right humerus fracture. Spinal cord injury: 1 Spinal cord injury comment: Thoracic spine fracture	
Wojcik, R., 2000[56]	Arm 3	NR	NR	NR	NR	NR	Arm 3, 1	NR	NR
Zakhary, E.M., 2008[57]	Arm 2, 122	Mean:38.5 Range:15-58	Male, 86 (70.1)	NR	NR	NR	NR	ISS Mean:19.7 Range:5-42 Mechanism of injury blunt: 122 Spinal cord injury: 27	NR
Zolfaghari, D., 1995[58]	Arm 1	NR	NR	NR	NR	NR	NR	Ventilator days: mean:10 Range:1	Mean:18.1
Zolfaghari, D., 1995[58]	Arm 2, 45	Median:37	Male, 23	NR	NR	NR	NR	Ventilator days: mean:15 Range:7	Mean: 21.2

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CUS= Compression Ultrasonography; DGFI = duplex-guided IVC filter insertion; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; PE= Pulmonary Embolism; PGF= Prophylactic Greenfield Filter; P-IVCF= Prophylactic Inferior Vena Cava Filter; PVCF= Prophylactic Vena Cava Filter ;RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; VCF= Vena Cava Filter; VTE= Venous Thromboembolism

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Evidence Table 4. Intervention characteristics for KQ1 – Part A

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
IVCF versus IVCF *Cohort- retro*							
Karmy-Jones R, 2007 [17]	Arm 2 (R-IVCF)	Gunther Tulip®-152 OPTEASE®-37 Recovery- 224	NR	NR	NR	NR	No
Karmy-Jones R, 2007 [17]	Arm 3 (P-IVCF)	Greenfield Stainless Steel®-59 TRAPEASE®-46 VenaTech LGM®-23 Nitinol-14; bard non recovery-7; birds nest-4	NR	NR	NR	NR	No
Karmy-Jones R, 2007 [17]	Arm 4 (R-IVCF - prophylactic)	Gunther Tulip® OPTEASE® Recovery	NR	NR	NR	NR	No
Keller, I.S., 2007[18]	Arm 2 (Gunther Tulip)	Gunther Tulip®	Temp & Permanent	Interventional Radiologist	Angiography Suites	NR	No
Keller, I.S., 2007[18]	Arm 3 (OptEase)	OptEase	Temp & Permanent	Interventional Radiologist	Angiography suites	NR	No
O'Keffe, T., 2011 [30]	Arm 2 (Trauma Group)	Gunther Tulip®-50 G2®-40 Other-1	NR	NR	NR	NR	No
O'Keffe, T., 2011 [30]	Arm 3 (Non trauma group - control)	Gunther Tulip®-52 G2®-23 Other-1	NR	NR	NR	NR	No

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
Rosenthal D., 2007[43]	Arm 2 (Filter dwell times <180 days)	Gunther Tulip®	Temp & Permanent	NR	NR	<180 days	No
Rosenthal D., 2007[43]	Arm 3 (Filter dwell times >180 days)	Gunther Tulip®	Temp & Permanent	NR	NR	>180days	No
Rosenthal D., 2009[42]	Arm 2 (Gunther Tulip)	Gunther Tulip®	Temporary	NR	Bedside in ICU	NR	No
Rosenthal D., 2009[42]	Arm 3 (Celect)	Celect®	Temporary	NR	Bedside in ICU	NR	No
Cross sectional							
Smoot RL, 2010 [52]	Arm 2 (Permanent)	Greenfield Stainless Steel® TRAPEASE® VenaTech LGM®	Permanent	Interventional Radiologist	NR	NR	No
Smoot RL, 2010 [52]	Arm 3 (Retrievable)	Gunther Tulip® Recovery	Temporary	Interventional Radiologist	NR	NR	No

Evidence Table 4. Intervention characteristics for KQ1 – Part B

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy	Comparator Arm
IVCF versus Control *RCT*								
Rajasekhar, A., 2011[34]	Usual care/ No Intervention	NR	NR	NR	NR	NR	SCDs, enoxaparin 30 mg s.c twice a day/ 5000 units UFH s.c thrice a day/ fondaparinux	**NR**

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy	Comparator Arm
							2.5mg s.c every day	
Rajasekhar, A., 2011[34]	Arm 2 (IVCF)	Celect®	Temporary	Trauma Surgeon, Vascular Surgeon	Bedside	NR	SCDs,enoxaparin 30 mg s.c twice a day/ 5000 units UFH s.c thrice a day/ fondaparinux 2.5mg s.c every day	**NR**
Cohort- pros								
Gosin JS, 1997[12]	Arm 2 (DVT prophylaxis)	NR	NR	**NR**	NR	**NR**	NR	Heparin, 5000 units, S.C, every 8-12 hrs and pneumatic sequential compression devices
Gosin JS, 1997[12]	Arm3 (IVCF)	Greenfield Titanium®- 65 Gianturco-Roehm Bird's nest	NR	Interventional Radiologist Vascuar surgeon	Operating room	**NR**	NR	**NR**
Rogers FB, 1995[39]	No control/all arms were active	NR	NR	NR	NR	**NR**	SCD	**NR**
Rogers FB, 1995[39]	Arm 2 (PVCF)	Greenfield Titanium® Bird's nest filter (Cook, Bloomington)	NR	NR	Radiology suite	**NR**	SCD	**NR**
Rogers FB, 1995[39]	Arm 3 (All trauma patients)	Drug name: Heparin Device name:	NR	NR	NR	**NR**	SCD	**NR**

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy	Comparator Arm
		Greenfield Titanium® Bird's nest filter (Cook, Bloomington)						
Rogers FB, 1997[38]	Usual care/ No Intervention	NR	NR	**NR**	**NR**	**NR**	Pneumatic compression devices	**NR**
Rogers FB, 1997[38]	Arm 2 (IVCF)	NR	NR	Interventional Radiologist	Radiology suite	**NR**	Pneumatic compression devices	**NR**
Wilson JT, 1994[55]	Usual care/ No Intervention	NR	NR	NR	NR	**NR**	Venous compression devices Low dose subcutaneous heparin	**NR**
Wilson JT, 1994[55]	Arm 2 (IVCF)	Greenfield Titanium®-15	NR	NR	NR	**NR**	Venous compression devices Low dose subcutaneous heparin	**NR**
Cohort- retro								
Gorman PH, 2009[11]	Usual care/ No Intervention	NR	NR	NR	NR	NR	Compression stockings Low weight heparin	**NR**
Gorman PH, 2009[11]	Arm 2 (IVCF)	Not reported	**NR**	**NR**	**NR**	**NR**	Compression stockings Low weight heparin	**NR**
Rodriguez, J.L., 1996[36]	Usual care/ No Intervention	NR	NR	NR	NR	NR	No	NR

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy	Comparator Arm
Rodriguez, J.L., 1996[36]	Arm 2 (IVCF)	Greenfield Titanium®-40	**NR**	Interventional Radiologist	**NR**	**NR**	No	**NR**
Prospective cohort with historical control								
Khansarinia, S, 1995[19]	Usual care/ No Intervention	NR	**NR**	**NR**	**NR**	**NR**	SCD (if contraindication to LDH) LDH	**NR**
NKhansarinia, S, 1995[19]	Arm 2 (PGF)	Greenfield Stainless Steel® Greenfield Titanium®	**NR**	Interventional Radiologist, Trauma Surgeon, Vascular Surgeon	**NR**	**NR**	SCD (if contraindication to LDH) LDH	**NR**

Evidence Table 4. Intervention characteristics for KQ1 – Part C

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
IVCF Arm Only *Cohort-pros*							
Cherry RA, 2008[6]	Arm 2 (P-IVCF)	Greenfield Stainless Steel® Simon Nitinol® Vena Tech LP® Gunther Tulip® G2® Other: Cook	Temporary, permanent	NR	NR	NR	No

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
		Bird's nest, Bard Recovery					
Gonzalez RP, 2006[10]	Arm 2 (OR)	Greenfield Stainless Steel®	NR	Surgical residents	Bedside in operating room	NR	No
Gonzalez RP, 2006[10]	Arm 3 (STICU)	Greenfield Stainless Steel®	NR	Surgical residents	ICU	NR	No
Hoff WS, 2004[15]	Arm 2 (IVCF only)	Gunther Tulip®-35	NR	NR	Interventional radiology	NR	No
Kurtoglu M, 2003[20]	Arm 2 (Overall group)	Device name: VenaTech LGM®-10 Poliser- 1	Temporary and Permanent	Interventional Radiologist	Angiography room	NR	Patients continued to receive DVT prophylaxis with low-molecular-weight heparin during hospitalization
Langan EM, 1999[21]	Arm 2 (IVCF)	Greenfield Stainless Steel®-not stated Greenfield Titanium®-not stated	NR	NR	NR	NR	SCD SC Heparin
Leach TA, 1994[22]	Arm 2 (IVCF)	Greenfield Stainless Steel®-205	Not reported	Not reported	Not reported	Not reported	No
Millward, S.F., 1994[28]	No control/all arms were active	NR	Temporary (gunther)	NR	NR	NR	No
Nunn, C.R., 1997[29]	Arm 2 (Overall group)	Greenfield	NR	Vascular Surgeon,	Bedside	NR	Lovenox 30mg sq bid

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
		Titanium®-49		Assistance from experienced ultrasound technician			
Offner, P.J., 2003[31]	Arm 2 (IVCF)	Gunther Tulip®	Temp	Interventional Radiologist	Interventional radiology suite	14 days	Adjunctive measures, such as pneumatic compression devices, were used whenever possible Low-molecular-weight heparin therapy was instituted as soon as it was thought safe to do so by the attending physician and relevant consultants
Rogers, F.B., 1997[41]	Arm 2 (IVCF only)	Greenfield Stainless Steel®-21 Greenfield Titanium®-93 Vena Tech LP®-10 Bird's nest filter-8	NR	NR	NR	NR	No
Rosenthal, D., 2005[44]	Arm 2 (IVCF only)	Gunther Tulip®-	Retrievable (Temporary)	NR	103	NR	NR

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
		38 OPTEASE®-35 Recovery -30					
Stefanidis D, 2006[53]	Arm 2 (Overall group)	Gunther Tulip® G2® OPTEASE® Recovery	Temporary	Interventional Radiologist, Trauma Surgeon, Vascular Surgeon	OR, ICU and interventional, radiology	1 month post hospital discharge	No
Cohort-retro							
Binkert CA, 2006[3]	Arm 2 (Overall group)	Bard Recovery filter- 13 Intention to use filter (Temp. or Permanent): Temporary	Temporary	NR	NR	NR	NR
Carlin AM, 2002[5]	Arm 2 (Prophylactic)	Not reported- 78	NR	Interventional Radiologist, Trauma Surgeon	NR	NR	No
Conners MS, 2002[7]	Arm 2	Greenfield Stainless Steel®-256 Simon Nitinol®-28 Gianturco-Roehm Bird's Nest®-2	NR	Vascular Surgeon	ICU, private rooms, vascular laboratories	NR	No
Doody O, 2009[8]	Arm 2 (Overall group)	Celect®-115	Retrievable	NR	NR	NR	No

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
Duperier T, 2003[9]	Arm 2 (Overall group)	Greenfield Titanium®-133	NR	Interventional Radiologist, Trauma Surgeon, only one placed by IR; the rest were trauma surgeons	OR (angiography suite in 1 patient	NR	Pneumatic compression devices and/or graduated stockings Low molecular weight heparin (Lovenox) except patients with closed head injury and spinal cord injuries
Hermsen JL, 2008[14]	Arm 2 (R-IVCF)	G2® Bard Recovery	Temporary	Trauma Surgeon, Vascular Surgeon	NR	Removal occurred when patients were no longer at high risk for DVT/PE, had recovered completely from their injuries, and/or were able to be anticoagulated if indicated	No
Mahier A, 2008[24]	Arm 2 (Overall group)	Gunther Tulip® OPTEASE®	Temp	Interventional Radiologist	Angiography suite	2-3 weeks post insertion	No
McMurtry AL, 1999[25]	Arm 2 (PVCF during high VCF use)	NR	Permanent	Interventional Radiologist	Angiography suite	NR	SCDs, antiembolic stockings Adjusted dose heparin (IV)
McMurtry AL, 1999[25]	Arm 3 (PVCF during period of low VCF use)	NR	Permanent	Interventional Radiologist	Angiography suite	NR	SCDs, antiembolic stockings

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
							Adjusted dose heparin (IV)
McMurtry AL, 1999[25]	Arm 4 (PVCF [all])	NR	Permanent	Interventional Radiologist	NR	NR	SCDs, antiembolic stockings Adjusted dose heparin (IV)
Meier, C., 2006[27]	Arm 2 (IVCF)	Gunther Tulip®-65 OPTEASE®-30	Temporary (65), permanent (30)	Interventional Radiologist	Angiography suite	NR	High-thigh anti embolic stockings LDUH, LMWH, warfarin (in the absence of contraindications to anticoagulation)
Patton, J.H. Jr, 1996[32]	Arm 2 (IVCF-acute complications)	Greenfield Titanium®-110	NR	Surgeons	Operating room	NR	prefilter and postfiler DVT prophylaxis using sequential compression devices unless they were unable to have compression boots placed prefilter and postfilter DVT prophylaxis consisting of SCH unless had a contraindication to heparin
Patton, J.H. Jr, 1996[32]	Arm 3 (IVC filter - long-term)	Greenfield Titanium®-30	NR	Surgeons	Operating room	NR	prefilter and postfiler DVT prophylaxis using

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
							sequential compression devices unless they were unable to have compression boots placed prefilter and postfilter DVT prophylaxis consisting of SCH unless had a contraindication to heparin
Roberts, A., 2010[35]	NR	NR	Temporary	Interventional Radiologist	Radiology suite	6-8 weeks	Patients were placed on subcutaneous lovenox or heparin 1 week after injury
Rosenthal D, 2004[46]	Arm 2 (IVC filter only)	OPTEASE®	Temporary	Trauma Surgeon, Vascular Surgeon, general surgery resident	ICU bedside	NR	No
Rosenthal, D., 2006[45]	Arm 2 (Overall group)	Gunther Tulip® OPTEASE® Recovery filters	Temp	NR	ICU, bedside, US guidance	Until anticoagulation safe	In patients with an initial contraindication to contraindication to anticoagulation, LMWH was instituted as soon as it was believed to be safe by the attending

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
							surgeon and pneumatic compression devices were used whenever possible.
Sekharan, J., 2001[47]	Arm 2 (Follow up Patients)	Greenfield Stainless Steel®-33	NR	Interventional Radiologist, Trauma Surgeon, Vascular Surgeon, only 2 filters were inserted by Radiologists out of 108 baseline study population	NR	NR	Patient continued to receive DVT prophylaxis (Low dose subcutaneous heparin or Sequential Compression device) following filter placement
Tola JC, 1999[54]	Arm 2 (IVC filter only)	Gianturco-Roehm Bird's Nest® Greenfield filter (type not specified) or B. Braun Vena Tech filter	NR	Surgery resident under supervision of trauma attending	25	NR	No
Wojcik R, 2000[56]	Arm 2 (VCF Registry Patients), 105	Greenfield Stainless Steel®-72 (Green field Medi Tech) Simon Nitinol®-5 Bird's nest-28	NR	Interventional Radiologist Except 2 VCF (Who placed these filters not stated)	NR	NR	No
Zakhary EM, 2008[57]	Arm 2 (All study populations)	Bard Peripheral Vascular, Recovery	Temp	Vascular Surgeon	Operating room in a single level 1 trauma center	Retrieval window of 180 days with contacting	No

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
						patients planned at 90d to arrange for retrieval	
Zolfaghari D, 1995[58]	Arm 2 (Patients Receiving an IVC filter)	VenaTech LGM®-45	Not reported	Vascular Surgeon	Operating Room	NA	No
Case series/Case report							
Bach JR, 1990[1]	Arm 2 (IVC filter)	Greenfield Stainless Steel®-1	Permanent	NR	NR	NR	No
Benjamin ME, 1999[2]	Arm 2 (IVC filter only)	Greenfield Titanium®-23	NR	NR	23	NR	Mechanical (17) and LMWH (4)
Bochicchio GV, 2001[4]	Arm 2 (Case Report)	TRAPEASE®	NR	NR	NR	NR	No
Greenfield LJ, 2000[13]	Arm 2, 249	Greenfield Stainless Steel®-131 patients Greenfield Titanium®-118 patients	NR	Interventional Radiologist	NR	NR (time from placement to last follow up is 2.4years	No
Greenfield LJ, 2000[13]	Arm 3, 136	Greenfield Stainless Steel®-49 Greenfield Titanium®-87	NR	Interventional Radiologist	NR	Time from placement to last follow up is 1.9 years	No

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
Hughes GC, 1999[16]	Arm 2 (Case 1)	Not specified	NR	NR	NR	NR	No
Hughes GC, 1999[16]	Arm 3 (Case 2)	Not specified	NR	NR	NR	NR	No
Lo CH, 2008[23]	Arm 2 (Overall group)	Gunther Tulip®-17	Temporary	NR	NR	NR	Compression on other (non-injured) 9 received enoxaparin, 1 received heparin Other: note- 16 prophylactic filters
Meier, C., 2006[26]	Arm 2 (Overall group)	OPTEASE®	Temporary	Interventional Radiologist	Angiography suite	7 - 28 days	No
Phelan, H.A., 2009[33]	Arm 2 (Overall group)	Greenfield Stainless Steel® Greenfield Titanium® One pt got non-Greenfield (not specified)	Permanent	Interventional Radiologist, Trauma Surgeon	NR	Permanent	No
Rogers, F., 2001[37]	Arm 2 (Case Report)	Greenfield Stainless Steel®-1	NR	NR	NR	NR	No
Shang, E.K., 2011[48]	Arm 2 (IVC filter only)	Gunther Tulip®-1	NR	NR	NR	NR	Heparin
Sing RF, 2001[49]	Arm 2 (Case 1)	Vena Tech LP®-	Temp	NR	NR	NR	No

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
		1					
Sing RF, 2001[49]	Arm 3 (Case 2)	Greenfield Stainless Steel®-1	Temp	NR	NR	NR	No
Sing, RF[51]	Arm 2 (IVCF)	Greenfield (6), Bird's Nest (2)	NR	Surgeons	Bedside in ICU	NR	No
Prospective observational							
Sing RF, 2001[50]	Arm 2 (Study group)	Greenfield Stainless Steel®-8 Simon Nitinol® TRAPEASE® Greenfield Titanium® VenaTech LGM® Bird"s Nest: 25; Simon Nitinol:5; TrapEase, 2 Green field filter:74	NR	Interventional Radiologist, General surgeon	ICU or Radiology dept	NR	NR

Author, Year	Arm Name	Filter name	Filter type (temp or permanent)	Filter placed by	Setting	Planned duration of filter	Concurrent therapy
Ambidirectional (retrospective and prospective studies)							
Rogers, F.B., 1993[40]	Arm 2 (IVCF)	Greenfield Stainless Steel®-32 Birds nest vena cava =2	NR	NR	NR	NR	Venous compression boots

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CUS= Compression Ultrasonography; DGFI = duplex-guided IVC filter insertion; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; PE= Pulmonary Embolism; OR= Operating Room; PGF= Prophylactic Greenfield Filter; P-IVCF= Prophylactic Inferior Vena Cava Filter; PVCF= Prophylactic Vena Cava Filter ;RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; STICU=Surgical Trauma Intensive Care Unit; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; VCF= Vena Cava Filter; VTE= Venous Thromboembolism

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Evidence Table 5. Patient-oriented Outcomes for KQ 1

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
Wojcik R, 2000 [54]	Arm 2	105	NR	DVT: Ultrasonography PE: No PE	Total DVT only	28/64 patients who had VCF inserted for prophylactic indications	NR	NR
Benjamin ME, 1999 [1]	Arm 2 (P-IVCF only)	21 (Only 21 had prophylactic)	Hospital discharge	DVT: Ultrasonography	Total DVT only	0 (0)	NR	NR
Benjamin ME, 1999 [1]	NR	21 (Only 21 had prophylactic)	End of follow up death or transfer	DVT: Ultrasonography	NR	0 (0)	NR	NR
Bochicchio GV, 2001 [2]	Arm 2	1	NR	NR	NR	NR	NR	NR
Bochicchio GV, 2001 [2]	Arm 2	1	NR	NR	NR	NR	NR	NR
Carlin AM, 2002 [3]	Arm 2 (Prophylactic)	78	NR	NR	Total DVT only	5 (6)	NR	NR
Carlin AM, 2002 [3]	Arm 2 (Prophylactic)	78	NR	NR	Total PE only	0	NR	NR
Cherry RA, 2008 [4]	Arm 2 (P-ICVF)	244	In hospital	DVT: Ultrasonography PE: CT scan	Total DVT only	(9)	NR	NR
Cherry RA, 2008 [4]	Arm 2 (P-ICVF)	244	In hospital	DVT: Ultrasonography PE: CT scan	Total PE only	4 (1.6)	NR	NR
Coners MS, 2002 [5]	Arm 2	284	NR	NR	Total PE only	1	NR	NR
Doody O, 2009 [6]	Arm 2 (IVCF)	115	2 months	DVT: Venography PE: CT angiography	Total PE only	1	NR	NR
Doody O, 2009 [6]	Arm 2 (IVCF)	115	Other please specify2 months	DVT: Venography PE: CT angiography	Lower extremity DVT:	0	NR	NR
Duperier T, 2003 [7]	Arm 2	133	NR	DVT: Ultrasonography PE: Autopsy	Total DVT only	31	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
Duperier T, 2003 [7]	Arm 2	133	NR	DVT: Ultrasonography PE: Autopsy	Total PE only	1	NR	NR
Gonzalez RP, 2005 [8]	Arm 2 (No VTE)	NR	NR	NR	Total VTE only	0	NR	NR
Gonzalez RP, 2005 [8]	Arm 3	No VTE	NR	NR	Total VTE only	0	NR	NR
Gonzalez RP, 2005 [8]	Arm 2 (No VTE)	NR	NR	NR	NR	NR	NR	NR
Gonzalez RP, 2005 [8]	Arm 3	No VTE	NR	NR	NR	NR	NR	NR
Gorman PH, 2009[9]	Arm 1 (control - No IVC filter)	58	In hospital	DVT: Ultrasonography	Total DVT only	3 (5.2)	NR	p value: 0.021
Gorman PH, 2009[9]	Arm 2 (IVC Filter)	54	In hospital	DVT: Ultrasonography PE: CT scan	Total DVT only	11 (20.4)	NR	NR
Gorman PH, 2009[9]	Arm 1 (control - No IVC filter)	58	NR	DVT: Ultrasonography	NR	NR	NR	NR
Gorman PH, 2009[9]	Arm 2 (IVC Filter)	54	In hospital	DVT: Ultrasonography PE: CT scan	Total PE only	1	NR	NR
Gosin JS, 1997 [10]	Arm 1 (control)	249	NR	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only	12	NR	p value: <0.02
Gosin JS, 1997 [10]	Arm 2	151	NR	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only	4	NR	NR
Gosin JS, 1997[10]	Arm 3	99	NR	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only	0	NR	NR
Greenfield LJ, 2000 [11]	Arm 2 (Prophylactic Group)	197	NR	DVT: Ultrasonography PE: New PE=3; method of follow up include routine, autopsy, CT/cavogram	Total DVT only	16 (10.8)	NR	NR
Greenfield LJ, 2000 [11]	Arm 3	96	NR	DVT: Ultrasonography	Total DVT only	10 (8.6)	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
				PE: Method of follow up include Routine, autopsy and CT/Cavogram				
Greenfield LJ, 2000 [11]	Arm 2 (Prophylactic Group)	197	NR	DVT: Ultrasonography PE: New PE=3; method of follow up include routine, autopsy, CT/cavogram	PE:	3 (1.5)	NR	NR
Greenfield LJ, 2000 [11]	Arm 3	96	NR	DVT: Ultrasonography PE: Method of follow up include Routine, autopsy and CT/Cavogram	PE:	2 (2)	NR	NR
Hermsen JL, 2008 [12]	Arm 2	92	NR	DVT: Ultrasonography PE: CT scan	Total PE only	3	NR	NR
Hoff WS, 2004 [13]	Arm 2 (IVCF only)	35	Hospital discharge	DVT: Ultrasonography	Total DVT only	3 (8.6)	NR	NR
Hoff WS, 2004 [13]	Arm 2 (IVCF only)	35	Hospital discharge	DVT: Ultrasonography	Total PE only	0 (0)	NR	NR
Hughes GC, 1999 [14]	Arm 2 (Case 1)	1	Hospital discharge	NR	PE	0 (0)	NR	NR
Hughes GC, 1999 [14]	Arm 3 (Case 2)	1	Hospital discharge	NR	Total VTE only	0 (0)	NR	NR
Karmy-Jones R, 2007[15]	Arm 2 (R-IVCF - all)	413	90 days	NR	Total PE only	2	NR	NR
Karmy-Jones R, 2007[15]	Arm 4 (Prophylactic R-IVCF)	310	90 days	DVT: Ultrasonography	Total DVT only	18 (20)	NR	NR
Karmy-Jones R, 2007[15]	Arm 3 (P-IVCF)	172	NR	NR	NR	NR	NR	NR
Karmy-Jones R, 2007[15]	Arm 2 (R-IVCF - all)	413	90 days	NR	NR	NR	NR	NR
Karmy-Jones R, 2007[15]	Arm 4 (Prophylactic R-IVCF)	310	NR	DVT: Ultrasonography	Proximal	NR	NR	NR
Karmy-Jones R, 2007[15]	Arm 4 (Prophylactic R-IVCF)	310	90 days	DVT: Ultrasonography	Lower extremity DVT Distal	10 (2 iliofemoral & 8 suprapopliteal)	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
Karmy-Jones R, 2007[15]	Arm 4 (Prophylactic R-IVCF)	310	90 days	DVT: Ultrasonography	Lower extremity DVT	8 (infrapopliteal)	NR	NR
Keller IS, 2007[16]	Arm 2	92	Diagnosis made at 22 days and 1 year in the 2 cases of PE	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	PE	2	2	NR
Keller IS, 2007[16]	Arm 3	80	12 days after filter placemen t	PE: Angiography	PE	1	1	NR
Keller IS, 2007[16]	Arm 2	92	Not specified	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total DVT only	1	1 patient in this arm had recurrent DVT but number not specified	NR
Keller IS, 2007[16]	Arm 3	80	NR	PE: Angiography	NR	NR	NR	NR
Khansarinia S, 1995 [17]	Arm 1 (control)	216	NR	DVT: Ultrasonography PE: Arteriography	Total PE only	13	NR	p value: <0.009
Khansarinia S, 1995 [17]	Arm 2 (PGF)	108	NR	DVT: Ultrasonography PE: arteriography	Total PE only	0	NR	NR
Kurtoglu M, 2003 [18]	Arm 2	11	17 months	DVT: Ultrasonography PE: Angiography	Total DVT only	0	NR	NR
Kurtoglu M, 2003 [18]	Arm 2	11	17 months	DVT: Ultrasonography PE: Angiography	Total PE only	0	NR	NR
Langan EM, 1999 [20]	Arm 2	187	Hospital discharge	DVT: Ultrasonography PE: CT scan, VQ Scan (Ventilation/perfusion scan	Total DVT only	24 (12.8)	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
				or lung scintigraphy)				
Langan EM, 1999 [20]	Arm 2	187	Hospital discharge	DVT: Ultrasonography PE: CT scan, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total PE only	1 (0.5)	NR	NR
Leach TA, 1994 [21]	Arm 2	201 patients (there 205 filters inserted)	NR	DVT: Method of diagnosis not reported PE: NA	Total DVT only	1	NR	NR
Leach TA, 1994 [21]	Arm 2	201 patients (there 205 filters inserted)	NR	DVT: Method of diagnosis not reported PE: NA	PE:	0 (0)	NR	NR
Lo CH, 2008 [22]	Arm 2	17	NR	PE: VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total PE only	1	NR	NR
Lo CH, 2008 [22]	Arm 2	17	NR	PE: VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Upper extremity DVT	1	NR	NR
Mahier A, 2008 [23]		NR	NR	DVT: Ultrasonography	Lower extremity DVT	2	NR	NR
McMurtry AL, 1999 [24]	Arm 4	248	period of study	PE: Angiography	Total DVT only	6	NR	NR
McMurtry AL, 1999 [24]	Arm 5 (All VCF [placed for prophylaxis and placed after 1]) episode of PE)	299	period of study	PE: Angiography	Total DVT only	9	NR	NR
McMurtry AL, 1999 [24]	Arm 4	248	period of study	PE: Angiography	Total PE only	4	NR	NR
McMurtry AL, 1999 [24]	Arm 5 (All VCF [placed for prophylaxis and placed after 1 episode of PE])	299	period of study	PE: Angiography	Total PE only	6	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
Meier C, 2006 [25]	Arm 2	37	30 days	DVT: Ultrasonography PE: CT scan	Total PE only	1	NR	NR
Meier C, 2006 [26]	Arm 2	95	Hospital discharge	DVT: Ultrasonography PE: CT scan	Total DVT only	2	NR	NR
Meier C, 2006 [26]	Arm 2	95	21 days	DVT: Ultrasonography PE: CT scan	Total PE only	1	NR	NR
Milliard SF, 1994 [27]	Arm 2	3	NR	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only	0	NR	NR
Nunn CR, 1997 [28]	Arm 2	49	Hospital discharge	NR	Total DVT only	1	NR	NR
Nunn CR, 1997 [28]	Arm 2	49	Hospital discharge	NR	Total PE only	0	NR	NR
O'Keeffe T, 2011[29]	Arm 3 (Non trauma group [control])	30	90 days	DVT: Ultrasonography	Total DVT only	13 (43)	NR	NR
O'Keeffe T, 2011[29]	Arm 2 (Trauma group)	91	90 days	DVT: Ultrasonography	Total DVT only	10 (15)	NR	NR
Offner PJ, 2003 [30]	Arm 2 (IVCF)	44	NR	PE: Angiography, helical computed tomography of the chest	Total PE only	0	NR	NR
Offner PJ, 2003 [30]	Arm 2 (IVCF)	44	NR	PE: Angiography, helical computed tomography of the chest	PE: Angiography, helical computed tomography of the chest	NR	NR	NR
Patton JH Jr, 1996 [31]	Arm 2	110	NR	DVT: Ultrasonography PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total PE only	0	NR	NR
Patton JH Jr, 1996 [31]	Arm 3 (IVC filter long	110	Hospital discharge	DVT: Ultrasonography PE: Angiography,VQ Scan	Total DVT only	7	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
	term follow up)			(Ventilation/perfusion scan or lung scintigraphy)				
Patton JH Jr, 1996 [31]	NR	30	4-42 months	DVT: Ultrasonography PE: Angiography,VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total DVT only	30 (47)	14	NR
Patton JH Jr, 1996 [31]	NR	30	Hospital discharge	DVT: Ultrasonography PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total PE only	88 (0)	0	NR
Phelm HA, 2009 [32]	Arm 2	97	1 and 7yrs post injury	NR	Total PE only	2 (2.1)	NR	NR
Rajasekhar A, 2011[33]	Arm 1 (control - No IVCF)	16	Hospital discharge	DVT: Ultrasonography PE:CT scan	Total DVT only	0	NR	NR
Rajasekhar A, 2011[33]	Arm 2 (Prophylactic IVCF)	18	Hospital discharge	DVT: Ultrasonography PE:CT scan	Total DVT only	0 (0)	NR	NR
Rajasekhar A, 2011[33]	Arm 1 (control - No IVCF)	16	30 days	DVT: Ultrasonography PE:CT scan	Total DVT only	0	NR	NR
Rajasekhar A, 2011[33]	Arm 2 (Prophylactic IVCF)	18	30 days	DVT: Ultrasonography PE:CT scan	Total DVT only	0 (0)	NR	NR
Rajasekhar A, 2011[33]	Arm 1 (control - No IVCF)	16	6 month follow up	DVT: Ultrasonography PE:CT scan	Total DVT only	0	NR	NR
Rajasekhar A, 2011[33]	Arm 2 (Prophylactic IVCF)	18	6 month follow up	DVT: Ultrasonography PE:CT scan	Total DVT only	1	NR	NR
Rajasekhar A, 2011[33]	Arm 1 (control - No IVCF)	16	Hospital discharge	DVT: Ultrasonography PE:CT scan	Total PE only	0	NR	NR
Rajasekhar A, 2011[33]	Arm 2 (Prophylactic	18	Hospital discharge	DVT: Ultrasonography	Total PE only	0 (0)	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
	IVCF)			PE:CT scan				
Rajasekhar A, 2011[33]	Arm 1 (control - No IVCF)	16	30 days	DVT: Ultrasonography PE:CT scan	Total PE only	0	NR	NR
Rajasekhar A, 2011[33]	Arm 2 (P-IVCF)	18	30 days	DVT: Ultrasonography PE:CT scan	Total PE only	0 (0)	NR	NR
Rajasekhar A, 2011[33]	Arm 1 (control - No IVCF)	16	6 month follow up	DVT: Ultrasonography PE:CT scan	Total PE only	1	NR	NR
Rajasekhar A, 2011[33]	Arm 2 (P-IVCF)	18	6 month follow up	DVT: Ultrasonography PE:CT scan	Total PE only	0 (0)	NR	NR
Roberts A, 2010 [34]	Arm 2	45	6 -8 weeks		Total VTE only	0	NR	NR
Rodriguez JL, 1996[35]	Arm 1 (control)	80	NR	DVT: Ultrasonography PE: arteriogram	Lower extremity DVT	15	NR	NR
Rodriguez JL, 1996[35]	Arm 2 (VCF)	40	NR	DVT: Ultrasonography PE: arteriogram	Lower extremity DVT	6	NR	NR
Rodriguez JL, 1996[35]	Arm 1 (control)	80	NR	DVT: Ultrasonography PE: arteriogram	Total PE only	14	NR	Odd ratio: 8.27 95%CI:1.40 48.8 p value: 0.02
Rodriguez JL, 1996[35]	Arm 2 (VCF)	40	NR	DVT: Ultrasonography PE: arteriogram	Total PE only	1	NR	Odd ratio: 8.27 95% CI:1.40 48.8 p value: 0.02
Rogers F, 2001 [36]	Arm 2	1	NR	NR	NR	NR	NR	NR
Rogers FB, 1993 [39]	Arm 2	34	NR	DVT: Plethysmorgraphy	Total DVT only	6 (17.6)	NR	NR
Rogers FB, 1993 [39]	Arm 2	34	NR	DVT:Plethysmorgraphy	PE:	0 (0)	NR	NR
Rogers FB, 1995[38]	Arm 2	63	NR	DVT: Ultrasonography,	Total PE only	1	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
				Plethysmorgraphy PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)				
Rogers FB, 1995[38]	Arm 2	63	NR	DVT: Ultrasonography, Plethysmorgraphy PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total DVT only	13	NR	NR
Rogers FB, 1997 [37]	Arm 1 (control)	905	Hospital discharge	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total PE only	1	NR	NR
Rogers FB, 1997 [37]	Arm 2	35	Hospital discharge	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	Total PE only	1	NR	NR
Rogers FB, 1997 [37]	Arm 1 (control)	905	NR	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	NR	NR	NR	NR
Rogers FB, 1997 [37]	Arm 2	35	NR	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy)	NR	NR	NR	NR
Rogers FB, 1997 [40]	Arm 2 (IVCF only)	132	Hospital discharge	DVT: Ultrasonography PE: Angiography, Autopsy, Abdominal ultrasonography	Total PE only	3 (2.3)	NR	NR
Rogers FB, 1997 [40]	Arm 2 (IVCF only)	132	Hospital discharge	DVT: Ultrasonography PE: Angiography, Autopsy, Abdominal ultrasonography	Total DVT only	12 (9)	NR	NR
Rosenthal D, 2004 [45]	Arm 2 (IVCF)	94	within 2 weeks	DVT: Ultrasonography	Lower extremity DVT Proximal	1	NR	NR
Rosenthal D, 2004 [45]	Arm 2 (IVCF)	94	after filter retrieval time unspecified	DVT: Ultrasonography	PE	1	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
Rosenthal D, 2005 [43]	Arm 2 (IVCF only)	103	Hospital discharge	DVT: Ultrasonography PE: CT scan	Total PE only	1	NR	NR
Rosenthal D, 2005 [43]	Arm 3 (Subset of patients who underwent uneventful filter removal)	44	Hospital discharge	DVT: Ultrasonography	Total DVT only	3	NR	NR
Rosenthal D, 2005 [43]	Arm 2 (IVCF only)	103	Hospital discharge	DVT: Ultrasonography PE: CT scan	Total DVT only	2	NR	NR
Rosenthal D, 2005 [43]	Arm 3 (Subset of patients who underwent uneventful filter removal)	44	NR	DVT: Ultrasonography	NR	NR	NR	NR
Rosenthal D, 2006 [44]	Arm 2	NR	NR	DVT: Ultrasonography PE: CT scan	Lower extremity DVT	4	NR	NR
Rosenthal D, 2006 [44]	Arm 2	NR	NR (following filter retrieval)	DVT: Ultrasonography PE: CT scan	PE	1	NR	NR
Rosenthal D, 2009[41]	Arm 2	97	NR	PE:CT scan	Total DVT only	2	NR	NR
Rosenthal D, 2009[41]	Arm 2 (Gunther Tulip)	97	NR	PE:CT scan	Total DVT only	2	NR	NR
Rosenthal D, 2009[41]	Arm 3 (Celect)	90	NR	NR	Total PE only	1	NR	p value: >0.20
Rosenthal D, 2009[41]	Arm 2	97	NR	PE:CT scan	Total PE only	1	NR	NR
Rosenthal D, 2009[41]	Arm 2 (Gunther Tulip)	97	NR	PE:CT scan	Total PE only	1	NR	NR
Rosenthal D, 2009[41]	Arm 3 (Celect)	90	NR	PE:CT scan	NR	NR	NR	NR
Sekharan J, 2001 [46]	Arm 2 (Data available for follow up participants)	33	End of follow up	DVT: Ultrasonography PE: No PE	Total DVT only	2 (6)	NR	NR
Sekharan J, 2001 [46]	Arm 2 (Data available for	33	End of follow up	DVT: Ultrasonography	PE	0 (0)	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
	follow up participants)			PE: No PE				
Shang EK, 2011 [47]	Arm 2 (IVCF only)	1	5 years after IVCF placemen t	PE: CT angiography	Total PE only	0	NR	NR
Shang EK, 2011 [47]	Arm 2 (IVCF only)	1	5 years after IVCF placemen t	PE: CT angiography	Total DVT only	0	NR	NR
Sing RF [49]	Arm 2	8	3weeks post IVCF insertion	DVT: Autopsy	Total DVT only	1	NR	NR
Sing RF, 2001 [48]	Arm 2	158	NR	DVT: Ultrasonography PE: 1 by pulmonary arteriography	Total DVT only	8	NR	NR
Sing RF, 2001 [48]	Arm 2	158	NR	DVT: Ultrasonography PE: 1 by pulmonary arteriography	Total PE only	1	NR	NR
Smoot RL, 2010 [50]	Arm 2 (Permanent)	86	NR	NR	Total DVT only	NR	NR	NR
Smoot RL, 2010 [50]	Arm 2 (Permanent)	86	Follow up median of 11 months	NR	Total PE only	2	NR	NR
Smoot RL, 2010[50]	Arm 3 (Retrievable)	140	Follow up median of 11 months	NR	Total PE only	6	NR	NR
Stefanidis D, 2006 [51]	Arm 2	83	Hospital discharge	DVT: Ultrasonography	Lower extremity DVT	2	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
Stefanidis D, 2006[51]	Arm 2	83	Hospital discharge	DVT: Ultrasonography	Upper extremity DVT	1	NR	NR
Stefanidis D, 2006[51]	Arm 2	83	60 days post hospital discharge	DVT: Ultrasonography	PE	0	NR	NR
Tola JC, 1999 [52]	Arm 2 (IVCF only)	25	Hospital discharge	NR	PE	0 (0)	NR	NR
Wilson JT, 1994[53]	Arm 1 (control)	111	NR	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only	7 (6.3)	8	NR
Wilson JT, 1994[53]	Arm 2	15	Hospital discharge	NR	Total PE only	0	NR	NR
Wilson JT, 1994[53]	Arm 1 (control)	111	NR	PE: Angiography, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	NR	NR	NR	NR
Wilson JT, 1994[53]	Arm 2	15	NR	NR	Total DVT only	0	NR	NR
Wojcik R, 2000 [54]	Arm 2	105	NR	DVT: Ultrasonography PE: No PE	PE:	0	NR	NR
Zakhary EM, 2008 [55]	Arm 2	122	Other please specify90 360	DVT: Venography, Ultrasonography	Lower extremity DVT	116	9	NR
Zakhary EM, 2008 [55]	Arm 2	116	90 -360	DVT: Venography	Lower extremity DVT	NR	9	NR
Zakhary EM, 2008 [55]	Arm 2	116	NR	DVT: Venography	Lower extremity DVT	NR	9	NR
Zakhary EM, 2008 [55]	Arm 2	116	NR	DVT: Ultrasonography	Lower extremity DVT	9 (7.8)	NR	NR
Zakhary EM, 2008 [55]	Arm 2	116	90 -360	DVT: Ultrasonography	Lower extremity DVT	9 (7.8)	9	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n (%) of events	Measures of Association
Zolfaghari D, 1995 [56]	Arm 2	45	NR	PE: No post placement PEs in any of the 45 patients who received a filter	PE	0	0	NR

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CUS= Compression Ultrasonography; DGFI = duplex-guided IVC filter insertion; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; PE= Pulmonary Embolism; OR= Operating Room; PGF= Prophylactic Greenfield Filter; P-IVCF= Prophylactic Inferior Vena Cava Filter; PVCF= Prophylactic Vena Cava Filter ;RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; STICU=Surgical Trauma Intensive Care Unit; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; VCF= Vena Cava Filter; VTE= Venous Thromboembolism

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Evidence Table 6. Other Patient-oriented Outcomes for KQ 1

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Benjamin ME, 1999[1]	Arm 2 (P-IVCF only)	23	Hospital discharge	Cost of therapy	Average charge of bedside DGFI	NR	NR	Mean: $3200	NR
Benjamin ME, 1999[1]	Arm 2 (P-IVCF only)	23	Hospital discharge	Fatal PE	Deaths due to PE	0 (0)	NR	NR	NR
Benjamin ME, 1999[1]	Arm 2 (P- IVCF only)	23	Hospital discharge	Total Mortality	3 in hospital deaths	0 (0)	NR	NR	NR
Binkert CA, 2006[2]	Arm 2	13	>180 days after IVCF insertion	Filter retrieval rate	Filter retrieval rate after 6 months	13(100)	NR	NR	NR
Bochicchio GV, 2001[3]	Arm 2	1	NR	Total Mortality	Died 3.5 weeks after admission	1	NR	NR	NR
Carlin AM, 2002[5]	Arm 2	78	NR	Total Mortality	NR	2 (4)	NR	NR	NR
Carlin AM, 2002[5]	Arm 2	78	NR	Length of hospital stay	NR	NR	NR	NR	NR
Cherry RA, 2008[6]	Arm 2 (P-IVCF)	140	18 months	Filter retrieval rate	Of all retrievable filters inserted (140)	82 (58.6)	NR	NR	NR
Conners MS, 2002[7]	Arm 2	284	NR	Total Mortality	NR	36	NR	NR	NR
Conners MS, 2002[7]	Arm 2	284	NR	Cost of therapy	NR	NR	NR	Mean: $2170	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Doody O, 2009[8]	Arm 2	115	2 months	Filter retrieval rate	Successful retrieval rate from attempted retrieval	57 (49.6)	NR	NR	NR
Duperier T, 2003[9]	Arm 2	133	NR	Total Mortality	From injuries (not including the fatal PE)	4	NR	NR	NR
Duperier T, 2003[9]	Arm 2	133	NR	Fatal PE	NR	1	NR	NR	NR
Greenfield LJ, 2000[10]	Arm 2 (Prophylactic group)	249	NR	Total Mortality	NR	(15.6)	NR	NR	NR
Greenfield LJ, 2000[10]	Arm 3	136	NR	Total Mortality	NR	(22)	NR	NR	NR
Greenfield LJ, 2000[10]	Arm 2 (Prophylactic group)	249	NR	Length of hospital stay	NR	NR	NR	Mean: 33.8 Range: 1-181	NR
Greenfield LJ, 2000[10]	Arm 3	136	NR	Length of hospital stay	NR	NR	NR	Mean: 38.5 days Range: 6-118	NR
Greenfield LJ, 2000[10]	Arm 2 (Prophylactic group)	249	NR	Length of ICU stay -days	NR	NR	NR	Mean:14.1 Range:1-150	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Greenfield LJ, 2000[10]	Arm 3		NR	Length of ICU stay -days	NR	NR	NR	Mean: 15.4 Range: 2-93	NR
Hermsen JL, 2008[11]	Arm 2	92	NR	Total Mortality	NR	4	NR	NR	NR
Hermsen JL, 2008[11]	Arm 2	NR	NR	Filter retrieval rate	Based on 39 patients with attempted removal	30 (77)	NR	NR	NR
Hoff WS, 2004[12]	Arm 2 (IVC filter only)	35	Hospital discharge	Filter retrieval rate	NR	18 (51.4)	NR	NR	NR
Karmy-Jones R, 2007[13]	Arm 3(P-IVCF)	172	Hospital discharge	Total Mortality	Deaths before discharge	18	NR	NR	NR
Karmy-Jones R, 2007[13]	Arm 2 (R-IVCF [all])	413	90 days	Filter retrieval rate	Number of filters retrieved	90 (22)	NR	NR	NR
Karmy-Jones R, 2007[13]	Arm 3(P-IVCF)	NR	NR	NR	NR	NR	NR	NR	NR
Karmy-Jones R, 2007[13]	Arm 2 (R-IVCF [all])	446	Hospital discharge	Total Mortality	Death before hospital discharge	33	NR	NR	NR
Keller IS, 2007[14]	Arm 2	92	NR	Filter retrieval rate	NR	46 (49)	NR	NR	NR
Keller IS, 2007[14]	Arm 3	83	NR	Filter retrieval rate	NR	58 (70)	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Khansarinia S, 1995[15]	Arm 1 (control)	216	NR	Total Mortality	NR	47 (22)	NR	NR	P value: 0.28 Ref group: Arm 2-PGF
Khansarinia S, 1995[15]	Arm 2 (PGF)	108	NR	Total Mortality	NR	18 (16)	NR	NR	NR
Khansarinia S, 1995[15]	Arm 1 (control)	216	NR	Fatal PE	NR	9	NR	NR	P value: <0.03 Ref group: Arm 2-PGF
Khansarinia S, 1995[15]	Arm 2 (PGF)	108		Fatal PE	NR	0	NR	NR	NR
Langan EM, 1999[16]	Arm 2	187	NR	Total Mortality	23 in hospital, 4 after discharge	27 (14.4)	NR	NR	NR
Leach TA, 1994[17]	Arm 2	201	NR	Total Mortality	IBE death without filter, despite two attempts to place filter procedure failed	1	NR	NR	NR
Lo CH, 2008[18]	Arm 2	17	NR	Total Mortality	NR	1	NR	NR	NR
Lo CH, 2008[18]	Arm 2	16	NR	Filter retrieval rate	NR	13	NR	NR	NR
Lo CH, 2008[18]	Arm 2	17	NR	Length of hospital stay	NR	NR	NR	Mean: 36.4 Range: 9-100	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Mahier A, 2008[19]	Arm 2	80	Filter retrieval 7-19 days after insertion	Filter retrieval rate	NR	29 (36)	NR	NR	NR
McMurtry AL, 1999[20]	Arm 4 (PVCF - all)	248	Period of study	Total Mortality	Deaths in PVCF patients (none was due to PE)	31 (13)	NR	NR	NR
McMurtry AL, 1999[20]	Arm 3 (PVCF during low VCF use)	22	Period of study	Fatal PE	Deaths in patients diagnosed with PE	8 (0.06)	NR	NR	NS Ref group: Arm 2-PVCF during high VCF use
McMurtry AL, 1999[20]	Arm 2 (PVCF during high VCF use)	NR	Period of study	Fatal PE	Deaths in patients diagnosed with PE	11 (0.07)	NR	NR	NS Ref group: Arm 3-PVCF during low VCF use
McMurtry AL, 1999[20]	Arm 4 (PVCF - all)	248	Period of study	Fatal PE	Deaths in patients diagnosed with PE	19	NR	NR	NR
McMurtry AL, 1999[20]	Arm 3 (PVCF during low VCF use)	NR	NR	NR	NR	NR	NR	NR	NR
Meier C, 2006[21]	Arm 2	37	30 days	Total Mortality	From severe brain injury	1	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Meier C, 2006[21]	Arm 2	37	30 days	Filter retrieval rate	NR	32 (86)	NR	NR	NR
Meier C, 2006[22]	Arm 2	95	NR	Total Mortality	NR	(7.4)	NR	NR	NR
Meier C, 2006[22]	Arm 2	95	Hospital discharge	Length of hospital stay	NR	NR	NR	Median: 26 days Range: 6-159 days	NR
Meier C, 2006[22]	Arm 2	95	Hospital discharge	Length of ICU stay -days	NR	NR	NR	Median: 11 days Range: 1-50 days	NR
Meier C, 2006[22]	Arm 2	67	NR	Filter retrieval rate	NR	65 (97)	NR	NR	NR
Meier C, 2006[22]	Arm 2	95	Hospital discharge	Fatal PE	NR	0	NR	NR	NR
Millward SF, 1994[23]	Arm 2	3	NR	Total Mortality	NR	0	NR	NR	NR
Nunn CR, 1997[24]	NR	49	Hospital discharge	Cost of therapy	Cost reduction of -$1,481 and -$2,432 per patient versus radiology and OR IVCF placement respectively	NR	NR	Mean: $3508/patient	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
O'Keeffe T, 2011[25]	Arm 2 (Trauma group)	91	90 days	Filter retrieval rate	Filter retrieval rate at the 3 month check up after hospital discharge	(47)	NR	NR	p value:<0.001 Ref group: Arm 3-non trauma (control) group
O'Keeffe T, 2011[25]	Arm 3 (Non-trauma group [control])	76	90 days	Filter retrieval rate	Filter retrieval rate at the 3 month check up after hospital discharge	(8)	NR	NR	p value:<0.001 Ref group: Arm 2-trauma group
Offner PJ, 2003[26]	Arm 2 (IVC filter)	44	NR	Total Mortality	NR	0	NR	NR	NR
Patton JH Jr, 1996[27]	Arm 2	110	Hospital discharge	Total Mortality	NR	22	NR	NR	NR
Patton JH Jr, 1996[27]	NR	30	4-42 months	Post-thrombotic syndrome	Signs and symptoms of venous insufficiency	30	11	NR	NR
Patton JH Jr, 1996[27]	Arm 2	30	NR	Post-thrombotic syndrome	NR	14	NR	NR	NR
Phelm HA, 2009[28]	Arm 2	97	NR	Total Mortality	NR	15	NR	NR	NR
Phelm HA,	Arm 2		NR	Fatal PE	NR	1	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
2009[28]									
Rajesekhar A, 2011[29]	Arm 1 (control - no IVCF)	18	6 month follow up	Total Mortality	Non VTE related mortality	0(0)	NR	NR	NR
Rajesekhar A, 2011[29]	Arm 2(P-IVCF)	18	6 month follow up	Total Mortality	Non VTE related mortality	1	NR	NR	NR
Rajesekhar A, 2011[29]	Arm 1 (control - no IVCF)	18	6 month follow up	Total Mortality	VTE related mortality	0 (0)	NR	NR	NR
Rajesekhar A, 2011[29]	Arm 2 (P-IVCF)	18	6 month follow up	Total Mortality	VTE related mortality	0 (0)	NR	NR	NR
Roberts A, 2010[30]	Arm 2	45	6-8 weeks post IVCF insertion	Filter retrieval rate	NR	17 (37)	NR	NR	NR
Rodriguez JL 1996[31]	Arm 1 (control - No VCF)	80	NR	Fatal PE	NR	8	NR	NR	Odd ratio: 6.82 95% CI: 0.27-170.3 P value: 0.258 Ref group: Arm 2 VCF
Rodriguez JL 1996[31]	Arm 2 (VCF)	40	NR	Fatal PE	NR	0	NR	NR	NR
Rodriguez JL 1996[31]	Arm 1 (control - no VCF)	80	NR	Total Mortality	NR	13	NR	NR	Odd ratio: 3.35 95% CI: 0.73-15.3 p value:

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
									0.175
Rodriguez JL 1996[31]	Arm 2 (VCF)	40	NR	Total Mortality	NR	2	NR	NR	NR
Rogers FB, 1993[34]	Arm 2	NR	NR	Total Mortality	2 patients died of their injury during the course of study	2	NR	NR	NR
Rogers FB, 1995[33]	Arm 2	63	After discharge	Fatal PE	NR	1	NR	NR	NR
Rogers FB, 1995[33]	Arm 3 (all patients)	3088	After discharge	Total Mortality		(2.9)	NR		
Rogers FB, 1995[33]	Arm 2	63	After discharge	Total Mortality	NR	(4.8)	NR	NR	NR
Rogers FB, 1995[33]	Arm 3 (all patients)	NR	NR	NR	NR	NR	NR	NR	NR
Rogers FB, 1997[32]	Arm 1 (control)	905	Hospital discharge	Total Mortality	All-cause mortality	(5.1)	NR	NR	NR
Rogers FB, 1997[32]	Arm 2	35	Hospital discharge	Total Mortality	All-cause mortality	(11.4)	NR	NR	NR
Rogers FB, 1997[35]	Arm 1 (control), 132	Hospital discharge	Hospital discharge	Fatal PE	Saddle embolus which was fatal	1	NR	NR	NR
Rogers FB, 1997[35]	Arm 1 (control), 132	NR	NR	Total Mortality	NR	(4.4)	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Rosenthal D, 2004[41]	Arm 2 (IVC Filter)	94	19+/- 1 days	Filter retrieval rate	Filters successfully retrieved	31	NR	NR	NR
Rosenthal D, 2004[41]	Arm 2 (IVC Filter)		Hospital discharge	Total Mortality	NR	19	NR	NR	NR
Rosenthal D, 2005[39]	Arm 2 (IVCF only)	103	Hospital discharge	Filter retrieval rate	NR	44	NR	NR	NR
Rosenthal D, 2005[39]	Arm 2 (IVCF only)	103	Hospital discharge	Total Mortality	Died of their injuries	24	NR	NR	NR
Rosenthal D, 2006[40]	Arm 2	127		Total Mortality	39 patients died of their injuries after filter placement	39	NR	NR	NR
Rosenthal D, 2006[40]	Arm 2	NR	NR	Filter retrieval rate	NR	66	NR	NR	NR
Rosenthal D, 2007[38]	Arm 2	NR	NR	Filter retrieval rate	NR	60 (60)	NR	NR	P value: 0.367 Ref group: Arm 3
Rosenthal D, 2007[38]	Arm 2	64	NR	Filter retrieval rate	NR	60	NR	NR	Ref group: Arm 3
Rosenthal D, 2007[38]	Arm 3	41	NR	Filter retrieval rate	NR	31 (76)	NR	NR	NR
Rosenthal D, 2009[36]	Arm 2	97	90 days	Total Mortality	Unrelated to VTE	29	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Rosenthal D, 2009[36]	Arm 3	90	NR	Total Mortality	Unrelated to VTE	10	NR	NR	NR
Rosenthal D, 2009[36]	Arm 2	NR	End of study	Filter retrieval rate	NR	27	27/ 50 retrievals attempted were retrieved	NR	NR
Rosenthal D, 2009[36]	Arm 3	NR	NR	Filter retrieval rate	NR	55	55/65 attempted were retrieved	NR	NR
Sekharan J, 2001[42]	Arm 2	108 (Overall)	During study period	Total Mortality	During the study period 18 out of 108 patients died	18 (17)	NR	NR	NR
Sekharan J, 2001[42]	Arm 2	108	During study period	Fatal PE	Autopsies and medical records were available in 12 of these 18 (67%) patients, and these showed no evidence of PE. The remaining six patients did not clinically have signs or symptoms of a	NR	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
					PE before their death, and other causes of their mortality were listed on their death certificates.				
Shang EK, 2011[43]	Arm 2 (IVC Filter only)	1	5 years after IVCF placement	Total Mortality	NR	0	NR	NR	NR
Sing RF, 2001[44]	Arm 2	158		Total Mortality	No deaths attributable to IVCF or venograms	18 (11)	NR	NR	NR
Sing RF[45]	Arm 2	8	3 weeks post IVCF insertion	Total Mortality	Acute myocardial infarction unrelated to IVCF insertion	1	NR	NR	NR
Stefanidis D, 2006[46]	Arm 2	83	Hospital discharge	Total Mortality	Unrelated to VCF	3 (4)	NR	NR	NR
Stefanidis D, 2006[46]	Arm 2	NR	Hospital discharge	Length of hospital stay	NR		NR	Mean: 30 days (SD 21 days)	NR
Stefanidis D, 2006[46]	Arm 2	NR	30 days post discharge	Filter retrieval rate	NR	47 (57)	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
Tola JC, 1999[47]	Arm 2 (IVC filter only)	25	Hospital discharge	Cost of therapy	Savings when IVC filter is placed at bedside/ICU compared to OR	NR	NR	Mean: $1844	NR
Tola JC, 1999[47]	Arm 2 (IVC filter arm)	25	Hospital discharge	Total Mortality	four from the trauma group (all in the ICU)	4	NR	NR	NR
Tola JC, 1999[47]	Arm 2 (IVC filter only)	25	Hospital discharge	Cost of therapy	Savings when IVC filter is placed at bedside/ICU compared to Radiology suite	NR	NR	Mean: $2245	NR
Tola JC, 1999[47]	Arm 2 (IVC filter arm)	NR	NR	NR	NR	NR	NR	NR	NR
Tola JC, 1999[47]	Arm 2 (IVC Filter only)	25	Hospital discharge	Total Mortality	NR	0 (0)	NR	NR	NR
Tola JC, 1999[47]	Arm 2 (IVC Filter arm)	NR	NR	NR	NR	NR	NR	NR	NR
Wilson JT, 1994[48]	Arm 1 (control)	111	NR	Fatal PE	NR	3 (2.7)	NR	NR	NR
Wilson JT, 1994[48]	Arm 2	15	NR	Fatal PE	NR	0	NR	NR	NR
Wojcik R, 2000[49]	Arm 2	191(total number of patients who had VCF placed during	NR	Total Mortality	13/191 patients had in-hospital death	13 (6.8)	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	N(%) of Patients with Outcomes	N Events	Mean/Median/Range	Measures of Association
		the study period							
Wojcik R, 2000[49]	Arm 2	105(Demographics of 105 VCF Registry patients Table 1 of article)	NR	Length of hospital stay	NR	NR	NR	Mean: 36.5 days Range: 3-476	NR
Zakhary EM, 2008[50]	Arm 2	116	90-360	Filter retrieval rate	NR	47 (40.5)	NR	NR	NR
Zolfaghari D, 1995[51]	Arm 2 (no complications from filter placement)	45	NR	Total Mortality	Declared brain dead 2 days after filter placement	1	NR	NR	NR

DVT= Deep Vein Thrombosis; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; NS= Not Significant; PE= Pulmonary Embolism; PGF= Prophylactic Greenfield Filter; P-IVCF= Prophylactic Inferior Vena Cava Filter; PVCF= Prophylactic Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; VCF= Vena Cava Filter; VTE= Venous Thromboembolism

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Evidence Table 7. Adverse Events for KQ 1

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Bach JR, 1990 [1]	Arm 2	1	NR	Filter complications-Filter misplacement	Filter discharged prematurely and migrated to near the SA node	1	NR
Benjamin ME, 1999 [2]	Arm 2 (P-IVCF only)	23	Hospital discharge	Bleeding-Other - IVC or insertion site thrombosis	NR	0 (0)	NR
Benjamin ME, 1999 [2]	Arm 2 (P-IVCF only)	23	Hospital discharge	Bleeding-Other - IVC or insertion site thrombosis	NR	0 (0)	NR
Benjamin ME, 1999 [2]	Arm 2 (P-IVCF only)	23	Hospital discharge	Filter complications-Filter misplacement	Early filter complication (filter misplacement)	1	NR
Benjamin ME, 1999 [2]	Arm 2 (P-IVCF only)	23	Hospital discharge	Filter complications-Filter misplacement	NR	1	NR
Binkert CA, 2006 [3]	Arm 2	13	>180 days post IVCF insertion	Filter complications-Filter tilting	3-25 degree tilt	8 (61.5)	NR
Binkert CA, 2006 [3]	Arm 2	13	>180 days post IVCF insertion	Filter complications-Migration	NR	0 (0)	NR
Binkert CA, 2006 [3]	Arm 2	13	>180 days post IVCF insertion	Filter complications-Filter parts malpositioned	Filter arm and leg pointing outside the IVC	1	NR
Binkert CA, 2006 [3]	Arm 2	13	>180 days post IVCF insertion	Filter complications- Mild IVC stenosis	29% IVC diameter reduction	1	NR
Binkert CA, 2006 [3]	Arm 2	13	>180 days post IVCF insertion	Filter complications-thrombosis - 0	NR	0 (0)	NR
Bochicchio GV 2001 [4]	Arm 2	NR	NR	Bleeding-Major bleeding	Coming from the IVC	1	NR
Bochicchio GV 2001 [4]	Arm 2	1	NR	Filter complications-Perforation	Multiple perforations created by the struts of IVCF	NR	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Bochicchio GV 2001 [4]	Arm 2	NR	NR	Infections	NR	NR	NR
Carlin AM, 2002 [5]	Arm 2	78	NR	Infections	Sepsis	2	NR
Cherry RA, 2008 [6]	Arm 2 (P-IVCF)	244	NR	Filter complications-Migration	NR	2	NR
Cherry RA, 2008 [6]	Arm 2 (P-IVCF)	244	NR	Filter complications-Filter tilt	NR	1	NR
Cherry RA, 2008 [6]	Arm 2 (P-IVCF)	244	NR	Filter complications-Strut fracture	NR	2	NR
Cherry RA, 2008 [6]	Arm 2 (P-IVCF)	244	NR	Filter complications-thrombosis IVC	NR	3	NR
Conners MS, 2002 [7]	Arm 2	284	NR	Bleeding-Non-serious bleeding	NR	1	NR
Conners MS, 2002 [7]	Arm 2	284	NR	Filter complications-Filter misplacement	NR	6 (2)	NR
Conners MS, 2002 [7]	Arm 2	284	NR	Filter complications-Migration	NR	1	NR
Conners MS, 2002 [7]	Arm 2	NR	NR	Filter complications-IVC occlusion	NR	3 (1)	NR
Conners MS, 2002 [7]	Arm 2	284	NR	Filter complications-thrombosis - Access site	NR	1	NR
Doody O, 2009 [8]	Arm 2, 115	61	2 months	Filter complications-Filter penetration	Two patients had filter penetration	2	NR
Doody O, 2009 [8]	Arm 2, 115	61	2 months	Filter complications- Rt IJ occlusion	NR	1	NR
Doody O, 2009 [8]	Arm 2, 115	61	2 months	Filter complications-Strut fracture	Secondary strut fracture	1	NR
Doody O, 2009 [8]	Arm 2, 115	61	2 months	Filter complications-thrombosis - Filter associated thrombosis	NR	15	NR
Duperier T, 2003 [9]	Arm 2	133	68 days post insertion	Filter complications-Thrombus within inserted GF	NR	1	NR
Duperier T, 2003 [9]	Arm 2	NR	NR	Filter complications-thrombosis - IVC occlusion	NR	0	NR
Gonzalez RP, 2006 [10]	Arm 2 (OR)	78	NR	Filter complications-Migration	Vertebra level migration of filter	1	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Gonzalez RP, 2006 [10]	Arm 3 (STICU)	56	NR	Filter complications-Migration	One-half vertebra level of filter migration after deployment	1	NR
Gonzalez RP, 2006 [10]	Arm 2 (OR)	78	NR	Filter complications-Incorrect deployment in OR	NR	1	NR
Gonzalez RP, 2006 [10]	Arm 3 (STICU)	NR	NR	Filter complications- SVT during filter insertion	NR	1	NR
Greenfield LJ, 2000 [11]	Arm 2	249	NR	Bleeding-Non-serious bleeding	None required intervention	2 (0.8)	NR
Greenfield LJ, 2000 [11]	Arm 3	136	NR	Bleeding-Non-serious bleeding	Not required intervention	1 (0.7)	NR
Greenfield LJ, 2000 [11]	Arm 2	197	NR	Filter complications-Migration	NR	2 (1.4)	NR
Greenfield LJ, 2000 [11]	Arm 3	96	NR	Filter complications-Migration	NR	4 (4.6)	NR
Greenfield LJ, 2000 [11]	Arm 2	197	NR	Filter complications-filter occlusion	NR	5 (3.5)	NR
Greenfield LJ, 2000 [11]	Arm 3	96	NR	Filter complications-filter occlusion	NR	2 (2.3)	NR
Greenfield LJ, 2000 [11]	Arm 2	197	NR	Filter complications-Perforation	Caval penetration	0 (0)	NR
Greenfield LJ, 2000 [11]	Arm 3	96	NR	Filter complications-Perforation	Caval penetration	2 (2.3)	NR
Greenfield LJ, 2000 [11]	Arm 2	197	NR	Filter complications-thrombosis - insertion site thrombosis	NR	3 (2)	NR
Greenfield LJ, 2000 [11]	Arm 3	96	NR	Filter complications-thrombosis - insertion site thrombosis	NR	5 (5.8)	NR
Hermsen JL, 2008 [12]	Arm 2	92	NR	Filter complications-intractable abdominal pain due to strut penetrating duodenum	NR	1	NR
Hoff WS, 2004 [13]	Arm 2 (IVCF only)	35	Hospital discharge	NR	No complications observed	NR	NR
Hughes GC, 1999 [14]	Arm 2 (Case 1)	1	Hospital discharge	Filter complications	NR	0	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Hughes GC, 1999 [14]	Arm 3 (Case 2)	1	Hospital discharge	Filter complications	NR	0 (0)	NR
Karmy-Jones R, 2007 [15]	Arm 2 (R-IVCF)			Filter complications	NR	NR	NR
Karmy-Jones R, 2007 [15]	Arm 2 (R-IVCF)	413	90 days	Filter complications-Migration	NR	3	NR
Karmy-Jones R, 2007 [15]	Arm 3 (P-IVCF)	172	90 days	Filter complications-Migration	NR	0 (0)	NR
Karmy-Jones R, 2007 [15]	Arm 2 (R-IVCF)	413	90 days	Filter complications-thrombosis - symptomatic caval occlusion	NR	6	NR
Karmy-Jones R, 2007 [15]	Arm 3 (P-IVCF)	172	90 days	Filter complications-thrombosis - symptomatic caval occlusion	NR	0 (0)	NR
Keller IS, 2007 [16]	Arm 2	6282	NR	NR	Study did not report complication	NR	NR
Keller IS, 2007 [16]	Arm 3	608,067	NR	NR	study did not report complication	NR	NR
Keller IS, 2007 [16]	Arm 2	93	NR	Filter complications-Migration	migration in a caudal direction by half a vertebra (15mm)	1	1
Keller IS, 2007 [16]	Arm 2	NR	NR	Filter complications-Acute caval occlusion	NR	(7)	NR
Keller IS, 2007 [16]	Arm 3	NR	NR	Filter complications-Acute Caval Occlussion	NR	(3)	NR
Keller IS, 2007 [16]	Arm 2	NR	NR	Filter complications-thrombosis – 1 delayed IVC thrombosis	NR	1	1
Keller IS, 2007 [16]	Arm 3	83	NR	Filter complications-thrombosis - Delayed IVC thrombosis	NR	1	1
Khansarinia S, 1995 [17]	Arm 2 (PGF)	108	NR	Filter complications-Migration	NR	1	NR
Khansarinia S, 1995 [17]	Arm 2 (PGF)	NR	NR	Filter complications-thrombosis - IJ thrombosis	NR	1	NR
Khansarinia S, 1995 [17]	Arm 1 (control)	216	NR	Infections	NR	0	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Khansarinia S, 1995 [17]	Arm 2 (PGF)	108	NR	Infections	0	NR	NR
Kurtoglu M, 2003 [18]	Arm 2	11	17 months	Filter complications	NR	0	NR
Langan EM, 1999 [19]	Arm 2 (IVCF only)	187	Hospital discharge	Bleeding-Minor bleeding	Groin hematoma	1	NR
Langan EM, 1999 [19]	Arm 2	187	Hospital discharge	Filter complications-Filter misplacement	Filter misplacement resulting in PE	1	NR
Langan EM, 1999 [19]	Arm 2 (IVCF only)	187	Hospital discharge	Filter complications-Filter misplacement	Filter misplacement in the right common iliac vein resulting in PE.	1	NR
Langan EM, 1999 [19]	Arm 2	187	1 months after discharge	Filter complications-arteriovenous fistula formation	NR	1	NR
Langan EM, 1999 [19]	Arm 2 (IVCFonly)	187	1 months after discharge	Filter complications-femoral arterial venous fistula formation	NR	1	NR
Langan EM, 1999 [19]	Arm 2	187	Hospital discharge	Filter complications-Groin hematoma	Groin hematoma	1	NR
Leach TA, 1994 [20]	Arm 2	201 patients(205 IVCF inserted)	NR	Filter complications-Migration	One filter failed to flare when released in inferior vena cava, it migrated thru the right side of the heart , feet first, to lodge in the left inferior pulmonary artery where it flared the next day without any sequaelae	1	1
Leach TA, 1994 [20]	Arm 2	201 patients(205 filters)	NR	Filter complications-one filter was slightly angled across the right renal venous orifice	NR	1	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Leach TA, 1994 [20]	Arm 2	201 patients (205 IVCF inserted)	NR	Filter complications-premature release	NR	1	NR
Leach TA, 1994 [20]	Arm 2	201 patients(205 filters)	NR	Filter complications-thrombosis - no caval thrombosis	NR	0 (0)	NR
Mahier A, 2008 [21]	Arm 2	80	NR	Filter complications-thrombosis - thrombus within the filter	NR	8 (25)	NR
McMurtry AL, 1999 [22]	Arm 4 (PVCF [all])	248	Period of study	Bleeding	Hemorrhage	0 (0)	NR
McMurtry AL, 1999 [22]	Arm 5 (all VCF [placed for prophylaxis and placed after 1 PE episode])	299	Period of study	Bleeding	Hemorrhage	2	NR
McMurtry AL, 1999 [22]	Arm 4 (PVCF [all])	248	Period of study	Bleeding	Venous insufficiency	2	NR
McMurtry AL, 1999 [22]	Arm 4 (PVCF [all])	248	Period of study	Filter complications-Filter misplacement	NR	2	NR
McMurtry AL, 1999 [22]	Arm 5 (all VCF [placed for prophylaxis and placed after 1 PE episode])	299	Period of study	Filter complications-Filter misplacement	NR	3	NR
McMurtry AL, 1999 [22]	Arm 4 (PVCF [all])	NR	NR	Filter complications-Filter misplacement	NR	2	NR
McMurtry AL, 1999 [22]	Arm 5- all VCF (placed for prophylaxis and placed after 1 PE episode)	299	Period of study	Filter complications-venous insufficiency	Venous insufficiency	2	NR
McMurtry AL, 1999 [22]	Arm 4 (PVCF [all])	NR	NR	Filter complications-venous insufficiency	NR	2	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
McMurtry AL, 1999 [22]	Arm 4 (PVCF [all])	248	Period of study	Filter complications-thrombosis - IVC thrombosis	NR	3	NR
McMurtry AL, 1999 [22]	Arm 5 (all VCF [placed for prophylaxis and placed after 1 PE episode])	299	Period of study	Filter complications-thrombosis - IVC thrombosis	NR	4	NR
Meier C, 2006 [23]	Arm 2	37	30 days	Filter complications-Migration	NR	1	NR
Meier C, 2006 [23]	Arm 2	37	4 months post trauma	Filter complications-thrombosis - Asymptomatic IVC occlusion	NR	1	NR
Meier C, 2006 [23]	Arm 2	37	30 days	Filter complications-thrombosis - Partial thrombosis	NR	4 (12)	NR
Meier C, 2006 [24]	Arm 2	67	NR	Filter complications-Filter tilting	NR	2 (3)	NR
Meier C, 2006 [24]	Arm 2	95	NR	Filter complications-Migration	NR	1 (1.1)	NR
Meier C, 2006 [24]	Arm 2	95	NR	Filter complications-thrombosis - Partial occlusion	NR	5	NR
Millward SF, 1994 [25]	Arm 2	3	NR	Bleeding-Other -bleeding from the site of a surgical incision while patient on anticoagulation therapy	NR	0	NR
Millward SF, 1994 [25]	Arm 2	3	NR	Filter complications-Migration	NR	0	NR
Millward SF, 1994 [25]	Arm 2	3	NR	Filter complications-thrombosis - insertion vein thrombosis (asymptomatic)	NR	1	NR
Millward SF, 1994 [25]	Arm 2	3	NR	Filter complications-thrombosis - occlusive thrombus in the IVC with filter	NR	0	NR
Nunn CR, 1997 [26]	Arm 2	49	Hospital discharge	Filter complications-Filter tilting	NR	1	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Nunn CR, 1997 [26]	Arm 2	49	NR	Filter complications-Migration	NR	1	NR
Nunn CR, 1997 [26]	Arm 2	49	NR	Filter complications-IVC occlusion	NR	1	NR
O'Keeffe T, 2011 [27]	Arm 4 (all arms)	167	90 days	Bleeding- renal vein thrombosis	NR	1	NR
O'Keeffe T, 2011 [27]	Arm 2 (trauma group)	91	90 days	Filter complications-technical failure to remove IVCF	Technical failure to remove IVCF	1	NR
O'Keeffe T, 2011 [27]	Arm 4 (all arms)	167	90 days	Filter complications-Perforation	NR	1	NR
Offner PJ, 2003 [28]	Arm 2 (IVCF)	44	NR	Filter complications-Migration	NR	0	NR
Offner PJ, 2003 [28]	Arm 2 (IVCF)	44	NR	Filter complications-occlusion	NR	0	NR
Offner PJ, 2003 [28]	Arm 2 (IVCF)	44	NR	Filter complications-Perforation	NR	0	NR
Offner PJ, 2003 [28]	Arm 2 (IVCF)	44	NR	Filter complications-thrombosis -insertion or retrieval site thrombosis	NR	0	NR
Patton JH Jr, 1996 [29]	Arm 2 (IVCF)	110	Hospital discharge	Filter complications	Bleeding due to filter placement	0	NR
Patton JH Jr, 1996 [29]	Arm 2 (IVCF)	110	Hospital discharge	Filter complications-Filter misplacement		3	NR
Patton JH Jr, 1996 [29]	Arm 2 (IVCF)	110	Hospital discharge	Filter complications-Migration	Significant migration of VCF	1	NR
Patton JH Jr, 1996 [29]	Arm 2 (patients who had DVT)	14	4-42 months	Filter complications-thrombosis -	Insertion site thrombosis	14	4
Patton JH Jr, 1996 [29]	Arm 2 (IVCF)	110	Hospital discharge	Filter complications-thrombosis - insertion site thrombosis	NR	3	NR
Phelan HA, 2009 [30]	Arm 2 (Filter)	68	end of study	Filter complications-Migration	Migration above L1	0 (0)	NR
Phelan HA, 2009 [30]	Arm 2 (Filter)	NR	End	Filter complications-Strut fracture	NR	1 (1.5)	NR
Rodriguez JL, 1996 [31]	Arm 1 (control - No VCF)	80	NR	Bleeding-Bleeding requiring transfusion	Gastrointestinal bleeding requiring blood transfusion	4	NR
Rogers F, 2001 [32]	Arm 2	NR	NR	Filter complications-Migration	NR	1	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Rogers F, 2001 [32]	Arm 2	1	NR	Filter complications-dislodgement	NR	1	NR
Rogers FB 1993 [35]	Arm 2	34	NR	Filter complications-thrombosis - at autopsy one of the two pts who died were found to have a thrombus in the struts of his filter	No complications related to VCF insertion	1	NR
Rogers FB, 1995 [34]	Arm 2 (IVCF)	63	Within 48 hours of insertion	Filter complications-thrombosis - insertion-related DVT	NR	2	NR
Rogers FB, 1995 [34]	Arm 2 (IVCF)	63	NR	Filter complications-thrombosis - VCF thrombosis	NR	2	NR
Rogers FB, 1997 [33]	Arm 2	35	Hospital discharge	Filter complications-Filter tilting	NR	1 (2.8)	NR
Rogers FB, 1997 [33]	Arm 2	NR		Filter complications-Incomplete strut opening	NR	0	NR
Rogers FB, 1997 [33]	Arm 2	35	Hospital discharge	Filter complications-thrombosis - Insertion site thrombosis	NR	2 (5.7)	NR
Rogers FB, 1997 [33]	Arm 2	35	Hospital discharge	Infections	NR	NR	NR
Rogers FB, 1997 [36]	Arm 2 (IVCF only)	132	Hospital discharge	Bleeding-Other - insertion related thrombosis	NR	4 (3)	NR
Rogers FB, 1997 [36]	Arm 2 (IVCF only)	132	Hospital discharge	Filter complications-Filter tilting	NR	(5.5)	NR
Rogers FB, 1997 [36]	Arm 2 (IVCF only)	132	Hospital discharge	Filter complications-strut malposition	NR	(38)	NR
Rosenthal D, 2004 [40]	Arm 2 (IVCF only)	94	Within 2 weeks of filter placement	Bleeding-Minor bleeding	Groin Hematomas	2 (2.1)	NR
Rosenthal D, 2004 [40]	Arm 2 (IVCF only)	94	During procedure	Filter complications-av fistulas	NR	0	NR
Rosenthal D, 2004 [40]	Arm 2 (IVCF only)	94	Within 2 weeks of filter placement	Filter complications-Misplacement	NR	3 (3.2)	NR
Rosenthal D, 2004 [40]	Arm 2 (IVCF only)	31	At time of retrieval	Filter complications-Perforation	Contrast extravasation,	0	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
					penetration, impingement or caval occlusion		
Rosenthal D, 2004 [40]	Arm 2 (IVCF only)	31	At time of retrieval	Filter complications-Strut fracture	Structural fracture or collapse	0	NR
Rosenthal D, 2004 [40]	Arm 2 (IVCFonly)	94	At time of retrieval	Filter complications-thrombosis -	>25% thrombus trapped in filter	3	NR
Rosenthal D, 2004 [40]	Arm 2 (IVCF only)	94	During procedure	Infections-	NR	0	NR
Rosenthal D, 2005 [38]	Arm 2 (IVCF only)	103	Hospital discharge	Bleeding - groin	NR	3 (2.9)	NR
Rosenthal D, 2005 [38]	Arm 2 (IVCF only)	103	Hospital discharge	Filter complications-Filter misplacement	NR	3 (2.9)	NR
Rosenthal D, 2005 [38]	Arm 3 (Subset of patients that had uneventful filter removal)	44	Hospital discharge	Filter complications-Perforation	Small (<1cm) IVC defects without contrast extravasation	3	NR
Rosenthal D, 2005 [38]	Arm 2 (IVCF only)	103	Hospital discharge	Filter complications-thrombosis - Femoral vein insertion site thrombosis	Insertion site thrombosis	2	NR
Rosenthal D, 2005 [38]	Arm 3 (Subset of patients that had uneventful filter removal)	44	Hospital discharge	Filter complications-thrombosis -significant (>25%0 trapped thrombus within filter	NR	3	NR
Rosenthal D, 2006 [39]	Arm 2	127	NR	Filter complications-thrombosis -	At IVCF retrieval , vena-cavography identified 3 filters with significant(>25%) trapped thrombus		NR
Rosenthal D, 2009 [37]	Arm 2 (Gunther Tulip)	97	NR	Bleeding- Groin hematoma	NR	4	NR
Rosenthal D, 2009 [37]	Arm 3 (Celect)	90	Time of placement	Bleeding-Other - Groin hematoma	NR	1	NR
Rosenthal D, 2009 [37]	Arm 3 (Celect)	90	NR	Filter complications-Migration	NR	1	NR
Rosenthal D, 2009 [37]	Arm 2 (Gunther Tulip)	NR	NR	Filter complications-Filter misplacement at insertion	NR	6	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Sekharan J, 2001 [41]	Arm 2 (Follow up data available)	19	NR	Filter complications-Migration	Migration/Limb fracture of filter	0	NR
Sekharan J, 2001 [41]	Arm 2 (overall group)	108	NR	Filter complications-thrombosis	NR	1	NR
Sekharan J, 2001 [41]	Arm 2 (overall group)	108 (overall study group at baseline	NR	Infections	No PGF related wound infections	0	NR
Shang EK, 2011 [42]	Arm 2 (IVCF only)	1	5 years after IVCF placement	Filter complications-Perforation	Penetration through IVC wall into the right common iliac artery	1	NR
Sing RF 2001 [43]	Arm 3	1	NR	Filter complications-Dislodgment of filter during central venous catheter exchange over a guidewire	Guide wire became stuck	1	NR
Sing RF 2001 [43]	Arm 2	1	NR	Filter complications-filter dislodgement during catheter exchange over guidewire	NR	1	NR
Sing RF 2001 [43]	Arm 2	1	NR	Filter complications-filter dislodgement during central venous catheter exchange over a guide wire	NR	1	NR
Sing RF 2001 [43]	Arm 2	1	NR	Filter complications-Guide wire incidents	Guide wire trapped in IVCF	1	NR
Sing RF [45]	Arm 2	8	NR	one caval occlusion by thrombus trapping was reported	NR	NR	NR
Sing RF, 2001 [44]	Arm 2	158	NR	Bleeding-Other - Insertion sheath hematomas	Insertion sheath hematomas	2	NR
Sing RF, 2001 [44]	Arm 2	158	NR	Filter complications-Caval occlusion	NR	1	NR
Sing RF, 2001 [44]	Arm 2	158	NR	Filter complications-Misplaced	Misplaced greeenfield R Gonadal	1	NR
Sing RF, 2001 [44]	Arm 2	158	NR	Filter complications-Tilting to 15	Filter tilting to 15 degrees	2	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Sing RF, 2001 [44]	Arm 2	158	NR	Filter complications-Perforation	1 right ventricular perforation from the internal jugular approach at insertion	1	NR
Sing RF, 2001 [44]	Arm 2	158	NR	Infections	6 patients died of sepsis	6	NR
Smoot RL, 2010 [46]	Arm 2 (Permanent)	86	NR	Mechanical device complications	Clinically significant thrombus, ileofemoral thrombus, or IVC occlusion	3	NR
Smoot RL, 2010 [46]	Arm 3 (Retrievable)	140	NR	Mechanical device complications	Clinically significant thrombus, ileofemoral thrombus, or IVC occlusion	12	NR
Stefanidis D, 2006 [47]	Arm 2	83	30 days post discharge	Filter complications-Filter tip endotheliazation	NR	4	NR
Stefanidis D, 2006 [47]	Arm 2	83	30 days post discharge	Filter complications-Strut fracture	NR	1	NR
Tola JC, 1999 [48]	Arm 2 (IVCF only)	25	Hospital discharge	Bleeding-Other - hematoma	NR	0 (0)	NR
Tola JC, 1999 [48]	Arm 2 (IVCF only)	25	Hospital discharge	Filter complications-Filter misplacement	NR	0 (0)	NR
Tola JC, 1999 [48]	Arm 2 (IVCF)	25	ICU stay	Filter complications	No complications were found related to IVC filters	0	NR
Tola JC, 1999 [48]	Arm 2 (IVCF only)	25	Hospital discharge	Filter complications-Perforation	NR	0 (0)	NR
Tola JC, 1999 [48]	Arm 2 (IVCF only)	25	Hospital discharge	Filter complications-thrombosis - embolus	NR	0 (0)	NR
Wojcik R, 2000 [49]	Arm 2	105	NR	Filter complications-Migration	Only 1cm cephalad on abdominal radiograph	1 (0.95)	NR
Wojcik R, 2000 [49]	Arm 2	105	NR	Filter complications-Venacaval occlusion	1 (0.95)	NR	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Zakhary EM, 2008 [50]	Arm 2	116	NR	NR	NR	NR	NR
Zakhary EM, 2008 [50]	Arm 2	NR	90 - 360 days	Filter complications- IVC occlusion	NR	NR	4
Zakhary EM, 2008 [50]	Arm 2	116	60 days	Filter complications- limb fractures	One limb was detected in the lung on plain X-ray	NR	1
Zolfaghari D, 1995 [51]	Arm 2	45	NR	Filter complications	NR	NR	NR

DVT= Deep Vein Thrombosis; ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; PE= Pulmonary Embolism; OR= Operating Room; PGF= Prophylactic Greenfield Filter; P-IVCF= Prophylactic Inferior Vena Cava Filter; PVCF= Prophylactic Vena Cava Filter ;RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; STICU=Surgical Trauma Intensive Care Unit; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; VCF= Vena Cava Filter; VTE= Venous Thromboembolism

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Evidence Table 8. Study Characteristics for KQ2a

Author, year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Inclusion criteria	Exclusion criteria
Pharmacological agent versus Pharmacological agent							
Dudley,R.R., 2010,[1]	Cohort- retro	Single center-N.America	2004-2008	NR	Duplex ultrasonography of the limbs or neck	Type of trauma: TBI	The patient died within 72 h of admission, and therefore was never treated with VTE prophylaxis for any meaningful period of time, patients who survived but were never treated (many of these patients did well early and were mobilized early, thus avoiding prophylactic anticoagulation; others had persistent contraindications to the prophylactic use of LMWH), patients treated with UFH, patients treated with LMWH, but with an atypical dosing or timing schedule (e.g., enoxaparin 40mg once a day), patients that were initially (>24 h) treated abroad, but were eventually transferred to our hospital; and charts that were missing after multiple attempts to locate them.
Minshall, C.T., 2011, [4]	cohort-retro	Signle center-N.America	2006-2009	duration hospitalized	clinical examination confirmed with duplex scan	NR	Age >16 years Length of stay - ICU >48 hours HAIS > 2
Pharmacological agent versus Mechanical agent							

Author, year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Inclusion criteria	Exclusion criteria
Kurtoglu,M., 2004, [3]	RCT	Single center -Asia	2000 - 2003	till 1 week after hospital discharge	venous duplex color flow dopler ultrasonography, obtained on admission, each week of hospitalization, and one week after discharge	ICU admission: Study participants were patients being treated at the ICU	Age: <14 yrs INR: >1.5 Platelets: <100,000/uL Liver disease or Cirrohosis: hepatic dysfunction not defined History of VTE On anti-coagulants urinary dysfunction Type of Trauma: head/spinal trauma spinal cord injury patients with continuing hemorrhage on control scans within 24 hours of admission or who required craniotomy
Pharmacological agent versus Control							
Salottolo, K., 2010, [5]	cohort-retro	Multiple center: N. America	2007-2008/2009	NR	Weekly ultrasounds for DVT surveillance	Age:>= 18 years Type of trauma: TBI	Length of stay-ICU: < 3 days Development of VTE within 1 day of admission. Progression on follow-up CT within 1 day of admission.
Scudday,T., 2010, [6]	cohort-retro	Single center-N.America	2006-2008	NR	Yes	Type of trauma: head injury + TBI, Body region: head AIS >=2 Trauma Center Trauma registry	Type of surgery-Craniotomy, Patients who died or were discharged before 72 hrs
Mechanical agent vs. control							
Gersin,K., 1992, [2]	Prospective cohort	Multiple center – N. America	1987-1991	One month	Technetium venous scans of the lower limbs and V/Q lung scans weekly for 1 month or till patient died, became ambulatory or	Type of trauma: Head trauma, GCS: </= 8 Surgical ICU admission	Age : <18 years Death within a week of admission, hemodynamic instability preventing transport to radiology suite, depressed GCS

Author, year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Inclusion criteria	Exclusion criteria
					developed VTE		due to narcotics or alcohol, family's request Inadvertent omission from the study 24 patients

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; Hr(s)= Hour(s); ICU= Intensive Care Unit; INR= International Normalized Ratio; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; LMWH= Low Molecular Weight Heparin; mg= milligram; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; RYGB= Roux-en-Y gastric bypass; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; SQ=Subcutaneous; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; U= units; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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1. Dudley RR, Aziz I, Bonnici A *et al.* Early venous thromboembolic event prophylaxis in traumatic brain injury with low-molecular-weight heparin: risks and benefits. J Neurotrauma 2010; 27(12):2165-72.

2. Gersin K, Grindlinger GA, Lee V, Dennis RC, Wedel SK, Cachecho R. The efficacy of sequential compression devices in multiple trauma patients with severe head injury. J Trauma 1994; 37(2):205-8.

3. Kurtoglu M, Yanar H, Bilsel Y *et al.* Venous thromboembolism prophylaxis after head and spinal trauma: intermittent pneumatic compression devices versus low molecular weight heparin. World J Surg 2004; 28(8):807-11.

4. Minshall CT, Eriksson EA, Leon SM, Doben AR, McKinzie BP, Fakhry SM. Safety and efficacy of heparin or enoxaparin prophylaxis in blunt trauma patients with a head abbreviated injury severity score >2. J Trauma 2011; 71(2):396-400.

5. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

6. Scudday T, Brasel K, Webb T *et al.* Safety and efficacy of prophylactic anticoagulation in patients with traumatic brain injury. J Am Coll Surg 2011; 213(1):148-53.

Evidence Table 9. Participant Characteristics for KQ2a

Author, Year	Intervention arm	Number of Patients in Each Arm, N	Mean Age	% of Males	Mean ISS	Mean GCS	Mean AIS head
Dudley RR, 2010[1]	Dalteparin	159	45.9	72.3	35	6.9	NR
Dudley RR, 2010[1]	Enoxaparin	128	47.4	77.3	31.1	8	
Gersin, K., 1994[6]	No Intervention	18	36.1	77.8	32.1	6.8	NR
Gersin, K., 1994[6]	SCD	14	38.3	71.4	30.5	7.1	NR
Kurtoglu M., 2004[3]	IPC	60	NR	NR	18.3	NR	NR
Kurtoglu M., 2004[3]	Enoxaparin	60	NR	NR	19.5	NR	NR
Minshall, 2011[2]	Usual Care/ No Intervention	57	38.3	69	30.9	NR	4.3
Minshall, 2011[2]	Enoxaparin	158	41.2	75	29	NR	3.8
Minshall, 2011[2]	Heparin	171	42	78	33.8	NR	4.1
Salottolo K., 2011[4]	No PTP	225	59.5 (med)	NR	16 (med)	NR	NR
Salottolo K., 2011[4]	Enoxaparin/Heparin	255	48 (med)	NR	21 (med)	NR	NR
Scudday T., 2011[5]	No Prophylaxis	410	51.5	69	16.6	28%<=9, 51%>9	3.4

Scudday T., 2011[5]	Enoxaparin/Heparin	402	45.2	69	23.8	46%<=9, 49%>9	3.4

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1. Dudley RR, Aziz I, Bonnici A *et al.* Early venous thromboembolic event prophylaxis in traumatic brain injury with low-molecular-weight heparin: risks and benefits. J Neurotrauma 2010; 27(12):2165-72.

2. Minshall CT, Eriksson EA, Leon SM, Doben AR, McKinzie BP, Fakhry SM. Safety and efficacy of heparin or enoxaparin prophylaxis in blunt trauma patients with a head abbreviated injury severity score >2. J Trauma 2011; 71(2):396-400.

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6. Gersin K, Grindlinger GA, Lee V, Dennis RC, Wedel SK, Cachecho R. The efficacy of sequential compression devices in multiple trauma patients with severe head injury. J Trauma 1994; 37(2):205-8.

Evidence Table 10. Intervention Characteristics for KQ2a

Author, Year	Arm	Intervention	Dose	Timing of first dose	Concurrent therapy
Dudley,R.R., 2010,[1]	Arm1	Dalteparin	5000 U, S.Q., OD	48-72 h post-trauma	No
Dudley,R.R., 2010,[1]	Arm2	Enoxaparin	30 mg, S.Q, BD	48-72 h post-trauma	No
Gersin.K., 1992,[2]	Arm1	No intervention	NR	NR	No
Gersin.K., 1992,[2]	Arm2	SCD	NR	NR	No
Kurtoglu,M., 2004,[3]	Arm1	IPC	NR	NR	NR
Kurtoglu,M., 2004,[3]	Arm2	Enoxaparin	40 mg daily	NR	NR
Minshall, C.T., 2011,[4]	Arm1	Usual care/ no intervention	NR	NR	SCD
Minshall, C.T., 2011,[4]	Arm2	Enoxaparin	30 mg, S.Q, BD	NR	SCD
Minshall, C.T., 2011,[4]	Arm3	UFH	5000 U, S.Q., TID	NR	SCD
Salottolo, K., 2010,[5]	Arm 1	No prophylaxis	NR	36 hours after admission	SCD
Salottolo, K., 2010,[5]	Arm 2	Enoxaparin	30 mg/ 5000 U. S.Q, BD	36 hours after admission	SCD
Scudday,T., 2010,[6]	Arm1	No prophylaxis	NR	24- 48 hrs after second CT or 48-72 hrs after intial injury	SCD
Scudday,T., 2010,[6]	Arm2	UFH	NR	24- 48 hrs after second CT or 48-72 hrs after intial injury	SCD

BD= Twice daily; BMI= Body Mass Index; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; Hr(s)= Hour(s); ICU= Intensive Care Unit; INR= International Normalized Ratio; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; LMWH= Low Molecular Weight Heparin; mg= milligram; OD= Once Daily; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; TBI= Traumatic Brain Injury; TID=Three times daily; UFH= Unfractionated Heparin; USS= Ultrasound Scan; U= units; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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1. Dudley RR, Aziz I, Bonnici A *et al*. Early venous thromboembolic event prophylaxis in traumatic brain injury with low-molecular-weight heparin: risks and benefits. J Neurotrauma 2010; 27(12):2165-72.

2. Gersin K, Grindlinger GA, Lee V, Dennis RC, Wedel SK, Cachecho R. The efficacy of sequential compression devices in multiple trauma patients with severe head injury. J Trauma 1994; 37(2):205-8.

3. Kurtoglu M, Yanar H, Bilsel Y *et al*. Venous thromboembolism prophylaxis after head and spinal trauma: intermittent pneumatic compression devices versus low molecular weight heparin. World J Surg 2004; 28(8):807-11.

4. Minshall CT, Eriksson EA, Leon SM, Doben AR, McKinzie BP, Fakhry SM. Safety and efficacy of heparin or enoxaparin prophylaxis in blunt trauma patients with a head abbreviated injury severity score >2. J Trauma 2011; 71(2):396-400.

5. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

6. Scudday T, Brasel K, Webb T *et al*. Safety and efficacy of prophylactic anticoagulation in patients with traumatic brain injury. J Am Coll Surg 2011; 213(1):148-53.

Evidence Table 11. Patient-oriented Outcomes for KQ2a

Author, Year	Intervention	Surveillance for VTE	Number of patients in each arm	Total VTE n(%)	Total DVT n(%)	Total PE n(%)	Upper extremity DVT n(%)
Dudley,R.R., 2010,[1]	Dalteparin	No	159	(7.5)*	NR	1	1
Dudley,R.R., 2010,[1]	Enoxaparin	No	128	(7)*	NR	NR	NR
Minshall, C.T., 2011, [4]	Usual care/ No Intervention	No	57	NR	1 (2)	1 (2)	NR
Minshall, C.T., 2011, [4]	Enoxaparin	No	158	NR	1 (1)	0**	NR
Minshall, C.T., 2011, [4]	UFH	No	171	NR	2 (1)	7 (4)**	NR
Kurtoglu,M., 2004, [3]	IPC	Non	60	NR	4 (6.6)*	2 (3.3)**	NR
Kurtoglu,M., 2004, [3]	Enoxaparin	No	60	NR	3 (5)*	4 (6.6)**	NR
Salottolo, K., 2010, [5]	No prophylaxis	No	225	5 (2.2)*	NR	NR	NR
Salottolo, K., 2010, [5]	Enoxaparin	No	225	10 (3.92)*	NR	NR	NR
Scudday,T., 2010, [6]	No prophylaxis	Twice weekly USG	410	11 (3)**	NR	NR	NR
Scudday,T., 2010, [6]	UFH	no	402	3 (1)**	NR	NR	NR

Gersin.K., 1992, [2]	No intervention	Technetium venoscans, V/Q scans weekly or until patient was ambulatory	18	4 (22.2)*	2 (11.1)	2 (11.11)	NR
Gersin.K., 1992, [2]	SCD	Technetium venoscans, V/Q scans weekly or until patient was ambulatory	14	4 (28.6)*	0	4 (28.6)	NR

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1. Dudley RR, Aziz I, Bonnici A *et al.* Early venous thromboembolic event prophylaxis in traumatic brain injury with low-molecular-weight heparin: risks and benefits. J Neurotrauma 2010; 27(12):2165-72.

2. Gersin K, Grindlinger GA, Lee V, Dennis RC, Wedel SK, Cachecho R. The efficacy of sequential compression devices in multiple trauma patients with severe head injury. J Trauma 1994; 37(2):205-8.

3. Kurtoglu M, Yanar H, Bilsel Y *et al.* Venous thromboembolism prophylaxis after head and spinal trauma: intermittent pneumatic compression devices versus low molecular weight heparin. World J Surg 2004; 28(8):807-11.

4. Minshall CT, Eriksson EA, Leon SM, Doben AR, McKinzie BP, Fakhry SM. Safety and efficacy of heparin or enoxaparin prophylaxis in blunt trauma patients with a head abbreviated injury severity score >2. J Trauma 2011; 71(2):396-400.

5. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

6. Scudday T, Brasel K, Webb T *et al.* Safety and efficacy of prophylactic anticoagulation in patients with traumatic brain injury. J Am Coll Surg 2011; 213(1):148-53.

Evidence Table 12. Other Patient-oriented Outcomes for KQ2a

Author, Year	Arms	Intervention	Number of patients in each arm	Fatal PE n(%)	Total Mortality n(%)	Length of hospital stay Mean/median (range)	Length of ICU stay Mean/median ±SD (range)
Dudley,R.R., 2010,[1]	Arm1	Dalteparin	159	NR	NR	NR	NR
Dudley,R.R., 2010,[1]	Arm2	Enoxaparin	128	NR	NR	NR	NR
Gersin,K., 1992, [2]	Arm1	No intervention	18	NR	NR	NR	18.4 (SD 2.8)
Gersin,K., 1992, [2]	Arm2	SCD	14	NR	NR	NR	21.2 (SD 2.3)
Kurtoglu,M., 2004, [3]	Arm1	IPC	60	2 (3.3)	7 (11.6)	NR	10.3 (4-39) mean
Kurtoglu,M., 2004, [3]	Arm2	Enoxaparin	60	4 (6.6)	8 (13.3)	NR	10.7 (3-75) mean
Minshall, C.T., 2011, [4]	Arm1	Usual care/ No Intervention	57	NR	27 (47)	4 (2-11) median	2 (2-11) median
Minshall, C.T., 2011, [4]	Arm2	Enoxaparin	158	NR	8 (5)	19 (2-100) median	8 (2-35) median
Minshall, C.T., 2011, [4]	Arm3	UFH	171	NR	27 (15.8)	17 (3-126) median	11 (2-126) median
Salottolo, K., 2010, [5]	Arm 1	No prophylaxis	225	NR	NR	NR	NR

Salottolo, K., 2010, [5]	Arm 2	Enoxaparin	225	NR	NR	NR	NR
Scudday,T., 2010, [6]	Arm1	No prophylaxis	410	NR	15 (3.66)	NR	NR
Scudday,T., 2010, [6]	Arm2	UFH	402	NR	3 (0.75)	NR	NR

References

1. Dudley RR, Aziz I, Bonnici A *et al.* Early venous thromboembolic event prophylaxis in traumatic brain injury with low-molecular-weight heparin: risks and benefits. J Neurotrauma 2010; 27(12):2165-72.

2. Gersin K, Grindlinger GA, Lee V, Dennis RC, Wedel SK, Cachecho R. The efficacy of sequential compression devices in multiple trauma patients with severe head injury. J Trauma 1994; 37(2):205-8.

3. Kurtoglu M, Yanar H, Bilsel Y *et al.* Venous thromboembolism prophylaxis after head and spinal trauma: intermittent pneumatic compression devices versus low molecular weight heparin. World J Surg 2004; 28(8):807-11.

4. Minshall CT, Eriksson EA, Leon SM, Doben AR, McKinzie BP, Fakhry SM. Safety and efficacy of heparin or enoxaparin prophylaxis in blunt trauma patients with a head abbreviated injury severity score >2. J Trauma 2011; 71(2):396-400.

5. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

6. Scudday T, Brasel K, Webb T *et al.* Safety and efficacy of prophylactic anticoagulation in patients with traumatic brain injury. J Am Coll Surg 2011; 213(1):148-53.

Evidence Table 13. Adverse Events for KQ2a

Author, Year	Arms	Intervention	Number of patients in each arm	Bleeding definition	Major bleeding n(%)	Minor bleeding n(%)	Hematoma at injection site n (%)	Bleeding from tracheostomy site (n%)	Infections n (%)
Dudley,R. R., 2010,[1]	arm1	Dalteparin	159	Bleeding symptomatic expansion of a pre-existing ICH	0	NR	NR	NR	NR
	arm2	enoxaparin	128	Bleeding symptomatic expansion of a pre-existing ICH	1 (0.08)	NR	NR	NR	NR
Minshall, C.T., 2011, [3]	arm1	Usual care/ No Intervention	57	progression of ICH- Total /after initiation of chemoprophylaxis/ Bleeding requiring decompression (craniectomy post-CP)	14 (25)	NR	NR	NR	NR
	arm2	enoxaparin	158	progression of ICH- Total /after initiation of chemoprophylaxis/ Bleeding requiring decompression (craniectomy post-CP)	20 (13)/ 8 (5) / 0(0)	NR	NR	NR	NR
	arm3	UFH	171	progression of ICH- Total /after initiation of chemoprophylaxis/ Bleeding requiring decompression (craniectomy post-CP)	34 (20)/ 20 (12) / 2(1)	NR	NR	NR	NR
Kurtoglu, M., 2004, [2]	arm1	IPC	60	major bleeding: Exacerbation of epidural hematoma, minor bleeding:hematuria	1 (1.6)	4 (6.6)	0	0	10 (20)
	arm2	enoxaparin	60	major bleeding: Exacerbation of epidural hematoma, minor bleeding:hematuria	1 (1.6)	5 (8.3)	2 (3.3)	1 (1.6)	14 (23.3)
Salottolo,	Arm 1	no prophylaxis	225	TBI hemorrhage progression	(8.44)	NR	NR	NR	NR

K., 2010, [4]	Arm 2	enoxaparin	225	TBI hemorrhage progression	6.48% in <72 hours arm and 14.29% in >72 hours arm	NR	NR	NR	NR

UFH = Unfractionated heparin; IPC = Intermittent pneumatic compression devices;TBI = Traumatic brain injury; CP = Chemo prophylaxis; ICH = Intracranial hemorrhage

References

1. Dudley RR, Aziz I, Bonnici A *et al.* Early venous thromboembolic event prophylaxis in traumatic brain injury with low-molecular-weight heparin: risks and benefits. J Neurotrauma 2010; 27(12):2165-72.

2. Kurtoglu M, Yanar H, Bilsel Y *et al.* Venous thromboembolism prophylaxis after head and spinal trauma: intermittent pneumatic compression devices versus low molecular weight heparin. World J Surg 2004; 28(8):807-11.

3. Minshall CT, Eriksson EA, Leon SM, Doben AR, McKinzie BP, Fakhry SM. Safety and efficacy of heparin or enoxaparin prophylaxis in blunt trauma patients with a head abbreviated injury severity score >2. J Trauma 2011; 71(2):396-400.

4. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

Evidence Table 14. Study Characteristics for KQ2b

Author, Year	Study Design	Study Site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of Surveillance for VTE	Funding Source	Inclusion Criteria	Exclusion Criteria
Pharmacological agent versus Pharmacological agent								
Depew A.J., 2008 [1]	Retrospective Cohort	Single center-North America	2006-2006	NR	Weekly duplex ultrasound of the lower extremities	Industry	Age: ≥18 Length of stay-overall:>3 days Type of trauma: Intracranial hemorrhage from blunt head trauma ICD-9-CM codes for ICH from BHT (851–853) ISS: ≥ 9 Trauma Center: level 1 trauma center	Penetrating head trauma
Kim J., 2002[2]	Retrospective Cohort	Single center-North America	2000-2000	NR	Weekly venous duplex Doppler sonograms of the Lower Extremities	NR	Presence of one or more of subdural hematoma, epidural hematoma, intraventricular hemorrhage, subarachnoid hemorrhage, contusion or diffuse axonal injury on CT Trauma Center Admission to study trauma center	Platelets: <110,000 Receiving coumadin or LMWH for VTE prophylaxis Prothrombin time>13 seconds, death within 72 hours of hospitalization Receiving warfarin at time of accident; received LMWH for VTE proph
Koehler D.M., 2011[3]	Retrospective Cohort	Multiple center-N. America	2004-2008	NR	No	NR	Age ≥ 16 years Length of stay over all ≥ 72 hrs Type of trauma: TBI Trauma Center	Pregnancy INR >1.5 Platelets <100,000/ uL History of VTE On antiplatelet (Aspirin)

Author, Year	Study Design	Study Site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of Surveillance for VTE	Funding Source	Inclusion Criteria	Exclusion Criteria
Reiff D.A., 2009,[4]	Retrospective Cohort	Single center-North America	2000-2007	NR	Clinical surveillance during hospitalization with confirmation by Doppler ultrasound	NR	Type of trauma: all patients with blunt or penetrating injuries Trauma Center: all admitted patients with blunt or penetrating injuries	NR
Salotto K., 2011,[5]	Retrospective Cohort	Multiple center-North America	2007-2008/2009	NR	Weekly ultrasounds for DVT surveillance	NR	Age ≥ 18 years Type of trauma: TBI	Length of stay – ICU < 3 days Development of VTE within 1 day of admission Progression on follow-up CT

DVT=Deep Vein Thrombosis; ICH=Intracranial Hemorrhage; ISS=Injury Severity Score; LMWH=Low Molecular Weight Heparin; TBI=Traumatic Brain Injury; VTE=Venous Thromboembolism

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Evidence Table 15. Participant characteristics for KQ2b

Author, Year	Intervention	Number of Patients in Each Arm, N	Mean Age	% of Males	Mean ISS	Mean GCS	Mean AIS head
Depew A.J., 2008,[1]	No prophylaxis	37	NR	NR	NR	NR	NR
Depew A.J., 2008,[1]	Any heparin <72 hrs	29	NR	NR	NR	NR	NR
Depew A.J., 2008,[1]	Any heparin >72 hrs	41	NR	NR	NR	NR	NR
Kim J., 2002,[2]	UFH early <72 hrs	47	37.7	NR	30.7	9.1	NR
Kim J., 2002,[2]	UFH late >72 hrs	17	44	NR	35.7	9.4	NR
Koehler D.M., 2011,[3]	Enoxaparin ≤72 hrs	268	39.8	69	27.8	NR	4
Koehler D.M., 2011,[3]	Enoxaparin >72 hrs	401	40.2	75	29.4	NR	NR
Reiff D.A., 2009,[4]	Any heparin 0 to <24 hrs	84	37.2	71.4	NR	NR	NR
Reiff D.A., 2009,[4]	Any heparin 24 to <48 hrs	177	39.8	62.7	NR	NR	NR
Reiff D.A., 2009,[4]	Any heparin >48 hrs	293	43	63.8	NR	NR	NR
Salotto K., 2011,[5]	Enoxaparin (<72 hr)	108	NR	NR	NR	NR	NR
Salotto K., 2011,[5]	Enoxaparin (≥ 72 hrs)	147	NR	NR	NR	NR	NR

AIS= Abbreviated Injury Scale; GCS= Glasgow Coma Scale; ISS= Injury Severity Score; UFH= Unfractionated Heparin

References

1. Depew AJ, Hu CK, Nguyen AC, Driessen N. Thromboembolic prophylaxis in blunt traumatic intracranial hemorrhage: a retrospective review. Am Surg 2008; 74(10):906-11.

2. Kim J, Gearhart MM, Zurick A, Zuccarello M, James L, Luchette FA. Preliminary report on the safety of heparin for deep venous thrombosis prophylaxis after severe head injury. J Trauma 2002; 53(1):38-42; discussion 43.

3. Koehler DM, Shipman J, Davidson MA, Guillamondegui O. Is early venous thromboembolism prophylaxis safe in trauma patients with intracranial hemorrhage. J Trauma 2011; 70(2):324-9.

4. Reiff DA, Haricharan RN, Bullington NM, Griffin RL, McGwin G Jr, Rue LW 3rd. Traumatic brain injury is associated with the development of deep vein thrombosis independent of pharmacological prophylaxis. J Trauma 2009; 66(5):1436-40.

5. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

Evidence Table 16. Intervention Characteristics for KQ2b

Author, Year	Intervention	Dose	Timing of first dose	Concurrent therapy
Depew A.J., 2008,[1]	No prophylaxis	NR	NR	SCD
Depew A.J., 2008,[1]	Any heparin <72 hrs	30 mg/ 5000 U. SC, BD	< 72 hrs post admission	SCD
Depew A.J., 2008,[1]	Any heparin >72 hrs	30 mg/ 5000 U. SC, BD	>72 hrs post admission	SCD
Kim J., 2002,[2]	UFH early <72 hrs	5000 IU SC, BD	≤ 72 hrs from admission	Pneumatic compression or arteriovenous foot pumps
Kim J., 2002,[2]	UFH late >72 hrs	5000 IU SC, BD	> 72 hrs from admission	Pneumatic compression or arteriovenous foot pumps
Koehler D.M., 2011,[3]	Enoxaparin ≤72 hrs	30 mg, SC, BD	≤ 72 hrs from admission	No
Koehler D.M., 2011,[3]	Enoxaparin >72 hrs	30 mg, SC, BD	> 72 hrs from admission	No
Reiff D.A., 2009,[4]	Any heparin 0 to <24 hrs	NR	<24 hours	SCD
Reiff D.A., 2009,[4]	Any heparin 24 to <48 hrs	NR	24-48 hours	SCD
Reiff D.A., 2009,[4]	Any heparin >48 hrs	NR	>48 hours	SCD
Salotto K., 2011,[5]	Enoxaparin (<72 hr)	30 mg/ 5000 IU	≤ 72 hrs from admission	SCD
Salotto K., 2011,[5]	Enoxaparin (≥ 72 hrs)	30 mg/ 5000 IU	> 72 hrs from admission	SCD

BD=Twice Daily; IU=International Units; SC=Subcutaneous; SCD= Sequential Compression Device; UFH= Unfractionated Heparin

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1. Depew AJ, Hu CK, Nguyen AC, Driessen N. Thromboembolic prophylaxis in blunt traumatic intracranial hemorrhage: a retrospective review. Am Surg 2008; 74(10):906-11.

2. Kim J, Gearhart MM, Zurick A, Zuccarello M, James L, Luchette FA. Preliminary report on the safety of heparin for deep venous thrombosis prophylaxis after severe head injury. J Trauma 2002; 53(1):38-42; discussion 43.

3. Koehler DM, Shipman J, Davidson MA, Guillamondegui O. Is early venous thromboembolism prophylaxis safe in trauma patients with intracranial hemorrhage. J Trauma 2011; 70(2):324-9.

4. Reiff DA, Haricharan RN, Bullington NM, Griffin RL, McGwin G Jr, Rue LW 3rd. Traumatic brain injury is associated with the development of deep vein thrombosis independent of pharmacological prophylaxis. J Trauma 2009; 66(5):1436-40.

5. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

Evidence Table 17. Patient-oriented Outcomes for KQ2b

Author, Year	Intervention	Number of Patients, N	Surveillance for VTE	Timing	Total VTE n(%)	Total DVT n(%)	Total PE n(%)	Upper extremity DVT, n(%)	Lower extremity DVT, n(%)	Proximal DVT n(%)	Distal DVT n(%)
Depew A.J.,2008,[1]	No prophylaxis	37	High risk patients only: weekly USG	Hospital discharge	NR	0	0	NR	NR	NR	NR
Depew A.J.,2008,[1]	Any heparin <72 hrs	29	No	Hospital discharge	NR	3 (10.4)	1 (3.5)	NR	NR	NR	NR
Depew A.J.,2008,[1]	Any heparin >72 hrs	41	No	Hospital discharge	NR	6 (14.6)	0	NR	NR	NR	NR
Kim J., 2002,[2]	UFH early <72 hrs	47	Weekly USG	Post injury days 7 and 19	NR	2 (4.3)	2 (4.3)	NR	NR	NR	NR
Kim J., 2002,[2]	UFH late >72 hrs	17	Weekly USG	30 days	NR	1 (5.9)	0	NR	NR	NR	NR
Koehler D.M., 2011,[3]	Enoxaparin >72 hrs	401	No	Hospital discharge	NR	NR	9 (2.2)	5 (1.3)	9 (2.2)	(3.5)	(6.7)
Koehler D.M.,2011,[3]	Enoxaparin <=72 hrs	268	No	Hospital discharge	NR	NR	4 (1.5)	1 (0.4)	3 (1.1)	(1.5)	(3.7)
Reiff D.A.,2009,[4]	Any heparin 0 to <24 hrs	84	No	NR	NR	3.6 (DVT risk/100 patients)	NR	NR	NR	NR	NR
Reiff D.A.,2009,[4]	Any heparin 24 to <48 hrs	177	No	NR	NR	4.5 (DVT risk/100 patients)	NR	NR	NR	NR	NR
Reiff D.A.,2009,[4]	Any heparin >48 hrs	293	No	NR	NR	15.4 (DVT risk/100 patients)	NR	NR	NR	NR	NR
Salotto K.,2011,[5]	Enoxaparin (<72 hr)	108	No	Hospital discharge	6 (5.56)	NR	NR	NR	NR	NR	NR

Salotto K.,2011,[5]	Enoxaparin (>= 72 hrs)	147	No	Hospital discharge	4 (2.72)	NR	NR	NR	NR	NR	NR

DVT= Deep Vein Thrombosis; PE= Pulmonary Embolism; UFH= Unfractionated Heparin; USG= Ultrasonography; VTE= Venous Thromboembolism

References

1. Depew AJ, Hu CK, Nguyen AC, Driessen N. Thromboembolic prophylaxis in blunt traumatic intracranial hemorrhage: a retrospective review. Am Surg 2008; 74(10):906-11.

2. Kim J, Gearhart MM, Zurick A, Zuccarello M, James L, Luchette FA. Preliminary report on the safety of heparin for deep venous thrombosis prophylaxis after severe head injury. J Trauma 2002; 53(1):38-42; discussion 43.

3. Koehler DM, Shipman J, Davidson MA, Guillamondegui O. Is early venous thromboembolism prophylaxis safe in trauma patients with intracranial hemorrhage. J Trauma 2011; 70(2):324-9.

4. Reiff DA, Haricharan RN, Bullington NM, Griffin RL, McGwin G Jr, Rue LW 3rd. Traumatic brain injury is associated with the development of deep vein thrombosis independent of pharmacological prophylaxis. J Trauma 2009; 66(5):1436-40.

5. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

Evidence Table 18. Other Patient-oriented Outcomes for KQ2b

Author, Year	Intervention	Number of Patients, N	Timing	Fatal PE n(%)	Total mortality n(%)	Mortality due to Bleeding n(%)
Kim J., 2002,[1]	UFH early <72 hrs	47	Post injury days 7 and 19	NR	4 (8.5)	NR
Kim J., 2002,[1]	UFH late >72 hrs	17	30 days	NR	1 (5.9)	NR
Koehler D.M., 2011,[2]	Enoxaparin <=72 hrs	268	Hospital discharge	0	NR	0
Koehler D.M., 2011,[2]	Enoxaparin >72 hrs	401	Hospital discharge	1	NR	0

UFH= Unfractionated Heparin

References

1. Kim J, Gearhart MM, Zurick A, Zuccarello M, James L, Luchette FA. Preliminary report on the safety of heparin for deep venous thrombosis prophylaxis after severe head injury. J Trauma 2002; 53(1):38-42; discussion 43.
2. Koehler DM, Shipman J, Davidson MA, Guillamondegui O. Is early venous thromboembolism prophylaxis safe in trauma patients with intracranial hemorrhage. J Trauma 2011; 70(2):324-9.

Evidence Table 19. Adverse Events for KQ2b

Author, Year	Intervention	Number of Patients, N	Timing	Definition of Bleeding	Major Bleeding n(%)	Minor Bleeding n(%)
Depew A.J., 2008,[1]	No prophylaxis	37	Hospital discharge	Progression of ICH	0 (0)	NR
Depew A.J., 2008,[1]	Any heparin <72 hrs	29	Hospital discharge	Progression of ICH	1 (3.5)	NR
Depew A.J., 2008,[1]	Any heparin >72 hrs	41	Hospital discharge	Progression of ICH	2 (3.8)	NR
Kim J., 2002,[2]	UFH early <72 hrs	47	Post injury days 7 and 19	Hematuria- trauma from foley catheter insertion, bladder/parenchymal injuries	NR	3 (6)
Kim J., 2002,[2]	UFH late >72 hrs	17	30 days	Hematuria- trauma from foley catheter insertion, bladder/parenchymal injuries	NR	1 (6)
Koehler D.M., 2011,[3]	Enoxaparin ≤72 hrs	268	Hospital discharge	Major: ICH progression; minor: Non cranial bleeding complications	7 (1.46)	0
Koehler D.M., 2011,[3]	Enoxaparin >72 hrs	401	Hospital discharge	Major: ICH progression; minor: Non cranial bleeding complications	12 (1.54)	0
Salotto K., 2011,[4]	Enoxaparin (<72 hr)	108	Hospital discharge	Progression of ICH	(6.48)	NR
Salotto K., 2011,[4]	Enoxaparin (>72 hr)	147	Hospital discharge	Progression of ICH	(14.29)	NR

ICH=Intra Cranial Hemorrhage; UFH= Unfractionated Heparin

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1. Depew AJ, Hu CK, Nguyen AC, Driessen N. Thromboembolic prophylaxis in blunt traumatic intracranial hemorrhage: a retrospective review. Am Surg 2008; 74(10):906-11.

2. Kim J, Gearhart MM, Zurick A, Zuccarello M, James L, Luchette FA. Preliminary report on the safety of heparin for deep venous thrombosis prophylaxis after severe head injury. J Trauma 2002; 53(1):38-42; discussion 43.

3. Koehler DM, Shipman J, Davidson MA, Guillamondegui O. Is early venous thromboembolism prophylaxis safe in trauma patients with intracranial hemorrhage. J Trauma 2011; 70(2):324-9.

4. Salottolo K, Offner P, Levy AS, Mains CW, Slone DS, Bar-Or D. Interrupted pharmocologic thromboprophylaxis increases venous thromboembolism in traumatic brain injury. J Trauma 2011; 70(1):19-24; discussion 25-6.

Evidence Table 20. Study Characteristics for KQ3

Author, year	Study Design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding Source	Inclusion Criteria	Exclusion Criteria
Still, 2000 [1]	Case series	Single center-North America	NR	NR	NR	NR	Patients admitted with acute burns	NR

References

1.Still J, Friedman B, Furman S *et al*. Experience with the insertion of vena caval filters in acutely burned patients. Am Surg 2000; 66(3):277-9.

Evidence Table 21. Participant Characteristics for KQ3

Author, Year	Arm, n	Age (years) Mean, median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma	ICU Duration	Burn
Still, 2000[1]	Arm 2 (Patients received IVC filters strictly for prophylaxis of burns), 15	Mean:38.9 Range:22-69	Male, 9 (45)	NR	NR	Comment: 10 of 20 (i.e. 50%) patients in the overall group were morbidly obese. 6 of 15 patients who of IVC filters strictly for prophylaxis were morbidly obese	NR	NR	NR	Mean:37.8 Range:15-79

BMI= Body Mass Index; ICU= Intensive Care Unit; IVC= Inferior Vena Cava; VTE= Venous Thromboembolism

References

1. Still J, Friedman B, Furman S *et al*. Experience with the insertion of vena caval filters in acutely burned patients. Am Surg 2000; 66(3):277-9.

Evidence Table 22. Intervention Characteristics for KQ3

Author, Year	Arm Name	Filter Name	Filter type (temp or permanent)	Filter Placed by	Setting	Planned Duration of Filter	Concurrent Therapy
Still, 2000 [1]	Arm 2 (IVC filter for Prophylaxis Only)	NR	NR	NR	Unclear	NR	No

BMI= Body Mass Index; ICU= Intensive Care Unit; IVC= Inferior Vena Cava; VTE= Venous Thromboembolism

References

1. Still J, Friedman B, Furman S *et al*. Experience with the insertion of vena caval filters in acutely burned patients. Am Surg 2000; 66(3):277-9.

Evidence Table 23. Other Outcomes for KQ3

Author, Year Refid	Arm	N for Analysis	Time Point	Outcome	Definition	n (%) of Patients with Outcomes	n Events	Mean/Med/ Range	Other	Measure of Association
Still, 2000 [1]	Arm 2 (P-IVCF only)	20	Hospital discharge	Total mortality	9 out of 20 patients died in the overall study but don't report mortality data on the 15 burn patients	9	NR	NR	NR	NR

BMI= Body Mass Index; ICU= Intensive Care Unit; IVC= Inferior Vena Cava; P-IVCF=Prophylactic Inferior Vena Cava Filter; VTE= Venous Thromboembolism

References

1. Still J, Friedman B, Furman S *et al*. Experience with the insertion of vena caval filters in acutely burned patients. Am Surg 2000; 66(3):277-9.

Evidence Table 24. Adverse Events for KQ3

Author, Year	Arm	N for analysis	Time Point	Outcome	Definition	n (%) of Patients with Outcomes	n Events
Still, 2000 [1]	Arm 2 (P-IVCF only)	15	Hospital discharge	Bleeding – IVC thromboses	NR	0 (0)	NR
Still, 2000 [1]	Arm 2 (P-IVCF only)	15	Hospital discharge	Infections	Site infections	0 (0)	NR
Still, 2000 [1]	Arm 2 (P-IVCF only)	15	Hospital discharge	Filter complications	Filter complications	0 (0)	NR

BMI= Body Mass Index; ICU= Intensive Care Unit; IVC= Inferior Vena Cava; P-IVCF=Prophylactic Inferior Vena Cava Filter; VTE= Venous Thromboembolism

References

1. Still J, Friedman B, Furman S *et al*. Experience with the insertion of vena caval filters in acutely burned patients. Am Surg 2000; 66(3):277-9.

Evidence Table 25. Study Characteristics KQ 6

Author, Year	Study Design	Study Site – Study Locations	Recruitment Date (start date – end date)	Planned Length of Follow-up	Method of Surveillance for VTE	Funding Source	Inclusion Criteria	Exclusion Criteria
IVCF versus IVCF								
Gargiulo, N.J., 2006[1]	Ambidirectional- retrospective and prospective cohort	Single center- North America	1999-2005	NR	NR	NR	NR	NR
Van Ha, TG, 2011[2]	series	Signle center- N.America	2005-2008	10 weeks (4 weeks post placement + 6 weeks post retrieval)	All patients underwent venous color-flow duplex ultrasound of the lower extremities 1 week before filter removal to rule out lower extremity DVT.	NR	BMI- >50 kg/m2 One patient undergoing removal of a retroperitoneal primitive neuroectodermal tumor received bilateral iliac filter placement not because of megacava, but to prevent potential surgical field disruption caused by IVC placement. All patients underwent full assessment and informed consent for retrievable filter placement and subsequent retrieval.	NR
IVCF versus Control								
Birkmeyer, N. J., 2010 [3]	Retrospective cohort	Multiple center- North America	2006-2008	NR	NR	Longitudinal	Open or laparoscopic gastric bypass procedure	Revisional surgery, laparoscopic gastric banding, biliopancreatic diversion, sleeve gastrectomy procedures
Obeid, F. N., 2007 [4]	Retrospective cohort	Single center- North	2000-20006	NR	NR	NR	NR	NR

		America						
IVCF alone								
Kardys, C. M. 2008 [5]	Retrospective cohort	Single center-North America	2004-2006	NR	NR	NR	History of VTE, Roux-en-Y gastric bypass, profound immobility, venous insufficiency, hypercoagulable disorder	NR
Overby, D. W., 2009 [6]	Retrospective cohort	Single center, North America	2001-2008	NR	CT venography or lower extremity venous duplex ultrasonography prior to filter removal only (no surveilance immediately post-op)	NR	Elevation above the normal range of any of the variables associated with thrombophilia (antithrombin III deficiency, protein C deficiency, protein S deficiency, homocysteine elevation, factor V Leiden mutation, presence of anticardiolipin antibodies (immunoglobulins G and M), presence of lupus anticoagulant, those who had strong clinical indicators of high VTE risk including: poor ambulation, history of severe venous stasis disease, pulmonary hypertension, severe sleep apnea with obesity hypoventilation syndrome, BMI over 60, prior VTE	Revisional surgery
Piano, G., Ketteler, 2007 [7]	Prospective cohort	Single center-North America	2004-2005	NR	One week before filter retrieval, all patients were re-evaluated by the vascular surgeon (G. P.) and underwent venous color-flow duplex ultrasound scanning of the lower extremities	NR	BMI ≥55 kg/m^2, previous history of deep venous thrombosis (DVT) or pulmonary embolus, candidates for bariatric surgery, severe immobility, hypercoagulable state, venous stasis	NR

					to rule out lower extremity DVT			
Schuster, R., 2007[8]	Cohort-Retro	Single center-N. America	2003-2006	Range 8-33 months	No	NR	wt->400 pounds, History of VTE: DVT or PE 1991 NIH guidelines: 1991 NIH consensus conference criteria for morbid obesity High risk morbidly obese patients Laparoscopic gastric bypass surgery Severe Venous stasis disease Long standing sleep apnea and/or weight >400 pounds	NR
Schweitzer, M., 2006 [9]	Case report	Single center, North America	NR	NR	NR	NR	NR	NR
Vaziri, K.,	Retrospective	Single site-North	2008-2009	NR	NR	NR	BMI ≥55 kg/m^2, bariatric surgery, severe immobility,	NR

2010 [10]	cohort	America					preexisting hypercoaguable disorder	
Veerapong, J., 2008 [11]	Case report	Single center-North America	NR	NR	NR	NR	NR	NR
Pharmacological versus Pharmacological								
Borkgren-Okonek, M. 2008 [12]	Non randomized trial	Single center-North America	2004-2006	3months post-op	USS, CTA, V/Q scan	Industry	Age≥18 years, patients meeting NIH criteria, first time RYGB	Creatinine >1.6 mg/dL, previous VTE or known hypercoagulable state, chronic warfarin use, contraindication/hypersensitivity to UFH or LMWH
Hamad, G.G., 2005 [13]	Retrospective cohort	Multi center-North America	2002-2002	NR	No surveillance	Industry	All patients satisfied the NIH criteria for bariatric surgery. All patient had undergone primary surgical procedure	NR
Kothari, S. 2007 [14]	Prospective cohort	Single center-North America	NR	30 days	NR	NR	Bariatric surgery patients	NR
Ojo, P., 2008 [15]	Retrospective cohort	Single center-North America	2004-2005	Post-op till 2 weeks after discharge from hospital	NR	NR	BMI ≥60 or 50 with venous stasis, obstructive sleep apnea or severe ambulation limitation, previous history of PE or DVT, anti-coagulants, severe limitation of ambulation	Warfarin or therapeutic LMWH, previous history of bleeding
Raftopoulos, I., 2008 [16]	Non randomized trial	Single center-North America	2003-2007	>1month	Pre-hospital discharge bilateral lower extremities venous doppler studies	NR	Bariatric surgery	NR
Rowan, B. O. 2008 [17]	Prospective cohort	Single center-North America	2005-2006	NR	NR	NR	Any patient undergoing laparoscopic banding or laparoscopic gastric bypass surgery	All anti-Xa levels drawn earlier than 3hr postdose or later than 5hr postdose

Scholten, D. J.,2002 [18]	Retrospective cohort	Single center-North America	1997-2000	6 months	NR	NR	NR	Inpatient death (not due to PE), patients with previous VTE or hypercoagulable state who opted for outpatient prophylactic treatment following hospital discharge
Simone, E. 2008 [19]	Prospective cohort	Single center-North America	2006-2007	Duration of hospital stay	NR	NR	Laparoscopic gastric bypass or laparoscopic adjustable gastric band placement, admission between November 2006-March 2007	Anti-Xa levels were not drawn correctly, withheld enoxaparin because of bleeding concerns
Pharmacological Alone								
Singh, K., 2011 [20]	Retrospective cohort	Single center-North America	2004-2007	2 years	NR	NR	Roux-en-Y gastric bypass surgery	NR

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; LMWH= Low Molecular Weight Heparin; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; RYGB= Roux-en-Y gastric bypass; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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2. Van Ha TG, Dillon P, Funaki B *et al.* Use of retrievable filters in alternative common iliac vein location in high-risk surgical patients. J Vasc Interv Radiol 2011; 22(3):325-9.

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Evidence Table 26. Participant Characteristics for KQ 6

Author, Year	Arm, n	Age (Years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI (Kg/m^2)	Weight (lbs)	Prior History of VTE, n (%)	Trauma, n(%)	ICU duration
Birkmeyer, N. J., 2010 [2]	Arm 1 (Control), 5834	Age > 50 in 36%	Male (19)*	NR	BMI > 50 in 34%	NR	NR	NR	NR
Birkmeyer, N. J., 2010 [2]	Arm 2 (IVC Filter), 542	Age > 50 in 46%*	Male (30)*	NR	BMI > 50 in 72%*	NR	NR	NR	NR
Borkgren-Okonek, M. 2008 [3]	Arm 2 (40 mg), 124	Mean: 44.7 Range: 18-67	Male, 28	NR	Mean: 44.9 Range: 36-50	Mean: 125.5 Range: 87-175	(4)	NR	NR
Borkgren-Okonek, M. 2008 [3]	Arm 3 (60 mg), 99	Mean: 44.3 Range: 19-65	Male, 27	NR	Mean: 57.4 Range: 51-82	Mean: 161.4 Range: 116-249	NR	NR	NR
Gargiulo, N.J., 2006[4]	Arm 2, 193	NR	Male, 60	NR	Mean: 51(7 SD)	NR	NR	Spinal cord injury (overall): (18)	NR
Gargiulo, N.J., 2006[4]	Arm 3, 181	NR	Male, 54	NR	Mean: 51 (6 SD)	NR	NR	NR	NR
Gargiulo, N.J., 2006[4]	Arm 4, 197	NR	Male, 55	NR	Mean: 51 (7 SD)	NR	NR	NR	NR
Hamad, G.G., 2005 [5]	Arm 1 (Control), 100	Mean: 39.5	Male, 25	NR	Mean: 47	NR	NR	Spinal cord injury (overall): 1	NR
Hamad, G.G., 2005 [5]	Arm 2, 124	Mean: 42.1	Male, 42	NR	Mean: 51.5	NR	NR	NR	NR
Hamad, G.G., 2005 [5]	Arm 3, 84	Mean: 47.5	Male, 13	NR	Mean: 56.8	NR	NR	NR	NR
Hamad, G.G., 2005 [5]	Arm 4, 180	Mean: 41.9	Male, 90	NR	Mean: 49.9	NR	NR	NR	NR

Author, Year	Arm, n	Age (Years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI (Kg/m^2)	Weight (lbs)	Prior History of VTE, n (%)	Trauma, n(%)	ICU duration
Hamad, G.G., 2005 [5]	Arm 5, 180	Mean: 39.7	Male, 83	NR	Mean: 46	NR	NR	NR	NR
Kardys, C. M. 2008 [6]	Arm 1 (Control)	NR	NR	NR	NR	NR	NR	NR	Arm 2: 95% CI(14.2-15.0); Arm 3: 95%CI(1.4-1.5). Mean ICU duration (days)differs significantly P<0.001
Kardys, C. M. 2008 [6]	Arm 2 (Intervention)	NR	NR	NR	NR	NR	NR	Spinal cord injury: 216 (5.7)	Mean:14.6
Kardys, C. M. 2008 [6]	Arm 3	NR	NR	NR	NR	NR	NR	Spinal cord injury: 3,581 (94.3)	Mean:1.5
Kothari, S. 2007 [7]	Arm 2 (Enoxaparin), 238	Mean: 42	NR	NR	Mean: 48.7	Mean: 302 lb	NR	NR	NR
Kothari, S. 2007 [7]	Arm 3 (Heparin), 238	Mean: 44	NR	NR	Mean: 47	Mean: 296 lb	NR	NR	NR
Obeid, F. N., 2007 [8]	Arm 1 (control), 1853	Mean: 44.7 P-value: 0.82	Male (14)*	NR	Mean: 48.8	NR	NR	NR	NR
Obeid, F. N., 2007 [8]	Arm 2, 248	Mean: 46.6	Male (23.6)*	NR	Mean: 60	NR	NR	NR	NR
Ojo, P., 2008 [9]	Arm 2 (40 mg), 59	Mean: 48	Male, 20		Mean: 57	NR	NR	NR	NR
Ojo, P., 2008 [9]	Arm 3 (60 mg), 68	Mean: 46	Male, 42		Mean: 58	NR	NR	NR	NR
Overby, D. W., 2009 [10]	Arm 1, 330		Male, 48 (14.55)		Mean: 51.42 Range: 32.00–86.40	NR	NR	Spinal cord injury: 1 (100)	NR
Piano, G., Ketteler, 2007 [11]	Arm 2, 59	Mean: 43 Range: 20-59	Male (17)	NR	Mean: 61 Range: 37.1 -82.7	NR	23	NR	NR

Author, Year	Arm, n	Age (Years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI (Kg/m^2)	Weight (lbs)	Prior History of VTE, n (%)	Trauma, n(%)	ICU duration
Piano, G., Ketteler, 2007 [11]	Arm 3	NR	NR	NR	NR	NR	36	NR	NR
Raftopoulos, I., 2008 [12]	Arm 2 (Group A), 132	Mean: 42.6 Range: 19-63	Male, 20 (15.2)	NR	Mean:47.8 Range: 27-70.9	NR	(13)	NR	NR
Raftopoulos, I., 2008 [12]	Arm 3 (Group B), 176	Mean: 44.1 Range: 18-73	Male, 33 (18.75)	NR	Mean: 46.1 Range: 26-75	NR	NR	NR	NR
Rowan, B. O. 2008 [13]	Arm 2 (Group 1),19	Mean: 41.7	Male (26)	NR	Mean: 48.4	Mean: 141.6	No prior history of VTE	NR	NR
Rowan, B. O. 2008 [13]	Arm 3 (Group 2), 33	Mean: 40.08	Male (18)	NR	Mean: 48.5	Mean: 135.6	No prior history of VTE	NR	NR
Scholten, D. J.,2002 [14]	Arm 2, 92	Mean: 43.7	Male, 19 (20.2)	NR	Mean: 51.7	NR	NR	NR	NR
Scholten, D. J.,2002 [14]	Arm 3, 389	Mean: 44.3	Male, 62 (15.8)	NR	Mean: 50.4	NR	NR	NR	NR
Schuster, R., 2007[15]	Arm 2, 24	NR	Male, 14	NR	BMI > 50 was present in 88%	NR	NR	NR	NR
Schweitzer, M., 2006 [16]	Overall, 1	NR	NR	NR	Mean: 45	Mean: 284 lb	NR	NR	NR
Simone, E. 2008 [17]	Arm 2, 24	Mean: 40	Male (12.5)	NR	Mean: 48.8	Mean: 135	3 (2.3)	NR	NR
Simone, E. 2008 [17]	Arm 3, 16	Mean: 41	Male (6.3)	NR	Mean: 47.3	Mean: 127	7 (4)	NR	NR
Singh, K., 2011 [18]	Arm 2 (Enoxaparin), 170	Mean: 43	Male, 91 (53)	NR	Mean: 47.8	NR	NR	Spinal cord injury: arm1: 4 arm 2: 2 (unclear, reported for 2 arms)	NR
Van Ha, TG, 2011[1]	Arm 2, 10	Mean: 45 Range:34-62	Male: 6	NR	NR	NR	NR	Ventilator days: Arm 1 mean:3.6 Arm 2 mean:5.7	NR

Author, Year	Arm, n	Age (Years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI (Kg/m^2)	Weight (lbs)	Prior History of VTE, n (%)	Trauma, n(%)	ICU duration
								(not clear, reported for 2 arms)	
Vaziri, K., 2010 [19]	Arm 2 (Intervention), 41	Mean: 48	Male, 12	NR	Mean: 58.4	NR	NR	NR	NR
Veerapong, J., 2008 [20]	Arm 1, 1	31	Male, 1	NR	74	526	NR	NR	NR

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; LMWH= Low Molecular Weight Heparin; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; RYGB= Roux-en-Y gastric bypass; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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Evidence Table 27. Filter Interventions for KQ 6

Author, Year	Arm Name	Filter Name	Filter Type (temp or permanent)	Filter Placed by	Setting	Planned Duration of Filter	Concurrent Therapy	Comparator Arm
IVCF versus IVCF								
Gargiulo, N.J., 2006[2]	Group A	Greenfield Stainless Steel®, Simon Nitinol®, TRAPEASE®, Bard Recovery	NR	NR	NR	NR	NR	NR
Gargiulo, N.J., 2006[2]	Group B	Greenfield Stainless Steel®, Simon Nitinol®, TRAPEASE®, Bard Recovery	NR	NR	NR	NR	NR	NR
Gargiulo, N.J., 2006[2]	Group C	Greenfield Stainless Steel®, Simon Nitinol®, TRAPEASE®, Bard Recovery	NR	NR	NR	NR	NR	NR
Van Ha, TG, 2011[11]	Arm 2 (Bilateral Iliac Vein Filter)	Celect®1Gunther Tulip®9	Temporary	NR	Operating room	4 weeks	No	NR
IVCF versus Control *Cohort- Retrospective*								
Birkmeyer, N. J., 2010 [1]	Arm 2	NR	NR	NR	NR	NR	None	Arm 1

Author, Year	Arm Name	Filter Name	Filter Type (temp or permanent)	Filter Placed by	Setting	Planned Duration of Filter	Concurrent Therapy	Comparator Arm
Obeid, F. N., 2007 [4]	IVCF	NR	Temporary	NR	NR	NR	Sequential compression devices, Ambulation, prophylactic enoxaparin for all patients and warfarin for IVCF group only	Arm 1
IVCF Alone *Cohort Prospective*								
Piano, G., Ketteler, 2007 [6]	NR	Gunther Tulip®	Temporary	NR	NR	4weeks post-op	Sequential compression devices, heparin 500U/hr pre-op, enoxaparin 40mg 12hrly post op	NR
Cohort-Retrospective								
Kardys, C. M. 2008 [3]	Intervention	Greenfield Stainless Steel®	NR	NR	NR	NR	Sequential compression devices or foot pumps. Ambulated day of surgery if not in ICU, 5000u heparin SQ pre-op and enoxaparin 40mg bid post-op	NR
Overby, D. W., 2009 [5]	NR	Celect®, Gunther Tulip®, OPTEASE®, Bard Recovery, Bard G2.	Temporary	Interventional radiologist or vascular surgeon	Interventional radiology suite	6 weeks post-op	Sequential calf compression devices, SQ heparin 5000-7500U 8hourly from before surgery to hospital discharge	NR

Author, Year	Arm Name	Filter Name	Filter Type (temp or permanent)	Filter Placed by	Setting	Planned Duration of Filter	Concurrent Therapy	Comparator Arm
Schuster, R., 2007[7]	NR	Gunther Tulip®	Temporary	Interventional radiologist		2weeks	NR	NR
Vaziri, K., 2010 [9]	Intervention	Gunther Tulip®, G2® filters	Temporary	NR	NR	NR	SQ Heparin 5000 8hourly	NR
Case report								
Schweitzer, M., 2006 [8]	NR	OPTEASE	Temporary	NR	NR	NR	Antiembolism stockings, sequential compression devices, op-day ambulation, SQ enoxaparin 40 mg 12 hourly	NR
Veerapong, J., 2008 [10]	NR	Gunther Tulip®	Temporary	NR	NR	NR	NR	NR

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; Hr(s)= Hour(s); ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; LMWH= Low Molecular Weight Heparin; mg= milligram; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; RYGB= Roux-en-Y gastric bypass; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; SQ=Subcutaneous; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; U= units; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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Evidence Table 28. Drug Interventions for KQ 6

Author, Year	Arm Name	Drug name	Dose	Route	Frequency	Timing of first dose	Planned duration of therapy (Other e.g.INR)	Concurrent Therapy
Pharmacological versus Pharmacological *Cohort-Prospective*								
Kothari, S. 2007 [3]	Enoxaparin	Enoxaparin	40mg	SQ	Twice daily	Pre-op	Hospital stay	Sequential compression devices, early ambulation
Kothari, S. 2007 [3]	Heparin	Heparin	5000U	SQ	Thrice daily	Pre-op	Hospital stay	Sequential compression devices, early ambulation
Rowan, B. O. 2008 [6]	Group1	Enoxaparin	30mg	SQ	12 hourly	11pm on op-day	NR	Pneumatic compression devices before anesthesia, early ambulation was encouraged on day of surgery
Rowan, B. O. 2008 [6]	Group2	Enoxaparin	40mg	SQ	12 hourly	11pm on op-day	NR	Pneumatic compression devices before anesthesia, early ambulation was encouraged

Author, Year	Arm Name	Drug name	Dose	Route	Frequency	Timing of first dose	Planned duration of therapy (Other e.g.INR)	Concurrent Therapy
								on day of surgery
Simone, E. 2008 [8]	NR	Enoxaparin	40mg	SQ	12 hourly	11pm on op day	Hospital stay	None
Simone, E. 2008 [8]	NR	Enoxaparin	60mg	SQ	12 hourly	11pm on op day	Hospital stay	None
Cohort-retrospective								
Hamad, G.G., 2005 [2]	Center A	Enoxaparin	30mg	SC	NR	NR	Duration not available,	No
Hamad, G.G., 2005 [2]	Center B	Enoxaparin	30 mg	SC	q24h	not reported	10days	No
Hamad, G.G., 2005 [2]	Center C	Enoxaparin	40 mg	SC	q24h	not reported	12-120hrs	No
Hamad, G.G., 2005 [2]	Center D	Enoxaparin	40 mg	SC	q24h	not reported	12-24hrs	No
Hamad, G.G., 2005 [2]	Center E	Enoxaparin	40 mg	SC	Q12h	not reported	12-36hours	No
Ojo, P., 2008 [4]	40mg	Enoxaparin	40mg	SQ	12 hourly	12 hours post-op	2 weeks post-op	None

Author, Year	Arm Name	Drug name	Dose	Route	Frequency	Timing of first dose	Planned duration of therapy (Other e.g.INR)	Concurrent Therapy
Ojo, P., 2008 [4]	60mg	Enoxaparin	60mg	SQ	12 hourly	12 hours post-op	2 weeks post-op	None
Scholten, D. J.,2002 [7]	Group 1	Enoxaparin	30mg	SQ	12 hourly	2 hours pre-op	Till fully ambulatory or hospital discharge	Graded compression stockings, intermittent pneumatic compression devices or sequential compression devices and early ambulation
Scholten, D. J.,2002 [7]	Group 2	Enoxaparin	40mg	SQ	12 hourly	2 hours pre-op	Till fully ambulatory or hospital discharge	Graded compression stockings, intermittent pneumatic compression devices or sequential compression devices and early ambulation
Non-randomized Trials								

Author, Year	Arm Name	Drug name	Dose	Route	Frequency	Timing of first dose	Planned duration of therapy (Other e.g.INR)	Concurrent Therapy
Borkgren-Okonek, M. 2008 [1]	40mg	Enoxaparin	40mg	SQ	12hourly till hospital discharge then once daily	12 hours post-op	Till 10 days after hospital discharge	Calf-length intermittent pneumatic compression devices, Post-op day or next day mobilization, UFH 5000U within 2hrs before surgery
Borkgren-Okonek, M. 2008 [1]	60mg	Enoxaparin	60mg	SQ	12hourly till hospital discharge then once daily	12 hours post-op	Till 10 days after hospital discharge	Calf-length intermittent pneumatic compression devices, Post-op day or next day mobilization, UFH 5000U within 2hrs before surgery
Raftopoulos, I., 2008 [5]	Group A	Enoxaparin	30mg	SQ	12 hourly	1 hour pre-op	Hospital stay	Calf-length pneumatic compression devices
Raftopoulos, I., 2008 [5]	Group B	Enoxaparin	30mg	SQ	12hourly	I hour pre-op	Hospital stay and 10 days post hospital	Calf-length pneumatic compression

Author, Year	Arm Name	Drug name	Dose	Route	Frequency	Timing of first dose	Planned duration of therapy (Other e.g.INR)	Concurrent Therapy
							discharge	devices
Pharmacological Alone *Cohort-retrospective*								
Singh, K., 2011 [9]	NR	Enoxaparin	BMI <40-30mg; 40-49- 40mg; 50-59- 50mg; >50-60mg	SQ	12 hourly	1 hour before incision	NR	Pneumatic compression device

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; Hr(s)= Hour(s); ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; LMWH= Low Molecular Weight Heparin; mg= milligram; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; RYGB= Roux-en-Y gastric bypass; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; SQ=Subcutaneous; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; U= units; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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Evidence Table 29. Patient-oriented Outcomes for KQ 6

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n(%) of Events	Point Estimate	Measures of Association
IVCF versus control *Cohort- retrospective*									
Birkmeyer, N. J., 2010 [1]	Arm 1 (Control-No IVC)	5834	30 days	NR	Total VTE only (only if VTE events are unspecified, you should choose this option)	(0.53)	NR	NR	In unadjusted analysis, the odds ratio was approximately 4 with P<0.0001 with more VTE in filter group
Birkmeyer, N. J., 2010 [1]	Arm 2 (IVC filter)	542	30 days	NR	Total VTE only (only if VTE events are unspecified, you should choose this option)	(2.03)	NR	Odd ratio:1.28 95% CI:0.51 - 3.21 (reference group: Arm 2 No IVC filter)	Propensity score adjusted; baseline P < 0.0001 with OR of about 4 prior to adjustment (reference group: Arm 2No IVC filter)
Obeid, F. N., 2007 [7]	Arm 1 (control) No IVC filter	1847	30 days	DVT: Ultrasonography	Total DVT only (Similarly this is for unspecified DVT)	12 (0.65)	NR	NR	pvalue:0.56 (reference group: Arm 2IVC filter)
Obeid, F. N., 2007 [7]	Arm 1 (Control-No IVCF)	1847	30 days	DVT: Ultrasonography	PE	11 (0.59)	NR	NR	p value:0.69 (reference group: Arm 2IVC filter)

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n(%) of Events	Point Estimate	Measures of Association
Obeid, F. N., 2007 [7]	Arm 2 (IVCF)	246	30 days	DVT: Ultrasonography	Total DVT only (Similarly this is for unspecified DVT)	3	NR	Odd ratio:1.87 95% CI: 0.526 - 6.7	pvalue:0.56 (reference group: Arm 2No IVC filter)
Obeid, F. N., 2007 [7]	Arm 2 (IVCF)	246	30 days	DVT: Ultrasonography	PE	2	NR	Odd ratio:1.36 95%CI:0.3 - 6.19	p value:0.69 (reference group: Arm 2No IVC filter)
IVCF Alone *Cohort-retrospective*									
Kardys, C. M. 2008 [5]	Arm 2 (Intervention)	31	262 days	DVT: Other	Upper extremity DVT	1 (3.1)	NR	NR	NR
Kardys, C. M. 2008 [5]	Arm 2 (Intervention)	31	262 days	DVT: Other	Total PE only (Unspecified PE)	2 (6.4)	NR	NR	NR
Kardys, C. M. 2008 [5]	Arm 2 (Intervention)	31	262 days	DVT: Other	Total VTE only (only if VTE events are unspecified, you should choose this option)	3 (9.5)	NR	NR	NR
Overby, D. W., 2009 [8]	Arm 1 (Control - Without prophylactic filter)	170	NR	DVT: Venography Ultrasonography	Total DVT only (Similarly this is for unspecified DVT)	4 (2.35)	NR	NR	NR
Overby, D. W., 2009 [8]	Arm 1 (Control - Without prophylactic filter)	170	NR	DVT: Venography Ultrasonography	Total PE only (Unspecified PE)	5 (2.94)	NR	NR	NR
Overby, D. W., 2009 [8]	Arm 2 (With prophylactic filter)	160	NR	DVT: Venography Ultrasonography	Total DVT only (Similarly this is for unspecified DVT)	5 (3.13)	NR	NR	NR
Overby, D. W., 2009 [8]	Arm 2 (With prophylactic filter)	160	NR	DVT: Venography Ultrasonography	Total PE only (Unspecified PE)	1 (0.63)	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n(%) of Events	Point Estimate	Measures of Association
Piano, G., Ketteler, 2007 [9]	NR	59	NR	DVT: Ultrasonography	Total DVT only (Similarly this is for unspecified DVT)	0	NR	NR	NR
Piano, G., Ketteler, 2007 [9]	NR	59	NR	DVT: Ultrasonography	Total PE only (Unspecified PE)	1	NR	NR	NR
Schuster, R., 2007[12]	Arm 2	24	NR	DVT: Ultrasonography	Total DVT only (Similarly this is for unspecified DVT)	5 (21)	NR	NR	NR
Van Ha, TG, 2011[16]	Arm 2	10	Other- 4-6 weeks post IVC filter retrieval	NR	Total VTE	0	NR	NR	NR
Vaziri, K., 2010 [15]	Arm 2 (Intervention)	41	NR	DVT: Ultrasonography	Total DVT only (Similarly this is for unspecified DVT)	2	NR	NR	NR
Vaziri, K., 2010 [15]	Arm 2 (Intervention)	41	NR	DVT: Ultrasonography	PE	0	NR	NR	NR
Case report									
Schweitzer, M., 2006 [13]	Arm 2	1	Other- please specify22 days post op	DVT: Autopsy PE:Autopsy	Total DVT only (Similarly this is for unspecified DVT)	1	NR	NR	NR
Schweitzer, M., 2006 [13]	Arm 2	1	Other- please specify16 days post-op	DVT: Autopsy PE:Autopsy	Total DVT only (Similarly this is for unspecified DVT)	1	NR	NR	NR
Schweitzer, M., 2006 [13]	Arm 2	1	Other- please	DVT: Autopsy PE:Autopsy	Total PE only (Unspecified PE)	1	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n(%) of Events	Point Estimate	Measures of Association
			specify22 days post op						
Schweitzer, M., 2006 [13]	Arm 2	1	Other-please specify16 days post-op	DVT: Autopsy PE:Autopsy	Total PE only (Unspecified PE)	1	NR	NR	NR
Pharmacological versus Pharmacological *Cohort-Prospective*									
Kothari, S. 2007 [6]	Arm 2 (Enoxaparin)	238	30 days	NR	Total DVT only (Similarly this is for unspecified DVT)	0	NR	NR	pvalue:0.999 (reference group: Arm 3heparin)
Kothari, S. 2007 [6]	Arm 2 (Enoxaparin)	238	30 days	NR	Total PE only (Unspecified PE)	0	NR	NR	pvalue:0.999 (reference group: Arm 3heparin)
Kothari, S. 2007 [6]	Arm 3 (Heparin)	238	30 days	NR	Total DVT only (Similarly this is for unspecified DVT)	0	NR	NR	pvalue:0.999 (reference group: Arm 2enoxaparin)
Kothari, S. 2007 [6]	Arm 3 (Heparin)	238	30 days	NR	Total PE only (Unspecified PE)	1	NR	NR	pvalue:0.999 (reference group: Arm 2enoxaparin)
Cohort-retrospective									
Scholten, D. J.,2002 [11]	Arm 2 (Group 1)	92	NR	NR	Total DVT only (Similarly this is for unspecified DVT)	1	NR	NR	pvalue:<0.01 (Reference group: Arm 3)
Scholten, D. J.,2002 [11]	Arm 2 (Group 1)	92	90 days	NR	Total PE only (Unspecified PE)	4	NR	NR	NR
Scholten, D. J.,2002 [11]	Arm 3	389	NR	NR	Total DVT only (Similarly this is	2	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n(%) of Events	Point Estimate	Measures of Association
					for unspecified DVT)				
Scholten, D. J.,2002 [11]	Arm 3	389	NR	NR	Total PE only (Unspecified PE)	0	NR	NR	NR
Non-randomized trials									
Borkgren-Okonek, M. 2008 [2]	Arm (240mg)	124	Day 37 post op	DVT: Ultrasonography PE:CT scan	Total DVT + PE only	1 (0.45)	NR	NR	NR
Raftopoulos, I., 2008 [10]	Arm 3	176	30 days	DVT: Ultrasonography PE:CT scan	Total VTE only (only if VTE events are unspecified, you should choose this option)	0	NR	NR	NR
Raftopoulos, I., 2008 [10]	Arm 3	176	30 days	DVT: Ultrasonography PE:CT scan	Total VTE only (only if VTE events are unspecified, you should choose this option)	0	NR	NR	NR
Raftopoulos, I., 2008 [10]	Arm 3	176	30 days	DVT: Ultrasonography PE:CT scan	Total DVT only (Similarly this is for unspecified DVT)	0	NR	NR	NR
Raftopoulos, I., 2008 [10]	Arm 2 (Group A)	132	30 days	DVT: Ultrasonography PE:CT scan	Total DVT + PE only	6 (4.5)	NR	NR	pvalue: 0.006 (Reference group: Arm3 Group 3)
Raftopoulos, I., 2008 [10]	Arm 2 (Group A)	132	30 days	DVT: Ultrasonography PE:CT scan	Total PE only (Unspecified PE)	3	NR	NR	NR
Raftopoulos, I., 2008 [10]	Arm 2 (Group A)	132	30 days	DVT: Ultrasonography PE:CT scan	Total DVT only (Similarly this is for unspecified DVT)	3	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n(%) of Events	Point Estimate	Measures of Association
Pharmacological alone *Cohort-retrospective*									
Singh, K., 2011 [14]	Arm 2 (Enoxaparin)	170	from immediate post op period to 2yrs follow up	DVT: Ultrasonography PE:CT scan	Total VTE only (only if VTE events are unspecified, you should choose this option)	0	NR	NR	NR
Hamad, G.G., 2005 [4]	3787	Arm 1 (control)Center A(This group is not a control group, The characteristics of study participants were stratified by 5 study centers A, B, C, D, and E. Control arm is used for A here in order to abstract data for the 5 study centers		PE:Other 2 (V/Q scan or chest CT)	PE	2	NR	NR	NR
Hamad, G.G., 2005 [4]	Arm 2 (Center B)	124	NR	DVT: Ultrasonography PE:Other 2 (V/Q scan or Chest CT)	Total DVT only (Similarly this is for unspecified DVT)	1	NR	NR	NR
Hamad, G.G., 2005 [4]	Arm 2 (Center B)	124	NR	DVT: Ultrasonography PE:Other2 (V/Q scan or Chest CT)	PE	2	NR	NR	NR
Hamad, G.G., 2005 [4]	Arm 3 (Arm C)	84	NR		PE	1	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Test to confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n(%) of Events	Point Estimate	Measures of Association
Hamad, G.G., 2005 [4]	Arm 4 (Center D)	180	NR	PE:Other1(V/Q or Chest CT scan	PE	0	NR	NR	NR
Hamad, G.G., 2005 [4]	Arm 5 (Center E)	180	NR	PE:Other1 (V/Q or Chest CT	PE	1	NR	NR	NR
Ambidirectional									
Gargiulo, N.J., 2006[3]	Arm 2 (Group A)	193	30 days	DVT: Ultrasonography PE:CT scan, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only (Unspecified PE)	4 (13)	NR	NR	NR
Gargiulo, N.J., 2006[3]	Arm 3 (Group 3A)	17	30 days	PE:CT scan, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only (Unspecified PE)	0	NR	NR	NR
Gargiulo, N.J., 2006[3]	Arm 3 (Group B)	181	30 days	DVT: Ultrasonography PE:CT scan, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only (Unspecified PE)	0	NR	NR	NR
Gargiulo, N.J., 2006[3]	Arm 3 (Group 3B)	18	30 days	PE:CT scan, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total PE only (Unspecified PE)	(28)	NR	NR	pvalue:<0.05 (Reference group: Arm 4)
Gargiulo, N.J., 2006[3]	Arm 3 (Group B)	181	4 months post op	DVT: Ultrasonography PE:CT scan, VQ Scan (Ventilation/perfusion scan or lung scintigraphy), Autopsy	Total DVT only (Similarly this is for unspecified DVT)	3	NR	NR	NR

BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; Hr(s)= Hour(s); ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LMWH= Low Molecular Weight Heparin; mg= milligram; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SQ=Subcutaneous; UFH= Unfractionated Heparin; USS= Ultrasound Scan; U= units; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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Evidence Table 30. Other Patient-oriented Outcomes for KQ6

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of patients with outcomes	n events	Mean/Med/Range	Other	Measures of Association
IVCF versus control *Cohort- retrospective*										
Birkmeyer, N. J., 2010 [1]	Arm 1 (Control - No IVCF	5834	30 days	Total Mortality	Death/permanent disability	(0.51)	NR	NR	NR	NR
Birkmeyer, N. J., 2010 [1]	Arm 2 (IVCF)	542	30 days	Total Mortality	Death/permanent disability	(1.85)	NR	NR	NR	Odd ratio: 2.49, 95% CI:0.99 - 6.26, p value: 0.053
Obeid, F. N., 2007 [7]	Arm 1 (Control- No IVCF)	1848	30 days	Total Mortality	NR	4 (0.22)	NR	NR	NR	NR
Obeid, F. N., 2007 [7]	Arm 2 (IVCF)	246	30 days	Total Mortality	NR	2 (0.81)	NR	NR	NR	NR
IVCF Alone *Cohort-prospective*										
Piano, G., Ketteler, 2007 [9]	NR	57	NR	Filter retrieval rate	NR	52	NR	NR	NR	NR
Piano, G., Ketteler, 2007 [9]	NR	59	NR	Total Mortality	NR	0	NR	NR	NR	NR
Cohort-retrospective										
Kardys, C. M. 2008 [5]	Arm 2 (Intervention)	31	NR	Total Mortality	NR	2	NR	NR	NR	NR
Kardys, C. M. 2008 [5]	Arm 2 (Intervention)	31	NR	Mortality due to	Tracheostomy site bleeding	1	NR	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of patients with outcomes	n events	Mean/Med/Range	Other	Measures of Association
				bleeding						
Overby, D. W., 2009 [8]	Arm 2 (with Prophylactic Filter)	160	NR	Filter retrieval rate	Successful removal	NR	NR	NR	NR	NR
Schuster, R., 2007[13]	Arm 2	NR	Within 2 weeks of insertion	Filter retrieval rate	NR	20 (83)	NR	NR	NR	NR
Schuster, R., 2007[13]	Arm 2	NR	NR	NR	NR	NR	NR	NR	NR	NR
Van Ha, TG, 2011[17]	Arm 2	10	4-6 weeks post IVC filter retrieval	Total Mortality	NR	0	NR	NR	NR	NR
Vaziri, K., 2010 [16]	Arm 2 (Intervention)	41	200 days ±131	Filter retrieval rate	Successful filter retrieval	28	NR	NR	NR	NR
Vaziri, K., 2010 [16]	Arm 2 (Intervention)	NR	NR	Total Mortality	Mortality occurred secondary to a postoperative myocardial infarction	1	NR	NR	NR	NR
Case report										
Schweitzer, M., 2006 [14]	Arm 2	1	22 days post op	Total Mortality	NR	1	NR	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of patients with outcomes	n events	Mean/Med/Range	Other	Measures of Association
Pharmacological versus Pharmacological *Cohort-Prospective*										
Kothari, S. 2007 [6]	Arm 2 (Enoxaparin)	238	30 days	Total Mortality	NR	0 (0)	NR	NR	NR	NR
Kothari, S. 2007 [6]	Arm 3 (Heparin)	238	30 days	Total Mortality	NR	0		NR	NR	NR
Kothari, S. 2007 [6]	Arm 3 (Heparin)		30 days		NR			NR	NR	NR
Rowan, B. O. 2008 [11]	Arm 2 (Group 1)	19 first dose anti-Xa level were included	Anti-Xa level drawn 4 hrs after the first dose	Factor Xa level	NR	19	0.06 Units/mL	NR	NR	NR
Rowan, B. O. 2008 [11]	Arm 2 (Group 1)	11 third dose anti-Xa levels were included	Anti-Xa levels drawn 4 hours after the third dose	Factor Xa level	NR	11	0.08 Units/mL	NR	NR	NR
Rowan, B. O. 2008 [11]	Arm 3 (Group 2)	12 third dose Anti-Xa levels were included	Anti-Xa levels drawn after 4 hours	Factor Xa level	NR	NR	0.15 units/mL	NR	NR	NR
Rowan, B. O. 2008 [11]	Arm 3 (Group 2)	26 first dose anti-Xa levels were included	Anti-Xa levels drawn 4 hours after the first	Factor Xa level	NR	26	0.14 units/mL	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of patients with outcomes	n events	Mean/Med/Range	Other	Measures of Association
			dose							
Simone, E. 2008 [15]	Arm (240 mg)	23	1st dose (day of surgery)	Factor Xa level	Mean heparin antifactor Xa (anti-Xa) concentrations (U/ml)	NR	NR	NR	NR	NR
Simone, E. 2008 [15]	Arm (240 mg)	NR	3rd dose	Factor Xa level	Mean heparin antifactor Xa (anti-Xa) concentrations (U/ml)	NR	NR	NR	NR	NR
Simone, E. 2008 [15]	Arm (240 mg)	NR	1st dose (day of surgery)	NR	% of supratherapeutic heparin antifactor xa concentration	(20)	NR	NR	NR	NR
Simone, E. 2008 [15]	Arm (240 mg)	NR	3rd dose	NR	% of supratherapeutic heparin antifactor Xa concentration	(0)	NR	NR	NR	NR
Simone, E. 2008 [15]	Arm (360 mg)	16	1st dose (day of surgery)	Factor Xa level	Mean heparin antifactor Xa (anti-Xa) concentrations (U/ml)	NR	NR	NR	NR	NR
Simone, E. 2008 [15]	Arm (360 mg)	NR	3rd dose	NR	Mean heparin antifactor Xa (anti-Xa) concentrations (U/mL)	NR	NR	NR	NR	NR
Simone, E. 2008 [15]	Arm (360 mg)	NR	1st dose (day of	NR	% of supratherapeutic heparin antifactor	(55)	NR	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of patients with outcomes	n events	Mean/Med/Range	Other	Measures of Association
			surgery)		Xa concentration					
Simone, E. 2008 [15]	Arm (360 mg)	NR	3rd dose	NR	% of supratherapeutic heparin antifactor Xa concentration	(44)	NR	NR	NR	NR
Cohort-retrospective										
Scholten, D. J.,2002 [12]	Arm 2	92	NR	Length of hospital stay	NR	NR	5.67 days	NR	NR	p value:<0.05, Ref. group: Arm 3
Scholten, D. J.,2002 [12]	Arm 3	389	NR	Length of hospital stay	NR	NR	3.81 days	NR	NR	NR
Non-randomized trials										
Borkgren-Okonek, M. 2008 [2]	Arm (360mg)	99	Day 15 post-op	Total Mortality	NR	1 (0.45)	NR	NR	NR	NR
Borkgren-Okonek, M. 2008 [2]	Arm (240mg)	109		Factor Xa level	Within target limit (0.18-0.44 IU/ml)	80 (78.9)	NR	NR	NR	NR
Raftopoulos, I., 2008 [10]	NR	NR	30 days	Total Mortality	NR	0	NR	NR	NR	Ref. group: Arm 30
Raftopoulos, I., 2008 [10]	Arm 2 (Group A)	132	Hospital discharge	Length of hospital stay	NR	NR	NR	Mean: 3 days	NR	p-value: <0.0001, Ref. group: Arm 3 Group B
Raftopoulos, I., 2008 [10]	Arm 3 (Group B)	176	Hospital discharge	Length of hospital stay	NR	NR	NR	Mean: 2.2 days	NR	p value :<0.0001, Ref. group Arm 2 Group A

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of patients with outcomes	n events	Mean/Med/Range	Other	Measures of Association
Ambidirectional										
Gargiulo, N.J., 2006[3]	Arm 2 (Group 1)	193	30 days	Fatal PE	NR	3 (10)	NR	NR	NR	NR
Gargiulo, N.J., 2006[3]	Arm 3 (Group 2)	181	30 days	Fatal PE	NR	0 (0)	NR	NR	NR	NR
Gargiulo, N.J., 2006[3]	Arm 3 (Group 3A)	17	30 days	Fatal PE	NR	0 (0)	NR	NR	NR	NR
Gargiulo, N.J., 2006[3]	Arm 5 (Group 3B)	18	30 days	Fatal PE	NR	(11)	NR	NR	NR	NR
Cohort -retrospective										
Hamad, G.G., 2005 [4]	Arm 1 (control) Center A	100	NR	Length of hospital stay	NR	NR	NR	Median: 2.3 days	NR	NR
Hamad, G.G., 2005 [4]	Arm 2 (Center B)	124	NR	Total Mortality	2 patients died during the follow-up due to bleeding complications (20 days after surgery) and one died from sepsis. Both deaths occurred after treatment was discontinued. None of the patients in the study died as a result of VTE	2	NR	NR	NR	NR

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n (%) of patients with outcomes	n events	Mean/Med/Range	Other	Measures of Association
Hamad, G.G., 2005 [4]	Arm 2 (Center B)	124	NR	Mortality due to bleeding	Bleeding complication 20 days after surgery	1	NR	NR	NR	NR
Hamad, G.G., 2005 [4]	Arm 2 (Center B)	124	NR	Length of hospital stay	NR	NR	NR	Mean: 4.3 days	NR	NR
Hamad, G.G., 2005 [4]	Arm 3 (Center C)	84	NR	Length of hospital stay	NR	NR	NR	Mean: 4.8 days	NR	NR
Hamad, G.G., 2005 [4]	Arm 4 (Center D)	180	NR	Length of hospital stay	NR	NR	NR	Mean: 2.9 days	NR	NR
Hamad, G.G., 2005 [4]	Arm 5 (Center E)	180	NR	Length of hospital stay	NR	NR	NR	Mean: 2.5 days	NR	NR

BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; Hr(s)= Hour(s); ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LMWH= Low Molecular Weight Heparin; mg= milligram; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SQ=Subcutaneous; UFH= Unfractionated Heparin; USS= Ultrasound Scan; U= units; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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Evidence Table 31. Adverse Events for KQ6

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	n of Patients with Outcomes	% of Patients with Outcomes	n Events
Birkmeyer, N. J., 2010 [1]	Arm 2 (IVC Filter)	542	NR	Filter complications	Fatal IVC thrombosis	1	NR	NR
Birkmeyer, N. J., 2010 [1]	Arm 2 (IVC Filter)	542	NR	Filter complications: Thrombosis - fatal IVC thrombosis	NR	1	NR	NR
Birkmeyer, N. J., 2010 [1]	Arm 1 (Control)	5834	NR	NR	NR	NR	NR	NR
Birkmeyer, N. J., 2010 [1]	Arm 2 (IVC Filter)		NR	Filter complications	Migration to heart	1	NR	NR
Birkmeyer, N. J., 2010 [1]	Arm 2 (IVC Filter)	542	NR	Filter complications: Migration	Migration to heart	1	NR	NR
Birkmeyer, N. J., 2010 [1]	Arm 1 (Control)		NR	NR	NR	NR	NR	NR
Borkgren-Okonek, M. 2008 [2]	Arm 2 (40 mg)	124	In hospital	Bleeding	NR	4	1.79	NR
Borkgren-Okonek, M. 2008 [2]	Arm 2 (40 mg)	NR	In hospital	Bleeding: Minor bleeding	Rectal Bleeding	3	NR	NR
Borkgren-Okonek, M. 2008 [2]	Arm 2 (40 mg)	NR	NR	Bleeding: Requiring surgery	Bleeding: requiring surgery	1	NR	NR
Hamad, G.G., 2055 [3]	Arm 1 (Control) Adverse outcome not available (Center A)	100 (no reported adverse outcome	NR	NR	NR	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	n of Patients with Outcomes	% of Patients with Outcomes	n Events
		in Center A)						
Hamad, G.G., 2055 [3]	Arm 2 (Center B)	124	NR	Infection	Sepsis	1	NR	NR
Hamad, G.G., 2055 [3]	Arm 3 (Center C)	84 (adverse outcome not available	NR	NR	NR	NR	NR	NR
Hamad, G.G., 2055 [3]	Arm 4 (Center D)	180	NR	Bleeding: Major bleeding	3 severe bleeding complications (1 due to haematemesis and 2 due to GIT bleeding)	3	NR	NR
Hamad, G.G., 2055 [3]	Arm 5 (Center E)	180	NR	Bleeding: Serious bleeding	3 severe bleeding complications (1 due to haematemesis and 2 due to vaginal bleeding	3	NR	NR
Hamad, G.G., 2055 [3]	Arm 1 (Control) Adverse outcome not available (Center A)	NR	NR	NR	NR	NR	NR	NR
Hamad, G.G., 2055 [3]	Arm 2 (Center B)	NR	NR	Bleeding: Major bleeding	Death to bleeding complications (20 days after surgery)	1		NR
Kardys, C. M. 2008 [4]	Arm 2 (Intervention)	31	NR	Mechanical device complications	Malposition	2	6.4	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	n of Patients with Outcomes	% of Patients with Outcomes	n Events
Kothari, S. 2007 [5]	Arm 2 (Enoxaparin)	238	30 days	Bleeding: Bleeding requiring transfusion	# patients requiring post operative transfusion	14	5.9	NR
Kothari, S. 2007 [5]	Arm 3 (Heparin)	238	30 days	Bleeding:	# patients requiring post operative transfusion	3	1.3	NR
Kothari, S. 2007 [5]	Arm 2 (Enoxaparin)	238	30 days	Bleeding	Bleeding requiring re-exploration	4	1.7	NR
Kothari, S. 2007 [5]	Arm 3 (Heparin)	238	30 days	Bleeding	Bleeding requiring re-exploration	0	0	NR
Ojo, P., 2008 [6]	Arm 2 (40mg Enoxaparin)	59	2 weeks post hospital discharge	Bleeding: Major Bleeding	Major bleeding: This was defined as bleeding occurring during the period of the LMWH use associated with symptomatic decrease in hematocrit necessitating stopping of the LMWH administration before the end of the study period, bleeding-related readmission, blood transfusion, or intervention to stop the bleeding	0	NR	NR
Ojo, P., 2008 [6]	Arm 3 (60mg Enoxaparin)	68	2 weeks post hospital	Bleeding: Major Bleeding	Major bleeding. This was defined as bleeding	0	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	n of Patients with Outcomes	% of Patients with Outcomes	n Events
			discharge		occurring during the period of the LMWH use associated with symptomatic decrease in hematocrit necessitating stopping of the LMWH administration before the end of the study period, bleeding-related readmission, blood transfusion, or intervention to stop the bleeding			
Overby, D. W., 2009 [7]	Arm 2 (With prophylactic filter)	160	NR	Mechanical device complications	Pneumothorax, hemopericardium, unable to perform transvernous accessory pathway ablation	3	NR	NR
Overby, D. W., 2009 [7]	Arm 2 (With prophylactic filter)	NR	NR	NR	NR	NR	NR	NR
Piano, G., Ketteler, 2007 [8]	Arm 2	58	NR	Filter complication: Pneumothorax, hematoma, or pulmonary embolus, or cardiopulmonary events during filter placement or retrieval		0	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	n of Patients with Outcomes	% of Patients with Outcomes	n Events
Raftopoulos, I., 2008 [9]	Arm 2 (Group A)	132	Hospital discharge	Bleeding: Significant postoperative bleeding	significant postoperative bleeding during the first 30 days after surgery defined as (1) the need for re-exploration, (2) the need for transfusion of blood products, or (3) a hemoglobin (Hb) difference greater than 2 g/dL between the first postoperative Hb and last Hb drawn prior to hospital discharge.	7	5.3	NR
Raftopoulos, I., 2008 [9]	Arm 2 (group A)	NR	NR	Bleeding	significant postoperative bleeding during the first 30 days after surgery defined as (1) the need for re-exploration, (2) the need for transfusion of blood products, or (3) a hemoglobin (Hb) difference greater than 2 g/dL between the first postoperative Hb and last Hb drawn prior to hospital	NR	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	n of Patients with Outcomes	% of Patients with Outcomes	n Events
					discharge.			
Scholten, D. J.,2002 [10]	Arm 2 (Group 1)	92	NR	Bleeding: Bleeding requiring transfusion	NR	1	NR	NR
Scholten, D. J.,2002 [10]	Arm 2 (Group 1)	92	NR	Bleeding: Bleeding requiring transfusion	NR	1	NR	NR
Scholten, D. J.,2002 [10]	Arm 2 (Group 1)	389	NR	Bleeding: Surgical site bleeding	NR	1	NR	NR
Schuster, R., 2007[11]	Arm 2	24	NR	Filter complications: Thrombosis – IVC thrombus noted on the venogram after filter was removed	NR	1	4	NR
Schweitzer, M., 2006 [12]	Arm 2	1	16 days post-op	Bleeding: Retroperitoneal hematoma	NR	1	NR	NR
Schweitzer, M., 2006 [12]	Arm 2	NR	16 days post-op	Filter complications: Perforation	1 leg of IVC filter extended 1mm through IVC wall	1	NR	NR
Schweitzer, M., 2006 [12]	Arm 2	NR	16 days post-op	Filter complications: Thrombosis – Complete IVC filter occlusion by thrombus	NR	1	NR	NR

Author, Year	Arm	N for Analysis	Time Point	Outcome	Definition	n of Patients with Outcomes	% of Patients with Outcomes	n Events
Simone, E. 2008 [13]	Arm 2 (40 mg)	23	NR	Bleeding	significant bleeding based on decrease in hematocrit	1	NR	NR
Singh, K., 2011 [14]	Arm 2 (Enoxaparin)	170	Hospital discharge	Bleeding: Major bleeding	Post operative bleeding	5	2.9	NR
Vaziri, K., 2010 [15]	Arm 2 (Intervention)	41	NR	Filter complications: Pain at the insertion site and filter deployed in the right common iliac vein	Filter placement complications	2	NR	NR
Veerapong, J., 2008 [16]	Arm 2	1	In hospital	Filter complications: Migration	IVC filter migration to right ventricle	1	100	NR

BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; Hr(s)= Hour(s); ICU= Intensive Care Unit; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LMWH= Low Molecular Weight Heparin; mg= milligram; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SQ=Subcutaneous; UFH= Unfractionated Heparin; USS= Ultrasound Scan; U= units; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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Evidence Table 32. Study characteristics for KQ7

Author, Year	Study Design	Study Site – Study Locations	Recruitment Date (start date – end date)	Planned Length of Follow-up	Method of Surveillance for VTE	Funding Source	Inclusion Criteria	Exclusion Criteria
Pharmacological Therapy versus Placebo								
Kucher, N., 2005[1]	Randomized Controlled Trial	Multiple center: N. America	NR	90 days	Compression ultrasound at day 21	Industry	BMI≥30 for males; ≥28.6 for women	NR

BMI= Body Mass Index; VTE= Venous Thromboembolism

References

1. Kucher N, Leizorovicz A, Vaitkus PT *et al.* Efficacy and safety of fixed low-dose dalteparin in preventing venous thromboembolism among obese or elderly hospitalized patients: a subgroup analysis of the PREVENT trial. Arch Intern Med 2005; 165(3):341-5.

Evidence Table 33. Participant Characteristics for KQ7

Author, Year	Arm, n	Age (years) Mean, median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	ICU duration
Kucher, N., 2005[1]	Arm 1	NR	NR	NR	NR	NR	0 (0)	NR
Kucher, N., 2005[1]	Arm 2 (Obese patients), 1118	NR	Male, 396 (35.4)	White: 1025 (91.7) Black: 17 (1.5) Other: 70, (6.3)	Median:32.9	Mean:90.8 Median:89.5	2 (1.6)	NR
Kucher, N., 2005[1]	Arm 3 (Non-obese patients), 2563	NR	Male, 1376 (53.7)	White: 2366 (92.3) Black: 35, (1.4) Other: 151, (5.9)	Median:24.7	Mean:68.4 Median:68	6 (7.1)	NR
Kucher, N., 2005[1]	Arm 4	NR	NR	NR	NR	NR	0 (0)	NR
Kucher, N., 2005[1]	Arm 5	NR	NR	NR	NR	NR	3 (1.6)	NR

BMI= Body Mass Index; VTE= Venous Thromboembolism

References

1. Kucher N, Leizorovicz A, Vaitkus PT *et al.* Efficacy and safety of fixed low-dose dalteparin in preventing venous thromboembolism among obese or elderly hospitalized patients: a subgroup analysis of the PREVENT trial. Arch Intern Med 2005; 165(3):341-5.

Evidence Table 34. Interventions for KQ7

Author, Year	Arm Name	Drug Name	Dose	Route	Frequency	Timing of First Dose	Planned Duration of Therapy (Other e.g.INR)	Concurrent Therapy
Pharmacological versus Pharmacological *Randomized Controlled Trial*								
Kucher, N., 2005[1]	Arm 2(Obese Patients)	Dalteparin (Fragmin)	5000U	NR	Daily	NR	NR	No
Kucher, N., 2005[1]	Arm 3(Non Obese Patients)	Dalteparin (Fragmin)	5000U	NR	Daily	NR	NR	No
Kucher, N., 2005[1]	Arm 4(Obese patients-Dalteparin)	Dalteparin (Fragmin)	5000U	NR	Daily	NR	NR	No
Kucher, N., 2005[1]	Arm 5(Obese patient-Placebo)	Placebo	NR	NR	NR	NR	NR	No

BMI= Body Mass Index; INR= International Normalized Ratio; NR= Not Reported; U= units

References

1. Kucher N, Leizorovicz A, Vaitkus PT *et al.* Efficacy and safety of fixed low-dose dalteparin in preventing venous thromboembolism among obese or elderly hospitalized patients: a subgroup analysis of the PREVENT trial. Arch Intern Med 2005; 165(3):341-5.

Evidence Table 35. Patient-oriented Outcomes for KQ7

Author, Year	Arm	N for Analysis	Time Point	Test to Confirm DVT/PE	Outcome	n (%) of Patients with Outcomes	n(%) of Events	Point Estimate	Measures of Association
Kucher, N., 2005[1]	Arm 2 (Obese patients)	1118	21 days	DVT: Ultrasonography	Total PE (unspecified PE)	3 (0.28) symptomatic PE	NR	NR	NR
Kucher, N., 2005[1]	Arm 3 (Non-obese patients)	2563	21 days	DVT: Ultrasonography	Total PE only (unspecified PE)	2 (0.08) fatal PE	NR	NR	NR
Kucher, N., 2005[1]	Arm 4 (Obese patients - dalteparin)	NR	21 days	DVT: Ultrasonography	Total VTE only	(2.8) composite of symptomatic VTE, fatal pulmonary embolism, sudden death, or asymptomatic proximal deep venous thrombosis	NR	Relative hazard (RR, 0.64; 95% CI, 0.32-1.28)	Ref. group: Arm 4 Placebo- Obese patients *Comments:* n non-obese dalteparin group, total VTE was reported in 2.8% and 5.2% of dalteparin (n=558) and placebo (n=560) groups respectively. (RR, 0.53; 95% CI 0.34-0.82)
Kucher, N., 2005[1]	Arm 5 (Obese patients - placebo)	NR	21 days	DVT: Ultrasonography	Total VTE only	(4.3)	NR	NR	NR
Kucher, N., 2005[1]	Arm 2 (Obese patients)	1118	21 days	DVT: Ultrasonography	Total PE only (unspecified PE), symptomatic	0 (0) fatal PE	NR	NR	NR
Kucher, N., 2005[1]	Arm 3 (Non-obese patients)	2563	21 days	DVT: Ultrasonography	Total PE only (unspecified PE), symptomatic	8 (0.33) Other - symptomatic PE	NR	NR	NR

Kucher, N., 2005[1]	Arm 2 (Obese patients)	1118	NR	DVT: Ultrasonography	Distal symptomatic	NR	NR	NR	NR
Kucher, N., 2005[1]	Arm 3 (Non-obese patients)	2563	NR	DVT: Ultrasonography	Proximal asymptomatic	NR	NR	NR	NR
Kucher, N., 2005[1]	Arm 2 (Obese patients)	1118	21 days	DVT: Ultrasonography	Lower extremity DVT proximal	3 (0.28)	NR	NR	NR
Kucher, N., 2005[1]	Arm 3 (Non-obese patients)	2563	21 days	DVT: Ultrasonography	Lower extremity DVT proximal	66 (3.19)	NR	NR	NR
Kucher, N., 2005[1]	Arm 2 (Obese patients)	1118	21 days	DVT: Ultrasonography	Lower extremity DVT	23 (2.49)	NR	NR	NR
Kucher, N., 2005[1]	Arm 3 (Non-obese patients)	2563	21 days	DVT: Ultrasonography	Lower extremity DVT	58 (2.84)	NR	NR	NR
Kucher, N., 2005[1]	Arm 2 (Obese patients)	1118	21 days	DVT: Ultrasonography	Lower extremity DVT proximal asymptomatic	22 (2.40)	NR	NR	NR
Kucher, N., 2005[1]	Arm 3 (Non-obese patients)	2563	21 days	DVT: Ultrasonography	Lower extremity DVT distal symptomatic	4 (0.17)	NR	NR	NR

BMI= Body Mass Index; DVT= Deep Vein Thrombosis; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; U= units; VCF= Vena Cava Filter; VTE= Venous Thromboembolism

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1. Kucher N, Leizorovicz A, Vaitkus PT *et al.* Efficacy and safety of fixed low-dose dalteparin in preventing venous thromboembolism among obese or elderly hospitalized patients: a subgroup analysis of the PREVENT trial. Arch Intern Med 2005; 165(3):341-5.

Evidence Table 36. Other Patient-oriented Outcomes for KQ7

Author, Year	Arm	N for analysis	Time point	Outcome	Definition	n of Patients with Outcomes	% of Patients with Outcomes	n events	Mean/Med/Range	Measures of Association
Kucher, N., 2005[1]	Arm 4 (Obese patients-dalteparin)	558	21 days	Total Mortality	NR	NR	4.6	NR	NR	NR
Kucher, N., 2005[1]	Arm 5 (Obese patients-placebo)	560	21 days	Total Mortality	NR	NR	2.7	NR	NR	NR
Kucher, N., 2005[1]	Arm 4 (Obese patients)	558	90 days	Total Mortality	NR	NR	9.9	NR	NR	NR
Kucher, N., 2005[1]	Arm 5 (Obese patients-placebo)	560	90 days	Total Mortality	NR	NR	8.6	NR	NR	NR

References

1. Kucher N, Leizorovicz A, Vaitkus PT *et al*. Efficacy and safety of fixed low-dose dalteparin in preventing venous thromboembolism among obese or elderly hospitalized patients: a subgroup analysis of the PREVENT trial. Arch Intern Med 2005; 165(3):341-5.

Evidence Table 37. Adverse Events for KQ7

Author,Year	Arm	N for analysis	Time point	Outcome	Definition	n Patients	% Patients	n Events	Other
Kucher, N., 2005[1]	Arm 4 (Obese patients-dalteparin)	558	NR	Bleeding: Major bleeding	Major bleeding by day 21	NR	0	NR	NR
Kucher, N., 2005[1]	Arm 5 (Obese patients-placebo)	560	NR	Bleeding: Major bleeding	NR	NR	0.7	NR	NR
Kucher, N., 2005[1]	Arm 5 (Non-obese dalteparin group)	1290	NR	Bleeding: Major bleeding	NR	NR	1.6	NR	NR
Kucher, N., 2005[1]	Arm 4 (Obese patients-Dalteparin)	558	NR	Bleeding: Minor bleeding	Major bleeding by day 21	NR	1.4	NR	NR
Kucher, N., 2005[1]	Arm 5 (Obese patients-placebo)	560	NR	Bleeding: Minor bleeding	NR	NR	0.7	NR	In non-obese placebo group (n=1273) % of hemorrhage on day 21: Major= 0.3% and minor=0.31% and thrombocytopenia on day 21 = 1.0%
Kucher, N., 2005[1]	Arm 5 (Non-obese dalteparin group)	1290	NR	Bleeding: Minor bleeding	NR	NR	2.5	NR	NR
Kucher, N., 2005[1]	Arm 4 (Obese patients-Dalteparin)	558	NR	Heparin-induced thrombocytopenia	NR	NR	0.9	NR	NR
Kucher, N., 2005[1]	Arm 5 (Obese patients-placebo)	560	NR	Heparin-induced thrombocytopenia	NR	NR	0.9	NR	NR

Kucher, N., 2005[1]	Arm 5 (Non-obese dalteparin group)	1290	NR	Heparin-induced thrombocytopenia	NR	NR	1.5	NR	NR

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1. Kucher N, Leizorovicz A, Vaitkus PT *et al.* Efficacy and safety of fixed low-dose dalteparin in preventing venous thromboembolism among obese or elderly hospitalized patients: a subgroup analysis of the PREVENT trial. Arch Intern Med 2005; 165(3):341-5.

Evidence Table 38. Study Characteristics for KQ8

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
Pharmacologic Agent versus Pharmacological								
Bauersachs, 2011[1]	RCT	Europe	NR	Multiple center-Europe	CUS	Industry	Age ≥70 years	Severe liver disease; creatinine clearance severe renal disease; High risk of GI bleeding type of surgery: expected major surgical or invasive procedure within three weeks following randomization immobilization longer than three days prior to randomisation immobilization due to cast or fracture, patient with severe sepsis or need for mechanical ventilation; acute endocarditis, hemorrhagic stroke or intracranial bleeding <12 months acute or ongoing intracranial disease spinal or epidural anesthesia lumbar puncture within last 12 hr uncontrolled hypertension

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
								active retinopathy intravitreal or other intraocular bleeding
Mahe, 2007[3]	RCT	Multiple center-Europe	NR		No		Age >75years, creatinine clearance between 20-50ml/min Immobility : bed bound with an acute medical illness Renal impairment(Creatinine clearance between 20-50ml/min) Hospitalized patients in the Department of internal Medicine of the 2 study hospitals Indication for thromboprophylaxis written informed consent	wt->65kg Platelets :<100,000/mm3 Contraindication to anticoagulation treatment Current bleeding Prothrombin time <50% at day 0 or within 7 days prior to inclusion Hemoglobin <9g/dl at day 0 or within 7 days prior to inclusion Life expectancy less than 1 month History of heparin induced thrombocytopenia Known Hypersensitivity reaction to any component of investigational products Heparin or LMWH within 48Hours prior to the first injection of investigational products Oral anticoagulant within

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
								4 days prior to inclusion
Schmid, 2009[4]	Cohort-pros	Single center-Europe	NR	3 weeks	No	Industry	Age ≥18 years Patients from general wards of medical & surgical dept Patients starting Dalteparin for prophylaxis by order of treating physician Renal function normal or impaired without dialysis therapy according to open study groups Written informed consent	Pregnant Dalteparin or other LMWH already in use for >1 day Anti-Xa level before first application of dalteparin>0.3U/ML, Participation in another group Anuria or GFR <10ML/min Patient on ICU Cardiovascular unstable patient or probable need for a rapid stopping anticoagulation(e.g. emergency surgery) patient whose estimated life expectancy was <28days
Schmid, 2010[5]	Cohort-pros	Single center-Europe	NR	NR	No	Industry	Patients being treated with peritoneal dialysis- the indication was for VTE prophylaxis as determined by physicians	NR
Tincani, 2006[7]	Cohort-pros	Single center-Europe	2004-2005	6 days	USS examination	Industry	Age ≥65years Immobility: at least 3 days Acute medical illness	INR:>1.7 Platelets <100,000/ml creatinine : ≥1.2 in Females or ≥1.4mg/dl in

Author, Year	Study design	Study site – study locations	Recruitment date (start date – end date)	Planned length of follow-up	Method of surveillance for VTE	Funding source	Inclusion criteria	Exclusion criteria
								Males anti-coagulants Chronically anticoagulated with Warfarin, on LMWH at time of admission, Immobility Peptic ulcer hemorrhagic stroke Known hypersensitivity reaction to LMWH

AIS= Abbreviated Injury Scale; BMI= Body Mass Index; CAT= Computed Axial Tomography; CT= Computed Tomography; CTA= Computed Tomography Angiography; CUS= Compression Ultrasonography; DVT= Deep Vein Thrombosis; GCS= Glasgow Coma Scale; Hr(s)= Hour(s); ICU= Intensive Care Unit; INR= International Normalized Ratio; IPG= Impedance Phlebography; ISS= Injury Severity Score; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; LE= Lower Extremity; LMWH= Low Molecular Weight Heparin; mg= milligram; NIH= National Institutes of Health; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; SCD= Sequential Compression Device; SCI= Spinal Cord Injury; SQ=Subcutaneous; TBI= Traumatic Brain Injury; UFH= Unfractionated Heparin; USS= Ultrasound Scan; U= units; VCF= Vena Cava Filter; V/Q Scan = Ventilation Perfusion Scan; VTE= Venous Thromboembolism

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Evidence Table 39. Participant Characteristics for KQ8

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n(%)	ICU Duration
Bauersachs, 2011[1]	Arm 2, 92	Mean: 85.3	Male (20.7)	NR	Mean: 23.5	NR	NR	NR	NR
Mahe, 2007[3]	Arm 2, 27	Mean:87.7	NR	NR	NR	Mean:52.3	NR	NR	NR
Mahe, 2007[3]	Arm 3, 28	Mean:88.0		NR	NR	Mean:51.7	NR	NR	NR
Schmid, 2009[4]	Arm2, 18	Median:64	Male, 12	White (100)	Median:24.7	NR	NR	NR	NR
Schmid, 2009[4]	Arm 3,15	Median:80	Male, 5	White (100)	Median:25.3	NR	NR	NR	NR
Schmid, 2009[4]	Arm 4, 9	Median:73	Male, 8	White (100)	Median:23.1	NR	NR	NR	NR
Schmid, 2010[5]	Arm 2 (Patients with peritoneal dialysis (PD), 5	Median: 65 years Range:55-74	Male, 4	NR	NR	NR	(2)*	NR	NR
Schmid, 2010[5]	Arm 3 (Patients with normal renal function),14	Median:65 years Range:55-74	Male, 9	NR	NR	NR	(35)*	NR	NR
Tincani, 2006[7]	Arm 2, 12	NR	NR	NR	NR	NR	13 (2)	NR	NR
Tincani, 2006[7]	Arm 3, 73	NR	NR	NR	NR	NR	3 (14)	NR	NR

Author, Year	Arm, n	Age (years) Mean, Median, Range	Gender, n (%)	Race, n (%)	BMI	Weight	Prior History of VTE, n (%)	Trauma, n(%)	ICU Duration
Tincani, 2006[7]	Arm 4, 24	NR	NR	NR	NR	NR	NR	NR	NR

BMI= Body Mass Index; DVT= Deep Vein Thrombosis; ICU= Intensive Care Unit; INR= International Normalized Ratio; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; VTE= Venous Thromboembolism

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Evidence Table 40. Interventions for KQ8

Author, year	Arm Name	Drug name	Dose	Route	Frequency	Timing of first dose	Planned duration of therapy	Other (e.g. INR)	Concurrent therapy
Pharmacologic agent versus pharmacological *Randomized Controlled Trial*									
Bauersachs, 2011[1]	Arm (GFR<30)	Heparin	5000 IU	SQ	t.i.d	NR	NR	NR	No
Bauersachs, 2011[1]	Arm (GFR>30)	Heparin	5000 IU	SQ	t.i.d	NR	NR	NR	No
Mahe, 2007[3]	Arm (Tinzaparin)	Tinzaparin (Innohep)	10,000 IU/ml	SQ	Daily	8am	Until ICU discharge or a maximum of 30 days, whichever came first	NR	No
Mahe, 2007[3]	Arm (Enoxaparin)	Enoxaparin (Lovenox)	4000 IU/ml	SQ	Daily	8am	At least 8 days	NR	No
Cohort-prospective									
Schmid, 2010[5]	Arm (Patients treated with PD)	Dalteparin (Fragmin)	Median dose: 5000 U; weight adjusted dose:	NR	Daily	NR	NR	NR	No

			60U/kg						
Schmid, 2010[5]	Arm (Patients with normal renal function)	Dalteparin (Fragmin)	Median dose: 5000 U; weight adjusted dose: 71 U/kg	NR	Daily	NR	NR	NR	No
Schmid, 2009[4]	Arm A (Group defined GFR ≥60)	Dalteparin (Fragmin)	5000 U with reduction to 2500 U for patients with Body weight < 50 kg and increase to 7500 U for patients with Body weight >100 kg (this applies to Arms 2,3, & 4)	SQ	Daily	When indicated by treating physician	NR	NR	No
Schmid, 2009[4]	Arm B (GFR 30-59)	Dalteparin (Fragmin)	5000 U with reduction to 2500 U for patients	SQ	Daily	When indicated by treating physician	Planned duration of therapy: 3 weeks	NR	No

			with Body weight < 50 kg and increase to 7500 U for patients with Body weight >100 kg (this applies to Arms 2,3, & 4)						
Schmid, 2009[4]	Arm C (GFR < 30)	Dalteparin (Fragmin)	5000 U with reduction to 2500 U for patients with Body weight < 50 kg and increase to 7500 U for patients with Body weight >100 kg (this applies to Arms 2,3, & 4)	SQ	Daily	When indicated by treating physician	3 weeks	NR	No
Tincani, 2006[7]	Arm 2 (Mild Renal Failure)	Dalteparin (Fragmin)	5000 IU	SQ	Daily	Morning	At least 8 days		No

Tincani, 2006[7]	Arm 3 (Moderate Renal Failure)	Dalteparin (Fragmin)	5000 IU	SQ	Daily	Morning	6 days	NR	No
Tincani, 2006[7]	Arm 4 (Severe Renal failure)	Dalteparin (Fragmin)	5000 IU	SQ	Daily	Morning	6 days	NR	No

BMI= Body Mass Index; DVT= Deep Vein Thrombosis; GFR = Glomerular Filtration rate; ICU= Intensive Care Unit; INR= International Normalized Ratio; IV= Intravenous; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; t.i.d.= Three times daily; VTE= Venous Thromboembolism

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Evidence Table 41. Patient-oriented Outcomes for KQ8

Author, Year	DVT Confirmed	PE	Arm name	N for analysis	Time point	Outcomes	n Patient	% Patient	Comments
Pharmacological Agent versus Pharmacological Agent *RCT*									
Bauersachs, 2011[1]	DVT-compression USS	NR	Arm 2 (GFR<30)	92	NR	Total DVT only (unspecified DVT)	NR	11.11	NR
Bauersachs, 2011[1]	DVT-compression USS	NR	Arm 3 (GFR>30)	1523	NR	Total DVT only (unspecified DVT)	NR	10.28	NR
Bauersachs, 2011[1]	DVT-compression USS	NR	Arm 2 (GFR<30)		NR	PE	NR	0.0	NR
Bauersachs, 2011[1]	DVT-compression USS	NR	Arm 3 (GFR>30)		NR	PE	NR	0.21	NR
Cohort-prospective									
Schmid, 2010[2]	DVT	PE	Arm 2 (Patients treated with PD)	5	4 days after commencing prophylactic dalteparin	Total VTE only (VTE events are unspecified)	NR	0	NR
Schmid, 2010[2]	DVT	PE	Arm 3 (Patients with normal renal function)	14	4 days after commencing prophylactic dalteparin	Total VTE only (VTE events are unspecified)	NR	0	NR
Tincani, 2006[3]	DVT	PE	NR	115	NR	0	NR	NR	There were no major bleeding events; no symptomatic thromboembolic events and no asymptomatic DVT were recorded (95% confidence interval 0 to 2.5%)

BMI= Body Mass Index; DVT= Deep Vein Thrombosis; GFR = Glomerular Filtration rate; ICU= Intensive Care Unit; INR= International Normalized Ratio; IV= Intravenous; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; t.i.d.= Three times daily; VTE= Venous Thromboembolism

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2. Schmid P, Brodmann D, Fischer AG, Wuillemin WA. Prospective observational cohort study of bioaccumulation of dalteparin at a prophylactic dose in patients with peritoneal dialysis. J Thromb Haemost 2010; 8(4):850-2.

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Evidence Table 42. Other Patient-oriented Outcomes

Author, Year	Arm	N for analysis	Time Point	Outcomes	Definition	n (%)	Mean, Median	Reference Group	Comments
Pharmacological Agent versus Pharmacological Agent *Randomized Controlled Trial*									
Bauersachs, 2011[1]	Arm 2 (GFR<30)	92	NR	Total Mortality	Death from any cause	(5.81)	NR	NR	NR
Bauersachs, 2011[1]	Arm 3 (GFR>30)	1523	NR	Total Mortality	NR	(1.1)	NR	NR	NR
Mahe, 2007[3]	Arm 2 (Tinzaparin)	27	NR	Factor Xa level	Anti-Xa accumulation factor evaluation was based on cmax, calculated as the ratio on day 8 to day 1	NR	Accumulation factor CmaxD8/Cmax D1 = 1.05	NR	NR
Mahe, 2007[3]	Arm 3 (Enoxaparin)	28	NR	Factor Xa level	Area under curve on day 8 vs day 1	NR	Accumulation factor Cmax D8/Cmax D1 = 1.22	NR	NR
Cohort-prospective									
Schmid, 2010[5]	Arm 2	5	NR	Factor Xa level	NR	NR	Relative risk1: .23 95% CI: 1.10-1.47 p-value: 0.016	Arm 3	Values of the PD group were higher on day 4
Schmid, 2010[5]	Arm 3	14	NR	Factor Xa level	NR	NR	Relative risk: 0.96 95%CI: 0.81-1.27 p-value: 0.14	Arm 2	Lower levels on day 4 than the PD group
Schmid, 2009[4]	Arm 2	18	Day 1	Factor Xa level	NR	18	Median: 0.28 IQR: 0.20-0.32	NR	No statistically significant difference between arms 2,3,4
Schmid, 2009[4]	Arm 3	15	Day 1	Factor Xa level	NR	15	Median: 0.31 IQR: 0.23-0.46	NR	NR

Schmid, 2009[4]	Arm 4	9	Day 1	Factor Xa level	NR	9	Median: 0.28 IQR: 0.23-0.33	NR	NR
Tincani, 2006[7]	Arm 2	12	NR	Factor Xa level	NR	NR	Mean: 0.03IU/ml SD: 0.086	NR	NR
Tincani, 2006[7]	Arm 3	73	NR	Factor Xa level	NR	NR	Mean: 0.033IU/ml SD: 0.075	NR	NR
Tincani, 2006[7]	Arm 4	24	NR	Factor Xa level	NR	NR	Mean: 0.048IU/ml SD= 0.084	NR	NR

BMI= Body Mass Index; DVT= Deep Vein Thrombosis; GFR = Glomerular Filtration rate; ICU= Intensive Care Unit; INR= International Normalized Ratio; IV= Intravenous; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; t.i.d.= Three times daily; VTE= Venous Thromboembolism

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Evidence Table 43. Adverse Events for KQ8

Author, Year	Arm	N for analysis	Time Point	Outcomes	Definition	n (%)
Pharmacologic agent versus pharmacological *RCTs*						
Bauersachs, 2011[1]	Arm 2 (GFR<30)	92	NR	Bleeding - Major bleeding	Major bleeding was defined as fatal bleeding, clinically overt bleeding associated with a fall of the hemoglobin concentration greater than 2 g/l compared to the baseline hemoglobin concentration, clinically overt bleeding that required transfusion of two or more units of packed red cells or whole blood, symptomatic bleeding in a critical area or organ (intracranial, intraspinal, retroperitoneal, and pericardial).	4 (4.35)
Bauersachs, 2011[1]	Arm 3 (GFR>30)	1523	NR	Bleeding - Major bleeding	Major bleeding was defined as fatal bleeding, clinically overt bleeding associated with a fall of the hemoglobin concentration greater than 2 g/l compared to the baseline hemoglobin concentration, clinically overt bleeding that required transfusion of two or more units of packed red cells or whole blood, symptomatic bleeding in a critical area or organ (intracranial, intraspinal, retroperitoneal, and pericardial).	6 (0.39)
Bauersachs, 2011[1]	Arm 2 (GFR<30)	92	NR	Bleeding - Minor bleeding	NR	9 (9.78)
Bauersachs, 2011[1]	Arm 3 (GFR>30)	1523	NR	Bleeding - Minor bleeding	NR	56 (3.58)
Mahe, 2007[3]	Arm 2 (Tinzaparin)	27	NR	Bleeding - Major bleeding	NR	2
Mahe, 2007[3]	Arm 3 (Enoxaparin)	28	NR	Bleeding - Major bleeding	NR	1

Author, Year	Arm	N for analysis	Time Point	Outcomes	Definition	n (%)
Mahe, 2007[3]	Arm 2 (Tinzaparin)	NR	NR	Bleeding - Minor bleeding	NR	3
Mahe, 2007[3]	Arm 3 (Enoxaparin)	NR	NR	Bleeding - Minor bleeding	NR	3
Cohort prospective						
Schmid, 2010[5]	NR	NR	NR	NR	NR	NR
Schmid, 2009[4]	Arm 3	NR	NR	Infections	This patient had HIV infection.	1
Tincani, 2006[7]	Overall group comprising the 3 arms	115 (analysis of adverse outcome was done for overall group and not for each arm)	NR	Bleeding - Minor bleeding	NR	3
Tincani, 2006[7]	Overall group comprising the 3 arms	115	NR	Bleeding - Major bleeding	NR	0

BMI= Body Mass Index; DVT= Deep Vein Thrombosis; GFR = Glomerular Filtration rate; ICU= Intensive Care Unit; INR= International Normalized Ratio; IV= Intravenous; IVC= Inferior Vena Cava; IVCF= Inferior Vena Cava Filter; NR= Not Reported; PE= Pulmonary Embolism; P-IVCF= Prophylactic Inferior Vena Cava Filter; RCT= Randomized Controlled Trial; R-IVCF= Retrievable Inferior Vena Cava Filter; t.i.d.= Three times daily; VTE= Venous Thromboembolism

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Appendix F.

Appendix F.
Scientifc Information Packet Tables

Table 1. SIP Submission - Statement Indicating No Relevant Studies Have been Conducted

Company	Product	Description of Submission	Number of Published Studies	Number of Unpublished Studies	Number of Clinical Trials
APP Pharmaceuticals	Heparin Sodium Injection	Letter stating that no relevant studies had been conducted with this drug	0	0	0
Bayer	Refludan (Lepirudin)		0	0	0
The Medicines Company	Bivalirudin		0	0	0

Table 2. SIP Submission - Potentially Relevant Studies

Company	Product	Description of Submission	Number of Published Studies	Number of Unpublished Studies	Number of Clinical Trials	Citations not previously included in database
Boehringer Ingelheim	Pradaxa (Dabigatran)	Prescribing information and relevant study citations	7	0	9	Of the 36 citations submitted, six were found to be missing from the previously created database. These six studies were then reviewed for eligibility.
Sanofi-Aventis	Lovenox (Enoxaparin)	Prescribing information and relevant study citations	14	0	6	
Covidien	Kendall SCD™ Sequential Compression and A-V Impulse	Journal articles	12	0	0	
GlaxoSmithKline	Arixtra (Fondaparinux)	Prescribing information, relevant citations, and study data	3	1	6	

Table 3. SIP Submission – Chemoprophylaxis Protocol

Organization	Description of Submission	Additional Study Information
American Association of Neurological Surgeons	Chemoprophylaxis Protocol Following Traumatic Brain Injury	Safety of a DVT Chemoprophylaxis Protocol Following Traumatic Brain Injury: A Single Center Quality Improvement Initiative. (Publication Pending) Christopher M Nickele MD[1], Timothy K Kamps[2], Joshua E Medow MD[1] [1] Department of Neurologic Surgery, University of Wisconsin, Madison, Wisconsin, United States of America [2] Department of Quality Resources, University of Wisconsin, Madison, Wisconsin, United States of America

Appendix G

Appendix G. Sensitivity analysis for IVC filters in trauma on PE, fatal PE and mortality in controlled studies

	RR (95% CI)	Statistical inconsistency $I^{2,}$ %
PE		
All Studies	0.55 (0.10-2.96)	61
Wilson excluded	0.62 (0.10-3.68	66.3
Rogers 1995 excluded	0.44 (0.06-3.09)	62
Khansarina excluded	0.76 (0.13-4.34)	60.7
Rodriguez excluded	0.70 (0.10-5.05)	63.6
Rogers 1997 excluded	0.33(0.09-1.33)	30
Gosin excluded	0.72(0.12-4.25)	62.7
Gorman excluded	0.43 (0.07-2.75)	64.6
Rajashekhar excluded	0.58(0.08-4.05)	67.2
Rogers 1995; Rogers 1997 excluded	0.20 (0.06-0.70)	0
FATAL PE		
All Studies	0.35 (0.01-8.16)	70
Wilson excluded	0.37 (0.01to 17.31)	80
Rogers 1995 excluded	0.09(0.01 to 0.81)	0
Khansarina excluded	0.59 (0.01 to 30.79)	73.4
Rodriguez excluded	0.57 (0.01 to 32.80)	74.9
MORTALITY		
All Studies	1.33 (0.53 to 3.32)	69.8
Rogers 1995 excluded	0.95(0.41 to 2.22)	55
Khansarina excluded	1.66 (0.46-5.97)	68.5
Rodriguez excluded	1.82 (90.68 to 4.85)	69.7
Rogers 1997 excluded	1.14 (0.36 to 3.62)	70.8
Rajashekhar 2011 excluded	1.26 (0.47 to 3.37)	76.8
DVT		

All studies	1.76 (0.49-6.18)	56.8
Rodriguez excluded	3.78 (1.21 to 11.8)	Not estimable
Gorman excluded	0.87 (0.38 to 2.02)	Not estimable
Rajasekhar excluded	1.67 (0.35 to 8.04)	Not estimable