

Clinical trials of warfarin

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1 acute myocardial infarction

Trial	Treatments	Patients	Trials design and methods
warfarin vs control (on top of aspirin)			
WARIS , 1999 n=1208/1206 follow-up: 65279;37 months	warfarin 2.84.8 versus placebo	survivors of acute myocardial infarction	Parallel groups double blind
APRICOT-2 , 2002 n=135/139 follow-up: 3 months	moderate-intensity coumarin target INR 2-3 (+aspirin) versus aspirin	Acute MI after thrombolytics	Parallel groups open the Netherlands
CARS (warfarin 3mg) , 1997 n=5410/3393 follow-up: 14 months	warfarin fixed dose 3mg/d + 80 mg ASA versus aspirin 160 mg/d	AMI	Parallel groups double blind North America
CARS (warfarin 1mg) , 1997 n=2028/3393 follow-up: 14 months	warfarin 1mg/d + aspirin 80mg/d versus aspirin 160 mg/d	patients who had had myocardial infarction	Parallel groups double blind North America
CHAMP , 2002 n=2522/2537 follow-up: 2.7 years	warfarin target INR 1.5-2.5 + aspirin 81 mg daily versus aspirin 162 mg/d	AMI (patients enrolled within 14 days of infarction)	Parallel groups open US
LoWASA , 2004 n=1659/1641 follow-up: 5 years	warfarin fixed dose 1.25mg/d + ASA 75mg/d versus aspirin alone	AMI	Parallel groups open Sweden
WARIS II (warfarin+ASA) , 2002 n=4927/4669 follow-up: 4 years	warfarin target INR 2-2.5 +ASA 75mg/d versus ASA 160mg/d	patients hospitalized for acute myocardial infarction	Parallel groups open Norway
Zibaenezhad , 2004 n=70/70 follow-up: 1 year	Warfarin target INR 65279;23 +aspirin versus aspirin 100 mg/day	Acute MI	Parallel groups open

continued...

Trial	Treatments	Patients	Trials design and methods
warfarin vs placebo (on top of aspirin)			
Williams , 1997 n=6/5 follow-up: 2.5 months	warfarin target INR 65279;22.5 +aspirin versus placebo +aspirin	Acute MI, unstable angina	Parallel groups double blind
warfarin vs aspirin			
WARIS II (warfarin alone) , 2002 n=1216/1206 follow-up: 48 months	warfarin target INR 2.8-4.2 versus ASA 160mg/d	patients hospitalized for acute myocardial infarction	Parallel groups NA Norway

More details and results :

- antithrombotics for acute myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q36>
- anticoagulant for acute myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q172>

References

WARIS, 1999:

Smith P, Arnesen H, Holme I The effect of warfarin on mortality and reinfarction after myocardial infarction. N Engl J Med 1990;323:147-52 [2194126]

APRICOT-2, 2002:

Brouwer MA, van den Bergh PJ, Aengevaeren WR, Veen G, Luijten HE, Hertzberger DP, van Boven AJ, Vromans RP, Uijen GJ, Verheugt FW Aspirin plus coumarin versus aspirin alone in the prevention of reocclusion after fibrinolysis for acute myocardial infarction: results of the Antithrombotics in the Prevention of Reocclusion In Coronary Thrombolysis (APRICOT)-2 Trial. Circulation 2002;106:659-65 [12163424]

CARS (warafrin 3mg), 1997:

Randomised double-blind trial of fixed low-dose warfarin with aspirin after myocardial infarction. Coumadin Aspirin Reinfarction Study (CARS) Investigators. Lancet 1997;350:389-96 [9259652]

CARS (warfarin 1mg), 1997:

Randomised double-blind trial of fixed low-dose warfarin with aspirin after myocardial infarction. Coumadin Aspirin Reinfarction Study (CARS) Investigators. Lancet 1997;350:389-96 [9259652]

CHAMP, 2002:

Fiore LD, Ezekowitz MD, Brophy MT, Lu D, Sacco J, Peduzzi P Department of Veterans Affairs Cooperative Studies Program Clinical Trial comparing combined warfarin and aspirin with aspirin alone in survivors of acute myocardial infarction: primary results of the CHAMP study. Circulation 2002;105:557-63 [11827919]

LoWASA, 2004:

Herlitz J, Holm J, Peterson M, Karlson BW, Haglid Evander M, Erhardt L Effect of fixed low-dose warfarin added to aspirin in the long term after acute myocardial infarction; the LoWASA Study. Eur Heart J 2004;25:232-9 [14972424]

WARIS II (warfarin+ASA), 2002:

Hurlen M, Abdelnoor M, Smith P, Erikssen J, Arnesen H Warfarin, aspirin, or both after myocardial infarction. N Engl J Med 2002;347:969-74 [12324552]

Zibaeenezhad, 2004:

Zibaeenezhad MJ, Mowla A, Sorbi MH Warfarin and aspirin versus aspirin alone in patients with acute myocardial infarction: a pilot study. Angiology 2004;55:17-20 [14759085]

Williams, 1997:

Williams MJ, Morison IM, Parker JH, Stewart RA Progression of the culprit lesion in unstable coronary artery disease with warfarin and aspirin versus aspirin alone: preliminary study. J Am Coll Cardiol 1997;30:364-9 [9247506]

WARIS II (warfarin alone), 2002:

Hurlen M, Abdelnoor M, Smith P, Erikssen J, Arnesen H Warfarin, aspirin, or both after myocardial infarction. N Engl J Med 2002;347:969-74 [12324552]

2 post stroke

Trial	Treatments	Patients	Trials design and methods
warfarin vs aspirin			
SWAT , 1998 n=NA follow-up: 2 years	warfarin (INR 2.0 to 3.0) versus Enteric-coated aspirin 650 mg 12-hourly	-	Parallel groups open USA

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More details and results :

- anticoagulant for post stroke in all type of patients at <http://www.trialresultscenter.org/go-Q413>

References

SWAT, 1998:

Stewart B, Shuaib F, Veloso F. Stroke Prevention with Warfarin or Aspirin Trial (SWAT) Stroke 1998;29:304.

3 post myocardial infarction

Trial	Treatments	Patients	Trials design and methods
warfarin vs control (on top of aspirin)			
WARIS , 1999 n=1208/1206 follow-up: 65279;37 months	warfarin 2.84.8 versus placebo	survivors of acute myocardial infarction	Parallel groups double blind

continued...

Trial	Treatments	Patients	Trials design and methods
APRICOT-2 , 2002 n=135/139 follow-up: 3 months	moderate-intensity coumarin target INR 2-3 (+aspirin) versus aspirin	Acute MI after thrombolytics	Parallel groups open the Netherlands
CARS (warafirin 3mg) , 1997 n=5410/3393 follow-up: 14 months	warfarin fixed dose 3mg/d + 80 mg ASA versus aspirin 160 mg/d	AMI	Parallel groups double blind North America
CARS (warfarin 1mg) , 1997 n=2028/3393 follow-up: 14 months	warfarin 1mg/d + aspirin 80mg/d versus aspirin 160 mg/d	patients who had had myocardial infarction	Parallel groups double blind North America
CHAMP , 2002 n=2522/2537 follow-up: 2.7 years	warfarin target INR 1.5-2.5 + aspirin 81 mg daily versus aspirin 162 mg/d	AMI (patients enrolled within 14 days of infarction)	Parallel groups open US
LoWASA , 2004 n=1659/1641 follow-up: 5 years	warfarin fixed dose 1.25mg/d + ASA 75mg/d versus aspirin alone	AMI	Parallel groups open Sweden
WARIS II (warfarin+ASA) , 2002 n=4927/4669 follow-up: 4 years	warfarin target INR 2-2.5 +ASA 75mg/d versus ASA 160mg/d	patients hospitalized for acute myocardial infarction	Parallel groups open Norway
Zibaeenezhad , 2004 n=70/70 follow-up: 1 year	Warfarin target INR 65279;23 +aspirin versus aspirin 100 mg/day	Acute MI	Parallel groups open
warfarin vs placebo (on top of aspirin)			
Williams , 1997 n=6/5 follow-up: 2.5 months	warfarin target INR 65279;22.5 +aspirin versus placebo +aspirin	Acute MI, unstable angina	Parallel groups double blind
warfarin vs aspirin			
WARIS II (warfarin alone) , 2002 n=1216/1206 follow-up: 48 months	warfarin target INR 2.8-4.2 versus ASA 160mg/d	patients hospitalized for acute myocardial infarction	Parallel groups NA Norway

More details and results :

- anticoagulant for post myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q173>

References

WARIS, 1999:

Smith P, Arnesen H, Holme I The effect of warfarin on mortality and reinfarction after myocardial infarction. N Engl J Med 1990;323:147-52 [[2194126](#)]

APRICOT-2, 2002:

Brouwer MA, van den Bergh PJ, Aengevaeren WR, Veen G, Luijten HE, Hertzberger DP, van Boven AJ, Vromans RP, Uijen GJ, Verheugt FW Aspirin plus coumarin versus aspirin alone in the prevention of reocclusion after fibrinolysis for acute myocardial infarction: results of the Antithrombotics in the Prevention of Reocclusion In Coronary Thrombolysis (APRICOT)-2 Trial. Circulation 2002;106:659-65 [[12163424](#)]

CARS (warafarin 3mg), 1997:

Randomised double-blind trial of fixed low-dose warfarin with aspirin after myocardial infarction. Coumadin Aspirin Reinfarction Study (CARS) Investigators. Lancet 1997;350:389-96 [[9259652](#)]

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Randomised double-blind trial of fixed low-dose warfarin with aspirin after myocardial infarction. Coumadin Aspirin Reinfarction Study (CARS) Investigators. Lancet 1997;350:389-96 [[9259652](#)]

CHAMP, 2002:

Fiore LD, Ezekowitz MD, Brophy MT, Lu D, Sacco J, Peduzzi P Department of Veterans Affairs Cooperative Studies Program Clinical Trial comparing combined warfarin and aspirin with aspirin alone in survivors of acute myocardial infarction: primary results of the CHAMP study. Circulation 2002;105:557-63 [[11827919](#)]

LoWASA, 2004:

Herlitz J, Holm J, Peterson M, Karlson BW, Haglid Evander M, Erhardt L Effect of fixed low-dose warfarin added to aspirin in the long term after acute myocardial infarction; the LoWASA Study. Eur Heart J 2004;25:232-9 [[14972424](#)]

WARIS II (warfarin+ASA), 2002:

Hurlen M, Abdelnoor M, Smith P, Erikssen J, Arnesen H Warfarin, aspirin, or both after myocardial infarction. N Engl J Med 2002;347:969-74 [[12324552](#)]

Zibaeenezhad, 2004:

Zibaeenezhad MJ, Mowla A, Sorbi MH Warfarin and aspirin versus aspirin alone in patients with acute myocardial infarction: a pilot study. Angiology 2004;55:17-20 [[14759085](#)]

Williams, 1997:

Williams MJ, Morison IM, Parker JH, Stewart RA Progression of the culprit lesion in unstable coronary artery disease with warfarin and aspirin versus aspirin alone: preliminary study. J Am Coll Cardiol 1997;30:364-9 [[9247506](#)]

WARIS II (warfarin alone), 2002:

Hurlen M, Abdelnoor M, Smith P, Erikssen J, Arnesen H Warfarin, aspirin, or both after myocardial infarction. N Engl J Med 2002;347:969-74 [[12324552](#)]

4 cardiovascular prevention

Trial	Treatments	Patients	Trials design and methods
warfarin vs placebo			
Thrombosis Prevention trial (Warfarin) , 1998 [NCT00000614] n=2762/2737 follow-up: median 6.8 y	warfarin started at 2.5mg/d adjusted for a target INR 1.5 versus placebo	men aged between 45 years and 69 years at high risk of IHD	Factorial plan double blind UK
WARIS , 1990 n=607/607 follow-up: 37 months	warfarin versus placebo	patients who had recovered from acute myocardial infarction (mean interval from the onset of symptoms to randomization, 27 days)	double-blind
warfarin + aspirin vs placebo			
Thrombosis Prevention trial (W plus A) , 1998 [NCT00000614] n=1277/1272 follow-up: median 6.8 y	warfarin adjusted dose for INR of 1.5 + aspirin 75 mg daily versus placebo	men aged between 45 years and 69 years at high risk of IHD	NA double blind UK

More details and results :

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- anticoagulant for cardiovascular prevention in secondary prevention at <http://www.trialresultscenter.org/go-Q481>
- anticoagulant for cardiovascular prevention in all type of patients at <http://www.trialresultscenter.org/go-Q709>
- anticoagulant for cardiovascular prevention in primary prevention at <http://www.trialresultscenter.org/go-Q710>

References

Thrombosis Prevention trial (Warfarin), 1998:

Thrombosis prevention trial: randomised trial of low-intensity oral anticoagulation with warfarin and low-dose aspirin in the primary prevention of ischaemic heart disease in men at increased risk. The Medical Research Council's General Practice Research Framework. Lancet 1998;351:233-41 [9457092]

Meade TW, Wilkes HC, Stirling Y, Brennan PJ, Kelleher C, Browne W Randomized controlled trial of low dose warfarin in the primary prevention of ischaemic heart disease in men at high risk: design and pilot study. Eur Heart J 1988;9:836-43 [3053176]

Meade TW, Roderick PJ, Brennan PJ, Wilkes HC, Kelleher CC Extra-cranial bleeding and other symptoms due to low dose aspirin and low intensity oral anticoagulation. Thromb Haemost 1992;68:1-6 [1514166]

WARIS, 1990:

Smith P, Arnesen H, Holme I The effect of warfarin on mortality and reinfarction after myocardial infarction. N Engl J Med 1990;323:147-52 [2194126]

Thrombosis Prevention trial (W plus A), 1998:

Thrombosis prevention trial: randomised trial of low-intensity oral anticoagulation with warfarin and low-dose aspirin in the primary prevention of ischaemic heart disease in men at increased risk. The Medical Research Council's General Practice Research Framework. Lancet 1998;351:233-41 [9457092]

Meade TW, Wilkes HC, Stirling Y, Brennan PJ, Kelleher C, Browne W Randomized controlled trial of low dose warfarin in the primary prevention of ischaemic heart disease in men at high risk: design and pilot study. Eur Heart J 1988;9:836-43 [3053176]

5 heart failure

Trial	Treatments	Patients	Trials design and methods
warfarin vs no treatment			
WASH (warfarin) , 2004 n=89/99 follow-up: 27 months	warfarin (target INR 2.5) versus no treatment	patients with heart failure and left ventricular systolic dysfunction requiring diuretic therapy with LVEF<=35%	Parallel groups open UK, US
warfarin vs placebo			
HELAS (warfarin vs placebo) , 2006 n=38/44 follow-up: 21.9 months	warfarin (target INR of 2.3) versus placebo	HF due to dilated cardiomyopathy	Parallel groups double blind Europe
Barzizza (warfarin) , 1993 n=24/23 follow-up: 6 months	warfarin to maintain INR between 2 and 3 versus placebo	patients with dilated cardiomyopathy and evidence of intraventricular thrombi	NA
warfarin vs aspirin			
HELAS (warfarin vs aspirin) , 2006 n=54/61 follow-up: 21.9 months	warfarin versus aspirin 325mg/d	HF related to ischemic heart disease with LVFE<35%	Parallel groups Double blind Europe
WATCH (warfarin vs aspirin) , 2009 [NCT00007683] n=540/523 follow-up:	warfarin (target INR 2.5-3.0) versus aspirin 162 mg daily	symptomatic heart failure patients in sinus rhythm with ejection fractions 35% taking angiotensin-converting enzyme inhibitors (unless not tolerated) and diuretics	Parallel groups open

More details and results :

- antithrombotics for heart failure in all type of patients at <http://www.trialresultscenter.org/go-Q73>

References

WASH (warfarin), 2004:

Cleland JG, Findlay I, Jafri S, Sutton G, Falk R, Bulpitt C, Prentice C, Ford I, Trainer A, Poole-Wilson PA, The Warfarin/Aspirin Study in Heart failure (WASH): a randomized trial comparing antithrombotic strategies for patients with heart failure. *Am Heart J* 2004;148:157-64. [[15215806](#)] [10.1016/j.ahj.2004.03.010](#)

HELAS (warfarin vs placebo), 2006:

Cokkinos DV, Haralabopoulos GC, Kostis JB, Toutouzas PK Efficacy of antithrombotic therapy in chronic heart failure: the HELAS study. *Eur J Heart Fail* 2006 Jun;8:428-32 [[16737850](#)]

Barzizza (warfarin), 1993:

Barzizza F, Zocchi MT, Magnani L.p, imag Antiplatelet drugs versus warfarin in treatment of intraventricular thrombi *Eur Heart J* 1993;14(suppl):396 (Abstract P2118)

HELAS (warfarin vs aspirin), 2006:

Cokkinos DV, Haralabopoulos GC, Kostis JB, Toutouzas PK Efficacy of antithrombotic therapy in chronic heart failure: the HELAS study. *Eur J Heart Fail* 2006 Jun;8:428-32 [[16737850](#)]

WATCH (warfarin vs aspirin), 2009:

Massie BM, Krol WF, Ammon SE, Armstrong PW, Cleland JG, Collins JF, Ezekowitz M, Jafri SM, O'Connor CM, Packer M, Schulman KA, Teo K, Warren S, The Warfarin and Antiplatelet Therapy in Heart Failure trial (WATCH): rationale, design, and baseline patient characteristics. *J Card Fail* 2004;10:101-12. [[15101020](#)]

Massie BM, Collins JF, Ammon SE, Armstrong PW, Cleland JG, Ezekowitz M, Jafri SM, Krol WF, O'Connor CM, Schulman KA, Teo K, Warren SR Randomized trial of warfarin, aspirin, and clopidogrel in patients with chronic heart failure: the Warfarin and Antiplatelet Therapy in Chronic Heart Failure (WATCH) trial. *Circulation* 2009 Mar 31;119:1616-24 [[19289640](#)]

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6 atrial fibrillation

Trial	Treatments	Patients	Trials design and methods
warfarin low dose vs control			
BAATAF (warfarin vs no treatment) , 1990 [NCT00000517] n=212/208 follow-up: 2.2 years	warfarin low dose (target INR:1.5-2.7) versus no placebo.people received no treatment but could choose to take aspirin.	non rheumatic AF	Parallel groups Open
warfarin low dose + aspirin vs control			
SAFT(warfarin low dose + aspirin vs no treatment) , 2003 n=334/334 follow-up: 33 months	warfarin low dose (1.25 mg/d) + aspirin 75 mg/d versus no treatment	Low-medium risk patients with non valvular atrial fibrillation.	Parallel groups Open Sweden
warfarin standard dose vs control			

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Trial	Treatments	Patients	Trials design and methods
AFASAK (warfarin standard dose vs control) , 1989 n=335/336 follow-up: 2 years	warfarin standard dose(target INR:2.8-4.2) versus control	chronic non rheumatic AF	Parallel groups Open Denmark
SPAF (warfarin standard dose) , 1991 n=210/211 follow-up: 1.3 years	warfarin standard dose(target INR:2.0-4.5) versus control	-	Parallel groups Open USA
warfarin low dose vs placebo			
SPINAF (warfarin vs placebo) , 1992 n=260/265 follow-up: 1.75 years	warfarin low dose(target INR 1.4-2.8) versus placebo	men ,with chronic nonrheumatic atrial fibrillation	Parallel groups Double blind usa
warfarin standard dose vs placebo			
CAFA , 1991 n=187/191 follow-up: 15.2 months	warfarin standard dose (target INR 2-3) versus placebo	non rheumatic atrial fibrillation	Parallel groups Double blind canada
warfarin + aspirin vs warfarin standard dose			
AFASAK II (warfarin low dose+aspirin vs warfarin standard dose) , 1998 n=171/170 follow-up: 3.5 years	warfarin fixed low dose(1.25mg/d) + aspirin(300mg/d) versus warfarin standard dose(target INR 2.0-3.0)	chronic non valvular atrial fibrillation	Parallel groups Open Denmark
SPAF III , 1996 n=521/523 follow-up: 1.1 years	warfarin low dose(target INR 1.2-1.5)+ aspirin 325 mg/d versus warfarin standard dose(target INR 2.0-3.0)	non rheumatic atrial fibrillation,patients with at least one additional thromboembolic risk factor(high risk patients)	Parallel groups Open USA,Canada
warfarin low dose vs warfarin standard dose			
AFASAK II (warfarin low dose vs warfarin standard dose) , 1998 n=167/170 follow-up: 3.5 years	warfarin fixed low dose (1.25 mg/d) versus warfarin standard dose(target INR 2-3)	chronic non valvular atrial fibrillation	Parallel groups Open Denmark
MWNAF , 1998 n=150/153 follow-up: 14.5 months	warfarin low dose (1.25mg/d) versus warfarin standard dose(target INR 2.0-3.0)	Patients over 60 with non rheumatic atrial fibrillation	Parallel groups Open Italy

More details and results :

- antithrombotics for atrial fibrillation in primary prevention of thromboembolic events at <http://www.trialresultscenter.org/go-Q57>

References

BAATAF (warfarin vs no treatment), 1990:

The effect of low-dose warfarin on the risk of stroke in patients with nonrheumatic atrial fibrillation. The Boston Area Anticoagulation Trial for Atrial Fibrillation Investigators N Engl J Med. 1990 Nov 29;323(22):1505-11 [2233931]

SAFT(warfarin low dose + aspirin vs no treatment), 2003:

Edvardsson N, Juul-Moller S, Omblus R, Pehrsson K Effects of low-dose warfarin and aspirin versus no treatment on stroke in a medium-risk patient population with atrial fibrillation. J Intern Med 2003 Jul;254:95-101 [12823646]

Edvardsson N, Juul-Moller S, Omblus R, Pehrsson K Effects of low-dose warfarin and aspirin versus no treatment on stroke in a medium-risk patient population with atrial fibrillation. J Intern Med 2003 Jul;254:95-101 [12823646]

AFASAK (warfarin standard dose vs control), 1989:

Petersen P, Boysen G, Godtfredsen J, Andersen ED, Andersen B Placebo-controlled, randomised trial of warfarin and aspirin for prevention of thromboembolic complications in chronic atrial fibrillation. The Copenhagen AFASAK study. Lancet 1989 Jan 28;1:175-9 [2563096]

SPAF (warfarin standard dose), 1991:

Stroke Prevention in Atrial Fibrillation Study. Final results Circulation. 1991 Aug;84(2):527-39. [1860198]

SPINAF (warfarin vs placebo), 1992:

Ezekowitz MD, Bridgers SL, James KE, Carliner NH, Colling CL, Gornick CC, Krause-Steinrauf H, Kurtzke JF, Nazarian SM, Radford MJ Warfarin in the prevention of stroke associated with nonrheumatic atrial fibrillation. Veterans Affairs Stroke Prevention in Nonrheumatic Atrial Fibrillation Investigators. N Engl J Med 1992 Nov 12;327:1406-12 [1406859]

CAFA, 1991:

Connolly SJ, Laupacis A, Gent M, Roberts RS, Cairns JA, Joyner C Canadian Atrial Fibrillation Anticoagulation (CAFA) Study. J Am Coll Cardiol 1991 Aug;18:349-55 [1856403]

AFASAK II (warfarin low dose+aspirin vs warfarin standard dose), 1998:

Gullov AL, Koefoed BG, Petersen P, Pedersen TS, Andersen ED, Godtfredsen J, Boysen G Fixed minidose warfarin and aspirin alone and in combination vs adjusted-dose warfarin for stroke prevention in atrial fibrillation: Second Copenhagen Atrial Fibrillation, Aspirin, and Anticoagulation Study. Arch Intern Med 1998 Jul 27;158:1513-21 [9679792]

SPAF III, 1996:

Adjusted-dose warfarin versus low-intensity, fixed-dose warfarin plus aspirin for high-risk patients with atrial fibrillation: Stroke Prevention in Atrial Fibrillation III randomised clinical trial. Lancet. 1996 Sep 7;348(9028):633-8. [8782752]

AFASAK II (warfarin low dose vs warfarin standard dose), 1998:

Gullov AL, Koefoed BG, Petersen P, Pedersen TS, Andersen ED, Godtfredsen J, Boysen G Fixed minidose warfarin and aspirin alone and in combination vs adjusted-dose warfarin for stroke prevention in atrial fibrillation: Second Copenhagen Atrial Fibrillation, Aspirin, and Anticoagulation Study. Arch Intern Med 1998 Jul 27;158:1513-21 [9679792]

MWNAF, 1998:

Pengo V, Zasso A, Barbero F, Banzato A, Nante G, Parissenti L, John N, Noventa F, Dalla Volta S Effectiveness of fixed minidose warfarin in the prevention of thromboembolism and vascular death in nonrheumatic atrial fibrillation. Am J Cardiol 1998 Aug 15;82:433-7 [9723629]

7 acute coronary syndrome

Trial	Treatments	Patients	Trials design and methods
UFH, warfarin vs control (on top of aspirin)			
ATACS (Cohen) , 1994 n=105/109 follow-up: 12 weeks	aspirin 162.5 mg daily plus heparin (activated partial thromboplastin time, two times control) followed by aspirin 162.5 mg daily plus warfarin (international normalized ratio, 2 to 3) for 12 weeks. versus aspirin alone (162.5 mg daily) for 12 weeks.	patients with unstable rest angina or non-Q-wave myocardial infarction with last episode of pain within 48 hours of randomization and who were nonprior aspirin users	Parallel groups single blind
Cohen (ATACS pilot) (heparin+aspirin vs asp) , 1990 n=37/32 follow-up: 12 weeks	aspirin (80 mg/day) plus heparin and then warfarin versus aspirin (325 mg/day)	Patients between 21 and 75 years with unstable angina or non-Q-wave MI with last episode of pain within 48 hours of screening.	Parallel groups open
warfarin vs control (on top of aspirin)			
ATACS (pilot study) (warfarin vs control) , 1990 n=37/32 follow-up: 65279;3 months	heparin/warfarin target INR 65279;3-4.5 + aspirin versus aspirin alone	65279;UA, NSTEMI	open
ATACS , 1994 n=105/109 follow-up: 3 months	heparin/warfarin (INR median 2.3) + aspirin versus aspirin	UA, NSTEMI	open
CARS , 1997 n=5410/3393 follow-up: 14 months	warfarin (INR mean 1.5) (3 mg warfarin or 1 mg warfarin with 80 mg aspirin) versus aspirin 160 mg/d	AMI	
OASIS Pilot (phase 1) , 1998 n=155/154 follow-up: 6 months	warfarin 3mg/d for 6 months (INR mean 1.5) versus control	UA, NSTEMI	open

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Trial	Treatments	Patients	Trials design and methods
OASIS Pilot (phase 2) , 1998 n=98/99 follow-up: 3 months	warfarin adjusted dose (INR mean 2.3) for 3 months versus standard treatment	UA, NSTEMI	open
OASIS-2 Warfarin Substudy , 2001 n=1848/1864 follow-up: 5 months	warfarin target INR 65279;22.5 for 5 months +aspirin versus control	UA	open
APRICOT-2 , 2002 n=135/139 follow-up: 3 months	moderate-intensity coumarin target INR 2-3 (+aspirin) versus aspirin	STEMI	
CHAMP , 2002 n=2522/2537 follow-up: 2.7 years	-	AMI	
WARIS , 2002 n=1208/1206 follow-up: 4 years	-	AMI	
LoWASA , 2004 n=1659/1641 follow-up: 5 years	-	AMI	
Zibaenezhad , 2004 n=70/70 follow-up: 1 year	-	AMI	
warfarin vs placebo (on top of aspirin)			
Williams , 1997 n=29/28 follow-up: 2.5 months	warfarin target INR 65279;22.5 +aspirin versus placebo +aspirin	UA, AMI	double blind
Huyhn , 2001 n=44/46 follow-up: 1 year	warfarin adjusted dose for INR 22.5 +aspirin versus placebo +aspirin	UA, NSTEMI with prior CABG	double blind
UFH, warfarin vs aspirin			
Cohen (ATACS pilot) (heparin vs asp) , 1990 n=24/32 follow-up: 12 weeks	heparin followed by warfarin (without aspirin) versus aspirin 325 mg/day	Patients between 21 and 75 years with unstable angina or non-Q-wave MI with last episode of pain within 48 hours of screening	Parallel groups open
warfarin vs aspirin			

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Trial	Treatments	Patients	Trials design and methods
ATACS (pilot study) warfarin vs aspirin , 1990 n=24/32 follow-up: 65279;3 months	heparin/warfarin target INR 65279;3-4 versus aspirin 65279;325 mg daily	65279;UA, NSTEMI	open

More details and results :

- antithrombotics for acute coronary syndrome in all type of patients at <http://www.trialresultscenter.org/go-Q24>
- anticoagulant for acute coronary syndrome in All ACS (including AMI) at <http://www.trialresultscenter.org/go-Q167>
- anticoagulant for acute coronary syndrome in ACS (excluding AMI) at <http://www.trialresultscenter.org/go-Q168>
- heparin (UFH or LMWH) for acute coronary syndrome in all type of patients at <http://www.trialresultscenter.org/go-Q171>

References

ATACS (Cohen), 1994:

Cohen M, Adams PC, Parry G, Xiong J, Chamberlain D, Wieczorek I, Fox KA, Chesebro JH, Strain J, Keller C Combination antithrombotic therapy in unstable rest angina and non-Q-wave infarction in nonprior aspirin users. Primary end points analysis from the ATACS trial. Antithrombotic Therapy in Acute Coronary Syndromes Research Group. Circulation 1994;89:81-8 [8281698]

Cohen (ATACS pilot) (heparin+aspirin vs asp), 1990:

Cohen M, Adams PC, Hawkins L, Bach M, Fuster V Usefulness of antithrombotic therapy in resting angina pectoris or non-Q-wave myocardial infarction in preventing death and myocardial infarction (a pilot study from the Antithrombotic Therapy in Acute Coronary Syndromes Study Group). Am J Cardiol 1990;66:1287-92 [2244556]

ATACS (pilot study) (warfarin vs control), 1990:

Cohen M, Adams PC, Hawkins L, Bach M, Fuster V Usefulness of antithrombotic therapy in resting angina pectoris or non-Q-wave myocardial infarction in preventing death and myocardial infarction (a pilot study from the Antithrombotic Therapy in Acute Coronary Syndromes Study Group). Am J Cardiol 1990;66:1287-92 [2244556]

ATACS, 1994:

Cohen M, Adams PC, Parry G, Xiong J, Chamberlain D, Wieczorek I, Fox KA, Chesebro JH, Strain J, Keller C Combination antithrombotic therapy in unstable rest angina and non-Q-wave infarction in nonprior aspirin users. Primary end points analysis from the ATACS trial. Antithrombotic Therapy in Acute Coronary Syndromes Research Group. Circulation 1994;89:81-8 [8281698]

CARS, 1997:

Randomised double-blind trial of fixed low-dose warfarin with aspirin after myocardial infarction. Coumadin Aspirin Reinfarction Study (CARS) Investigators. Lancet 1997;350:389-96 [9259652]

OASIS Pilot (phase 1), 1998:

Anand SS, Yusuf S, Pogue J, Weitz JI, Flather M Long-term oral anticoagulant therapy in patients with unstable angina or suspected non-Q-wave myocardial infarction: organization to assess strategies for ischemic syndromes (OASIS) pilot study results. Circulation 1998;98:1064-70 [9736592]

OASIS Pilot (phase 2), 1998:

Anand SS, Yusuf S, Pogue J, Weitz JI, Flather M Long-term oral anticoagulant therapy in patients with unstable angina or suspected non-Q-wave myocardial infarction: organization to assess strategies for ischemic syndromes (OASIS) pilot study results. *Circulation* 1998;98:1064-70 [[9736592](#)]

OASIS-2 Warfarin Substudy, 2001:

Effects of long-term, moderate-intensity oral anticoagulation in addition to aspirin in unstable angina. The Organization to Assess Strategies for Ischemic Syndromes (OASIS) Investigators. *J Am Coll Cardiol* 2001;37:475-84 [[11216966](#)]

APRICOT-2, 2002:

Brouwer MA, van den Bergh PJ, Aengevaeren WR, Veen G, Luijten HE, Hertzberger DP, van Boven AJ, Vromans RP, Uijen GJ, Verheugt FW Aspirin plus coumarin versus aspirin alone in the prevention of reocclusion after fibrinolysis for acute myocardial infarction: results of the Antithrombotics in the Prevention of Reocclusion In Coronary Thrombolysis (APRICOT)-2 Trial. *Circulation* 2002;106:659-65 [[12163424](#)]

CHAMP, 2002:

Fiore LD, Ezekowitz MD, Brophy MT, Lu D, Sacco J, Peduzzi P Department of Veterans Affairs Cooperative Studies Program Clinical Trial comparing combined warfarin and aspirin with aspirin alone in survivors of acute myocardial infarction: primary results of the CHAMP study. *Circulation* 2002;105:557-63 [[11827919](#)]

WARIS, 2002:

Hurlen M, Abdelnoor M, Smith P, Erikssen J, Arnesen H Warfarin, aspirin, or both after myocardial infarction. *N Engl J Med* 2002;347:969-74 [[12324552](#)]

LoWASA, 2004:

Herlitz J, Holm J, Peterson M, Karlson BW, Haglid Evander M, Erhardt L Effect of fixed low-dose warfarin added to aspirin in the long term after acute myocardial infarction; the LoWASA Study. *Eur Heart J* 2004;25:232-9 [[14972424](#)]

Zibaeenezhad, 2004:

Zibaeenezhad MJ, Mowla A, Sorbi MH Warfarin and aspirin versus aspirin alone in patients with acute myocardial infarction: a pilot study. *Angiology* 2004;55:17-20 [[14759085](#)]

Williams, 1997:

Williams MJ, Morison IM, Parker JH, Stewart RA Progression of the culprit lesion in unstable coronary artery disease with warfarin and aspirin versus aspirin alone: preliminary study. *J Am Coll Cardiol* 1997;30:364-9 [[9247506](#)]

Huyhn, 2001:

Huyhn T, Throux P, Bogaty P, Nasmith J, Solymoss S Aspirin, warfarin, or the combination for secondary prevention of coronary events in patients with acute coronary syndromes and prior coronary artery bypass surgery. *Circulation* 2001;103:3069-74 [[11425770](#)]

Cohen (ATACS pilot) (heparin vs asp), 1990:

Cohen M, Adams PC, Hawkins L, Bach M, Fuster V Usefulness of antithrombotic therapy in resting angina pectoris or non-Q-wave myocardial infarction in preventing death and myocardial infarction (a pilot study from the Antithrombotic Therapy in Acute Coronary Syndromes Study Group). *Am J Cardiol* 1990;66:1287-92 [[2244556](#)]

ATACS (pilot study) warfarin vs aspirin, 1990:

Cohen M, Adams PC, Hawkins L, Bach M, Fuster V Usefulness of antithrombotic therapy in resting angina pectoris or non-Q-wave myocardial infarction in preventing death and myocardial infarction (a pilot study from the Antithrombotic Therapy in Acute Coronary Syndromes Study Group). *Am J Cardiol* 1990;66:1287-92 [[2244556](#)]

8 thrombosis prevention

Trial	Treatments	Patients	Trials design and methods
Warfarin vs no treatment			
Pinto , 1970 n=25/25 follow-up: >3 weeks	Warfarin versus No treatment	Hip surgery	Open
Hume , 1973 n=17/19 follow-up: Discharge	Warfarin versus No treatment	THR	Open
Morris , 1976 n=80/80 follow-up: 3 months	Warfarin versus No treatment	HFS	Open
Powers , 1989 n=65/63 follow-up: 3 months	Warfarin versus No treatment	HFS	Open
Warfarin vs placebo			
Myrhe , 1969 n=50/55 follow-up: 3 weeks	Wwarfarin versus Placebo	HFS	double blind
Warfarin vs Ardeparin			
RD Heparin , 1994 n=403/770 follow-up: 3 months	Warfarin versus Ardeparin 50 anti-Xa IU /kg or 90 anti-Xa IU /kg x1	THR or TKR	Open
Heit , 1997 n=279/554 follow-up: Days 514	Warfarin versus Ardeparin 25, 35, 50 anti-Xa U /kg x2	TKR	double blind
Warfarin vs Aspirin			
Lotke , 1997 n=146/166 follow-up: 6 months	Warfarin versus Aspirin 325 mg x2	THR or TKR (stratified)	Open
Powers , 1989 n=65/66 follow-up: 3 months	Warfarin versus Aspirin 650 mg x2	HFS	Open
Warfarin vs Dalteparin			
Francis , 1997 n=292/288 follow-up: Day 7 2	Warfarin versus Dalteparin 5000 anti-Xa IU x1	THR	Open

continued...

Trial	Treatments	Patients	Trials design and methods
Hull , 2000 n=489/983 follow-up: Day 6 2	Warfarin versus Dalteparin 5000 anti-Xa IU x1	THR	double blind
Warfarin vs Danaparoid			
Gerhart , 1991 n=131/132 follow-up: 9 days	Warfarin versus Danaparoid 750 U x2	HFS	Open
van Comp , 1998 n=247/241 follow-up: 3 months	Warfarin versus Danaparoid 750 U x2	THR	Open
Warfarin vs Dextran			
Harris , 1972 n=114/113 follow-up: NA	Warfarin versus Dextran 40	THR	Open
Barber , 1977 n=58/51 follow-up: 1114 days	Warfarin versus Dextran 70	THR	Open
Francis , 1983 n=57/43 follow-up: 57 days	Warfarin versus Dextran 40	THR or TKR (stratified)65279;	Open
Myrhe , 1969 n=50/55 follow-up: 3 weeks	Warfarin versus Dextran 70	HFS	double blind
Warfarin vs Enoxaparin			
Leclerc , 1996 n=334/336 follow-up: 6 months	Warfarin versus Enoxaparin 30 mg x2	TKR	double blind
Colwell , 1999 n=1495/1516 follow-up: 3 months	Warfarin versus Enoxaparin 30 mg x2	THR	Open
Fitzgerald , 2001 n=176/173 follow-up: 3 weeks	Warfarin versus Enoxaparin 30 mg x2	TKR	Open
Warfarin vs Intermittent pneumatic compression			
Francis , 1992 n=103/98 follow-up: 68 days	Warfarin versus IPC	THR	Open

continued...

Trial	Treatments	Patients	Trials design and methods
Paiement , 1987 n=80/83 follow-up: 12 days	Warfarin versus IPC	THR	Open
Bailey , 1991 n=45/50 follow-up: 57 days	Warfarin versus IPC	THR	Open
Kaempffe , 1991 n=52/48 follow-up: At least 2 months	Warfarin versus IPC	THR or TKR (stratified)	Open
Warfarin vs Logiparin			
Hull , 1993 n=721/715 follow-up: 65279;Day 14 or discharge	Warfarin versus Logiparin 75 anti-Xa IU /kg x1	65279;THR or TKR (stratified)	double blind
Warfarin vs Sudoxicam			
Hume , 1973 n=52/51 follow-up: Discharge	Warfarin versus Sudoxicam	THR	single blind
Warfarin vs unfractionated heparin			
Hume , 1973 n=17/18 follow-up: Discharge	Warfarin versus UFH 5000 x3	THR	Open
Barber , 1977 n=58/19 follow-up: 1114 days	Warfarin versus UFH 5000 x2	THR	Open

More details and results :

- antithrombotics for thrombosis prevention in orthopedic surgery at <http://www.trialresultscenter.org/go-Q37>
- anticoagulant for thrombosis prevention in orthopedic surgery at <http://www.trialresultscenter.org/go-Q184>

References

Pinto, 1970:

Pinto DJ Controlled trial of an anticoagulant (warfarin sodium) in the prevention of venous thrombosis following hip surgery. Br J Surg 1970;57:349-52 [5427880]

Hume, 1973:

Hume M, Kuriakose TX, Zuch L, Turner RH 125I fibrinogen and the prevention of venous thrombosis. Arch Surg 1973;107:803-6 [4744294]

Morris, 1976:

Morris GK, Mitchell JR Warfarin sodium in prevention of deep venous thrombosis and pulmonary embolism in patients with fractured neck of femur. *Lancet* 1976;2:869-72 [62111]

Powers, 1989:

Powers PJ, Gent M, Jay RM, Julian DH, Turpie AG, Levine M, Hirsh J A randomized trial of less intense postoperative warfarin or aspirin therapy in the prevention of venous thromboembolism after surgery for fractured hip. *Arch Intern Med* 1989;149:771-4 [2650646]

Myrhe, 1969:

Myhre HO, Holen A [Thrombosis prophylaxis. Dextran or warfarin-sodium? A controlled clinical study] *Nord Med* 1969 Dec 4;82:1534-8 [5372427]

Myhre HO, Holen A [Thrombosis prophylaxis. Dextran or warfarin-sodium? A controlled clinical study] *Nord Med* 1969 Dec 4;82:1534-8 [5372427]

RD Heparin, 1994:

RD heparin compared with warfarin for prevention of venous thromboembolic disease following total hip or knee arthroplasty. RD Heparin Arthroplasty Group. *J Bone Joint Surg Am* 1994;76:1174-85 [8056798]

Heit, 1997:

Heit JA, Berkowitz SD, Bona R, Cabanas V, Corson JD, Elliott CG, Lyons R Efficacy and safety of low molecular weight heparin (ardeparin sodium) compared to warfarin for the prevention of venous thromboembolism after total knee replacement surgery: a double-blind, dose-ranging study. Ardeparin Arthroplasty Study Group. *Thromb Haemost* 1997;77:32-8 [9031445]

Lotke, 1997:

Lotke PA, Palevsky H, Keenan AM, Meranze S, Steinberg ME, Ecker ML, Kelley MA Aspirin and warfarin for thromboembolic disease after total joint arthroplasty. *Clin Orthop Relat Res* 1996;:251-8 [8595765]

Powers, 1989:

Powers PJ, Gent M, Jay RM, Julian DH, Turpie AG, Levine M, Hirsh J A randomized trial of less intense postoperative warfarin or aspirin therapy in the prevention of venous thromboembolism after surgery for fractured hip. *Arch Intern Med* 1989;149:771-4 [2650646]

Francis, 1997:

Francis CW, Pellegrini VD Jr, Totterman S, Boyd AD Jr, Marder VJ, Liebert KM, Stulberg BN, Ayers DC, Rosenberg A, Kessler C, Johanson NA Prevention of deep-vein thrombosis after total hip arthroplasty. Comparison of warfarin and dalteparin. *J Bone Joint Surg Am* 1997;79:1365-72 [9314399]

Hull, 2000:

Hull RD, Pineo GF, Francis C, Bergqvist D, Fellenius C, Soderberg K, Holmqvist A, Mant M, Dear R, Baylis B, Mah A, Brant R Low-molecular-weight heparin prophylaxis using dalteparin in close proximity to surgery vs warfarin in hip arthroplasty patients: a double-blind, randomized comparison. The North American Fragmin Trial Investigators. *Arch Intern Med* 2000;160:2199-207 [10904464]

Gerhart, 1991:

Gerhart TN, Yett HS, Robertson LK, Lee MA, Smith M, Salzman EW Low-molecular-weight heparinoid compared with warfarin for prophylaxis of deep-vein thrombosis in patients who are operated on for fracture of the hip. A prospective, randomized trial. *J Bone Joint Surg Am* 1991;73:494-502 [1707413]

van Comp, 1998:

Comp PC, Voegeli T, McCutchen JW, Skoutakis VA, Trowbridge A, Overdyke WL A comparison of danaparoid and warfarin for prophylaxis against deep vein thrombosis after total hip replacement: The Danaparoid Hip Arthroplasty Investigators Group. *Orthopedics* 1998;21:1123-8 [9801236]

Harris, 1972:

Harris WH, Salzman EW, DeSanctis RW, Coutts RD Prevention of venous thromboembolism following total hip replacement. Warfarin vs dextran 40. JAMA 1972;220:1319-22 [5067322]

Barber, 1977:

Barber HM, Feil EJ, Galasko CS, Edwards DH, Sutton RA, Haynes DW, Bentley G A comparative study of dextran-70, warfarin and low-dose heparin for the prophylaxis of thrombo-embolism following total hip replacement. Postgrad Med J 1977;53:130-3 [859784]

Francis, 1983:

Francis CW, Marder VJ, Evarts CM, Yaukoolbodi S Two-step warfarin therapy. Prevention of postoperative venous thrombosis without excessive bleeding. JAMA 1983;249:374-8 [6184493]

Myrhe, 1969:

Myrhe HO, Holen A [Thrombosis prophylaxis. Dextran or warfarin-sodium? A controlled clinical study] Nord Med 1969 Dec 4;82:1534-8 [5372427]

Leclerc, 1996:

Leclerc JR, Geerts WH, Desjardins L, Laflamme GH, L'Esprance B, Demers C, Kassis J, Cruickshank M, Whitman L, Delorme F Prevention of venous thromboembolism after knee arthroplasty. A randomized, double-blind trial comparing enoxaparin with warfarin. Ann Intern Med 1996;124:619-26 [8607589]

Colwell, 1999:

Colwell CW Jr, Collis DK, Paulson R, McCutchen JW, Bigler GT, Lutz S, Hardwick ME Comparison of enoxaparin and warfarin for the prevention of venous thromboembolic disease after total hip arthroplasty. Evaluation during hospitalization and three months after discharge. J Bone Joint Surg Am 1999;81:932-40 [10428124]

Fitzgerald, 2001:

Fitzgerald RH Jr, Spiro TE, Trowbridge AA, Gardiner GA Jr, Whitsett TL, O'Connell MB, Ohar JA, Young TR Prevention of venous thromboembolic disease following primary total knee arthroplasty. A randomized, multicenter, open-label, parallel-group comparison of enoxaparin and warfarin. J Bone Joint Surg Am 2001;83-A:900-6 [11407799]

Francis, 1992:

Francis CW, Pellegrini VD Jr, Marder VJ, Totterman S, Harris CM, Gabriel KR, Azodo MV, Leibert KM Comparison of warfarin and external pneumatic compression in prevention of venous thrombosis after total hip replacement. JAMA 1992;267:2911-5 [1583760]

Paiement, 1987:

Paiement G, Wessinger SJ, Waltman AC, Harris WH Low-dose warfarin versus external pneumatic compression for prophylaxis against venous thromboembolism following total hip replacement. J Arthroplasty 1987;2:23-6 [3572408]

Bailey, 1991:

Bailey JP, Kruger MP, Solano FX, Zajko AB, Rubash HE Prospective randomized trial of sequential compression devices vs low-dose warfarin for deep venous thrombosis prophylaxis in total hip arthroplasty. J Arthroplasty 1991;6 Suppl:S29-35 [1774568]

Kaempffe, 1991:

Kaempffe FA, Lifeso RM, Meinking C Intermittent pneumatic compression versus coumadin. Prevention of deep vein thrombosis in lower-extremity total joint arthroplasty. Clin Orthop Relat Res 1991;:89-97 [1864061]

Hull, 1993:

Hull R, Raskob G, Pineo G, Rosenbloom D, Evans W, Mallory T, Anquist K, Smith F, Hughes G, Green D A comparison of subcutaneous low-molecular-weight heparin with warfarin sodium for prophylaxis against deep-vein thrombosis after hip or knee implantation. N Engl J Med 1993;329:1370-6 [8413432]

Hume, 1973:

Hume M, Kuriakose TX, Zuch L, Turner RH 125I fibrinogen and the prevention of venous thrombosis. Arch Surg 1973;107:803-6 [4744294]

Hume, 1973:

Hume M, Kuriakose TX, Zuch L, Turner RH 125I fibrinogen and the prevention of venous thrombosis. Arch Surg 1973;107:803-6 [4744294]

Barber, 1977:

Barber HM, Feil EJ, Galasko CS, Edwards DH, Sutton RA, Haynes DW, Bentley G A comparative study of dextran-70, warfarin and low-dose heparin for the prophylaxis of thrombo-embolism following total hip replacement. Postgrad Med J 1977;53:130-3 [859784]

9 venous thrombosis

Trial	Treatments	Patients	Trials design and methods
warfarin vs control			
Vitotec , 2009 n=27/25 follow-up:	continuation of warfarin for another 6 months versus discontinuation of warfarin	patients with idiopathic DVT After 6 months of standard therapy (heparin/LMWH, warfarin with target INR 2-3) and persistent echogenic masses of over 20% of venous diameter	
warfarin vs discontinuation			
PROLONG (Palareti) , 2006 [NCT00264277] n=105/122 follow-up: 1.4 yeras	prolongation versus no anticoagulation	patients with an abnormal d-dimer level 1 month after the discontinuation of anticoagulation in patients with a first unprovoked proximal deep-vein thrombosis or pulmonary embolism who had received a vitamin K antagonist for at least 3 months	Parallel groups
PREVENT (Ridker) , 2003 n=255/253 follow-up: 2.1 years	extension with low-intensity warfarin (target INR, 1.5 to 2.0) versus placebo	Patients with idiopathic venous thromboembolism who had received full-dose anticoagulation therapy for a median of 6.5 months	Parallel groups
Agnelli , 2003 n=NA follow-up: 33 months	continuation for 3 or 9 additional months of warfarin or other oral anticoagulant was adjusted to achieve a target INR between 2.0 and 3.0. versus discontinuation (after 3 months)	patients who had had 3 months of oral anticoagulant therapy without experiencing recurrence or bleeding after a first episode of pulmonary embolism	Parallel groups open Italy

continued...

Trial	Treatments	Patients	Trials design and methods
Agnelli , 2001 n=NA follow-up: 33 months	continuation for 9 additional months; warfarin or acenocoumarol adjusted to achieve a target INR between 2.0 and 3.0 versus discontinuation (after 3 months months)	Patients with a first episode of idiopathic proximal deep venous thrombosis who had completed three months of oral anticoagulant therapy	Parallel groups open Italy
LAFIT (Kearon) , 1999 n=NA follow-up:	Continuation of the oral anticoagulant therapy up to 24 months, warfarin was adjusted to achieve a target INR between 2.0 and 3.0. versus discontinuation (after 3 months)	patients who had completed 3 months of anticoagulant therapy for a first episode of idiopathic venous thromboembolism	
ELAET (Kearon) , 2004 n=NA follow-up: 11 months (after randomizatio)	continuation for 2 additionnal months of warfarin adjusted to achieve a target INR between 2.0 and 3.0. versus discontinuation (after 1 months)	-	Parallel groups double blind Canada, US
Levine , 1995 n=NA follow-up: 11 months after randomization.	continuation for 2 months of warfarin adjusted INR value of 2.0 to 3.0 versus Discontinue oral anticoagulant therapy (after 1 months)	Patients with venographically confirmed acute proximal DVT who had received four weeks of warfarin after initial heparin and whose four week IPG was normal	Parallel groups double blind Canada, Italy
DURAC (Schulman) , 1997 n=NA follow-up: Four years after randomization	indefinite warfarin or dicoumarol adjusted for a target INR between 2.0 and 2.85 versus 6 months warfarin or dicoumarol adjusted for a target INR between 2.0 and 2.85	-	Parallel groups open Sweden
warfarin vs low intensity warfarin			
ELATE , 2003 n=369/369 follow-up: 2.4 years mean	continue warfarin therapy with a target international normalized ratio (INR) of 2.0 to 3.0 versus target INR of 1.5 to 1.9 (low intensity)	patients who had completed three or more months of warfarin therapy for unprovoked venous thromboembolism	Parallel groups open-label
heparin+warfarin vs placebo			
Ott import , 1998 n=11/12	anticoagulants (s.c. heparin followed by oral warfarin) (duration NA) versus s.c. saline followed by oral placebo tablets	-	double blind Denmark
low-intensity warfarin vs placebo			

continued...

Trial	Treatments	Patients	Trials design and methods
PREVENT , 2003 n=255/253 follow-up: 2.1 years mean	low-intensity warfarin (target INR, 1.5 to 2.0) versus placebo	Patients with idiopathic venous thromboembolism who had received full-dose anticoagulation	double-blind
warfarin vs placebo			
LAFIT , 1999 n=79/83 follow-up: 10 months	warfarin for a further 24 months versus placebo	patients who had completed 3 months of anticoagulant therapy for a first episode of idiopathic venous thromboembolism	double-blind
Levine , 1995 n=109/105 follow-up:	continue warfarin (targeted International Normalized Ratio 2.0 to 3.0) for a further eight weeks versus placebo	Patients with venographically confirmed acute proximal DVT who had received four weeks of warfarin after initial heparin and whose four week IPG was normal	

More details and results :

- antithrombotics for venous thrombosis in all type of patients at <http://www.trialresultscenter.org/go-Q101>
- antithrombotics for venous thrombosis in secondary prevention of VTE at <http://www.trialresultscenter.org/go-Q149>
- heparin (UFH or LMWH) for venous thrombosis in all type of patients at <http://www.trialresultscenter.org/go-Q204>
- antithrombotics for venous thrombosis in secondary prevention - 2 at <http://www.trialresultscenter.org/go-Q682>

References

Vitotec, 2009:

Vtovec M, Goln L, Roztocil K, Linhart A The development of persistent thrombotic masses in patients with deep venous thrombosis randomized to long-term anticoagulation treatment. *Vasa* 2009;38:238-44 [[19736635](#)] [10.1024/0301-1526.38.3.238](#)

PROLONG (Palareti), 2006:

Palareti G, Cosmi B, Legnani C, Tositto A, Brusi C, Iorio A, Pengo V, Ghirarduzzi A, Pattacini C, Testa S, Lensing AW, Tripodi A D-dimer testing to determine the duration of anticoagulation therapy. *N Engl J Med* 2006;355:1780-9 [[17065639](#)]

PREVENT (Ridker), 2003:

Ridker PM, Goldhaber SZ, Danielson E, Rosenberg Y, Eby CS, Deitcher SR, Cushman M, Moll S, Kessler CM, Elliott CG, Paulson R, Wong T, Bauer KA, Schwartz BA, Miletich JP, Bounameaux H, Glynn RJ Long-term, low-intensity warfarin therapy for the prevention of recurrent venous thromboembolism. *N Engl J Med* 2003;348:1425-34 [[12601075](#)]

Agnelli, 2003:

Agnelli G, Prandoni P, Becattini C, Silingardi M, Taliani MR, Miccio M, Imberti D, Poggio R, Ageno W, Pogliani E, Porro F, Zonzin P Extended oral anticoagulant therapy after a first episode of pulmonary embolism. *Ann Intern Med* 2003;139:19-25 [[12834314](#)]

Agnelli, 2001:

Agnelli G, Prandoni P, Santamaria MG, Bagatella P, Iorio A, Bazzan M, Moia M, Guazzaloca G, Bertoldi A, Tomasi C, Scannapieco G, Ageno W Three months versus one year of oral anticoagulant therapy for idiopathic deep venous thrombosis. Warfarin Optimal Duration Italian Trial Investigators. N Engl J Med 2001;345:165-9 [11463010]

LAFIT (Kearon), 1999:

Kearon C, Gent M, Hirsh J, Weitz J, Kovacs MJ, Anderson DR, Turpie AG, Green D, Ginsberg JS, Wells P, MacKinnon B, Julian JA A comparison of three months of anticoagulation with extended anticoagulation for a first episode of idiopathic venous thromboembolism. N Engl J Med 1999;340:901-7 [10089183]

Kearon C, Gent M, Hirsh J, Weitz J, Kovacs MJ, Anderson DR, Turpie AG, Green D, Ginsberg JS, Wells P, MacKinnon B, Julian JA A comparison of three months of anticoagulation with extended anticoagulation for a first episode of idiopathic venous thromboembolism. N Engl J Med 1999;340:901-7 [10089183]

ELAET (Kearon), 2004:

Kearon C, Ginsberg JS, Anderson DR, Kovacs MJ, Wells P, Julian JA, MacKinnon B, Demers C, Douketis J, Turpie AG, Van Nguyen P, Green D, Kassis J, Kahn SR, Solymoss S, Desjardins L, Geerts W, Johnston M, Weitz JI, Hirsh J, Gent M Comparison of 1 month with 3 months of anticoagulation for a first episode of venous thromboembolism associated with a transient risk factor. J Thromb Haemost 2004;2:743-9 [15099280]

Levine, 1995:

Levine MN, Hirsh J, Gent M, Turpie AG, Weitz J, Ginsberg J, Geerts W, LeClerc J, Neemeh J, Powers P Optimal duration of oral anticoagulant therapy: a randomized trial comparing four weeks with three months of warfarin in patients with proximal deep vein thrombosis. Thromb Haemost 1995;74:606-11 [8584992]

DURAC (Schulman), 1997:

Schulman S, Granqvist S, Holmström M, Carlsson A, Lindmarker P, Nicol P, Eklund SG, Nordlander S, Lrfars G, Leijd B, Linder O, Loogna E The duration of oral anticoagulant therapy after a second episode of venous thromboembolism. The Duration of Anticoagulation Trial Study Group. N Engl J Med 1997;336:393-8 [9010144]

ELATE, 2003:

Kearon C, Ginsberg JS, Kovacs MJ, Anderson DR, Wells P, Julian JA, MacKinnon B, Weitz JI, Crowther MA, Dolan S, Turpie AG, Geerts W, Solymoss S, van Nguyen P, Demers C, Kahn SR, Kassis J, Rodger M, Hambleton J, Gent M Comparison of low-intensity warfarin therapy with conventional-intensity warfarin therapy for long-term prevention of recurrent venous thromboembolism. N Engl J Med 2003;349:631-9 [12917299] 10.1056/NEJMoa035422

Ott import, 1998:

Ott P, Eldrup E, Oxholm P [Value of anticoagulant therapy in deep venous thrombosis in the lower limb in elderly, mobilized patients. A double-blind placebo controlled study with open therapeutic guidance] Ugeskr Laeger 1988;150:218-21 [3287734]

PREVENT, 2003:

Ridker PM, Goldhaber SZ, Danielson E, Rosenberg Y, Eby CS, Deitcher SR, Cushman M, Moll S, Kessler CM, Elliott CG, Paulson R, Wong T, Bauer KA, Schwartz BA, Miletich JP, Bounameaux H, Glynn RJ Long-term, low-intensity warfarin therapy for the prevention of recurrent venous thromboembolism. N Engl J Med 2003;348:1425-34 [12601075] 10.1056/NEJMoa035029

LAFIT, 1999:

Kearon C, Gent M, Hirsh J, Weitz J, Kovacs MJ, Anderson DR, Turpie AG, Green D, Ginsberg JS, Wells P, MacKinnon B, Julian JA A comparison of three months of anticoagulation with extended anticoagulation for a first episode of idiopathic venous thromboembolism. N Engl J Med 1999;340:901-7 [10089183] 10.1056/NEJM199903253401201

Levine, 1995:

Levine MN, Hirsh J, Gent M, Turpie AG, Weitz J, Ginsberg J, Geerts W, LeClerc J, Neemeh J, Powers P Optimal duration of oral anticoagulant therapy: a randomized trial comparing four weeks with three months of warfarin in patients with proximal deep vein thrombosis. *Thromb Haemost* 1995;74:606-11 [8584992]

10 coronary artery disease

Trial	Treatments	Patients	Trials design and methods
warfarin vs placebo			
WARIS , 1990 n=607/607 follow-up: 37 months	warfarin versus placebo	patients who had recovered from acute myocardial infarction (mean interval from the onset of symptoms to randomization, 27 days)	double-blind

More details and results :

- anticoagulant for coronary artery disease in all type of patients at <http://www.trialresultscenter.org/go-Q673>

References

WARIS, 1990:

Smith P, Arnesen H, Holme I The effect of warfarin on mortality and reinfarction after myocardial infarction. *N Engl J Med* 1990;323:147-52 [2194126]

11 peripheral vascular diseases

Trial	Treatments	Patients	Trials design and methods
warfarin vs contrle			
Sarac , 1998 n=32/24 follow-up: 3 ans	hparine (6 24 h avant l'intervention) puis warfarin pour un INR entre 2 et 3. versus pas d'anti-coagulation	AOMI stade non precis	Parallel groups Ouvert
Johnson , 2002 n=308/306 follow-up: 5 ans	warfarin 5 mg/j au 2me ou 3me j post-opratoire. INR cible : 1.4 2.8 versus contrle	stades II IV 614 patients inclus	Parallel groups Ouvert

More details and results :

- antithrombotics for peripheral vascular diseases in after revascularisation at <http://www.trialresultscenter.org/go-Q661>

- anticoagulant for peripheral vascular diseases in after revascularisation at <http://www.trialresultscenter.org/go-Q662>

References

Sarac, 1998:

Warfarin improves the outcome of infrainguinal vein bypass grafting at high risk for failure. Sarac TP, Huber TS, Back MR, Ozaki CK, Carlton LM, Flynn TC, Seeger JM J Vasc Surg 1998 Sep;28:446-57 [9737454]

Johnson, 2002:

Benefits, morbidity, and mortality associated with long-term administration of oral anticoagulant therapy to patients with peripheral arterial bypass procedures: a prospective randomized study. Johnson WC, Williford WO; Department of Veterans Affairs Cooperative Study 362 J Vasc Surg 2002 Mar;35:413-21 [11877686]

Entry terms: heparin, Heparin, Unfractionated Heparin, Heparinic Acid, Liquaemin, Sodium Heparin, Heparin Sodium, alpha-Heparin, alpha Heparin, , wafarin, Warfarin, Coumadine, Apo-Warfarin, Gen-Warfarin, Warfant, Coumadin, Marevan, Warfarin Potassium, Warfarin Sodium, Aldocumar, Tedicumar, , UFH