

Clinical trials of antithrombotics for thrombosis prevention in elective hip replacement

TrialResults-center www.trialresultscenter.org

1 direct factor Xa inhibitors

Trial	Treatments	Patients	Trials design and methods
apixaban vs enoxaparin			
ADVANCE 3 , 2010 [NCT00423319] n=2708/2699 follow-up: 35 days (+60)	apixaban 2.5mg twice daily for 35 days versus enoxaparin 40mg once daily for 35 days	patients undergoing elective total hip replacement surgery	Parallel groups double blind 21 countries
rivaroxaban vs enoxaparin			
RECORD 1 , 2008 [NCT00329628] n=2266/2275 follow-up: 36 days (range 30-42)	rivaroxaban 10mg once daily for 35 days versus enoxaparin 40mg subcutaneous once daily for 31-39 days	patients undergoing total hip arthroplasty	Parallel groups double blind 27 countries worldwide
edoxaban vs enoxaparin (short duration)			
STARS J-V [NCT01181167] n=255/248 follow-up:	edoxaban 30 mg once daily for 11 to 14 days versus subcutaneous enoxaparin 2,000 IU, equivalent to 20 mg, twice daily (BID) for 11 to 14 days	total hip arthroplasty	Parallel groups double-blind japan
rivaroxaban vs enoxaparin (short duration)			
ODIXa-HIP 10mg , 2006 n=142/157 follow-up: 5-9 days	rivaroxaban 10mg daily for 59 days versus once-daily subcutaneous enoxaparin dose of 40 mg for 59 days	patients undergoing elective total hip replacement	Parallel groups double blind Europe, Israel
rivaroxaban (long duration) vs enoxaparin (short duration)			
RECORD 2 , 2008 [NCT00332020] n=1252/1257 follow-up: 30-42 days	extended thromboprophylaxis with rivaroxaban 10mg once daily for 31-39 days versus enoxaparin 40mg subcutaneous once daily for 10-14 days	patients undergoing elective total hip replacement	Parallel groups double blind 21 countries worldwide

References

ADVANCE 3, 2010:

Lassen MR, Gallus A, Raskob GE, Pineo G, Chen D, Ramirez LM Apixaban versus Enoxaparin for Thromboprophylaxis after Hip Replacement. N Engl J Med 2010;363:2487-2498 [21175312] [10.1056/NEJMoa1006885](https://doi.org/10.1056/NEJMoa1006885)

RECORD 1, 2008:

Eriksson BI, Borris LC, Friedman RJ, Haas S, Huisman MV, Kakkar AK, Bandel TJ, Beckmann H, Muehlhofer E, Misselwitz F, Geerts W Rivaroxaban versus enoxaparin for

thromboprophylaxis after hip arthroplasty N Engl J Med 2008;358:2765-75 [18579811] 10.1056/NEJMoa0800374

STARS J-V, 0:

ODIXa-HIP 10mg, 2006:

Eriksson BI, Borris L, Dahl OE, Haas S, Huisman MV, Kakkar AK, Misselwitz F, Klebo P Oral, direct Factor Xa inhibition with BAY 59-7939 for the prevention of venous thromboembolism after total hip replacement. J Thromb Haemost 2006 Jan;4:121-8 [16409461]

Eriksson BI, Borris LC, Dahl OE, Haas S, Huisman MV, Kakkar AK, Muehlhofer E, Dierig C, Misselwitz F, Klebo P A once-daily, oral, direct Factor Xa inhibitor, rivaroxaban (BAY 59-7939), for thromboprophylaxis after total hip replacement. Circulation 2006 Nov 28;114:2374-81 [17116766]

RECORD 2, 2008:

Kakkar AK, Brenner B, Dahl OE, Eriksson BI, Mouret P, Muntz J, Soglian AG, Pap AF, Misselwitz F, Haas S Extended duration rivaroxaban versus short-term enoxaparin for the prevention of venous thromboembolism after total hip arthroplasty: a double-blind, randomised controlled trial. Lancet 2008 Jun 24;: [18582928]

2 Low molecular weight heparin

Trial	Treatments	Patients	Trials design and methods
semuloparin vs enoxaparin			
SAVE-HIP1 , 2012 [NCT00697099] n=1161/1165 follow-up:	Semuloparin 20 mg once-daily versus Enoxaparin 40 mg once-daily	-	
enoxaparin vs no treatment			
Warwick , 1995 n=78/78 follow-up: 8-10 days	enoxaparin 4000x1 + elastic stockings versus no treatment + elastic stockings	Elective hip	open
nadroparin vs no treatment			
Yoo , 1997 n=50/50 follow-up: 10 days	nadroparin 41/kgx1 days 1-3, 62/kg x1 days 4-11+elastic stockings versus no treatment	Elective hip	open
dalteparin vs placebo			
Torholm , 1991 n=58/54 follow-up: 9 days	dalteparin 5000x1 versus Placebo	Elective hip	double blind
enoxaparin vs placebo			
Kalodiki , 1996 n=13/14 follow-up: discharge (8-12 days)	enoxaparin 4000x1 versus Placebo	Elective hip	double blind
Samama , 1997 n=85/85 follow-up: 8-12 days	enoxaparin 4000x1+elastic stockings versus Placebo+elastic stockings	Elective hip	double blind

continued...

Trial	Treatments	Patients	Trials design and methods
Turpie , 1986 n=50/50 follow-up: 14 days or discharge	Enoxaparin 3000 x2 versus Placebo	Elective hip	double blind
tinzaparin vs placebo			
Lassen , 1991 n=105/105 follow-up: 8-10 days	tinzaparin 50/kg x1 +elastic stockings versus Placebo+elastic stockings	Elective hip	double blind
dalteparin vs Dextran			
Matzsch , 1991 n=120/123	dalteparin versus Dextran	Elective hip	
Eriksson , 1988 n=50/50	dalteparin versus Dextran	Elective hip	
Matzsch , 1988 n=48/52	dalteparin versus Dextran	Elective hip	
enoxaparin vs Dextran			
DES Group , 1991 n=120/126	Enoxaparin versus Dextran	Elective hip	
certoparine + DHE vs Unfractionated heparin			
Haas , 1987 n=80/80	Sandoz +0.5mg DHE versus Unfractionated heparin	Elective hip	
Lassen , 1988 n=118/122 follow-up: 6 days	certoparin 3000+0.5mg DHE, x1 versus Placebo	Elective hip	double blind
dalteparin vs Unfractionated heparin			
Binsack , 1986 n=48/47	dalteparin versus Unfractionated heparin	Elective hip	
Barre , 1987 n=40/40	dalteparin versus Unfractionated heparin	Elective hip	
Dechavanne , 1989 n=82/40	dalteparin versus Unfractionated heparin	Elective hip	
Eriksson , 1989 n=67/69	dalteparin versus Unfractionated heparin	Elective hip	

continued...

Trial	Treatments	Patients	Trials design and methods
Haas , 1985 n=65/65	dalteparin versus Unfractionated heparin	Elective hip	
enoxaparin vs Unfractionated heparin			
Levine , 1991 n=333/332	Enoxaparin versus Unfractionated heparin	Elective hip	
Planes , 1988 n=124/113	Enoxaparin versus Unfractionated heparin	Elective hip	
fluxum vs Unfractionated heparin			
Chiapuzzo , 1988 n=70/70	Fluxum versus Unfractionated heparin	Elective hip	
Pini , 1989 n=25/24	Fluxum versus Unfractionated heparin	Hip	
nadroparin vs Unfractionated heparin			
Leyvrax , 1991 n=203/206 follow-up:	Fraxiparin versus Unfractionated heparin	Elective hip	

4

References

SAVE-HIP1, 2012:

Lassen MR, Fisher W, Mouret P, Agnelli G, George D, Kakkar A, Mismetti P, Turpie AG Semuloparin for prevention of venous thromboembolism after major orthopedic surgery: results from three randomized clinical trials, SAVE-HIP1, SAVE-HIP2 and SAVE-KNEE. *J Thromb Haemost* 2012;10:822-32 [22429800] [10.1111/j.1538-7836.2012.04701.x](https://doi.org/10.1111/j.1538-7836.2012.04701.x)

Warwick, 1995:

Warwick D, Bannister GC, Glew D, Mitchelmore A, Thornton M, Peters TJ, Brookes S Perioperative low-molecular-weight heparin. Is it effective and safe. *J Bone Joint Surg Br* 1995 Sep;77:715-9 [7559695]

Yoo, 1997:

Yoo MC, Kang CS, Kim YH, Kim SK A prospective randomized study on the use of nadroparin calcium in the prophylaxis of thromboembolism in Korean patients undergoing elective total hip replacement. *Int Orthop* 1997;21:399-402 [9498151]

Torholm, 1991:

Torholm C, Broeng L, Jorgensen PS, Bjerregaard P, Josephsen L, Jorgensen PK, Hagen K, Knudsen JB Thromboprophylaxis by low-molecular-weight heparin in elective hip surgery. A placebo controlled study. *J Bone Joint Surg Br* 1991 May;73:434-8 [1670445]

Kalodiki, 1996:

Kalodiki EP, Hoppensteadt DA, Nicolaides AN, Fareed J, Gill K, Regan F, al-Kutoubi A, Cunningham DA, Birch R, Harris N, Hunt D, Johnson J, Marx C Deep venous thrombosis prophylaxis with low molecular weight heparin and elastic compression in patients having total hip replacement. A randomised controlled trial. *Int Angiol* 1996 Jun;15:162-8 [8803642]

Samama, 1997:

Samama CM, Clergue F, Barre J, Montefiore A, Ill P, Samii K Low molecular weight heparin associated with spinal anaesthesia and gradual compression stockings in total hip replacement surgery. *Arar Study Group. Br J Anaesth* 1997 Jun;78:660-5 [9215015]

Turpie, 1986:

Turpie AG, Levine MN, Hirsh J, Carter CJ, Jay RM, Powers PJ, Andrew M, Hull RD, Gent M A randomized controlled trial of a low-molecular-weight heparin (enoxaparin) to prevent deep-vein thrombosis in patients undergoing elective hip surgery. *N Engl J Med* 1986 Oct 9;315:925-9 [[3531851](#)]

Lassen, 1991:

Lassen MR, Borris LC, Christiansen HM, Boll KL, Eiskjaer SP, Nielsen BW, Schtt P, Olsen AD, Rodenberg JC, Lucht U Prevention of thromboembolism in 190 hip arthroplasties. Comparison of LMW heparin and placebo. *Acta Orthop Scand* 1991;62:33-8 [[1848385](#)]

Matzsch , 1991:

Eriksson , 1988:

Eriksson BI, Zachrisson BE, Teger-Nilsson AC, Risberg B Thrombosis prophylaxis with low molecular weight heparin in total hip replacement. *Br J Surg* 1988 Nov;75:1053-7 [[2463035](#)]

Matzsch , 1988:

DES Group , 1991:

Haas , 1987:

Haas S, Stemberger A, Fritsche HM, Welzel D, Wolf H, Lechner F, Blumel G Prophylaxis of deep vein thrombosis in high risk patients undergoing total hip replacement with low molecular weight heparin plus dihydroergotamine. *Arzneimittelforschung* 1987 Jul;37:839-43 [[2823840](#)]

Lassen, 1988:

Lassen MR, Borris LC, Christiansen HM, Moller-Larsen F, Knudsen VE, Boris P, Nehen AM, de Carvalho A, Jurik AG, Nielsen BW Heparin/dihydroergotamine for venous thrombosis prophylaxis: comparison of low-dose heparin and low molecular weight heparin in hip surgery. *Br J Surg* 1988 Jul;75:686-9 [[2843255](#)]

Binsack , 1986:

Barre , 1987:

Dechavanne , 1989:

Dechavanne M, Ville D, Berruyer M, Trepo F, Dalery F, Clermont N, Lerat JL, Moyon B, Fischer LP, Kher A Randomized trial of a low-molecular-weight heparin (Kabi 2165) versus adjusted-dose subcutaneous standard heparin in the prophylaxis of deep-vein thrombosis after elective hip surgery. *Haemostasis* 1989;19:5-12 [[2537787](#)]

Eriksson , 1989:

Haas , 1985:

Levine , 1991:

Planes , 1988:

Planes A, Vochelle N, Mazas F, Mansat C, Zucman J, Landais A, Pascariello JC, Weill D, Butel J Prevention of postoperative venous thrombosis: a randomized trial comparing unfractionated heparin with low molecular weight heparin in patients undergoing total hip replacement. *Thromb Haemost* 1988 Dec 22;60:407-10 [[2853459](#)]

Chiapuzzo , 1988:

Chiapuzzo E, Orengo GB, Ottria G, Chiapuzzo A, Palazzini E, Fusillo M The use of low molecular weight heparins for postsurgical deep vein thrombosis prevention in orthopaedic patients. *J Int Med Res* 1988 Sep-Oct;16:359-66 [[3197913](#)]

Pini , 1989:

Pini M, Tagliaferri A, Manotti C, Lasagni F, Rinaldi E, Dettori AG Low molecular weight heparin (Alfa LHWH) compared with unfractionated heparin in prevention of deep-vein thrombosis after hip fractures. *Int Angiol* 1989 Jul-Sep;8:134-9 [[2556484](#)]

Leyvraz, 1991:

Leyvraz PF, Bachmann F, Hoek J, Buller HR, Postel M, Samama M, Vandebroek MD Prevention of deep vein thrombosis after hip replacement: randomised comparison between unfractionated heparin and low molecular weight heparin. *BMJ* 1991 Sep 7;303:543-8 [[1655136](#)]

3 oral direct thrombin inhibitor

Trial	Treatments	Patients	Trials design and methods
dabigatran 150mg vs enoxaparin			
RE-NOVATE (150mg) , 2007 [NCT00168818] n=1174/1162 follow-up: 28-35 days, median 33d	dabigatran etexilate 150 mg q.d. 28-35 days versus Enoxaparin 40 mg q.d. for 28-25 days	Total hip replacement	double blind Europe, Australia, South Africa
dabigatran 220mg vs enoxaparin			
RE-NOVATE 2 <i>unpublished</i> [NCT00657150] n=1010/1003 follow-up: 28-35 days (mean 32d)	dabigatran 220mg once daily for 28-35 Days versus enoxaparin 40mg subcutaneous once daily for 28-35 Days	patients undergoing total hip-replacement surgery	Parallel groups double-blind
RE-NOVATE (220mg) , 2007 [NCT00168818] n=1157/1162 follow-up: 28-35 days, median 33d	dabigatran etexilate 220 mg q.d. for 28-35 days versus Enoxaparin 40 mg q.d. for 23-35 days	Total hip replacement	Parallel groups double blind Europe, Australia, South Africa
ximelagatran vs Enoxaparin			
Platinum (Colwell) , 2003 n=906/910 follow-up: 712 days	Ximelagatran 24 mg orally b.d., starting at least 12 h after surgery for 712 days versus Enoxaparin 30 mg s.c. b.d.,starting at least 12 h after surgery for 712 days	adults undergoing hip replacement	parallel group double-blind USA, Canada, Israel, Mexico,Argentina, South Africa
METHRO III , 2002 n=2788 follow-up: 811 days	Melagatran 3 mg s.c. 412h after surgery, then ximelagatran24 mg orally b.d. for 710 days versus Enoxaparin 40 mg s.c. o.d. 12 h before surgery for 710 days	hip or knee replacement	double-blind Europe, South Africa
EXPRESS , 2003 n=2835 follow-up: 811 days	Melagatran 2 mg s.c. up to 30 min before surgery, then melagatran 3 mg at least 8 hafter surgery, then ximelagatran 24 mg orally b.d. for 811 days versus Enoxaparin 40 mg s.c. o.d.,starting 12 h before surgery for 811 days	hip or knee replacement	parallel group double-blind Europe

References

RE-NOVATE (150mg), 2007:

Eriksson BI, Dahl OE, Rosencher N, Kurth AA, van Dijk CN, Frostick SP, Prins MH, Hettiarachchi R, Hantel S, Schnee J, Bller HR Dabigatran etexilate versus enoxaparin for prevention of venous thromboembolism after total hip replacement: a randomised, double-blind, non-inferiority trial. *Lancet* 2007;370:949-56 [[17869635](#)]

RE-NOVATE 2, 0:

RE-NOVATE (220mg), 2007:

Eriksson BI, Dahl OE, Rosencher N, Kurth AA, van Dijk CN, Frostick SP, Prins MH, Hettiarachchi R, Hantel S, Schnee J, Bller HR Dabigatran etexilate versus enoxaparin for prevention of venous thromboembolism after total hip replacement: a randomised, double-blind, non-inferiority trial. *Lancet* 2007;370:949-56 [[17869635](#)]

Platinum (Colwell), 2003:

Colwell CW Jr, Berkowitz SD, Davidson BL, Lotke PA, Ginsberg JS, Lieberman JR, Neubauer J, McElhattan JL, Peters GR, Francis CW Comparison of ximelagatran, an oral direct thrombin inhibitor, with enoxaparin for the prevention of venous thromboembolism following total hip replacement. A randomized, double-blind study. *J Thromb Haemost* 2003;1:2119-30 [[14521593](#)]

METHRO III, 2002:

Eriksson BI, Agnelli G, Cohen AT, Dahl OE, Mouret P, Rosencher N, Eskilson C, Nylander I, Frison L, Ogren M Direct thrombin inhibitor melagatran followed by oral ximelagatran in comparison with enoxaparin for prevention of venous thromboembolism after total hip or knee replacement. *Thromb Haemost* 2003;89:288-96 [[12574809](#)]

Mouret P [The oral direct thrombin inhibitor Ximelagatran Prophylaxis of venous thromboembolism in hip and knee replacement] *Hamostaseologie* 2002;22:21-4 [[12215757](#)]

Eriksson BI Clinical experience of melagatran/ximelagatran in major orthopaedic surgery. *Thromb Res* 2003;109 Suppl 1:S23-9 [[12818631](#)]

EXPRESS, 2003:

Eriksson BI, Agnelli G, Cohen AT, Dahl OE, Lassen MR, Mouret P, Rosencher N, Klebo P, Panfilov S, Eskilson C, Andersson M, Freij A The direct thrombin inhibitor melagatran followed by oral ximelagatran compared with enoxaparin for the prevention of venous thromboembolism after total hip or knee replacement: the EXPRESS study. *J Thromb Haemost* 2003;1:2490-6 [[14675083](#)]

Glynn O The express study: preliminary results. *Int J Clin Pract* 2003;57:57-9 [[12587945](#)]

4 platelet aggregation inhibitors

Trial	Treatments	Patients	Trials design and methods
Aspirin vs no treatment			
Rocha , 1986 n=60/30 follow-up: 1 weeks	Aspirin 250mg or 1000mg daily versus control (combination of heparin plus dihydroergotamine)	total hip replacement	Parallel groups open
Aspirin vs placebo			
Stockholm-I , 1975 n=26/25 follow-up: 2 weeks	Aspirin 2000mg daily versus placebo	elective surgery of the hip	double blind
Harris-I , 1977 n=58/59 follow-up: 1 weeks	Aspirin 1200mg daily versus placebo	patients over 40 years of age, who had undergone total hip replacement	Parallel groups double-blind
Sautter , 1983 n=68/77 follow-up: 3 weeks	Aspirin 900mg daily + sulfapyrazone versus placebo	patient with total hip replacement	Parallel groups
Hydroxychloroquine vs placebo			
Cooke , 1977 n=25/25 follow-up: 2 weeks	Hydroxychloroquine versus placebo	elective surgery on the hip	Parallel groups double-blind
Hume-A , 1977 n=20/20 follow-up: 2 weeks	Hydroxychloroquine versus placebo	total hip replacement	
Stockholm-II , 1981 n=18/17 follow-up: 2 weeks	Hydroxychloroquine versus placebo	total hip replacement	

References

Rocha, 1986:

Alfaro MJ, Pramo 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;56:53-6 [3535158]

Stockholm-I, 1975:

Soreff J, Johnsson H, Diener L, Gransson L Acetylsalicylic acid in a trial to diminish thromboembolic complications after elective hip surgery. *Acta Orthop Scand* 1975;46:246-55 [1096521]

Harris-I, 1977:

Harris WH, Salzman EW, Athanasoulis CA, Waltman AC, DeSanctis RW Aspirin prophylaxis of venous thromboembolism after total hip replacement. *N Engl J Med* 1977;297:1246-9 [335247]

Sautter, 1983:

Sautter RD, Koch EL, Myers WO, Ray JR 3rd, Mazza JJ, Larson DE, Chen HM, Milbauer JP, Treuhaft PS, Plotka ED Aspirin-sulfinpyrazone in prophylaxis of deep venous thrombosis in total hip replacement. *JAMA* 1983;250:2649-54 [6355542]

Cooke, 1977:

Cooke ED, Dawson MH, Ibbotson RM, Bowcock SA, Ainsworth ME, Pilcher MF Failure of orally administered hydroxychloroquine sulphate to prevent venous thromboembolism following elective hip operations. *J Bone Joint Surg Am* 1977;59:496-500 [325009]

Hume-A, 1977:

Hume M, Bierbaum B, Kuriakose TX, Surprenant, J Prevention of postoperative thrombosis by aspirin. *Am J Surg* 1977;133:420-2 [322520]

Hume M, Donaldson WR, Suprenant J Sex, aspirin, and venous thrombosis. *Orthop Clin North Am* 1978;9:761-7 [358040]

Stockholm-II, 1981:

Johansson E, Forsberg K, Johnsson H Clinical and experimental evaluation of the thromboprophylactic effect of hydroxychloroquine sulfate after total hip replacement. *Haemostasis* 1981;10:89-96 [7007179]

5 recombinant hirudin

Trial	Treatments	Patients	Trials design and methods
desirudin vs enoxaparin			
Ericksson , 1997 n=NA follow-up:	desirudin 15mg SC twice daily for 8-12 days versus enoxaparin 40mg once daily for 8-12 days	Patients who undergo total hip replacement	Parallel groups double blind Europe
desirudin vs UFH			
REVASC , 1997 n=225/220 follow-up:	desirudin 15mg twice daily versus unfractionated heparin 5000 IU three times a day	patients having a primary elective total hip replacement	Parallel groups

continued...

Trial	Treatments	Patients	Trials design and methods
Eriksson , 1996 n=1119 follow-up:	recombinant hirudin, desirudin (CGP 39393) 10, 15, or 20 mg twice daily started just before surgery and continued for 8-11 days versus unfractionated heparin 5000 IU three times daily started just before surgery and continued for 8-11 days	patients undergoing elective hip surgery	Parallel groups double blind Europe

References

Ericksson, 1997:

Eriksson BI, Wille-Jrgensen P, Klebo P, Mouret P, Rosencher N, Bsck P, Baur M, Ekman S, Bach D, Lindbratt S, Close P A comparison of recombinant hirudin with a low-molecular-weight heparin to prevent thromboembolic complications after total hip replacement. *N Engl J Med* 1997;337:1329-35 [9358126]

REVASC, 1997:

Eriksson BI, Ekman S, Lindbratt S, Baur M, Bach D, Torholm C, Klebo P, Close P Prevention of thromboembolism with use of recombinant hirudin. Results of a double-blind, multicenter trial comparing the efficacy of desirudin (Revasc) with that of unfractionated heparin in patients having a total hip replacement. *J Bone Joint Surg Am* 1997;79:326-33 [9070519]

Eriksson, 1996:

Eriksson BI, Ekman S, Kalebo P, Zachrisson B, Bach D, Close P Prevention of deep-vein thrombosis after total hip replacement: direct thrombin inhibition with recombinant hirudin, CGP 39393. *Lancet* 1996;347:635-9 [8596376]

6

6 synthetic oligosaccharide

Trial	Treatments	Patients	Trials design and methods
fondaparinux vs control			
NCT00320398 <i>ongoing</i> [NCT00320398] n=NA follow-up:	-	patients undergoing either an elective primary total hip replacement (THR) surgery or a revision of a THR	double-blind Japan
fondaparinux vs enoxaparin			
EPHESUS (Lassen) , 2002 n=1155/1154 follow-up: 11 days (6 weeks)	fondaparinux 2.5-mg once-daily subcutaneous, starting 6 hours after surgery versus enoxaprin 40mg once daily	elective hip replacement surgery	Parallel groups double blind 16 European countries
PENTATHLON (Turpie) , 2002 n=1138/1137 follow-up: 11 days	fondaparinux 2.5-mg once-daily subcutaneous, starting 6 hours after surgery versus enoxaparin 30mg twice daily (North america recommendation)	elective hip replacement surgery	Parallel groups double blind USA, Canada, Australia
SR123781A vs enoxaparin			

continued...

Trial	Treatments	Patients	Trials design and methods
DRIVE , 2008 [NCT00338897] n=854/169 follow-up: 5-10 days	SR123781A for 5-10 days, doses ranging from 0.25 to 4.0 mg daily for 10 days versus enoxaparin 40 mg	patients undergoing total hip replacement surgery	Parallel groups double blind 12 countries

References

NCT00320398, 0:

EPHESUS (Lassen), 2002:

Lassen MR, Bauer KA, Eriksson BI, Turpie AG Postoperative fondaparinux versus preoperative enoxaparin for prevention of venous thromboembolism in elective hip-replacement surgery: a randomised double-blind comparison. Lancet 2002 May 18;359:1715-20 [[12049858](#)]

PENTATHLON (Turpie), 2002:

Turpie AG, Bauer KA, Eriksson BI, Lassen MR Postoperative fondaparinux versus postoperative enoxaparin for prevention of venous thromboembolism after elective hip-replacement surgery: a randomised double-blind trial. Lancet 2002 May 18;359:1721-6 [[12049860](#)]

DRIVE, 2008:

Lassen MR, Dahl O, Mismetti P, Zielske D, Turpie AG SR123781A: a new once-daily synthetic oligosaccharide anticoagulant for thromboprophylaxis after total hip replacement surgery: the DRIVE (Dose Ranging Study in Elective Total Hip Replacement Surgery) study. J Am Coll Cardiol 2008 Apr 15;51:1498-504 [[18402906](#)]

7 About TrialResults-center.org

TrialResults-center is an innovative knowledge database that collects the results of RCTs and provides dynamic interactive systematic reviews and meta-analysis in the field of all major heart and vessels diseases.

The TrialResults-center database provides a unique view of the treatment efficacy based on all data provided directly from clinical trial results, offering a valuable alternative to personal bibliographic search, published meta-analysis, etc. Furthermore, it would allow comparing easily the various concurrent therapeutic for the same clinical condition.

Rigorous meta-analysis method is used to populate TrialResults-center: widespread search of published and non published trials, study selection using pre-specified criteria, data extraction using standard form.

TrialResults-center is continually updated on a weekly basis. We continually search all new results (whatever their publication channel) and these news results are immediately added to the database with a maximum of 1 week.

TrialResults-center is non-profit and self-funded.