

Clinical trials of nadroparin

TrialResults-center www.trialresultscenter.org

1 acute coronary syndrome

Trial	Treatments	Patients	Trials design and methods
nadroparin vs UFH (on top of aspirin)			
FRAXIS (14 days) , 1998 n=1151/1151 follow-up: 14 days	nadroparin for 14 days versus unfractionated heparin for 14 days	unstable angina or non-Q wave myocardial infraction	double blind 17 countries
FRAXIS (6days) , 1998 n=1166/1151 follow-up: 14 days	nadroparin for 6 days (+aspirin) versus unfractionated heparin for 6 days (+aspirin)	unstable angina or non-Q wave myocardial infraction	Parallel groups Double blind 17 countries

More details and results :

- antithrombotics for acute coronary syndrome in all type of patients at <http://www.trialresultscenter.org/go-Q24>
- heparin (UFH or LMWH) for acute coronary syndrome in all type of patients at <http://www.trialresultscenter.org/go-Q171>

References

FRAXIS (14 days), 1998:

Comparison of two treatment durations (6 days and 14 days) of a low molecular weight heparin with a 6-day treatment of unfractionated heparin in the initial management of unstable angina or non-Q wave myocardial infarction: FRAX.I.S. (FRAXiparine in Ischaemic Syndrome). Eur Heart J 1999;20:1553-62 [[10529323](#)]

FRAXIS (6days), 1998:

Comparison of two treatment durations (6 days and 14 days) of a low molecular weight heparin with a 6-day treatment of unfractionated heparin in the initial management of unstable angina or non-Q wave myocardial infarction: FRAX.I.S. (FRAXiparine in Ischaemic Syndrome). Eur Heart J 1999;20:1553-62 [[10529323](#)]

2 DVT prophylaxis

Trial	Treatments	Patients	Trials design and methods
nadroparin vs control			

continued...

Trial	Treatments	Patients	Trials design and methods
KANT (7 days) , 2008 n=657/660 follow-up: 3 months	once-daily subcutaneous injection of LMWH (nadroparin, 3800 anti-Xa IU) for 7 days versus full-length graduated compression stocking for 7 days	patients undergoing knee arthroscopy	Parallel groups open (blinded assessment) Italy
Roth , 1995 n=61/61 follow-up: 4 days	0.3 ml sc fraxiparine 2 hours before the operation and self administered daily (except the first two doses) for 4 days after surgery/x versus no treatment	patients undergoing ambulatory arthroscopic	Parallel groups Germany
Kujath , 1993 n=126/126 follow-up: 65279;16 days	Nadroparin 2850 IU versus no prophylaxis	patients with injuries of the lower limb immobilized by a plaster cast	Parallel groups open
nadroparin 14d vs control			
KANT (14 days) , 2008 n=444/660 follow-up: 3 months	once-daily subcutaneous injection of LMWH (nadroparin, 3800 anti-Xa IU) for 14 days versus full-length graduated compression stocking for 7 days	patients undergoing knee arthroscopy	Parallel groups open (blinded assessment) Italy
nadroparin vs enoxaparin			
FX140, Simonneau G , 2006 n=NA follow-up:	-	-	
nadroparin vs no treatment			
Marassi [41] n=31/33	Nadroparin 2850 anti-Xa units versus No treatment	-	Open
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
PROTECT (nadroparin) <i>ongoing</i> [NCT00881088] n=NA follow-up: 6 weeks	nadroparin 0,3 cc daily during immobilization versus no treatment	patients with a nonsurgical fracture of the lower extremity requiring immobilisation in a below-knee plaster cast	Parallel groups single blind

continued...

Trial	Treatments	Patients	Trials design and methods
nadroparin vs placebo			
Bergmann , 1996 n=NA follow-up: up to 21	nadroparin 7500 u anti-Xa once daily versus placebo	hospitalized medical	Parallel groups
Balas [40] n=94/95	Nadroparin 2850 anti-Xa units versus Placebo	-	Blind
Fraisse , 2000 n=109/114 follow-up: <=21 days	Nadroparin 38005700E once daily, Until no longer mechanical ventilation, <=21 days versus placebo	Acute decompensated chronic obstructive pulmonary diseasewith mechanical ventilation	Parallel groups double blind
Mahe , 2005 n=1230/1244 follow-up: <=21 days	nadroparin 7500E once daily, Until hospital discharge, <=21 days versus placebo	Congestive heart failure (NYHA IIIIV), acute or respiratory disease, nonpulmonary sepsis, cancer	Parallel groups double blind
Sourmelis , 1995 n=72/78 follow-up: 10-12 days	nadroparin 3075x1 preop, 6150x1 post op versus Placebo	Hip fracture	double blind
Pezzuoli , 1989 n=2247/2251 follow-up:	Nadroparin 2850 anti-Xa units versus Placebo	general surgery	Blind
Nurmohamed , 1996 n=241/244 follow-up: 56 days	Nadroparin, 7500 Institute Choay anti-Xa units per day subcutaneously 18-24 hours postoperatively plus compression for 10 days versus compression stockings + placebo	Craniotomy or spinal surgery for tumor or injury, 18 years or older, without excess bleeding risk	
out of hospital Nadroparin vs standard prophylaxis			
NPHDO , 1998 n=173/173	65279;in hospital thromboprophylaxis followed by out of hospital Nadroparin weight-adjusted for a total duration of 37-38 days versus Nadroparin weight-adjusted for 16-17 days	THR	
nadroparin vs Unfractionated heparin			
Kakkar and Murray , 1985 n=200/200 follow-up: 10 days	Nadroparin 2850 versus UFH 10 000 units	General surgery	Blind

continued...

Trial	Treatments	Patients	Trials design and methods
EFS , 1988 n=968/941 follow-up: 1 month	Nadroparin 2850 versus UFH 15 000 units	Abdominal surgery	Open
Leyvraz , 1991 n=203/206 follow-up:	Fraxiparin versus Unfractionated heparin	Elective hip	
Dahan , 1989 n=46/41 follow-up:	Nadroparin 2850 versus UFH 15 000 units	Thoracic surgery	Open
Barbui , 1990 n=171/173	Nadroparin 2850 anti Xa units versus UFH 10 000 units	General surgery	Open
Eurin , 1994 n=241/239	Nadroparin 2850 anti Xa units versus UFH 15 000 units	Abdominopelvic surgery	Open

More details and results :

- antithrombotics for DVT prophylaxis in orthopedic surgery at <http://www.trialresultscenter.org/go-Q37>
- antithrombotics for DVT prophylaxis in elective hip replacement at <http://www.trialresultscenter.org/go-Q39>
- antithrombotics for DVT prophylaxis in hip Fracture at <http://www.trialresultscenter.org/go-Q40>
- antithrombotics for DVT prophylaxis in medical patients at <http://www.trialresultscenter.org/go-Q87>
- antithrombotics for DVT prophylaxis in general surgery at <http://www.trialresultscenter.org/go-Q92>
- antithrombotics for DVT prophylaxis in abdominal surgery at <http://www.trialresultscenter.org/go-Q96>
- antithrombotics for DVT prophylaxis in neurosurgery at <http://www.trialresultscenter.org/go-Q99>
- antithrombotics for DVT prophylaxis in arthroscopy at <http://www.trialresultscenter.org/go-Q150>
- heparin (UFH or LMWH) for DVT prophylaxis in orthopedic surgery at <http://www.trialresultscenter.org/go-Q189>
- LMWH for DVT prophylaxis in orthopedic surgery at <http://www.trialresultscenter.org/go-Q190>
- heparin (UFH or LMWH) for DVT prophylaxis in general surgery at <http://www.trialresultscenter.org/go-Q195>
- LMWH for DVT prophylaxis in general surgery at <http://www.trialresultscenter.org/go-Q196>

- heparin (UFH or LMWH) for DVT prophylaxis in neurosurgery at <http://www.trialresultscenter.org/go-Q197>
- LMWH for DVT prophylaxis in neurosurgery at <http://www.trialresultscenter.org/go-Q198>
- LMWH for DVT prophylaxis in abdominal surgery at <http://www.trialresultscenter.org/go-Q202>
- antithrombotics for DVT prophylaxis in patients with immobilization of the lower extremities at <http://www.trialresultscenter.org/go-Q405>

References

KANT (7 days), 2008:

Camporese G, NTita K, Rossi F, Bernardi E, Verlato F, Salmistraro G, Cordova R, et al. Different thromboprophylaxis approaches in patients undergoing knee arthroscopy (KANT study): interim report of prospective randomized study-f Journal of Thrombosis Haemostasis.

Camporese G, Bernardi E, Prandoni P, Noventa F, Verlato F, Simioni P, Ntita K, Salmistraro G, Frangos C, Rossi F, Cordova R, Franz F, Zucchetta P, Kontothanassis D, Andreozzi GM Low-molecular-weight heparin versus compression stockings for thromboprophylaxis after knee arthroscopy: a randomized trial. Ann Intern Med 2008;149:73-82 [[18626046](#)]

Roth, 1995:

Roth P. Prophylaxis of deep vein thrombosis in outpatients undergoing arthroscopic meniscus operation. Orthopdische Praxis 1995;5:3458.

Kujath, 1993:

Kujath P, Spannagel U, Habscheid W Incidence and prophylaxis of deep venous thrombosis in outpatients with injury of the lower limb. Haemostasis 1993;23 Suppl 1:20-6 [[8388353](#)]

KANT (14 days), 2008:

Camporese G, Bernardi E, Prandoni P, Noventa F, Verlato F, Simioni P, Ntita K, Salmistraro G, Frangos C, Rossi F, Cordova R, Franz F, Zucchetta P, Kontothanassis D, Andreozzi GM Low-molecular-weight heparin versus compression stockings for thromboprophylaxis after knee arthroscopy: a randomized trial. Ann Intern Med 2008;149:73-82 [[18626046](#)]

FX140, Simonneau G, 2006:

Simonneau G, Laporte S, Mismetti P, Derlon A, Samii K, Samama CM, Bergman JF A randomized study comparing the efficacy and safety of nadroparin 2850 IU (0.3 mL) vs. enoxaparin 4000 IU (40 mg) in the prevention of venous thromboembolism after colorectal surgery for cancer. J Thromb Haemost 2006;4:1693-700 [[16796710](#)]

Simonneau G, Laporte S, Mismetti P, Derlon A, Samii K, Samama CM, Bergman JF A randomized study comparing the efficacy and safety of nadroparin 2850 IU (0.3 mL) vs. enoxaparin 4000 IU (40 mg) in the prevention of venous thromboembolism after colorectal surgery for cancer. J Thromb Haemost 2006 Aug;4:1693-700 [[16796710](#)]

Marassi [41], :

Marassi A, Balzano G, Mari G, D'Angelo SV, Della Valle P, Di Carlo V, D'Angelo A Prevention of postoperative deep vein thrombosis in cancer patients. A randomized trial with low molecular weight heparin (CY 216). Int Surg 1993;78:166-70 [[8394842](#)]

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](#)]

PROTECT (nadroparin), :

ongoing trial NCT00881088

Bergmann, 1996:

Bergmann JF, Caulin C Heparin prophylaxis in bedridden patients. *Lancet* 1996;348:205-6 [[8684189](#)]

Balas [40], :

Balas PE et al. Efficacy and safety of nadroparin (Fraxiparine) versus placebo in the prophylactic treatment of deep vein thrombosis in patients with high thromboembolic risk undergoing general surgery. *Thromb Res* 1992; 65(Suppl 1): S113 (Abstract)ag

Fraisse, 2000:

Fraisse F, Holzapfel L, Couland JM, Simonneau G, Bedock B, Feissel M, Herbecq P, Pordes R, Poussel JF, Roux L Nadroparin in the prevention of deep vein thrombosis in acute decompensated COPD. The Association of Non-University Affiliated Intensive Care Specialist Physicians of France. *Am J Respir Crit Care Med* 2000;161:1109-14 [[10764298](#)]

Mahe, 2005:

Pfeiffer CJ, Cho CH, Cheema A, Saltman D Reserpine-induced gastric ulcers: protection by lysosomal stabilization due to zinc. *Eur J Pharmacol* 1980;61:347-53 [[7371712](#)]

Sourmelis, 1995:

Pezzuoli, 1989:

Pezzuoli G, Neri Serneri GG, Settembrini P, Coggi G, Olivari N, Buzzetti G, Chierichetti S, Scotti A, Scatigna M, Carnovali M Prophylaxis of fatal pulmonary embolism in general surgery using low-molecular weight heparin Cy 216: a multicentre, double-blind, randomized, controlled, clinical trial versus placebo (STEP). STEP-Study Group. *Int Surg* 1989 Oct-Dec;74:205-10 [[2560470](#)]

Pezzuoli G, Neri Serneri GG, Settembrini PG, Coggi G, Olivari N, Negri G, Codemo R, Galli G, Roveri S Effectiveness and safety of the low-molecular-weight heparin CY 216 in the prevention of fatal pulmonary embolism and thromboembolic death in general surgery. A multicentre, double-blind, randomized, controlled clinical trial versus placebo (STEP). STEP Study Group. *Haemostasis* 1990;20 Suppl 1:193-204 [[1964662](#)]

Nurmohamed, 1996:

Nurmohamed MT, van Riel AM, Henkens CM, Koopman MM, Que GT, d'Azemar P, Bller HR, ten Cate JW, Hoek JA, van der Meer J, van der Heul C, Turpie AG, Haley S, Sicurella A, Gent M Low molecular weight heparin and compression stockings in the prevention of venous thromboembolism in neurosurgery. *Thromb Haemost* 1996;75:233-8 [[8815566](#)]

NPHDO, 1998:

Haentjens P.9 Venous thromboembolism after total hip arthroplasty: areview of incidence and prevention during hospitalization and afterhospital discharge *Acta Orthop Belg* 2000; 66: 18

Kakkar and Murray, 1985:

Kakkar VV, Murray WJ Efficacy and safety of low-molecular-weight heparin (CY216) in preventing postoperative venous thrombo-embolism: a co-operative study. *Br J Surg* 1985;72:786-91 [[3899240](#)]

EFS, 1988:

Comparison of a low molecular weight heparin and unfractionated heparin for the prevention of deep vein thrombosis in patients undergoing abdominal surgery. The European Fraxiparin Study (EFS) Group. Br J Surg 1988;75:1058-63 [2905187]

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]

Dahan, 1989:

Barbui, 1990:

Eurin, 1994:

3 venous thrombosis

Trial	Treatments	Patients	Trials design and methods
Nadroparin vs acenocoumarol			
Lopez-Beret , 2001 n=81/77 follow-up: 6-9 mo	LMWH, 1,025 IU/10 kg bid followed by Nadroparin 1,025 IU/10 kg bid versus LMWH, 1,025 IU/10 kg bid followed by Acenocoumarol target INR 2-3	patients with objective diagnosis of DVT by compression ultrasonography	open
Lopaciuk , 1999 n=101/101 follow-up: 9 mo	LMWH, 85 UI/kg bid followed by Nadroparin 85 IU/kg qd versus LMWH, 85 UI/kg bid followed by Acenocoumarol target INR 2-3	patients with objective diagnosis of DVT by Venography	open
extended nadroparin vs standard treatment			
Lopez Beret , 2001 n=NA follow-up: 12 months	Nadroparin 1.025 antiXa IU/10Kg twice daily after aadroparin 1.025AXa IU/10Kg twice daily for 3 days. After 3 months, nadroparin was switched to once daily versus acenocoumarol (target INR 2-3) for 3-6 months after nadroparin 1.025AXa IU/10Kg twice daily for 3 days	patients with known malignancy treated for symptomatic DVT of the lower limb	Parallel groups outcome assessment blinded
once daily nadroparin vs twice daily nadroparin			
Charbonnier , 1998 n=316/335 follow-up:	Once daily nadroparin 20,500 (AXa IU/ml)continued for at least 5 days versus twice daily nadroparin 10,250 (AXa IU/ml)continued for at least 5 days	patients with acute symptomatic proximal DVT in popliteal vein or above documented by venography	Parallel groups double blind Europe

continued...

Trial	Treatments	Patients	Trials design and methods
Nadroparin vs unfractionated heparin			
Collaborative European Multicentre , 1991 n=70/66 follow-up: 12 Weeks	Nadroparin Subcutaneous twice daily for 10 Days, 90 U/kg BID versus unfractionated heparin intravenous APPTx1.5-2	-	
Prandoni et al , 1992 n=85/85 follow-up: 6 Months	Nadroparin Subcutaneous twice daily for >=0 Days, 90 U/kg BID versus unfractionated heparin intravenous APPTx1.5-2	-	
Lopaciuk et al , 1992 n=74/75 follow-up: 3 Months	Nadroparin Subcutaneous twice daily for 10 Days, 92 U/kg BID versus unfractionated heparin subcutaneous twice daily APPTx1.5-2.5	-	

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 patients with cancer at <http://www.trialresultscenter.org/go-Q103>
- LMWH for venous thrombosis in all type of patients at <http://www.trialresultscenter.org/go-Q203>
- heparin (UFH or LMWH) for venous thrombosis in all type of patients at <http://www.trialresultscenter.org/go-Q204>

References

Lopez-Beret, 2001:

Lpez-Beret P, Orgaz A, Fontcuberta J, Doblaz M, Martinez A, Lozano G, Romero A Low molecular weight heparin versus oral anticoagulants in the long-term treatment of deep venous thrombosis. J Vasc Surg 2001;33:77-90 [[11137927](#)]

Lopaciuk, 1999:

Lopaciuk S, Bielska-Falda H, Noszczyk W, Bielawiec M, Witkiewicz W, Filipecki S, Michalak J, Ciesielski L, Mackiewicz Z, Czestochowska E, Zawilska K, Cencora A Low molecular weight heparin versus acenocoumarol in the secondary prophylaxis of deep vein thrombosis. Thromb Haemost 1999;81:26-31 [[9974369](#)]

Lopez Beret, 2001:

Lpez-Beret P, Orgaz A, Fontcuberta J, Doblaz M, Martinez A, Lozano G, Romero A Low molecular weight heparin versus oral anticoagulants in the long-term treatment of deep venous thrombosis. J Vasc Surg 2001;33:77-90 [[11137927](#)]

Charbonnier, 1998:

Charbonnier BA, Fiessinger JN, Banga JD, Wenzel E, d'Azemar P, Sagnard L Comparison of a once daily with a twice daily subcutaneous low molecular weight heparin regimen in the treatment of deep vein thrombosis. FRAXODI group. *Thromb Haemost* 1998;79:897-901 [9609216]

Collaborative European Multicentre, 1991:

A randomised trial of subcutaneous low molecular weight heparin (CY 216) compared with intravenous unfractionated heparin in the treatment of deep vein thrombosis. A collaborative European multicentre study. *Thromb Haemost* 1991 Mar 4;65:251-6 [1646490]

Prandoni et al , 1992:

Prandoni P, Lensing AW, Buller HR, Carta M, Cogo A, Vigo M, Casara D, Ruol A, ten Cate JW Comparison of subcutaneous low-molecular-weight heparin with intravenous standard heparin in proximal deep-vein thrombosis. *Lancet* 1992 Feb 22;339:441-5 [1346817]

Lopaciuk et al , 1992:

Lopaciuk S, Meissner AJ, Filipecki S, Zawilska K, Sowier J, Ciesielski L, Bielawiec M, Glowinski S, Czestochowska E Subcutaneous low molecular weight heparin versus subcutaneous unfractionated heparin in the treatment of deep vein thrombosis: a Polish multicenter trial. *Thromb Haemost* 1992 Jul 6;68:14-8 [1325076]

4 pulmonary embolism

6

Trial	Treatments	Patients	Trials design and methods
Nadroparin vs unfractionated heparin			
European multicentre study , 1991 n=61/47 follow-up: 3 mo	Nadroparin, 47506650 antifactor Xa IU twice daily, 10 days versus Unfractionated heparin: no bolus, infusion, 20 IU/kg per hour	Symptomatic proximal DVT	Parallel groups open (blind assessment) Europe
Prandoni sub-group , 1992 n=45/46 follow-up: 6 mo	Nadroparin, 47506650 antifactor Xa IU twice daily, 10 days versus Unfractionated heparin: bolus 100 IU/kg, infusion 35 000 IU/d	Symptomatic proximal DVT	Parallel groups open
Thery , 1992 n=35/33 follow-up: 14 d	Nadroparin, 76 IU/kg twice daily, 14 days versus Unfractionated heparin: bolus 50 IU/kg, infusion 600 IU/kg per day	patients with submassive pulmonary embolism	Parallel groups open

More details and results :

- antithrombotics for pulmonary embolism in all type of patients at <http://www.trialresultscenter.org/go-Q102>

References

European multicentre study, 1991:

A randomised trial of subcutaneous low molecular weight heparin (CY 216) compared with intravenous unfractionated heparin in the treatment of deep vein thrombosis. A collaborative European multicentre study. *Thromb Haemost* 1991;65:251-6 [1646490]

Prandoni sub-group, 1992:

Prandoni P, Lensing AW, Bller HR, Carta M, Cogo A, Vigo M, Casara D, Ruol A, ten Cate JW Comparison of subcutaneous low-molecular-weight heparin with intravenous standard heparin in proximal deep-vein thrombosis. *Lancet* 1992;339:441-5 [1346817]

Prandoni P, Carnovali M, Marchiori A Subcutaneous adjusted-dose unfractionated heparin vs fixed-dose low-molecular-weight heparin in the initial treatment of venous thromboembolism. *Arch Intern Med* 2004;164:1077-83 [15159264]

Thery, 1992:

Thry C, Simonneau G, Meyer G, Hlnon O, Bridey F, Armagnac C, d’Azemar P, Coquart JP Randomized trial of subcutaneous low-molecular-weight heparin CY 216 (Fraxiparine) compared with intravenous unfractionated heparin in the curative treatment of submassive pulmonary embolism. A dose-ranging study. *Circulation* 1992;85:1380-9 [1313340]

5 superficial thrombophlebitis

10

Trial	Treatments	Patients	Trials design and methods
nadroparin fixed-dose vs nadroparin weight-adjusted			
Vesalio , 2005 n=NA follow-up:	LMWH (nadroparin) body-weight adjusted (full dose for 10 days followed by half dose for 20 additional days) versus nadroparin (2850 anti-Xa IU) for 30 days	patients with superficial vein thrombosis of the great saphenous vein with the thrombosis extending up to 3 cm from the sapheno-femoral junction	
nadroparin vs naproxene			
Titon (nadroparin 0.6ml vs naproxen) , 1994 n=NA follow-up:	nadroparin (s.c. 0.6 ml for 6150 IU anti-Xa once daily) versus Naproxene (oral 500 mg once daily)	patients with ST	
Titon (nadroparin 61.5 IU anti-Xa/kg vs naproxen) , 1994 n=NA follow-up:	nadroparin (s.c. 0.6 ml for 6150 IU anti-Xa once daily) versus Naproxene (oral 500 mg once daily)	patients with ST	

More details and results :

- antithrombotics for superficial thrombophlebitis in superficial thrombophlebitis of the leg at <http://www.trialresultscenter.org/go-Q218>

References

Vesalio, 2005:

Prandoni P, Tormene D, Pesavento R High vs. low doses of low-molecular-weight heparin for the treatment of superficial vein thrombosis of the legs: a double-blind, randomized trial. J Thromb Haemost 2005;3:1152-7 [[15946202](#)]

Titon (nadroparin 0.6ml vs naproxen), 1994:

Titon (nadroparin 61.5 IU anti-Xa/kg vs naproxen), 1994:

Entry terms: fraxiparin, Nadroparin, Nadroparine, Nadroparin Calcium, Fraxiparin, Fraxiparine, CY 216, CY-216, CY216, LMF CY-216, LMF CY 216, LMF CY216, , Nadroparine, Fraxiparin, Fraxiparine, CY 216, CY-216, CY216, LMF CY-216, LMF CY 216, LMF CY216,