

Clinical trials of heparin (UFH or LMWH) for thrombosis prevention in general surgery

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1 low molecular weight heparin

Trial	Treatments	Patients	Trials design and methods
enoxaparin vs no treatment			
Ho [43] n=134/169	Enoxaparin 4000 anti-Xa units versus No treatment	-	Open
nadroparin vs no treatment			
Marassi [41] n=31/33	Nadroparin 2850 anti-Xa units versus No treatment	-	Open
dalteparin vs placebo			
Ockelford , 1989 n=102/95	Dalteparin 2500 anti-Xa units versus Placebo	general surgery	Blind
fluxum vs placebo			
Valle , 1988 n=50/50	Parnaparin 3200 anti-Xa units versus Placebo	general surgery	Blind
nadroparin vs placebo			
Balas [40] n=94/95	Nadroparin 2850 anti-Xa units versus Placebo	-	Blind
Pezzuoli , 1989 n=2247/2251 follow-up:	Nadroparin 2850 anti-Xa units versus Placebo	general surgery	Blind
tinzaparin vs placebo			
Bergqvist [42] n=39/41 follow-up:	Tinzaparin 3500 anti-Xa units versus Placebo	-	Parallel groups Blind
antixarin vs unfractionated heparin			
Limmer , 1994 n=103/100	Antixarin 2500 anti Xa units versus UFH 15 000 units	General surgery	Open
ardeparin vs unfractionated heparin			
Godwin , 1993 n=595/309	Ardeparin 90 and 50 units/kg b.i.d versus UFH 10 000 units	Abdominopelvic surgery	Blind

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Trial	Treatments	Patients	Trials design and methods
certoparin vs unfractionated heparin			
Schmitz-Huebner , 1984 n=84/42 follow-up: 1 month	Certoparin (dose 1 and dose 2) b.i.d. versus UFH 10 000 units	Abdominal surgery	Blind
Sasahara , 1986 n=137/132 follow-up: 7 days	Certoparin 3000 + DHE versus UFH 10 000 units +DHE	Abdominal surgery	Blind
Voigt , 1986 n=103/97 follow-up: 10 days	Certoparin 3000 + DHE versus UFH 10 000 units	Abdominal surgery	Blind
Welzel , 1988 n=98/103 follow-up: 7 days	Certoparin 2500 + DHE versus UFH 10 000 units+DHE	Abdominal surgery	Open
Kakkar , 1989 n=88/91 follow-up:	Certoparin 3000 + DHE versus UFH 10 000 units+DHE	Abdominal surgery	Blind
Adolf , 1989 n=205/205 follow-up: 1 month	Certoparin 3000 versus UFH 15 000 units	Abdominal surgery	Blind
Heilmann , 1989 n=150/150 follow-up: 10 days	Certoparin 3000 versus UFH 15 000 units	Gynaecological surgery	Blind
Baumgartner , 1989 n=99/102 follow-up: 10 days	Certoparin 3000 + DHE versus UFH 5 000 units+DHE	Abdominal surgery	Blind
Hoffmann and Largiade , 1990 n=464/452 follow-up:	Certoparin 3000 + DHE versus UFH 10 000 units	Abdominal surgery	NA
Kopenhagen , 1990 n=51/53	Certoparin 3000 anti Xa units versus UFH 15 000 units	Abdominal surgery	Blind
Schielke , 1991 n=47/51	Certoparin 3000 anti Xa units + DHE versus UFH 10 000 units + DHE	Abdominal surgery	Open
Kopenhagen , 1992 n=336/337	Certoparin 3000 anti Xa units versus UFH 15 000 units	Abdominal surgery	Blind
Hoffmann and Largiader , 1992 n=298/296	Certoparin 3000 anti Xa units versus UFH 10 000 units	Abdominothoracic surgery	Blind
Heilmann , 1997 n=179/179	Certoparin 3000 anti Xa units versus UFH 15 000 units	Gynaecological and breast surgery	Blind

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Trial	Treatments	Patients	Trials design and methods
Haas , 1999 n=11542/11536	Certoparin 3000 anti Xa units versus UFH 15 000 units	General surgery	Blind
dalteparin vs unfractionated heparin			
Briel , 1988 n=95/98 follow-up:	Dalteparin 5000 versus UFH 10 000 units+DHE	Gynaecological surgery	NA
Bergqvist , 1986 n=215/217 follow-up: 1 month	Dalteparin 5000 versus UFH 10 000 units	Abdominal surgery	Blind
Onarheim , 1986 n=25/27 follow-up: 1 month	Dalteparin 5000 versus UFH 10 000 units	Abdominal surgery	Blind
Koller , 1986 n=23/20 follow-up: 30 days	Dalteparin 7500 versus UFH 10 000 units	Abdominal surgery	Blind
Koller , 1986 n=75/75 follow-up: 30 days	Dalteparin 2500 versus UFH 10 000 units	Abdominal surgery	Blind
Fricker , 1988 n=40/40 follow-up: 1-2 months	Dalteparin 5000 versus UFH 15 000 units	Abdominopelvic surgery	Open
Bergqvist , 1988 n=505/497 follow-up: 1 month	Dalteparin 5000 versus UFH 10 000 units	Abdominal surgery	Blind
Caen , 1988 n=195/190 follow-up: 1 month	Dalteparin 2500 versus UFH 10 000 units	Abdominal surgery	Blind
Borstad , 1988 n=105/110 follow-up:	Dalteparin 5000 versus UFH 10 000 units	Gynaecological surgery	Blind
Creperio , 1990 n=20/20 follow-up:	Dalteparin 2500 versus UFH 10 000 units	General surgery	Blind
Hartl , 1990 n=126/124 follow-up: >7 days	Dalteparin 2500 versus UFH 10 000 units	Abdominal surgery	Blind
Borstad , 1992 n=77/75	Dalteparin 2500 anti Xa units versus UFH 10 000 units	Gynaecological surgery	Blind
Kakkar , 1993 n=1894/1915	Dalteparin 2500 anti Xa units versus UFH 10 000 units	Abdominal surgery	Blind
enoxaparin vs unfractionated heparin			

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Trial	Treatments	Patients	Trials design and methods
Samama 2 , 1988 n=127/123 follow-up: 7 days	Enoxaparin 4000 versus UFH 15 000 units	General surgery	Open
Samama 1 , 1988 n=168/167 follow-up: 7 days	Enoxaparin 2000 versus UFH 15 000 units	General surgery	Open
Samama 3 , 1988 n=160/147 follow-up: 7 days	Enoxaparin 6000 versus UFH 15 000 units	General surgery	Open
Kaaja , 1992 n=37/31	Enoxaparin 2000 anti Xa units versus UFH 10 000 units	Gynaecological surgery	Blind
Gazzaniga (ISG) , 1993 n=561/561	Enoxaparin 2000 anti Xa units versus UFH 10 000 units	General and vascular surgery	Open
Nurmohamed , 1995 n=737/734	Enoxaparin 2000 anti Xa units versus UFH 15 000 units	General surgery	Blind
McLeod (Canadian) , 1995 n=674/675	Enoxaparin 4000 anti Xa units versus UFH 15 000 units	Colorectal surgery	Blind
Gonzalez , 1996 n=84/82	Bemiparin 2500 anti Xa units versus UFH 10 000 units	Abdominal surgery	Blind
ENOXACAN , 1997 n=555/560	Enoxaparin 4000 anti Xa units versus UFH 15 000 units	Abdominopelvic surgery	Blind
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
EFS , 1988 n=968/941 follow-up: 1 month	Nadroparin 2850 versus UFH 15 000 units	Abdominal surgery	Open
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
parnaparin vs unfractionated heparin			

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Trial	Treatments	Patients	Trials design and methods
Catania , 1988 n=88/85 follow-up:	Parnaparin 3200 versus UFH 15 000 units	Abdominal surgery	Open
Salcuni , 1988 n=73/68 follow-up:	Parnaparin 3200 versus UFH 15 000 units	Abdominal surgery	Open
Verardi , 1989 n=44/44 follow-up:	Parnaparin 6400 versus UFH 10 000 units	Abdominal/urological surgery	NA
Garcea , 1992 n=45/45	Parnaparin 3200 anti Xa units versus UFH 15 000 units	Abdominal surgery	Open
reviparin vs unfractionated heparin			
Kakkar , 1993 n=672/679	Reviparin 1750 anti Xa units versus UFH 10 000 units	General and gynaecological surgery	Blind
SSHA vs unfractionated heparin			
Torngren , 1984 n=309/162 follow-up: Discharge	SSHA 50 mg and 37.5 mg versus UFH 10 000 units	General surgery	Blind
tinzaparin vs unfractionated heparin			
Leizorovicz , 1991 n=861/429	Tinzaparin 2500 and 3500 anti Xa units versus UFH 10 000 units	Abdominothoracic and gynaecological surgery	Blind

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