

Clinical trials of 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 |
| certoparin vs unfractionated heparin | | | |

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| Trial | Treatments | Patients | Trials design and methods |
|---|---|-----------------------------------|----------------------------------|
| 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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