

# Clinical trials of UFH

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## 1 acute myocardial infarction

Trial	Treatments	Patients	Trials design and methods
<b>UFH vs no heparin</b>			
<a href="#">ISIS-2 Pilot , 1987</a> n=106/103 follow-up: 65279;In-hospital, 1 y (deat	UFH nNo bolus, 1000 IU/h for 48 h versus 65279;No heparin	patients with s65279;uspected MI <=24 h	Parallel groups open
<a href="#">DUCCS , 1994</a> n=128/122 follow-up: 14 d	UFH no bolus, 15 IU/kg per h for 4 d; target aPTT 5090 s versus No heparin	patients with acute myocardial infarction four hours after APSAC administration, age <=85 y STEMI <=12 h	Parallel groups open
<b>UFH vs placebo</b>			
<a href="#">ECSG , 1992</a> n=324/320 follow-up: In-hospital	UFH 5000 IU bolus, UFH 1000 IU/h for 48120 h versus Placebo	patients treated with alteplase thrombolysis for acute myocardial infarction, Age 2170 y STEMI <=6h	Parallel groups Double-blind
<a href="#">OSIRIS , 1992</a> n=64/64 follow-up: In-hospital	UFH 10 000 IU bolus, 1000 IU/h for 24 h versus Placebo	STEMI w=6 h	Parallel groups Double-blind

More details and results :

- antithrombotics for acute myocardial infarction in all type of patients at <http://www.trialresultscenter.org/go-Q36>
- heparin (UFH or LMWH) for acute myocardial infarction in patients eligible to receive fibrinolytic therapy at <http://www.trialresultscenter.org/go-Q308>

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## 2 acute coronary syndrome

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Trial	Treatments	Patients	Trials design and methods
<b>UFH vs control (on top of aspirin)</b>			
Holdright , 1994 n=154/131 follow-up: hospital stay	intravenous heparin plus oral aspirin (150 mg once daily) versus aspirin alone 150 mg/d	unstable angina	Parallel groups single blind
RISC (heparin+aspirin vs ASP) , 1990 n=210/189 follow-up: 90 days	5 days of intermittent intravenous heparin + oral aspirin 75 mg/day versus oral aspirin 75 mg/day	unstable angina or non-Q-wave myocardial infarction	Parallel groups open
Theroux (heparin+ASP vs ASP) , 1988 n=122/121 follow-up: 3-9 days	aspirin 325 mg/d + heparin 1000 UI/hr IV versus aspirin 325 mg/d		double blind
<b>UFH, warfarin vs control (on top of aspirin)</b>			
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

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
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
<b>UFH vs placebo</b>			
RISC (heparin vs PBO) , 1990 n=198/199 follow-up: 1y (5,30 and 90 days)	5 days of intermittent intravenous heparin versus placebo	men with unstable coronary artery disease (unstable angina or non-Q-wave myocardial infarction)	Factorial plan Sweden
Theroux (heparin vs PBO) , 1988 n=118/118 follow-up: 3-9 days	heparin (1000 units per hour by intravenous infusion) versus placebo	patients with acute unstable angina pectoris	double blind
<b>UFH + aspirin vs placebo</b>			
RISC (ASP+ heparin vs PBO) , 1990 n=210/199 follow-up: 1y (5,30 and 90 days)	oral aspirin 75mg/d + intermittent IV heparin 10000UI/d followed by 7500 UI 6-hourly for 4 days versus placebo	men with unstable coronary artery disease (unstable angina or non-Q-wave myocardial infarction)	Sweden
Theroux (heparin+aspirin vs PBO) , 1988 n=122/118 follow-up: 3-9 days	heparin (1000 units per hour by intravenous infusion)+ aspirin (325 mg twice daily) versus aspirin (325 mg twice daily)	-	double blind
<b>UFH vs placebo (on top of aspirin)</b>			
Gurfinkel (UFH+aspirin vs aspirin) , 1995 n=70/73 follow-up: 5-7 days	aspirin plus UFH 5000 IU iv then 400 IU/kg body weight per day intravenously and titered by activated partial thromboplastin time versus aspirin 200 mg/day	patients greater than 21 years with unstable angina within 24 hours of randomization	Parallel groups double blind
<b>UFH, warfarin vs aspirin</b>			
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

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>

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### 3 thrombosis prevention

Trial	Treatments	Patients	Trials design and methods
<b>IPC + UFH vs control</b>			
Killewich , 1997 n=NA follow-up:	low-dose heparin sodium therapy (5000 U every 12 hours) and calf-length intermittent mechanical compression devices versus no prophylaxis	patients undergoing aortic reconstruction for aneurysmal or occlusive disease	open
<b>UFH vs control</b>			
Handley , 1972 n=30/30 follow-up: 14 d	Heparin 5000 U IV (loading dose) followed by 20 000 U IV twice daily versus no heparin	Myocardial infarction	Parallel groups
Handley (low dose) , 1972 n=26/24 follow-up: 7 d	Heparin 5000 U IV and 7500 U SC as soon as possible, then 7500 U SC twice daily versus no heparin	Myocardial infarction	Parallel groups
Blech , 1981 n=50/50 follow-up: <=14 days	Unfractionated heparin, 5000 U trice daily, until mobilized versus control	Heart failure, chest infection	Parallel groups open
Gallus , 1973 n=38/40 follow-up: until mobile	heparin 5000 U SC 3 times daily versus no heparin	Myocardial infarction	Parallel groups
Cade n=NA follow-up: <=10 days	-	Age >40, complete bed rest, cardiac failure, obesity, previous VTE, cancer or recent surgery	Parallel groups
Warlow , 1973 n=73/73 follow-up: 10 d	Heparin sodium 5000 U SC twice dailyly versus no heparin	Myocardial infarction	Parallel groups double blind

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
Gardlund , 1996 n=5776/5917 follow-up: <=60 days	Unfractionated heparin, 5000 U twice daily, until hospital discharge, <=21 days versus control	Age >55, infectious disease Immobilization	Parallel groups open
Emerson , 1973 n=37/41 follow-up: NA	Heparin Low dose SCium9 versus no heparin	Myocardial infarction	Parallel groups
Zawilska , 1989 n=50/53 follow-up: 14-21 d	Heparin sodium 5000 IU SC twice daily for 14 to 21 days versus no heparin	patients with acute myocardial infarction, disqualified for thrombolytic treatment	Parallel groups
<b>UFH vs no treatment</b>			
Abernethy , 1974 n=63/62	UFH twice daily for 7 days versus no treatment	all other general surgery	
Abraham-Inpijn , 1979 n=20/20	UFH twice daily for 7 days versus no treatment	all other general surgery	
Allen , 1978 n=30/30	UFH twice daily for D versus no treatment	urologic surgery	
Bergqvist , 1979 n=84/77	UFH twice daily for 5 days versus no treatment	elective orthopedic surgery	
Bergqvist , 1979 n=32/23	UFH twice daily for 5 days versus no treatment	traumatic orthopedic surgery	
Bergqvist , 1980 n=53/58	UFH twice daily for 5 days versus no treatment	all other general surgery	
Caloghera , 1984 n=40/40	UFH 3 times daily for 7 days versus no treatment	all other general surgery	
Clarke-Pearson , 1983 n=95/105	UFH twice daily for 7 days versus no treatment	all other general surgery	
Coe , 1978 n=28/24	UFH twice daily for D versus no treatment	urologic surgery	

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
Dechavanne , 1974 n=29/29	UFH 3 times daily for 10 days versus no treatment	elective orthopedic surgery	
Dechavanne , 1975 n=20/21	UFH 3 times daily for 10 days versus no treatment	elective orthopedic surgery	
Galasko , 1976 n=50/50	UFH twice daily (duration unknown) versus no treatment	traumatic orthopedic surgery	
Gallus , 1973 n=23/23	UFH 3 times daily for A versus no treatment	traumatic orthopedic surgery	
Gallus , 1973 n=8/9	UFH twice daily for A days versus no treatment	elective orthopedic surgery	
Gallus , 1973 n=100/109	UFH 3 times daily for A versus no treatment	all other general surgery	
Gallus , 1976 n=408/412	UFH 3 times daily for 7 days versus no treatment	all other general surgery	
Gordon-Smith , 1972 n=NA	UFH twice daily for 5 days versus no treatment	all other general surgery	
Groote Schuur , 1979 n=323/323	UFH 3 times daily for 6 days versus no treatment	all other general surgery	
Gruber n=119/113	UFH 3 times daily for 7 days versus no treatment	All other general surgery	
Kakkar (IMT) n=2111/2137	UFH 3 times daily for 7 days versus no treatment	All other general surgery	
Kettunen , 1974 n=83/117	UFH 3 times daily for 7 days versus no treatment	all other general surgery	
Koppenhagen , 1982 n=162/50	UFH twice daily versus no treatment	all other general surgery	

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
Kraytman , 1976 n=21/28	UFH 3 times daily for 6 days versus no treatment	all other general surgery	
Kraytman , 1977 n=23/27	UFH 3 times daily for 6 days versus no treatment	all other general surgery	
Mannucci , 1976 n=23/24	UFH 3 times daily for 7 days versus no treatment	elective orthopedic surgery	
Marchelli , 1983 n=30/30	UFH 3 times daily for ? versus no treatment	all other general surgery	
Morris , 1974 n=36/36	UFH twice daily for 10 days versus no treatment	elective orthopedic surgery	
Morris , 1977 n=24/24	UFH 3 times daily for 10 days versus no treatment	traumatic orthopedic surgery	
Multiunit , 1974 n=128/128	UFH twice daily for 7 days versus no treatment	all other general surgery	
Nicolaides , 1972 n=128/122	UFH twice daily for 7 days versus no treatment	all other general surgery	
Plante , 1979 n=42/66	UFH twice daily for 8 days versus no treatment	all other general surgery	
Sagar , 1974 n=264/236	UFH twice daily for 5 days versus no treatment	all other general surgery	
Sebeseri , 1975 n=34/31	UFH twice daily for D versus no treatment	urologic surgery	
Spebar , 1981 n=24/19	UFH twice daily for 5-7 days versus no treatment	all other general surgery	
VTCSG , 1975 n=34/30	UFH twice daily for 10 days versus no treatment	elective orthopedic surgery	

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
Welin-Berger , 1982 n=20/20	UFH twice daily for 7 days versus no treatment	elective orthopedic surgery	
Ziemski , 1979 n=30/20	UFH 3 times daily for 2 days versus no treatment	all other general surgery	
Cerrato , 1978 n=50/50 follow-up: NA	Unfractionated heparin, 5000 IU subcutaneously 3 times a day, starting 2 hours preoperatively for +7 days versus no treatment	Elective neurosurgery for tumors, 40 years or older	
<b>UFH vs placebo</b>			
Abraham-Inpijn , 1975 n=12/13	UFH twice daily for 8 days versus placebo	elective orthopedic surgery	
Bejjani , 1983 n=17/17	UFH twice daily for 2 days versus placebo	urologic surgery	
Belch , 1980 n=24/25	UFH twice daily for 7 days versus placebo	all other general surgery	
Pitt , 1980 n=36/37 follow-up: 2-3 d	Heparin 500 U IV twice daily versus placebo	patients with acute myocardial infarction of less than 48 hours duration	Parallel groups open
Covey , 1975 n=53/52	UFH twice daily for 8 days versus placebo	all other general surgery	
Hampson , 1974 n=48/52	UFH 3 times daily for 7- 10 days versus placebo	elective orthopedic surgery	
Hedlund , 1979 n=30/29	UFH 3 times daily for 5 days versus placebo	urologic surgery	
Jourdan , 1984 n=21/21	UFH twice daily for 5 days versus placebo	all other general surgery	
Kakkar , 1972 n=39/39	UFH twice daily for 7 days versus placebo	All other general surgery	

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
Kiil , 1978 n=650/663	UFH twice daily for 7 days versus placebo	All other general surgery	
Kraytman , 1977 n=25/22	UFH 3 times daily for 6 days versus placebo	all other general surgery	
Kruse-Blinkenberg , 1980 n=29/33	UFH 3 times daily for 8 days versus placebo	all other general surgery	
Kutnowski , 1977 n=6/13	UFH 3 times daily for 6 days versus placebo	urologic surgery	
Lahnborg , 1975 n=58/54	UFH twice daily for 5 days versus placebo	all other general surgery	
Lahnborg , 1976 n=24/24	UFH twice daily for 5 days versus placebo	all other general surgery	
Lahnborg , 1980 n=70/69	UFH twice daily for 10 days versus placebo	traumatic orthopedic surgery	
Lawrence , 1977 n=133/129	UFH twice daily for 5 days versus placebo	all other general surgery	
Lowe , 1981 n=51/49	UFH twice daily for 16 days versus placebo	elective orthopedic surgery	
Marchetti , 1982 n=16/13	UFH 3 times daily versus placebo	all other general surgery	
Moskovitz , 1978 n=29/23	UFH 3 times daily for 7 days versus placebo	traumatic orthopedic surgery	
Moskovitz , 1978 n=35/32	UFH 3 times daily for 7 days versus placebo	elective orthopedic surgery	
Muiticentre , 1984 n=222/108	UFH twice daily for 5-7 days versus placebo	all other general surgery	

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
Ribaudo , 1975 n=75/75	UFH twice daily for A days versus placebo	all other general surgery	
Roberts , 1975 n=39/45	UFH twice daily for 7 days versus placebo	all other general surgery	
Strand , 1975 n=55/55	UFH twice daily for 7 days versus placebo	all other general surgery	
Svend-Hansen , 1981 n=65/65	UFH 3 times daily for 14 days versus placebo	traumatic orthopedic surgery	
Taberner , 1978 n=50/50	UFH twice daily for 7 days versus placebo	all other general surgery	
Torngren n=47/62	UFH twice daily for 6-8 days versus placebo	all other general surgery	
Torngren , 1978 n=10/10	UFH 3 times daily for 6-8 days versus placebo	all other general surgery	
Torngren , 1978 n=66/62	UFH twice daily for 6-8 days versus placebo	all other general surgery	
Vandendris , 1980 n=32/33	UFH 3 times daily for 6 days versus placebo	urologic surgery	
Williams , 1978 n=106/106	UFH twice daily for 14 days versus placebo	elective orthopedic surgery	
Wu , 1977 n=44/44	UFH twice daily for 7 days versus placebo	all other general surgery	
Xabregas , 1977 n=27/26	UFH twice daily for 14 days versus placebo	traumatic orthopedic surgery	
<b>IPC + UFH vs UFH</b>			

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
Ramos , 1996 n=1355/1196 follow-up:	prophylactic regimen of Pneumatic compression stocking and subcutaneous heparin versus with 5,000 U of subcutaneous heparin every 12 h	cardiac surgery	Parallel groups open
Siragusa (H) , 1994 n=35/35 follow-up:	-	-	Parallel groups open
<b>UFH vs aspirin</b>			
Loew , 1977 n=60/67	UFH twice daily for 7 days versus aspirin	all other general surgery	
Vinazzer , 1980 n=402/404	UFH twice daily for A days versus aspirin	all other general surgery	
<b>UFH vs DHE</b>			
Muiticentre , 1984 n=226/110	UFH twice daily for 5-7 days versus DHE	all other general surgery	
Muiticentre 53,S4 , 1984 n=214/110	UFH twice daily for 5-7 days versus DHE	all other general surgery	
<b>UFH vs oral anticoagulant</b>			
van Geloven , 1977 n=74/80	UFH twice daily for 4 days versus Oral anticoagulant	all other general surgery	
<b>out of hospital UFH vs standard prophylaxis</b>			
Manganelli , 1998 n=79/80	65279;in hospital thromboprophylaxis followed by out of hospital UFH 5000 IU three times a day for a total duration of 30 days versus UFH 5000 IU three times a day for 15 days	THR	
<b>GCS + UFH vs UFH</b>			

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Trial	Treatments	Patients	Trials design and methods
*Rasmussen (adj) , 1988 n=NA follow-up:	subcutaneous heparin and graduated compression stockings to the knee (TED stockings), versus subcutaneous heparin	patients (age more than 40 yrs) admitted for major abdominal surgery	Parallel groups open
Torngren , 1980 n=NA	-	-	
Wille-Jorgensen , 1985 n=86/90 follow-up:	low-dose heparin treatment with graded compression stockings versus low-dose heparin treatment (5000 units twice daily subcutaneously)	patients undergoing Abdominal surgery	parallel groups
Wille-Jorgensen , 1991 n=83/83 follow-up:	low dose heparin and graded compression stockings versus low dose heparin	patients undergoing Abdominal surgery	parallel groups

More details and results :

- antithrombotics for thrombosis prevention in orthopedic surgery at <http://www.trialresultscenter.org/go-Q37>
- antithrombotics for thrombosis prevention in medical patients at <http://www.trialresultscenter.org/go-Q87>
- antithrombotics for thrombosis prevention in general surgery at <http://www.trialresultscenter.org/go-Q92>
- antithrombotics for thrombosis prevention in urologic surgery at <http://www.trialresultscenter.org/go-Q93>
- antithrombotics for thrombosis prevention in neurosurgery at <http://www.trialresultscenter.org/go-Q99>
- graduated compression stockings for thrombosis prevention in all type of patients at <http://www.trialresultscenter.org/go-Q158>
- antiplatelets drug for thrombosis prevention in orthopedic surgery at <http://www.trialresultscenter.org/go-Q186>
- UFH for thrombosis prevention in general surgery at <http://www.trialresultscenter.org/go-Q191>
- UFH for thrombosis prevention in all type of surgery at <http://www.trialresultscenter.org/go-Q192>
- UFH for thrombosis prevention in urologic surgery at <http://www.trialresultscenter.org/go-Q194>
- heparin (UFH or LMWH) for thrombosis prevention in neurosurgery at <http://www.trialresultscenter.org/go-Q197>
- LMWH for thrombosis prevention in neurosurgery at <http://www.trialresultscenter.org/go-Q198>

- mechanical devices for thromboprophylaxis for thrombosis prevention in all type of patients at <http://www.trialresultscenter.org/go-Q402>
- antithrombotics for thrombosis prevention in patients with myocardial infarction at <http://www.trialresultscenter.org/go-Q406>
- mechanical devices for thromboprophylaxis for thrombosis prevention in general non orthopaedic surgery at <http://www.trialresultscenter.org/go-Q466>

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## 4 superficial thrombophlebitis

Trial	Treatments	Patients	Trials design and methods
<b>Prophylactic UFH vs no treatment</b>			
Belcaro (prophylactic UFH vs no) , 1999 n=NA	-	-	

More details and results :

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

## References

Belcaro (prophylactic UFH vs no), 1999: