Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

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Management and Transport in Accidental Hypothermia
Supplementary Appendix

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Table S1. Important Studies of Stage III or IV Accidental Hypothermia (organized by rewarming method)

Rewarming Method	Number of Patients (n)	CPR duration (min)	Temperature (Rewarming Rate)	Serum Potassium (mmol per liter)	Outcome	Notes
VA CPB & VA ECMO	28 CPB 36 ECMO	Not stated	24.5±3.7°C (~7°C per hour)	7.4 +/-4.1	12/59 NI (3 VA CPB, 12 ECMO)	Case series (Outcome ECMO>CPB)[1]
VA ECMO	38	Not stated	26±1.5°C (~6°C per hour)	Not stated	32/38 NI, 6 died	Case series[2]
VA CPB	32	Not stated	17.1–25°C (~8°C per hour)	Not stated	15/32 NI, 17 died	Case series[3]
VA CPB	26	0–295	18–31°C (~6°C per hour)	2.4–18.1	Non-asphyxia: 7/11 NI, 4/11 died. Asphyxia: 1/15 severely impaired, 14 died	Case series[4]
VA CPB	23	43–109	22–30°C (~5.5°C per hour)	3.1–6.6	14/23 NI, 18 died	Case series[5]
VA CPB	68	Not stated	~21°C	Not stated	32/68 NI, 27 died	Literature review[6]
VA CPB	24	Not stated	24.1±2.8°C (8.5°C per hour)	Not stated	3/24 NI, 21 died	Case series[7]
VA CPB	5	Not stated	22–26°C	2.6–3.8	4/5 NI, 1 died	Case reports[8] (includes oldest hypothermic cardiac arrest survivor treated with CPB, 57y/o, 24°C)

VA CPB	1	131	13.7°C (~8°C per hour)	4.3	NI	Case report. Lowest temperature with successful CPR[9]
VA CPB	1	80, then 40 min only resp. support	14.2°C (~7°C per hour)	11.8	NI	Case report. Highest serum potassium with successful CPR[10]
VA CPB	1	Not stated	24°C	9.5	NI	Case report,[11]CPB without anticoagulation (heparin bonded tubing), very high potassium in 13-year old boy strangled and left for dead
VA CPB & VA ECMO	1	150	21.7°C (~10°C per hour)	4.3	NI	Case report[12]
VA CPB	1	70 min asystole, 110 min CPR	19°C	Not stated	NI	Case report. Prolonged asystole prior to CPR[13]
VA CPB	1	190	24°C (~9°C per hour)	2.4	NI	Longest CPR in accidental hypothermia treated with CPB[14]
VV ECMO	1	170	26°C (~4°C per hour)	5.2	NI	Case report[15]
Thoracic Lavage	14	Not stated	21.1–29.4°C (~3°C per hour)	Not stated	NI 8, impaired 2, dead 4	Case report combined with review[16]

Thoracic, Peritoneal and Gastric Lavage	1	3h	22°C (~3°C per hour)	Not stated	Minimally impaired	Case report, prolongued CPR with with closed thoracic lavage[17]
Thoracic Lavage	1	~14	25.5°C (~3.5°C per hour)	4.6	NI	Case report[18]
Peritoneal Lavage, Blankets, Hot Water Bottles & Warm IV	1	6h 20min	23.2°C (~0.8°C per hour)	Not stated	NI	Case report. Longest reported CPR[19]
Forced Air Rewarming Vs. Blanket	16		25.5-31.9^{o}C (Forced Air 2.4^{o}C per hour Vs. Blanket 1.4^{o}C per hour)	Not stated	15/16 survived, 1 died	Randomized control trial.[20]
Forced Air Rewarming	2	33–40	23–26°C (~1°C per hour)	2.8–6.1	NI	Case reports[21]
Forced Air Rewarming	15		24–30°C (~1.7°C per hour)	Not stated	6/6 with prehospital arrest died, 9/9 with vital signs NI	Case series, 6 pts with prehospital arrest and ROSC, 9 pts with vital signs[22]
Variable	41	Not stated	Average 24.8^{o}C	Average 4.7	15/41 survived	Multi-center case series[23]

VA denotes veno-arterial, CPB cardiopulmonary bypass, CPR cardiopulomary resuscitation, ECMO extracorporeal membrane oxygenation, NI neurologically intact, ROSC return of spontaneous circulation, VV veno-venous

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