Table S1. Hemostatic adjunct usage, intention-to-treat group

	Room temperature stored up to 7 days (n=25)	Cold stored up to 7 days (n=25)	Cold stored from 8 to 14 days (n=15)
Fibrinogen concentrate	15 (60%)	11 (44%)	9 (60%)
Prothrombin complex concentrate	2 (8%)	4 (16%)	4 (27%)
500 U	0	1 (4%)	2 (13%)
1000 U	0	2 (8%)	1 (7%)
2000 U	2 (8%)	1 (4%)	1 (7%)

Table S2. Hemostatic adjunct usage, post hoc analysis

	Room temperature stored up to 7 days (n=21)	Cold stored up to 7 days (n=21)	Cold stored from 8 to 14 days (n=10)
Fibrinogen concentrate	13 (62%)	9 (43%)	7 (70%)
Prothrombin complex concentrate	2 (10%)	2 (10%)	2 (20%)
500 U	0	1 (5%)	2 (20%)
1000 U	0	1 (5%)	0
2000 U	2 (10%)	0	0

Table S3. Laboratory measurements for study patients in the intention-to-treat group

Analysis	Group	Baseline	After cardiopulmonary bypass	After first platelet transfusion episode	Next morning
Platelet count (×109/l)	RTP7	213 (25, 158-255, 102-656)	99 (24, 74-143, 31-261)	151 (24, 132-188, 66-363)	141 (24, 99-203, 18-339)
	CSP7	191 (25, 149-220, 112-486)	100 (23, 85-127, 53-221)	158 (24, 125-184, 68-288)	119 (22, 105-145, 58-368)
	CSP14	190 (15, 177-221, 112-300)	101 (13, 83-115, 22-224)	118 (14, 111-132, 34-275)	129 (12, 60-147, 24-196)
Hemoglobin (g/dl)	RTP7	11.9 (25, 10.6-13, 7.3-15.4)	9.5 (24, 8.4-10.3, 7.3-12.1)	9.1 (24, 8.2-9.9, 6.2-11.9)	9.7 (24, 9.1-10.3, 7.6-12.5)
	CSP7	11.7 (25, 10.6-12.5, 8.4-15)	8.6 (23, 8.1-10.8, 6.4-12.6)	8.8 (24, 8.1-9.6, 6.9-12.6)	9.5 (22, 8.8-10.6, 7.8-11.6)
	CSP14	12.5 (15, 10.9-12.9, 9-15.2)	9.4 (15, 8.3-10.1, 7.4-11.2)	9.8 (14, 8.8-10.3, 7.5-10.6)	9.7 (12, 9-10.5, 7.5-11.6)
INR [0.8 – 1.2]	RTP7	1.1 (25, 1-1.2, 1-2.7)	1.3 (24, 1.3-1.4, 1.1-1.9)	1.2 (24, 1.2-1.3, 1.1-2.3)	1.2 (24, 1.1-1.3, 1.1-1.6)
	CSP7	1.1 (25, 1-1.3, 0.9-2.7)	1.4 (23, 1.2-1.5, 1.1-2.4)	1.3 (24, 1.2-1.4, 1-2.3)	1.2 (22, 1.1-1.3, 1-2.1)
	CSP14	1.2 (15, 1.1-1.8, 1-2.3)	1.4 (15, 1.4-1.6, 1.2-2.6)	1.3 (14, 1.3-1.4, 1.2-1.8)	1.2 (12, 1.2-1.3, 1-1.7)
Activated partial thromboplastin time (s) [30 – 44]	RTP7	39 (25, 36-44, 31-53)	41 (24, 39-47, 33-84)	42 (23, 37-50, 32-68)	37 (24, 35-42, 29-51)
	CSP7	38 (25, 35-43, 32-76)	43 (23, 38-47, 34-65)	42 (24, 38-48, 32-64)	38 (22, 36-42, 30-56)
	CSP14	38 (15, 35-41, 35-52)	43 (14, 38-46, 33-50)	42 (14, 40-43, 32-89)	39 (12, 35-44, 31-49)
Fibrinogen (gl) [2.0 – 4.0]	RTP7	3.8 (24, 2.8-4.4, 1.6-7.8)	2.3 (23, 1.8-3, 1.3-4.5)	2.4 (23, 2.2-3.3, 1.5-4.7)	3.6 (23, 3-4, 2-4.9)
	CSP7	3.4 (25, 2.8-4.3, 2.1-7.1)	2.4 (22, 1.9-3.1, 1.3-4.4)	2.6 (24, 2.1-3, 1.3-4.3)	3.5 (22, 3.2-4.1, 2.7-6.3)
	CSP14	3.3 (15, 2.6-4.1, 2.3-6)	2.2 (15, 1.9-2.8, 1.5-4)	2.3 (14, 2.1-2.9, 1.9-3.7)	3.7 (12, 3.4-4.2, 3-4.8)
TEG R (min) [2 – 8]	RTP7	6 (24, 5.1-7.2, 4-9.1)	10.1 (23, 6.1-14.2, 4.7-24.8)	6.5 (22, 5.2-7.3, 4.8-13.9)	6.3 (23, 5.7-7.5, 5-9.8)
	CSP7	6.1 (25, 5.4-7.2, 4.2-9.8)	7.7 (23, 6.7-9.3, 4.3-19.7)	5.7 (24, 4.9-6.4, 4.4-7.8)	5.9 (22, 5.2-6.6, 4.6-8.8)
	CSP14	6 (15, 5.1-9.4, 3.2-11.3)	11.3 (15, 8.6-13.7, 5-16.4)	5.2 (14, 4.5-6.2, 3.3-7)	7.3 (12, 6.5-8.5, 5.7-11.2)
TEG K (min) [1 – 3]	RTP7	1.3 (24, 1-1.6, 0.8-1.9)	1.8 (23, 1.5-2.7, 1-11.1)	1.2 (22, 1-1.3, 0.8-3.1)	1.2 (23, 1.1-1.8, 0.8-4.6)
	CSP7	1.3 (25, 1.2-1.8, 0.8-2.8)	1.6 (23, 1.3-1.9, 0.9-3.4)	1.2 (24, 1-1.4, 0.8-2)	1.3 (22, 1.2-1.6, 0.8-2.1)
	CSP14	1.3 (15, 1.2-1.8, 1-2.2)	1.8 (15, 1.3-2.2, 0.9-4.1)	1.3 (14, 1.2-1.6, 0.8-3.4)	1.4 (12, 1.2-1.8, 1-3.1)
TEG angle (°) [55 – 78]	RTP7	71.5 (23, 66.7-76, 62.6-80.2)	65.2 (23, 53.2-69.8, 23.6-76.1)	71.9 (21, 70.2-74.2, 50.7-79.5)	71.5 (23, 62.7-74.2, 46.5-79.4)
	CSP7	69.8 (25, 65.8-72.8, 55.9-78.9)	66.8 (23, 63.6-70.6, 50.1-76.3)	72.9 (24, 70-74.4, 64.2-78.4)	71.4 (22, 67.6-72.8, 51.7-79.3)
	CSP14	70.1 (15, 66.2-74.3, 61-76.3)	63.9 (15, 54.1-70.4, 45.3-75.3)	70.1 (14, 67.7-71.9, 57.4-77.9)	70.1 (12, 65.4-72.2, 50.6-75.8)
TEG MA (mm) [51 – 69]	RTP7	65.7 (24, 60.6-67.8, 55.2-73.5)	59.3 (23, 53.2-62.6, 44.7-69.1)	66.5 (22, 61.7-69.8, 49.3-80.2)	64.2 (23, 60.6-66.6, 43.1-77.2)
	CSP7	64.2 (25, 61.6-67.6, 56.9-81.5)	56.9 (23, 53.9-62.1, 48.4-73.6)	65.1 (24, 59.4-68.1, 52.2-73.5)	63.6 (22, 60.1-66, 54.3-73.2)
	CSP14	66.8 (15, 63.4-72.9, 59.3-80.8)	58.6 (15, 54.7-65.8, -1-68.1)	63.1 (14, 60.5-65.4, 44.2-70.8)	66.5 (12, 59.6-70.7, 49.8-75.1)
TEG LY30 (%) [0 – 8]	RTP7	0.3 (24, 0-1.2, 0-2.7)	0 (23, 0-0.6, 0-4.3)	0 (22, 0-0.1, 0-3.3)	0 (23, 0-0.3, 0-0.8)
	CSP7	0.3 (25, 0-1.2, 0-3.4)	0 (22, 0-0.3, 0-1.6)	0 (23, 0-0.2, 0-4.4)	0.2 (22, 0-0.5, 0-2.9)
	CSP14	0.4 (15, 0.1-1.1, 0-3.3)	0 (15, 0-0.1, 0-8.1)	0 (14, 0-0, 0-0.3)	0.1 (12, 0-0.7, 0-1.6)
ROTEM in-tem CT (s) [100 – 240]	RTP7	161 (24, 146-172, 121-270)	246 (23, 199-530, 86-776)	212 (22, 179-225, 124-314)	157 (23, 143-189, 126-226)
	CSP7	156 (24, 145-174, 120-233)	238 (22, 201-266, 155-377)	185 (23, 176-208, 153-244)	152 (21, 146-168, 132-243)
	CSP14	NP	NP	NP	NP
ROTEM in-tem CFT (s) [30 – 110]	RTP7	63 (24, 51-77, 33-166)	110 (23, 77-144, 46-246)	79 (22, 68-86, 41-121)	66 (23, 61-86, 42-363)
	CSP7	71 (24, 54-81, 36-128)	102 (22, 80-127, 49-188)	88 (23, 65-104, 43-157)	86 (21, 65-98, 37-139)
	CSP14	NP	NP	NP	NP
ROTEM in-tem alpha (°) [70 – 83]	RTP7	78 (24, 75-80, 64-84)	69 (23, 64-74, 49-81)	75 (22, 73-76, 69-81)	77 (23, 75-78, 47-81)
	CSP7	77 (24, 75-79, 65-83)	72 (22, 67-74, 60-80)	75 (23, 71-77, 61-81)	75 (21, 72-77, 69-83)
	CSP14	NP	NP	NP	NP
ROTEM in-tem MCF (mm) [50 – 72]	RTP7	64 (24, 60-70, 45-79)	57 (21, 52-61, 44-71)	63 (22, 61-63, 54-74)	64 (23, 62-66, 42-73)
	CSP7	62 (24, 58-68, 50-78)	58 (22, 52-61, 45-68)	61 (23, 56-65, 48-71)	62 (21, 58-66, 51-72)
	CSP14	NP	NP	NP	NP
ROTEM in-tem LI30 (%) [94 – 100]	RTP7	100 (24, 99-100, 98-100)	100 (23, 100-100, 99-100)	100 (22, 100-100, 99-100)	100 (23, 100-100, 99-100)
	CSP7	100 (24, 98-100, 97-100)	100 (22, 100-100, 99-100)	100 (23, 100-100, 99-100)	100 (21, 99-100, 97-100)
	CSP14	NP	NP	NP	NP
ROTEM ex-tem CT (s) [38 – 79]	RTP7	65 (24, 61-70, 52-108)	80 (23, 73-94, 57-123)	73 (23, 64-78, 50-100)	62 (23, 58-71, 55-101)
	CSP7	71 (24, 62-79, 52-159)	85 (22, 77-104, 67-152)	71 (23, 67-81, 47-125)	67 (21, 64-74, 54-101)
	CSP14	NP	NP	NP	NP
ROTEM ex-tem CFT (s) [34 - 159]	RTP7	62 (24, 48-83, 28-127)	104 (23, 76-128, 43-150)	81 (23, 64-92, 43-165)	69 (23, 62-83, 41-384)
	CSP7	70 (24, 56-83, 38-112)	94 (22, 77-108, 55-156)	81 (23, 70-113, 44-161)	84 (21, 65-105, 31-130)
	CSP14	NP	NP	NP	NP
ROTEM ex-tem alpha (°) [63 – 83]	RTP7	78 (24, 75-81, 66-84)	71 (23, 66-74, 62-81)	74 (23, 72-77, 60-81)	77 (23, 75-79, 40-81)
	CSP7	76 (24, 74-79, 68-82)	73 (22, 69-75, 61-79)	74 (23, 70-76, 61-81)	75 (21, 73-78, 67-84)
	CSP14	NP	NP	NP	NP
ROTEM ex-tem MCF (mm) [50 – 72]	RTP7	66 (24, 61-71, 50-81)	59 (23, 55-65, 49-75)	63 (23, 60-66, 49-75)	65 (23, 60-68, 40-75)
	CSP7	64 (24, 60-69, 52-80)	59 (22, 55-63, 47-71)	62 (23, 57-65, 48-73)	63 (21, 58-66, 54-75)
	CSP14	NP	NP	NP	NP
ROTEM ex-tem LI30 (%) [94 – 100]	RTP7	100 (24, 100-100, 96-100)	100 (23, 100-100, 100-100)	100 (23, 100-100, 100-100)	100 (23, 100-100, 98-100)
	CSP7	100 (24, 100-100, 98-100)	100 (22, 100-100, 100-100)	100 (23, 100-100, 100-100)	100 (21, 100-100, 97-100)
	CSP14	NP	NP	NP	NP
Multiplate ADPtest (U) [55 – 117]	RTP7	66 (25, 56-83, 34-114)	25 (24, 12-43, 3-81)	46 (25, 28-66, 12-89)	61 (24, 45-84, 4-124)
	CSP7	57 (25, 50-69, 22-91)	28 (23, 17-52, 7-102)	55 (24, 32-74, 1-130)	62 (22, 53-72, 30-122)
	CSP14	49 (15, 40-53, 15-80)	12 (15, 6-28, 0-38)	31 (14, 15-38, 4-53)	46 (12, 22-50, 6-61)
Multiplate ASPItest (U) [79 – 141]	RTP7	69 (25, 33-90, 14-113)	32 (23, 17-84, 0-112)	82 (25, 66-115, 7-156)	78 (24, 49-118, 2-163)
	CSP7	64 (25, 35-80, 8-102)	37 (23, 24-80, 9-136)	85 (24, 58-115, 5-229)	72 (22, 64-101, 35-139)
	CSP14	64 (15, 58-76, 30-111)	34 (15, 8-71, 1-101)	64 (13, 50-73, 9-117)	52 (12, 30-78, 13-101)
Multiplate RISTOtest (U) [65 – 116]	RTP7	82 (25, 70-95, 37-169)	34 (24, 14-45, 4-106)	56 (25, 40-71, 15-186)	60 (24, 40-92, 1-140)
	CSP7	62 (25, 50-79, 29-116)	27 (23, 18-44, 6-92)	62 (24, 38-81, 5-132)	60 (21, 47-71, 27-143)
	CSP14	61 (15, 44-84, 16-105)	29 (15, 14-45, 0-67)	46 (13, 20-58, 0-92)	55 (12, 25-60, 0-89)
Multiplate TRAPtest (U) [92 – 151]	RTP7	104 (25, 93-113, 69-135)	41 (24, 24-101, 4-187)	91 (25, 59-119, 29-191)	118 (24, 94-138, 6-169)
	CSP7	88 (25, 82-102, 50-150)	55 (23, 44-85, 17-167)	87 (24, 62-106, 12-182)	128 (22, 113-146, 49-199)
	CSP14	92 (15, 80-100, 51-143)	37 (15, 13-83, 0-112)	52 (14, 37-73, 3-127)	98 (12, 59-116, 24-158)

Results reported as median (n, interquartile range, minimum-maximum) or number (percentage) of patients. Normal ranges are shown in brackets. Groups: Room temperature platelets (RTP7), cold-stored up to 7 days (CSP7), cold stored from 8 to 14 days (CSP14). NP: Analysis not performed.

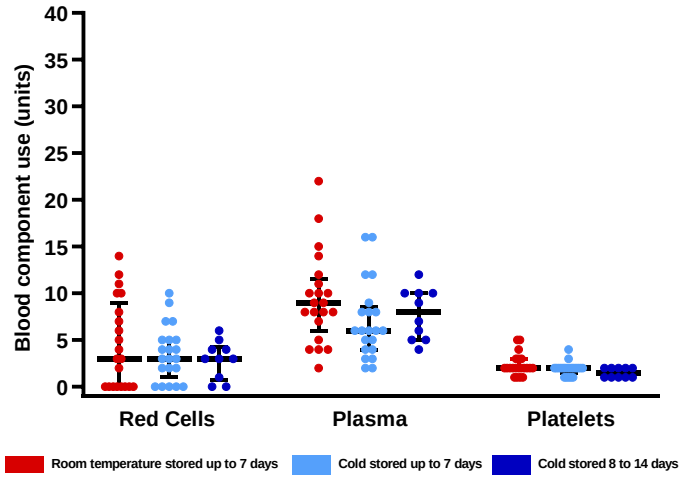

Figure S1. Overall blood component use in the post hoc analysis subset for patients receiving room temperature stored platelets, 7 days cold stored platelets and from 8 to 14 days cold stored platelets. Dots represent the individual study patients. Lines show median with interquartile range. There was no statistically significant difference in the number of transfused red cells (p=0.785), plasma units (p=0.067) or platelets (p=0.248) (two-tailed Mann–Whitney U test, IBM SPSS Statistics for Windows, Version 24.0 *(IBM Corp; Armonk, NY, USA)*). The non-concurrent Stage II arm was not compared to the two Stage I arms.

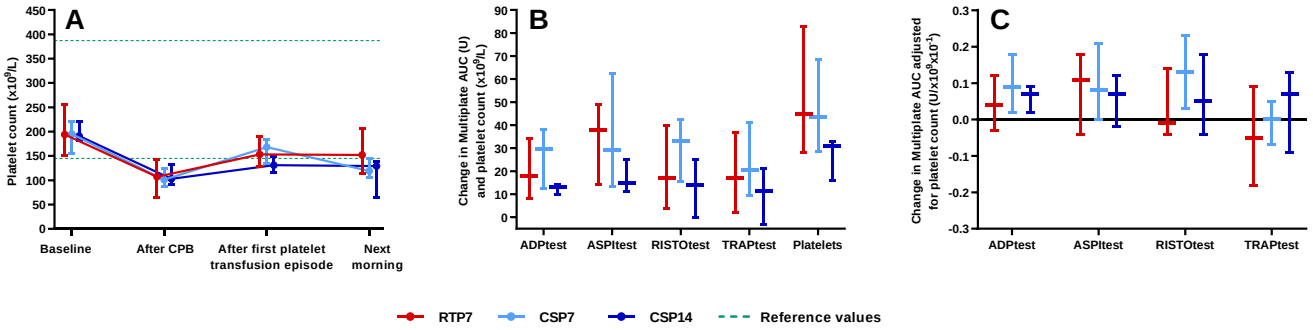

Figure S2. Post hoc analysis figures for A) Platelet count at baseline prior to start of surgery, after cardiopulmonary bypass, after the first platelet transfusion episode and at 8:00 AM the following morning for patients receiving room temperature stored platelets, 7 days cold stored platelets and from 8 to 14 days cold stored platelets. Points show median with interquartile range. Green dotted lines indicate reference values. There was no statistically significant difference between the two Stage I arms at any sample point. (One-tailed Mann–Whitney U test, IBM SPSS Statistics for Windows, Version 24.0 *(IBM Corp; Armonk, NY, USA)*). B) Change in multiple electrode aggregation response and platelet count after the first platelet transfusion episode. Platelet count and multiple electrode aggregation response to all agonists increased after platelet transfusion for all study arms ($p<0.05$), with the exception of RISTOtest in the Stage II arm ($p=0.156$) (two-tailed Wilcoxon signed-rank test). The level of change was not statistically significant different between the Stage I arms for any agonist (two-tailed Mann–Whitney U test). C) Change in multiple electrode aggregation response adjusted for platelet count. Response to RISTOtest was higher in the cold stored arm than the room temperature stored arm ($p=0.040$, two-tailed Mann–Whitney U test). The non-concurrent Stage II arm was not compared to the two Stage I arms.