

情報 NO.	基本情報				機器技術				技術適用疾病				技術基本能力				
	題名 サマリー	著者	雑誌名 Medline Index	機器技術名称	製品 情報	疾病名称系			重篤度系				適用療法系				
						一般名称 ICD-10分類	疾病の severity	疾病の規 模	疾病の複 雑性	その他リ スクの程 度	手技-処置名称 コード	その他併用 療法	対比療法	正確 性、確 実性	迅速 性、反 応性	早期診断 性 (予見性・ 予知性)	インテ リジェ ンシー
12	Comparison of two heparin-coated extracorporeal circuits with reduced systemic anticoagulation in routine coronary artery bypass operations.	Ovrum E, Tangen G, Oystese R, Ringdal MA, Istad R.	J Thorac Cardiovasc Surg 2001 Feb;121(2):324-30 11174738	heparin-coated extracorporeal circuits for CPB	heparin-coated extracorporeal circuits for CPB	coronary artery disease											
13	Neurological and general outcome in low-risk coronary artery bypass patients using heparin coated circuits.	Svebmarker S, Sandstrom E, Karlsson T, Hagmark S, Jansson E, Appelblad M, Lindholm R, Aberg T.	Eur J cardiothorac Surg 2001 Jan;19(1):47-53 11163560	Heparin-coated circuits	heparin-coated circuits for CPB	coronary artery disease	low risk										
14	SMA circuits reduce platelet consumption and platelet factor release during cardiac surgery.	Defraigne JO, Pincemail J, Dekoster G, Larbuisson R, Dujardin M, Blaffart F, David JL, Limet R.	Ann Thorac Surg 2000 Dec;70(6):2075-81 11156123	surface modifying additives circuit(SMA)		coronary artery disease											
15	A clinical evaluation of platelet function, haemolysis and oxygen transfer during cardiopulmonary bypass comparing the Quantum HF-6700 to the HF-5700 hollow fibre membrane oxygenator	Chukwuneka AO, Turtle MR, Trivedi UH, Venn GE, Chambers DJ	Perfusion 2000 Nov;15(6):479-84 11131210	Quantum HF-6700, William Harvey membrane oxygenator	hollow fibre membrane oxygenator												
16	Biocompatibility of heparin-coated extracorporeal bypass circuits: new heparin bonded bioline system.	Tayama E, Hayashida N, Akasu K, Kosuga T, Fukunaga S, Akashi H, Kawara T, Aoyagi S.	Artif Organs 2000 Aug;24(8):618-23 10971248	Quadrox Bioline oxygenator/reservoir and Carmeda Biomedicus BP-80 centrifugal pump		coronary artery disease											
17	Improved blood cellular biocompatibility with heparin coated circuits during cardiopulmonary bypass.	Balhout A, Akabar O, Loifgren C, Jungback M, Storm C, Roberts A.	J Cardiovasc Surg (Torino) 2000 Jun;41(3):357-62 10952323	heparin coated cardiopulmonary bypass system		angina pectoris											

情報 NO.	基本情報	技術基本能力										予防系	
		治癒系	治療・手術	救急率・生存率	再発率・予防	その他の予後リスク	感受性(疾病) 副作用・副作用性・毒性	影響性 副作用性・副作用性・併発性(合併症)・その他のリスク	機能回復性	病態維持性	健康改善性	健康維持性	
12	<p>題名 サマリ-</p> <p>Comparison of two heparin-coated extracorporeal circuits with reduced systemic anticoagulation in routine coronary artery bypass operations.</p>	<p>治癒性</p> <p>no difference in time for ventilatory support(D vs C; 1.7+/-1.3hours vs 1.6+/-1.0hours,P=0.37); amount of postoperative mediastinal drainage(D vs C:665+/-257ml vs 688+/-243ml; P=0.07); need for allogeneic blood-plasma transfusion(D vs C:4.2% vs 4.4% P=0.93); hemoglobin concentration at hospital discharge(D vs C:120+/-13g/L vs 119+/-13g/L; P=0.08); incidence of perioperative myocardial infarction(D vs C:1.5% vs 1.5%; P=0.96).</p>	<p>救急率・生存率</p> <p>hospital mortality(D vs C:10.14% vs 3[0.45%];P=0.31)</p>	<p>再発率・予防</p>	<p>その他の予後リスク</p> <p>incidence of perioperative myocardial infarction(D vs C:1.5% vs 1.5%; P=0.96); stroke(D vs C:1.3% vs 1.2%;P=0.47)</p>	<p>感受性(疾病) 副作用・副作用性・毒性</p>	<p>影響性 副作用性・副作用性・併発性(合併症)・その他のリスク</p>	<p>機能回復性</p>	<p>病態維持性</p>	<p>健康改善性</p>	<p>健康維持性</p>		
13	<p>Neurological and general outcome in low-risk coronary artery bypass patients using heparin coated circuits.</p>	<p>治癒性</p> <p>Clinical outcome was similar for all groups. Blood loss (Duraflor only), transfusion requirements and postoperative creatinine elevation were reduced in the heparin-coated groups. A lower incidence of atrial fibrillation was noted in the Duraflor group. Heparin coating did not uniformly attenuate the release of S100 or the degree of memory impairment.</p>	<p>救急率・生存率</p> <p>no difference in operative mortality</p>	<p>再発率・予防</p> <p>no difference in neurological injury</p>	<p>その他の予後リスク</p> <p>no difference in the degree of memory impairment</p>	<p>感受性(疾病) 副作用・副作用性・毒性</p>	<p>影響性 副作用性・副作用性・併発性(合併症)・その他のリスク</p>	<p>機能回復性</p>	<p>病態維持性</p>	<p>健康改善性</p>	<p>健康維持性</p>		
14	<p>SMA circuits reduce platelet consumption and platelet factor release during cardiac surgery.</p>	<p>治癒性</p> <p>SMA group had small decrease in plateletcount(SMA vs control:165 +/-9 vs 137+/-8p<0.01); reduction in beta-thromboglobulin plasma levels; 50% less fresh frozen plasma and platelet units were administered(p<0.01)</p>	<p>救急率・生存率</p> <p>no operative deaths were observed</p>	<p>再発率・予防</p>	<p>その他の予後リスク</p>	<p>感受性(疾病) 副作用・副作用性・毒性</p>	<p>影響性 副作用性・副作用性・併発性(合併症)・その他のリスク</p>	<p>機能回復性</p>	<p>病態維持性</p>	<p>健康改善性</p>	<p>健康維持性</p>		
15	<p>A clinical evaluation of platelet function, haemolysis and oxygen transfer during cardiopulmonary bypass comparing the Quantum HF-6700 to the HF-5700 hollow fibre membrane oxygenator</p>	<p>治癒性</p> <p>There were no statistically significant differences in either preoperative or operative parameters between the two groups. No significant differences between the two groups were found in oxygen transfer, haemolysis (glasma haemoglobin levels) or platelet function (a novel platelet activating factor (PAF)-induced platelet activation test) at any of the time points during CPB.</p>	<p>救急率・生存率</p>	<p>再発率・予防</p>	<p>その他の予後リスク</p>	<p>感受性(疾病) 副作用・副作用性・毒性</p>	<p>影響性 副作用性・副作用性・併発性(合併症)・その他のリスク</p>	<p>機能回復性</p>	<p>病態維持性</p>	<p>健康改善性</p>	<p>健康維持性</p>		
16	<p>Biocompatibility of heparin-coated extracorporeal bypass circuits: new heparin bonded bioline system.</p>	<p>治癒性</p> <p>the Bioline demonstrated partially improved biocompatibility in terms of leukocyte(neutrophil elastase) and complement activation(C3a); and IL-6,8 production, but not in platelet activation, coagulation, fibrinolysis cascade</p>	<p>救急率・生存率</p> <p>clinical outcome was similar</p>	<p>再発率・予防</p>	<p>その他の予後リスク</p>	<p>感受性(疾病) 副作用・副作用性・毒性</p>	<p>影響性 副作用性・副作用性・併発性(合併症)・その他のリスク</p>	<p>機能回復性</p>	<p>病態維持性</p>	<p>健康改善性</p>	<p>健康維持性</p>		
17	<p>Improved blood cellular biocompatibility with heparin coated circuits during cardiopulmonary bypass.</p>	<p>治癒性</p> <p>heparin group had better red cell and white cell filterability(8% p=0.0079; p=0.027 / red cell transit time was 19% slower in control group(p=0.0351) / red cell clogging rate(CR) and clogging particles(CP) were significantly lower in the heparin group(p=0.0212; p=0.0409) / white cell CR and CP showed the same pattern.</p>	<p>救急率・生存率</p> <p>clinical outcome was similar</p>	<p>再発率・予防</p>	<p>その他の予後リスク</p> <p>no clinical benefit</p>	<p>感受性(疾病) 副作用・副作用性・毒性</p>	<p>影響性 副作用性・副作用性・併発性(合併症)・その他のリスク</p>	<p>機能回復性</p>	<p>病態維持性</p>	<p>健康改善性</p>	<p>健康維持性</p>		

情報 NO.	基本情報	技術補完能力										技術付帯能力					
		親和性(複合技術)		価値性・安全性			運用性					患者QOL系					
		他技術との 融合性	相乗効果の 程度	故障率	安全性	アウトカムの 安定性 結果の均一性、 再現性	その他のリスク ヘッジ能力	操作性	安定性	可織性	管理性・ 保管性	規格・基準 適用性	人材育成・ト レーニングの 簡便性	生物レベルのQOL (腫への対応、身体的影響性、精神 的影響性、生活への影響)	生活レベルの QOL (腫への対応性、 生活行動能力へ の影響、社会復帰 率、その他)		
12	<p>題名 サマリ</p> <p>Comparison of two heparin-coated extracorporeal circuits with reduced systemic anticoagulation in routine coronary artery bypass operations.</p>																
13	<p>Neurological and general outcome in low-risk coronary artery bypass patients using heparin coated circuits.</p>																
14	<p>SMA circuits reduce platelet consumption and platelet factor release during cardiac surgery.</p>																
15	<p>A clinical evaluation of platelet function, haemolysis and oxygen transfer during cardiopulmonary bypass comparing the Quantum HF-6700 to the HF-5700 hollow fibre membrane oxygenator</p>																
16	<p>Biocompatibility of heparin-coated extracorporeal bypass circuits: new heparin bonded bioline system.</p>																
17	<p>Improved blood cellular biocompatibility with heparin coated circuits during cardiopulmonary bypass.</p>																<p>heparin coated reduces blood cell rheologic damage significantly in low risk patients undergoing bypass surgery for angina</p> <p>the use of heparincoated does not lead to clinical benefit postoperatively</p>

情報 NO.	基本情報				技術補足情報1				技術補足情報2				その他	
	題名 サマリー	その他のQOL (技術能力の説明・理解性、治療効果の検証・確認性、社会実装の影響、その他)	生物レベルのQOL	生活レベルのQOL	その他のQOL	機器コスト系	運用コスト系	必要リソース 施設、設備数、量、規模、スタッフ数、消耗品数、その他	医療経済学的分析系 CBA, AEA, AU, A, DALY, その他	公的保険上、自由保険上、その他	結果自身に関するコメント	調査条件	その他	
12	Comparison of two heparin-coated extracorporeal circuits with reduced systemic anticoagulation in routine coronary artery bypass operations.				その他のQOL 機器本体コスト、周辺機器コスト、その他設備コスト	労務費、材料費、経費、その他費用				the overall clinical results were favorable in both groups, confirming the safety and feasibility of routine use of heparin-coated circuits in combination with reduced systemic anticoagulation	24-month period, 1336 patients, Carmeda 668 Duratho 668			
13	Neurological and general outcome in low-risk coronary artery bypass patients using heparin coated circuits.									CPB with heparin coating and reduced dose of heparin seems to be safe	300 patients			
14	SMA circuits reduce platelet consumption and platelet factor release during cardiac surgery.									the use of circuits with surface additives is clinically safe	50 patients in each group			
15	A clinical evaluation of platelet function, haemolysis and oxygen transfer during cardiopulmonary bypass comparing the Quantum HF-6700 to the HF-5700 hollow fibre membrane oxygenator									the Quantum HF-6700 matches the HF-5700 for the parameters studied, whilst having the advantage of requiring a smaller priming volume.				
16	Biocompatibility of heparin-coated extracorporeal bypass circuits: new heparin bonded bioline system.									the clinical beneficial impact seems to be low.	heparin group, n=15, N group, n=12			
17	Improved blood cellular biocompatibility with heparin coated circuits during cardiopulmonary bypass.									heparin coated circuits for routine low risk cardiac surgery cannot be recommended	39 patients			

情報 NO.	基本情報				機器技術		技術適用疾病		技術基本能力						
	題名 サマリー	著者	雑誌名 Medline Index	装置技術名称	製品 情報	疾病名称 一般名称 ICD-10分類	疾病の 重症度	疾病の 重症度	手技・加置名称 コード	その他併用 療法	対比療法	正確 性、確 実性	迅速 性、反 応性	早期診断 性 (予見性・ 予知性)	インテ リジェ ンシー
18	Effects of new polymer-coated extracorporeal circuits on biocompatibility during cardiopulmonary bypass.	Saito N, Motoyama S, Sawamoto J.	Artif Organs 2000 Jul;24(7):547-54 10916066	a new polymer-coated extracorporeal circuits	coated with poly(2-methoxyethyl acrylate)	coronary artery disease			a new polymer-coated CPB		uncoated circuit				
19	Reduction of pro-inflammatory cytokine levels and cellular adhesion in CABG procedures with separated pulmonary and systemic extracorporeal circulation without an oxygenator. *冠動脈バイパス移植手術中に、肺をバイパスした bilateral extracorporeal circulationが動脈プラークの炎症反応を減らすことが分かった。	Massoudy P, Zahler S, Tassani P, Becker BF, Richter JA, Pfauder M, Lange R, Meisner H.	Eur J Cardiothorac Surg 2000 Jun;17(6):729-36 10856868	extracorporeal circulation without an oxygenator		Coronary Disease			routine extracorporeal circulation with cannulation of right atrium and aorta (rouche circulation)	coronary artery bypass grafting (CABG)	a bilateral extracorporeal circulation with additional cannulation of left atrium and pulmonary artery (bilateral circulation)				
20	Heparin coating of extracorporeal circuits inhibits cytokine release from mononuclear cells during cardiac operations.	Giromelli P, Naldini A, Biagoli B, Borrelli E.	Int J Artif Organs 2000 Apr;23(4):250-5 10832659	heparin coated cardiopulmonary bypass system		coronary artery disease			heparin coated cardiopulmonary bypass system		uncoated CPB				
21	Heparin-coated cardiopulmonary bypass circuits reduce circulating complement factors and interleukin-6 in paediatric heart surgery.	Olsson C, Siegbahn A, Henze A, Nilsson B, Venge P, Joachimsson PO, Thelin S.	Scand Cardiovasc J 2000;34(1):33-40 10816058	heparin coated cardiopulmonary bypass system		paediatric heart disease			heparin coated cardiopulmonary bypass system		standard circuits				
22	Heparin-coated circuits reduce occult myocardial damage during CPB: a randomized, single blind clinical trial.	Belboul A, Lofgren C, Storm C, Jungbeck M.	Eur J Cardiothorac Surg 2000 May;17(5):580-6 10814923	heparin coated cardiopulmonary bypass system					heparin coated cardiopulmonary bypass system		CBP without heparin-coating				

情報 NO.	基本情報	技術基本能力																	
		治療系		再発率・予防率	救命率・生存率	その他の予後リスク	感受性(疾病) 即効性、副作用、予防性	影響性 侵襲性、疼痛性、併発性(合併症)、その他のリスク	検査系		予防系								
	題名 サマリー	治療性																	
18	Effects of new polymer-coated extracorporeal circuits on biocompatibility during cardiopulmonary bypass.	the PMEAs had lower levels of plasma bradykinin and percentages of CD35-positive monocytes and lower amounts of adsorbed proteins(0.3B vs 3.42 microg/cm2), almost no IgG,IgM, C3c/d (clearly detected on the uncoated circuits)																	
19	Reduction of pro-inflammatory cytokine levels and cellular adhesion in CABG procedures with separated pulmonary and systemic extracorporeal circulation without an oxygenator. *冠状動脈バイパス移植手術中に、肺をバイパスした際の動脈カテーター後の炎症性反応を減らすことが分かった。	At 1 min reperfusion pulmonary venous levels of IL-6 and IL-8 in routine circulation were +44+/-15% and +43+/-28% of the respective right atrial values. The respective values in bilateral circulation were -3+/-4% and -6+/-7% (P=0.02 and P=0.05 vs respective right atrium). Similar increments were found after 10 and 20 min. Platelet-monocyte coaggregates were retained during pulmonary passage at 1 min reperfusion in routine circulation (-21+/-6%), but washed out in bilateral circulation (+5+/-8%, P=0.007). At 20 min reperfusion, activated polymorphonuclear neutrophils (PMN) were retained in routine circulation (-16+/-9%) but washed out in bilateral circulation (+19+/-29%, P=0.05; all data given as mean+/-SEM).																	
20	Heparin coating of extracorporeal circuits inhibits cytokine release from mononuclear cells during cardiac operations.	IL6 and IL10 release was significantly less in the heparin-coated group(p<0.05)	no difference in clinical parameters were observed																
21	Heparin-coated cardiopulmonary bypass circuits reduce circulating complement factors and interleukin-6 in paediatric heart surgery.	the levels of C3a, Terminal Complement Complex, and IL-6 in the heparin coated group were significantly reduced (heparin group vs standard group: 851(791-959)ng/ml[median with quartiles] vs 497(476-573)ng/ml, 114(71-130) vs 35.5(28.9-51.4)AU/ml, 570(203-743) vs 168(11-208)pg/ml) (p=0.005)																	
22	Heparin-coated circuits reduce occult myocardial damage during CPB: a randomized, single blind clinical trial	there were significant intergroup differences in the neutrophil levels and MDA after reperfusion(P<0.0001).Furthermore significant positive correlations between the lipid peroxidation,expressed as MDA levels, and the levels of neutrofilis and the cardiac enzyme CK-MB were seen within the groups	heparin coating was associated with less occult myocardial ischemic damage in patients undergoing open heart surgery																

情報 NO.	基本情報	技術的完成能力						技術的常能力							
		信頼性(複合技術)		信頼性・安全性		運用性		運用性		患者QOL系					
		他技術との 融合性	相乗効果の 程度	故障率	安全性	アウトカムの 安定性・ 結果の均一性・ 再現性	その他のリスク ヘッジ能力	操作性	安定性	可搬性	管理性・ 保管性	規格・基準 適用性	人材育成・ト レーニングの 簡便性	生物レベルのQOL (個への対応、身体的影響性、精神 的影響性、生活への影響)	生活レベルの QOL (個への対応性、 生活行動能力へ の影響、社会復帰 率、その他)
18	題名 サマリー Effects of new polymer-coated extracorporeal circuits on biocompatibility during cardiopulmonary bypass.														
19	Reduction of pro-inflammatory cytokine levels and cellular adhesion in CABG procedures with separated pulmonary and systemic extracorporeal circulation without an oxygenator. *冠動脈バイパス移植手術中に、肺を酸素化機としてした bilateral extracorporeal circulationが動脈子クランプ後の炎症性反応を減らすことが分かった。														
20	Heparin coating of extracorporeal circuits inhibits cytokine release from mononuclear cells during cardiac operations.														
21	Heparin-coated cardiopulmonary bypass circuits reduce circulating complement factors and interleukin-6 in paediatric heart surgery.														
22	Heparin-coated circuits reduce occult myocardial damage during CPB: a randomized, single blind clinical trial.														heparin coating was associated with less occult myocardial ischemic damage in patients undergoing open heart surgery

情報 NO.	基本情報			技術補足情報1			技術補足情報2			その他		
	題名 サマリー	家族(社会)のQOL 生物レベルの QOL 生活レベルの QOL その他の QOL	その他のQOL (技術補足の 説明、補正、 効果の検証、 副作用、 安全性、 その他)	機器コスト系	運用コスト系	必要リソース 施設、設備、 量、規模、人 員、時間、 ノウハウ、 消耗品、 その他	医療経済学的 分析系	技術評価 系	結果自身に関するコメント	調査条件	その他	
18	Effects of new polymer-coated extracorporeal circuits on biocompatibility during cardiopulmonary bypass.								PMEA coated circuits could reduce complement activation by suppressing the adsorption of IgG and IgM	swine model was used		
19	Reduction of pro-inflammatory cytokine levels and cellular adhesion in CABG procedures with separated pulmonary and systemic extracorporeal circulation without an oxygenator. *冠動脈バイパス移植手術中に、肺を酸素化するためのバイパス回路が動脈プラーク後の炎症性反応を減らすことが分かった。								Bilateral extracorporeal circulation without an artificial oxygenator significantly reduces the inflammatory responses during pulmonary passage after aortic declamping.	18 patients		
20	Heparin coating of extracorporeal circuits inhibits cytokine release from mononuclear cells during cardiac operations.								These results suggest that with the use of heparin-coated circuits there is a lower production of IL 6 and IL 10 from isolated PBMC than with uncoated circuits.	10 each		
21	Heparin-coated cardiopulmonary bypass circuits reduce circulating complement factors and interleukin-6 in paediatric heart surgery.								heparin-coated CPB circuits improve the biocompatibility of CPB during heart surgery in the paediatric patient population	10 children in each group		
22	Heparin-coated circuits reduce occult myocardial damage during CPB, a randomized, single blind clinical trial.								Heparin coated circuits did lead to a decreased neutrophil response and MDA level. The correlations between CK-MB and neutrophil and MDA levels suggest neutrophil activation leading to lipid peroxidation that may influence myocardial damage. Heparin coating improved biocompatibility and was associated with less occult myocardial ischemic	heparin group n= 20, without-heparin group n= 19		

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	題名 サマリー	著者	雑誌名 Medline Index	製品 情報	装置技術名称	疾病名称 ICD-10分類	重傷度系			通用療法系			正確 性、確 実性	迅速 性、反 応性	早期診断 性 (予見性・ 予知性)	インテ リジェ ンシー	
							疾病の複 雑性	その他リ スクの程 度	手術・処置名称 コード	その他併用 療法	対比療法						
23	No benefit of reduced heparinization in thoracic aortic operation with heparin-coated bypass circuits.	Olsson C, Siegbahn A, Halden E, Nilsson B, Venge P, Thein S.	Ann Thorac Surg 2000 Mar;69(3):743-9 10750754	heparin coated cardiopulmonary bypass system	thoracic aortic disease				heparin coated cardiopulmonary bypass system (group R)	reduced dose(100IU/kg initially; clotting time[ACT]>2500seconds; in prime)	standard dose(300I U/kg initially;[ACT]>480sec.;5000IU in prime) (group S)						
24	Clinical efficacy of heparin-bonded bypass circuits related to cytokine responses in children.	Ozawa T, Yoshihara K, Koyama N, Watanabe Y, Shiono N, Takahashi Y.	Ann Thorac Surg 2000 Feb;69(2):584-90 10735703	heparin bonded cardiopulmonary bypass system	paediatric artery disease				heparin bonded cardiopulmonary bypass system		non-heparin-bonded CPB						
25	Biocompatibility of silicone-coated oxygenator in cardiopulmonary bypass.	Shimamoto A, Kanemitsu S, Fujinaga K, Takao M, Onoda K, Shimono T, Tanaka K, Shimpo H, Yeda I.	Ann Thorac Surg 2000 Jan;69(1):115-20 10654498	silicone-coated oxygenator(group A)	coronary artery disease				silicone-coated oxygenator(group A)		group B, whole heparin-coated circuit, group C, whole untreated circuit						
26	Effects of Duraflo II heparin-coated cardiopulmonary bypass circuits on the coagulation system, endothelial damage, and cytokine release in patients with cardiac operation employing aprotinin and steroids.	Inui K, Shinazaki Y, Watanabe T, Takahashi T, Minowa T, Takeda H, Yanagawa N, Sotoda Y.	Artif Organs 1999 Dec;23(12):1107-12 10619929	Duraflo II heparin coated CPB circuit	coronary artery disease				Duraflo II heparin coated CPB circuit	standard systemic heparinization, methylprednisolone and low dose aprotinin were given	noncoated equipment						

情報 NO.	基本情報		技術基本能力									
	題名 サマリー	治癒系	再発率・死亡率	救命率・生存率	再発率・予防	その他の予後リスク	感受性(疾病) 有効性、適用性、補助性	影響性 強靱性、実用性、併発 性(副作用)、その他の リスク	機能回復性	病態維持性	健康改善性	予防系
23	No benefit of reduced heparinization in thoracic aortic operation with heparin-coated bypass circuits	acute phase cytokine IL-6, granulocytic proteins myeloperoxidase and lactoferrin, C3a, C5a-9 terminal complement complex(TCC) and thrombin-anti-thrombin III complex were analyzed. All markers were significantly elevated in both groups. Maximal values were higher in group R for all except for TCC.				four patients(29%) in group R had a perioperative thromboembolic event						
24	Clinical efficacy of heparin-bonded bypass circuits related to cytokine responses in children.	Significant differences in tumor necrosis factor- α , IL-6, and IL-8 patterns were observed during and after CPB between the two groups($p<0.01$, $p<0.01$, $P,0.05$). All cytokines measured were significantly lower in the heparin-bonded group after CPB($p<0.05$). There were no differences in duration of incubation, intensive care unit stay or hospital stay, or postoperative blood loss, but the respiratory index after CPB and body weight percent ratio 24 and 48 hours after CPB were significantly lower in the bonded group($p<0.05$, $p<0.01$, $p<0.05$).				respiratory index after CPB and body weight percent ratio 24 and 48 hours after CPB were significantly reduced in the bonded group($p<0.05$, $p<0.01$, $p<0.05$)		no differences in duration of incubation, or postoperative blood loss				
25	Biocompatibility of silicone-coated oxygenator in cardiopulmonary bypass.	all proinflammatory markers were significantly lower in group A and B than C especially C5b-9 and PMN-E concentrations(group A was lower than group B). The A-ADO2 and the respiratory index were significantly better in group A than C, in group B only A-ADO2 was significantly better than group C				the duration of incubation and the length of stay in the intensive care unit stay were significantly shorter in groups A and B than C						
26	Effects of Duraflo II heparin-coated cardiopulmonary bypass circuits on the coagulation system, endothelial damage, and cytokine release in patients with cardiac operation employing aprotinin and steroids.	serum X II a factor, TAT, IL-6 were higher in the control group during CPB($p<0.01$), serum IL-8 was significantly higher in the control group at 24h after CPB($p<0.05$), no significant difference in the serum thrombomodulin and TNF- α										

情報 NO.	基本情報	技術補完能力										技術付帯能力				
		親和性(適合技術)		信頼性・安全性			運用性					患者QOL系				
		他技術との 融合性	相乗効果の 程度	故障率	安全性	アウトカムの 安定性・ 結果の均一性・ 再現性	その他のリスク ヘッジ能力	操作性	安定性	可燃性	管理性・ 保管性	規格・基準 適用性	人材育成・ト レーニングの 簡便性	生物レベルのQOL (個への対応、身体的影響性、精神 的影響性、生命への影響)	生活レベルの QOL (個への対応性、 生活行動能力へ の影響、社会環境 等、その他)	
23	<p>題名 サマリー</p> <p>No benefit of reduced heparinization in thoracic aortic operation with heparin-coated bypass circuits.</p>															
24	<p>Clinical efficacy of heparin-bonded bypass circuits related to cytokine responses in children.</p>															no differences in duration of incubation, intensive care unit stay or hospital stay
25	<p>Biocompatibility of silicone-coated oxygenator in cardiopulmonary bypass.</p>															the duration of incubation and the length of stay in the intensive care unit stay were significantly shorter in groups A and B than in C
26	<p>Effects of Duraflo II heparin-coated cardiopulmonary bypass circuits on the coagulation system, endothelial damage, and cytokine release in patients with cardiac operation employing aprotinin and steroids.</p>		serum X II a factor, TAT, IL-6 were significantly higher in the control group during CPB(p<0.01). serum IL-8 was significantly higher in the control group at													

情報 NO.	基本情報				技術補足情報1				技術補足情報2				その他	
	題名 サマリー	その他のQOL (技術能力の改良・理解性、治療効果の体感、種類性、患者満足の影響、その他)	家族(社会)のQOL			機器コスト系	運用コスト系	必要リソース 施設、設備数、量、装置、スタッフ数、消耗品数、その他	医療経済学的 分析系	技術評価 系	調査条件	その他		
			生物レベルの QOL	生活レベルの QOL	その他の QOL									
23	No benefit of reduced heparinization in thoracic aortic operation with heparin-coated bypass circuits.										結果自身に関するコメント	group S,n=16 R,n=14		
24	Clinical efficacy of heparin-bonded bypass circuits related to cytokine responses in children.											heparin-bonded CPB group,n=17 non-heparin-bonded group,n=17 infant		
25	Biocompatibility of silicone-coated oxygenator in cardiopulmonary bypass.											silicone-coated oxygenators are biocompatible and prevent postoperative organ dysfunction	group A,n=10,group B,n=11,groupC:n=11	
26	Effects of Duraflo II heparin-coated cardiopulmonary bypass circuits on the coagulation system, endothelial damage, and cytokine release in patients with cardiac operation employing aprotinin and steroids.											the use of Duraflo II heparin-coated equipment and heparin-coated cardiopulmonary reservoir suppressed excess coagulation and inflammatory reaction induced by CPB	12 patients in each group	

情報 NO.	基本情報			機器技術		技術適用疾病		技術基本能力										
	題名 サマリー	著者	雑誌名 Medline Index	機器技術名称	製品 情報	疾病名称 ICD-10分類	疾病の severity	疾病の規 模	疾病の複 雑性	その他リ スクの程 度	手技・処置名称 コード	その他併用 療法	対比療法	正確 性、確 実性	迅速 性、反 応性	早期診断 性 (予見性・ 予知性)	インテ リジェ ンシー	
27	The effect of nitric oxide on platelets when delivered to the cardiopulmonary bypass circuit. *心臓/バイパス回路に導入したNOの血小板に与える効果を試験したが、血小板数或いは機能には目立った変化が無い。	Lowson SM, Hassan HM, Rich GF.	Anesth Analg 1999 Dec;88(6):1380-5 10589608	membrane oxygenator (MO), NO		coronary artery disease					cardiopulmonary bypass (CPB), membrane oxygenator (MO) with NO		membrane oxygenator (MO) without NO					
28	Coagulation during heparin-coated cardiopulmonary bypass with reduced heparinization.	Kumano H, Suehiro S, Hattori K, Shibata T, Sasaki Y, Hosono M, Kinoshita H.	Ann Thorac Surg 1999 Oct;68(4):1252-6 10543488	heparin-coated CPB circuit							heparin-coated CPB circuit	reduced dose of systemic heparin(150 U/kg)	300U/kg heparin					
29	Heparin-coated circuits reduced myocardial injury in heart or heart-lung transplantation: a prospective, randomized study.	Wan S, LeClerc JL, Antoine M, DeSmet JM, Yim AP, Vincent JL	Ann Thorac Surg 1999 Oct;68(4):1230-5 10519785	Dufalo II heparin coated CPB circuit	heparin-coated CPB circuit Tx	heart transplantation(HTx), heart-lung transplantation(HL circuit Tx)					Dufalo II heparin coated CPB circuit	full systemic heparinization(3mg/kg)	uncoated CPB circuit					
30	Synthetic protein treated versus heparin coated cardiopulmonary bypass surfaces: similar clinical results and minor biochemical differences.	Wimmer-Greinecker G, Matheis G, Martens S, Oremek G, Abdel-Rahman U, Moritz A.	Eur J Cardiothorac Surg 1999 Aug;16(2):211-7 10485423	synthetic protein treated oxygenators		coronary artery disease					synthetic protein treated oxygenators		completely heparin coated circuits					

情報 NO.	基本情報	技術基本能力									
		治癒性	増殖率・生存率	再発率・予防率	その他の予後リスク	感受性(疾病) 即効性, 適用性, 機約性	影響性 侵襲性, 疼痛性, 併発性(合併症), その他のリスク	機能回復性	病態維持性	健康改善性	健康維持性
27	<p>題名 サマリ</p> <p>The effect of nitric oxide on platelets when delivered to the cardiopulmonary bypass circuit. *心臓バイパス回路に導入したNOの血小板に与える効果を試験したが、血小板数或いは機能には目立った変化が無い。</p>	<p>The amount of blood products administered and chest tube drainage were measured in the first postoperative 18 h. NO delivered into the MO for up to 180 min did not increase met-hemoglobin levels above 4%. NO inhibited the platelet aggregation response to 2.5 microM ADP during CPB, otherwise NO had no other detectable effect on the aggregation responses or the levels of beta-thromboglobulin. Platelet numbers were not significantly altered by NO. NO did not alter the use of blood products or chest tube drainage. In conclusion, this study suggests that NO delivered into the CPB circuit has no effect on the use of blood products, fibrinogen, fibrinolytic activity, platelet aggregation, or D-dimer levels.</p>									
28	<p>Coagulation during heparin-coated cardiopulmonary bypass with reduced heparinization.</p>	<p>no difference of thrombin-antithrombin complexes, fibrinogen, fibrinolytic activity, platelet aggregation, and D-dimer at preoperative, intraoperative, and postoperative between the groups</p>									
29	<p>Heparin-coated circuits reduced myocardial injury in heart or heart-lung transplantation: a prospective, randomized study.</p>	<p>no difference between groups were found with respect to duration of CPB and aortic cross-clamping, graft ischemic time, doses of heparin, postoperative blood loss and transfusion, peak lactate and creatine kinase-MB isoenzyme values, duration of mechanical ventilation, or length of ICU stay. The HC group had significantly lower levels of IL-6,8,10 at 1 hour after declamping, and cardiac troponin-I at 12 and 24 hours after reperfusion</p>	<p>the HC group had significantly lower levels of IL-6,8,10 at 1 hour after declamping, and cardiac troponin-I at 12 and 24 hours after reperfusion</p>	<p>patients in HC group needed more protamine sulfate after CPB</p>							
30	<p>Synthetic protein treated versus heparin coated cardiopulmonary bypass surfaces: similar clinical results and minor biochemical differences.</p>	<p>postoperative clinical data did not differ between two groups, coagulation activation, hyperfibrinolysis, disseminated intravascular coagulation were similar. Platelet count displayed a difference in favor of the heparin coated group (P=0.029). Increased leukocyte activation reflected by rising myeloperoxidase concentration on CPB was present in both groups. IL6 and 8 reacted similarly, but IL8 increased significantly more (P=0.0062) at the end of surgery in the protein group. The same pattern was observed for complement activation (P=0.006). S-100B protein and neuron specific enolase increased in both groups</p>	<p>one patient in each group died during hospital stay</p>	<p>in both groups, S-100B and neuron specific enolase did not reach concentration associated with clinical manifestation of cerebral injury</p>							

情報 NO.	基本情報	技術補完能力				技術付帯能力										
		親和性(複合技術)		信頼性・安全性		運用性				患者QOL系						
		他技術との 融合性	相乗効果の 程度	故障率	安全性	アウトカム の安定性 結果の均一性、 再現性	その他のリスク ヘッジ能力	操作性	安定性	可搬性	管理性・ 保管理性	規格・基準 適用性	人材育成・ トレーニングの 簡便性	生物レベルのQOL (個への対応、身体的影響性、精神 的影響性、生命への影響)	生活レベルの QOL (個への対応性、 生活行動能力へ の影響、社会環境 等、その他)	
27	<p>題名 サマリー</p> <p>The effect of nitric oxide on platelets when delivered to the cardiopulmonary bypass circuit. *心臓バイパス回路に導入したNOの血小板に与える効果を試験したが、血小板数或いは機能には自立った変化が無い。</p>															
28	<p>Coagulofibrinolysis during heparin-coated cardiopulmonary bypass with reduced heparinization.</p>															
29	<p>Heparin-coated circuits reduced myocardial injury in heart or heart-lung transplantation: a prospective, randomized study.</p>															
30	<p>Synthetic protein treated versus heparin coated cardiopulmonary bypass surfaces: similar clinical results and minor biochemical differences.</p>															

情報 NO.	基本情報				技術補足情報1			技術補足情報2			その他	
	題名 サマリー	その他のGOAL (技術能力の説明・理解性、治療効果の体感・確認性、患者負担の軽減、その他)	家族(社会)のGOAL			機器コスト系 機器本体コスト、周辺機器コスト、その他設備コスト	運用コスト系 労務費、材料費、経費、その他費用	必要リソース 施設、設備数、量、環境、スタッフ数、消耗品数、その他	医療経済学的分析系 CBA, AEA, ALU, DALY, その他	技術評価系 公的記録上、自由記録上、その他	調査条件	その他
			生物レベルのGOAL	生活レベルのGOAL	その他のGOAL							
27	The effect of nitric oxide on platelets when delivered to the cardiopulmonary bypass circuit. *心臓/バイパス回路に導入したNOの血小板に与える効果を試験したが、血小板数或いは機能には目立った変化が無い。			その他のGOAL						結果自身に関するコメント	47 patients	
28	Coagulation analysis during heparin-coated cardiopulmonary bypass with reduced heparinization.										12 patients in each group	
29	Heparin-coated circuits reduced myocardial injury in heart or heart-lung transplantation: a prospective, randomized study.										HC group:n=14, 10HTx, 4HLTx,N prolonged duration of CPB and HC group:n=15, 10HTx, 5HLTx	
30	Synthetic protein treated versus heparin coated cardiopulmonary bypass surfaces: similar clinical results and minor biochemical differences.				the protein treatment is not associated with additional cost						58 patients	

情報 NO.	技術基本能力									
	基本情報	治療系						療養系		予防系
題名 サマリー	治癒性	死亡率・生存率	再発率・予防率	その他の予後リスク	感受性(薬物) 即効性, 薬用性, 種別性	影響性 侵襲性, 疼痛性, 併発性(合併症), その他のリスク	機能回復性	病態維持性	健康改善性	健康維持性
31	Transfusion after coronary artery bypass surgery; the impact of heparin-bonded circuits.	the probability of transfusion is 50% less and the number of PRBC transfused are 1.42 units less when heparin-bonded circuits are used								
32	Evaluation of heparin-coated circuits with full heparin dose strategy.	Platelet levels remained significantly higher in the HCC group starting at the 10 minute following the institution of CPB until postoperative 24 hours. More platelet adhesion and pseudopod formation was found in the NHCC group. The mean amount of shed pleural and mediastinal blood measured from the time of the sternal closure was significantly lower in the HCC group(316+/-30cc vs 550+/-35cc). Mean postoperative transfusion requirements were lower in the HCC group(220+/-23cc vs 300+/-25cc).								the use of HCC and full heparinization demonstrated benefits in platelet preservation and postoperative bleeding
33	Effect of surface coating on platelet count drop during cardiopulmonary bypass. *中空ファイバー膜酸素加装置のコーティングを, albumin, Carmeda, 兼しの3種で試験。 Albuminコーティングは心臓バイパス中の血小板数低下が最も低かった。	the albumin group had significantly lower platelet count drops(-4.8+/-7.1%)than the Carmeda group(-11.0+/-8.3%) and the noncoated group(20.3+/-14.5%)								

情報 NO.	基本情報	技術補完能力										技術付帯能力			
		新和性(複合技術)				信頼性・安全性			運用性			患者QOL系			
		他技術との 融合性	相乗効果の 程度	故障率	安全性	アウトカムの 安定性 結果の均一性、 再現性	その他のリスク ヘッジ能力	操作性	安定性	可搬性	管理性・ 保管性	規格・基準 適用性	人材育成・ トレーニングの 簡便性	生物レベルのQOL (個への対応、身体的影響性、精神 的影響性、生きへの影響)	生活レベルの QOL (個への対応性、 生活行動能力へ の影響、社会復帰 等、その他)
31	<p>題名 サマリー</p> <p>Transfusion after coronary artery bypass surgery: the impact of heparin-bonded circuits.</p>														
32	<p>Evaluation of heparin- coated circuits with full heparin dose strategy.</p>														
33	<p>Effect of surface coating on platelet count drop during cardiopulmonary bypass. *中至ファイバー膜酸素 加装置のコーティング を、albumin, Carmeda, 無し3種で試験。 Albuminコーティングは 心臓バイパス中の血小 板 数低下が最も低かつ た。</p>														

情報 NO.	基本情報				技術補足情報1				技術補足情報2			その他	
	題名 サマリー	その他のQOL (疼痛、疲労、気管 支炎、呼吸器病、 加齢に伴う機能 低下、全身病の影 響、その他)	家族(社会)のQOL 生物レベルの QOL 生活レベルの QOL その他の QOL	機器コスト系	運用コスト系	必要リソース	医薬経済学的 分析系	技術評価 系	臨床系	患者条件	その他		
31	Transfusion after coronary artery bypass surgery: the impact of heparin-bonded circuits.			機器本体コスト、 周辺機器コスト、 その他の設置コスト	労務費、材料費、 経費、その他費用	施設、設備数 費、消耗品、 ケア費、訓練 品数量、その他	CBA, AEA, AU A, DALY, その他	公的保険上、 自由保険上、 その他	臨床系	210 patients	臨床系 その他	Several factors influence the probability of transfusion that patients face following coronary artery bypass surgery. The probability of transfusion is 50% less and the number of PRBCs transfused are 1.42 units less when heparin-bonded (Carmeda) circuits are used, adjusted for patient demographics, comorbidities, or surgical variables.	
32	Evaluation of heparin- coated circuits with full heparin dose strategy									30 patients in each group		the use of HCC and full systemic heparinization did not change the inflammatory response or biocompatibility but demonstrated benefits in platelet preservation and postoperative bleeding	
33	Effect of surface coating on platelet count drop during cardiopulmonary bypass. *中空アライバー膜酸素 加送置のコーティング を、albumin, Carmeda, 無しとの3種で比較。 Albuminコーティングは 心臓バイパス中の血小 板数低下が最も低かつ た。									60 patients, 20 each		Carmeda surface coating demonstrated some beneficial effects, but to a less degree than the albumin	