

NNECDSG PERFUSION REGISTRY

Perfusionists initials: _____

Type of surgery (0= CABG only; 1=Valve only; 2=CABG + valve; 3=Other cardiac surgery or comb. thereof)

Date of admit _____ (m/d/yy)

Date of Surgery _____ (m/d/yy)

Cardioplegia Methods

Aortic cross clamp (0=yes, cardioplegia; 1=yes, w/ischemia or fib arrest; 2=no XC)

Type (1=1:1; 2=2:1; 3= 4:1; 4= 8:1; 5= crystalloid; 6= comb; 7= none; 8=microplegia)

Induction dose (1= standardCPS; 2=Buckberg CPS)

Induction CPS temp (0≤28C; 1=28-34C; 2≥35C)

Maintance CPS temp (0≤28C; 1=28-34C; 2≥35C; 3=combination)

Routing (0= antegrade; 1=retrograde; 2=both)

Timing of dose (longest interval, in minutes; use ""999"" for continuous CPS)

Proximal technique (0=with AoXC off; 1=with AoXC on; 2=combination; 3= Non-CABG; 4=IMA(s) only)

“Hot shot” used (0=no; 1=yes, standard CPS; 2=yes, Buckberg CPS; 3= yes, blood only; 4=yes, combination)

Total volume used of cardioplegia, inc. bld only (in mls)

Fluid volumes and blood products

Static circuit volume (in ml)

Asanguineous prime vol. . (in ml)

Total priming vol. (in ml)

Blood prime? (number of units of PRBC's)

Pre-bypass sequestration used? (estimated number of ml)

Ultra-filtration used? (number of mls removed)

Pre-bypass fluid total (in ml)

Fluids added on bypass... (in ml)

RAP technique used? (volume, in ml, 0=not used)

Leukodepletion used? (0=no; 1=yes)

If yes, Bank Blood? (0=no; 1=yes)

If yes, Cell Saver blood? (0=no; 1=yes)

If yes, Cardioplegia? (0=no; 1=yes)

If yes, Arterial? (0=no; 1=yes)

Albumin used? (0=no; 1=yes)

If yes, In prime _____ (gm), On bypass _____ (gm)

USE ADDRESSOGRAPH if possible

First Name _____

Last name _____

DOB _____

Medical record number _____

Use the code 888 for unknown

Details of Perfusion

	Post-intubation	First on CPB	Lowest on CPB	Last on CPB
Hematocrit values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Lowest core temperature . (degrees centigrade)

Highest core temperature . (degrees centigrade)

Highest blood temperature (arterial flow, deg. centig.)

Last serum K+ on CPB (last value prior to initial weaning from CPB)

Lowest venous saturation (@37 degrees)

Total heparin (USP units, inc. prime)

Reperfusion time (minutes)

Ventricular activity during XC (0=no; 1=yes)

Coated circuit (0=no; 1=partial; 2=all but cannula; 3=Tip-to-tip)

If yes, Type of coating (1=X, 2=COBE; SMARxT; 3= Carmeda; 4= Trillium; 5=Duraflor II; 6= Sorin Mimesys.; 7=GISH; 8=Other; 9=combination)

Cardiotomy suckers used . (0=no; 1=yes, with cell saver; 2= yes, without cell saver)

KA/VAVD used? (0=no; 1=vacuum; 2=kinetic)

Transfusion on bypass (number of units of PRBC's)

Primary reason for transfusion (0=no trans.; 1=anemia; 2=blood loss; 3=poor O2 transport)

Jehovah’s Witness (0=no; 1=yes)

Where was insulin drip started? (1=Pre-op; 2= Intra-op; 3=none)

Insulin given on bypass? . (0=no; 1=yes, bolus; 2=yes, drip; 3=yes, both)

OR Glucose measurements:

	1st	Highest	Last
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cerebral monitoring (0=no; 1=yes)

•Confidential- For QA Purposes Only•

DEFINITION OF TERMS

Perfusionist: If new staff member or locum tenens perfusionist performs case, print initials in blank labeled "Other." Students should be coded under the responsible staff perfusionist.

Type of surgery: Other cardiac surgery or comb. thereof: may be other procedures (VSD, ASD, ablation, AICD, or any significant cardio-vascular surgery not included in this list), w/ or w/o CABG or valve(s).

Cardioplegia type: 6=Combination: For those procedures during which multiple ratios are used. **7=None:** For any procedure in which neither AoXC nor cardioplegia is used, or standard CABG in which the AoXC is used but cardioplegia is not (ischemic or fibrillatory arrest). **8=Microplegia:** Use for blood cardioplegia with minute amounts of highly-concentrated additives, such as Harvard pump technique.

Induction dose: Very first dose of cardioplegia given, typically 500cc, *before any changes in composition or temperature are made*, and after which infusion may continue. **Buckberg CPS** includes such additives as aspartate and glutamate.

Timing of doses: Longest interval between doses (end of one dose to the start of next dose).

Proximal technique: With AoXC off or on, or a combination of the two. Score 3 or 4 as appropriate for non-CABGs, or CABGs done only with IMA(s).

Total volume used: Total volume of cardioplegia given, i.e., the volume of crystalloid plus blood. For example, if 400 cc of crystalloid cardioplegia stock solution is used at 4:1, then the total volume to be recorded is 2,000 cc. If blood only is used for any reason, such as hot shot, add in the amount of blood used.

Static circuit volume: The minimum volume of fluid necessary to prime a given bypass circuit from tip to tip at a no-flow state and minimal acceptable reservoir level to initiate bypass. This value is independent of the net priming volume after RAP, draining the venous line or other maneuvers to minimize hemodilution.

Asanguineous prime volume: Total amount of asanguineous fluid used to initiate bypass. Should inc. crystalloid, colloid and medications, but not blood or such volumes as removed by RAP or other strategies used to minimize hemodilution.

Total priming volume: Total amount of fluid used to initiate bypass. Should inc. crystalloid, colloid, blood and medications, but not such volumes as removed by RAP or alternative strategies to minimize hemodilution.

Blood prime: If a blood prime was used, how many units of PRBCs? Enter "0" if none.

Pre-bypass sequestration used: Give an estimate of the amount of blood sequestered, either by Anesthesia or via CPB venous line. Enter "0" if none.

Ultrafiltration used: If an ultrafilter was used, how much volume was removed? Enter "0" if none.

Pre-bypass fluid total: Total amount of crystalloid and colloid given by Anesthesia prior to initiation of CPB.

Fluids added on bypass: Total amount of fluid given on bypass as reflected in final fluid total. Include blood products and amount of crystalloid cardioplegia stock given.

RAP technique used: If Retrograde Autologous Priming or other similar technique was used, indicate "yes" or "no" and estimate volume of prime removed.

Leukodepletion used: If leukodepletion filters were used, indicate "yes" and location at which such filter(s) were used.

Albumin used: If albumin was given in the prime or on bypass, indicate number of grams used (not ml's).

Post-intubation hematocrit: Hct. from ABG or other patient sample drawn after the insertion of the E-T tube in the OR, or post-induction if the patient arrives intubated.

First hematocrit on bypass: First measured hct. after institution of CPB. Should be drawn within the first 15" of bypass.

Lowest hematocrit on CPB: Lowest measured value, prior to transfusion (if any), during initial pump run.

Last hematocrit on CPB: Last hct. prior to weaning from initial pump run. May be an estimate if patient has been recently transfused but not re-sampled.

Lowest core temperature: Lowest measured central body temperature while on CPB.

Highest core temperature: Highest measured central body temperature while on CPB.

Highest blood temperature: Highest temperature reached by the arterial inflow during re-warming.

Last serum potassium on CPB: Last potassium level prior to weaning from initial pump run.

Lowest venous saturation: Lowest mVO₂ sat. during sustained "normal" arterial flow @37°C. Do not record values during periods of hypoperfusion secondary to low flows at the surgeons' request.

Total heparin: Total amount of heparin (in USP units) used for CPB, inc. prime.

Reperfusion time: Time from point of AoXC removal to initial separation from bypass.

Ventricular activity during XC: V-fib or spontaneous, organized ventricular contraction observed while the AoXC is on and after cardioplegia has been administered, but before "hot shot," if any, is begun; ventricular activity which occurs during that period of time when the heart is expected to be quiescent.

Coated circuit: If a "biocompatible" circuit was used, characterize extent of coating and type/brand.

Cardiotomy suckers used: Indicate if pump suckers were used, w/ or w/o concomitant Cell Saver.

KA/VAVD Used: If assisted venous drainage was used, indicate type.

Transfusion on bypass: If blood was added on CPB, how many units of PRBCs? Enter "0" if none. Do not include PRBCs in blood prime here.

Primary reason for transfusion: 0=no transfusion indicated, or withheld on MD's order; 1=anemia related to primary hemodilution, inc. low pt. hct., small pt. size, and/or anesthesia and/or CPB fluids; 2=blood loss at the surgical field necessitates adding blood and other fluids to the pump to maintain hct. and circulating volume. Patient may be anemic due to fluid addition to keep up with hemorrhage, but blood loss is the precipitating event; 3=poor O₂ transport. Blood is given in response to a low mVO₂ sat. or other clinical marker of poor tissue oxygenation. Hct. would otherwise be considered acceptable.

Insulin therapy: Characterize insulin given during a procedure for glucose control. Also, indicate if insulin drip was started pre-op. Record first, last and highest glucose levels during a case (not just on CPB), if measured.