2026 Cardioplegia clamp/delivery error

Permission to print:	Yes
Category	cardioplegia
Category 2	Circuit error
Severity	Good Catch No Harm Incident
Duration of incident:	minutes
Procedure acuity:	Elective
Description:	During an elective AVR for severe AS, a locum perfusionist was supervising our trainee perfusionist. Bypass was initiated, root vent cannula was placed, and the cross clamp was applied. Cardioplegia delivery initiated antegradely with cold oxygenated blood cardioplegia in a 4:1 ratio, the heart was not arresting therefore the aorta was opened and cold oxygenated blood cardioplegia blood was delivered down the ostia. This is common in cardiac cases where aortic valve insufficiency is present. Help was called (2nd Perfusionist) in to investigate as the locum perfusionist was concerned that the cardioplegia was not effective. After 6mins and a total of 1 litre cold oxygenated blood cardioplegia the 2nd Perfusionist checked the circuit and noticed that the circuit was patent and air free, however the white clip for the cardioplegia infusion was closed off, therefore the previous delivery had been cold oxygenated blood only. The clip was subsequently opened and 1L of cold blood cardioplegia was delivered down the ostia and the heart was successfully arrested. The Surgeon and Anaesthetist were immediately informed during the fault finding and the issue was resolved. An ABG was done after cardioplegia delivery which confirmed expected normal ABG values for CPB. The rest case was uneventful, when the clamp was removed the heart restarted without issue and the ABGs were all as expected. Further Information: The staffing did not allow for the senior perfusionist on duty to supervise the trainee as they would normally as two other members off staff were off. The senior perfusionist was on call and would be doing the second case. The staff perfusionist cannot supervise trainees due to departmental/college educational rules. Therefore, the locum perfusionist (+20 of experience) who had only done one previous case at this institution was deemed appropriate to supervise the trainee.
GOOD CATCH - what went well	A second perfusionist getting called in to help the situation, asking for help is always important. Help arrived immediately. Staff were transparent. Good teamwork from all 3 perfusionists involved to fix the issue. Immediate communication with the surgeon.
What could we do better	As a team there could have perhaps been a second check of the pump since the locum perfusionist is new to the department.
Preventive actions	Review of PRE-CPB Checklist to perhaps include cardioplegia clip opened or completely remove the white clip from the circuit design to avoid "silent" incidents like this one. New practice rule to be discussed i.e. new locum perfusionists not to supervise trainees unless they have worked in the department more than once and are familiar with the setup. Introduce a 2 Person CPB checklist for locum staff or new staff or for everyone altogether.
Type of incident:	Human Factors
Timing of incident:	CPBnormothermic
Discussed with team:	Yes
Hospital incident filed:	Yes

Ext Authority Advised	No
Knowledge issue	Yes
Protocol issue	No
Rule issue	Yes
Skill issue	Yes
Team Issue	Yes
Violation	No
Chance Chance event:	No
Patient outcome variance from incident	Nil
Commentary	We agree that it is prudent for a locum to have spent a specified agreed minimum amount of time and experienced a minimum number of cases in a new/unfamiliar unit prior to supervising a trainee. Familiarity with the unit's circuit is vital for safety and trouble-shooting. PIRS2 Editorial team