

2019 Servo-regulation

Permission to print:	Yes
Incident type	Good Catch No Harm Incident
Type of incident:	Management
Procedure acuity:	Elective
Description:	<p>Assembling our S5 mast mounted arterial with twin cardioplegia (CP) roller pump heart lung machine (HLM) for a routine MVR. We were using up older heart-lung tubing pack stock which consisted of a 1:1 cardioplegia circuit. Previously [we were] using dual circuit 4:1. We routinely use the twin roller for CP, one for blood and the other for crystalline CP in the controlled mode for 4:1/1:1. In configuration of the CP pump for 1:1 CP delivery the main arterial pump was inadvertently assigned as the "controlled pump". CP volumetry of 500mls was selected in the automatic mode which stops the pump when the set volume has been delivered. Bypass was initiated, cross clamp applied and CP administered. At an arterial flow rate of 4/Lpm the [wrongly]assigned [arterial] pump stopped in 20 seconds. Failure to notice that the arterial pump was controlled resulted in immediate use of hand cranking to support circulation for approximately 5 minutes. Surgeon and anaesthetist were notified. As there was still myocardial activity, cross clamp was removed, rhythm restored and the patient weaned of CPB. After error was recognised pump configuration was corrected and surgery completed without further incident or harm to patient.</p>
GOOD CATCH - what went well	<p>Good communication between perfusionist and cardiac team was paramount. With two perfusionists available, one could hand crank while the other reconfigured pump assignment.</p>
What could we do better	<p>Where possible, to have N+1 check of system prior to CPB. Pump configuration to be added to pre by-pass checklist. Preferential use of pump override would have avoided</p>
Preventive actions	<p>Where possible, to have N+1 check of system prior to CPB. Pump configuration to be added to pre by-pass checklist.</p>
Catagory	Pump Servoregulation
Region	ANZ
Manufacturer advised:	No
Hospital incident filed:	Yes
Ext Authority Advised	No
Patient outcome variance	Nil
Discussed with team:	Yes
Commentary	<p>The take home from this for the team primarily is what went well. The team successfully managed an unintended event in a dynamic environment to avoid patient harm. Reflection provides the opportunity to implement strategies to minimise recurrence. Of interest is the use of handcranking. Using the pump override function in the first instance provides safer perfusion where there is power to the pump. The audible alarms on the S5 remain active while servoregulation is disabled. Hand cranking has historically been the goto safety action for perfusionists however PIRS has previous reports of servoregulation problems that could have been effectively managed using pump override.</p>