

2019 HCU Waterflow Failure

Permission to print:	Yes
Region	ANZ
Description:	<p>Set up 3T Heater Cooler Unit (HCU) in theatre as normal. Cardioplegia was set to 2 degrees and patient set to 36.5 degrees. I conducted all regular checks, The machine displayed that it had cooled down to 2 degrees [on the cardioplegia display], it felt cold to touch but not as cold as normal. Went on bypass as I figured the temperature would start getting colder once cardioplegia started to circulate. Upon running cardioplegia to the table I saw that the temperature recorded at the cardioplegia [heat exchanger] was at 24 degrees and was increasing instead of decreasing. After running it up to the table I clamped the cardioplegia line and recirculated however the temperature remained around 25 degrees despite the HCU still displaying the cardioplegia temperature at 2 degrees. I called the co-ordinator and we quickly swapped out the HCU, which successfully began cooling as I ran the first dose of cardioplegia.</p> <p>There have been regular issues with our 3T HCU's previously [loss of waterflow due to water flow-valves within the device jamming[due to the constant disinfections wearing them down with 4 HCU's affected in the last two days.</p>
GOOD CATCH - what went	Did all the checks on the checklist so I was aware of a potential problem and was ready. Had a spare HCU available for quick changeout
What could we do better	I could have tested the temperature earlier by recirculating the cardioplegia before
Preventive actions	There is a proposal for retrofits for all HCU's to overcome disinfection related valve jamming (personal communication LivaNova) .Planned regular preventive maintenance by Biomed engineers and inserting a visual water flow indicator into the waterline.
Category	Heater Cooler unit
Incident type	No Harm Incident
Manufacturer advised:	Yes
Hospital incident filed:	Yes
Ext Authority Advised	No
Discussed with team:	Yes
Commentary	<p>Given the frequency of this report from this centre and the fact that the mechanism of the problem is known to the manufacturer, users of this device should be aware that the disinfection process is directly related to water-flow valve failure. Consideration of mitigation as suggested in this report is advised.</p> <p>PIRS Ed</p>