PIRS 2016 - Electrical / electronic

Permission to print:	Yes
Incident type	Near Miss
Type of incident:	Equipment
Catagory	Electrical / electronic
Description:	Once primed and waiting to go into the OR the Stockert S5 pump alarmed with the error "internal temperature too high pump 1". We were able to replace the mast mounted pump with the spare pump head. This did take some time as the mast mounted pump was screwed on with allen screws at an angle preventing easy removal. Once the spare pump was put in place, all stop link controls were set and the case proceeded.
Preventive actions	It was found that the filter under the pump head had not been cleaned by biomed and was very dirty. Having the pump mounted low to the ground makes it not easy to access the filter. Also having a pump head that is screwed on at an odd angle greatly delayed the action. Having the clamp on feature is preferred.
GOOD CATCH - what went	The good point was that the alarm happened before going into theatre and having easy access to a spare pump head with a clamp on mechanism worked well.
Protocol issue	No
Rule issue	No
Skill issue	No
Team Issue	No
Violation	No
Manufacturer advised:	Yes
Discussed with team:	Yes
Hospital incident filed:	No
Ext Authority Advised	No
Procedure acuity:	Elective
Commentary	

Permission to print:	Yes
Incident type	Near Miss
Type of incident:	Equipment
Catagory	Electrical / electronic
Description:	After priming a circuit (primed in pump room) - [S5 HLM 9 years old] the power was disconnected to move the pump into theatre. The pump alarmed and it was noted that the arterial pump had stopped. There was an error code on the main display panel (Error 433 'Fault in motor controller (433) Pump 1'.) and alert symbols on the arterial pump console. I turned the arterial pump knob to zero and then turned up - nothing happened. Powered down the pump and rebooted, pump still did not work. Plugged main power cable into the wall and turned arterial pump knob down and up again, pump started and then stopped with the same error code (433). Decided to change circuit to another pump. Pump checked and found to have a faulty pump controller. Of note, I had noticed an odd sound whilst priming the pump (like a fan), but there was construction work going on and I could not be sure it was the pump - but in hindsight I am sure it was.
Preventive actions	A spare controller and pump module have been made available while the faulty controller and pump module are being fixed.
GOOD CATCH - what went	
Protocol issue	No
Rule issue	No
Skill issue	No
Team Issue	No
Violation	No
Manufacturer advised:	Yes
Discussed with team:	Yes
Hospital incident filed:	No
Ext Authority Advised	No
Procedure acuity:	Elective
Commentary	

Permission to print:	Yes
Incident type	Near Miss
Type of incident:	Management
Catagory	Electrical / electronic
Description:	Nurse inadvertently switched off AC power to HLM.
Preventive actions	Better marker/indicator on HLM plug.
GOOD CATCH - what went	
Protocol issue	No
Rule issue	No
Skill issue	Yes
Team Issue	No
Violation	No
Manufacturer advised:	No
Discussed with team:	Yes
Hospital incident filed:	No
Ext Authority Advised	No
Procedure acuity:	Elective
Commentary	

Permission to print:	Yes
Incident type	Near Miss
Type of incident:	Equipment
Catagory	Electrical / electronic
Description:	Going onto bypass, not quite at full flows. A bang and a bright flash were seen and heard coming from the ice slush machine. The Heart Lung machine defaulted to internal UPS and the Heater/Chiller and ice slush machine switched off. All three pieces of equipment were plugged into the same power stack which had tripped. [Possible electrical overload in the Ice Slush machine].The ice slush machine was plugged into the same power stack as the Heart Lung Machine and the heater chiller.Heart Lung Machine was unplugged from the essential power point on the blown power stack to the essential power point on another power stack. In the meantime the nursing staff had alerted the charge nurse who reset the circuit breaker and power resumed in both power stacks.
Preventive actions	The ice slush machine was removed from theatre and sent for testing. A risk pro was filed by the nursing staff.
GOOD CATCH - what went	
Protocol issue	No
Rule issue	No
Skill issue	No
Team Issue	No
Violation	No
Manufacturer advised:	No
Discussed with team:	Yes
Hospital incident filed:	Yes
Ext Authority Advised	No
Procedure acuity:	Elective
Commentary	

Permission to print:	Yes
Incident type	Near Miss
Type of incident:	Equipment
Catagory	Electrical / electronic
Description:	Stockert S5 Arterial pump controller failure after approx 2 hrs and 06 minutes on bypass. Called for help and requested another Arterial pump and controller while attempting rebooting the controller - nothing happened. Grabbed the hand crank and hank cranked until help arrived. Controller rebooted on third attempt to power on and off Now able to be use as arterial pump, but touch screen non responsive to touch. Spare controller and pump on standby.
Preventive actions	Changed out with another controller from a spare HLM. Faulty controller sent off to company for investigations.
GOOD CATCH - what went	Performance Factors: TEAMWORK, RULE BASED, SKILL BASED, KNOWLEDGE BASED - Uninteruption of CPB was achieved by deploying trained for performance adjustments combined with effective teamwork to have appropriate backup equipment on hand in a timely mannner.
Protocol issue	No
Rule issue	No
Skill issue	No
Team Issue	No
Violation	No
Manufacturer advised:	Yes
Discussed with team:	Yes
Hospital incident filed:	No
Ext Authority Advised	No
Procedure acuity:	Elective
Commentary	

Permission to print:	Yes
Incident type	Near Miss
Type of incident:	Equipment
Catagory	Electrical / electronic
Description:	"Motor monitoring/Control failed" on Arterial pump of Sorin S5 during priming. The Pump initially continued to run with warning alarm (for approx. 5 min), during this time operation manual was consulted- no troubleshooting advice for this fault, pump shut down with no further warning. At first sign of fault, pump was switched on/off but fault returned immediately.Team was notified of fault and circuit was moved onto spare Sorin S5, priming and bypass continued without incident.
Preventive actions	Discuss fault with manufacturer, repair/replacement of equipment.
GOOD CATCH - what went	Teamwork and HLM redundancy. The availability of an additional HLM provided the ability to transfer the circuit in a timely fashion avoiding delay or disruption to the planned surgery.
Protocol issue	No
Rule issue	No
Skill issue	No
Team Issue	Yes
Violation	No
Manufacturer advised:	No
Discussed with team:	Yes
Hospital incident filed:	No
Ext Authority Advised	No
Procedure acuity:	Elective
Commentary	The current ANZCP regulations state It is recommended that the Hospital or service provider be able to provide adequate equipment to cover emergency contingences. The current practice in major cardiac centres is to have N+ 1 heart lung machines (where N is the number of cardiac operating rooms). He availability of the N+1 HLM allows for unplanned emergent CPB when all cardiac rooms are utilised for CPB and a speedy option in cases of HLM failure. As a minimum tere should be a spare pump and drive unit available in case of pump failure - PIRS Ed