Safety Notice 013/19

Incompatibility between Oxygen Cylinders with Inbuilt Regulators and Air/Oxygen Blenders

There have been two reported incidents in NSW involving Air/Oxygen Blenders alarming when used with oxygen cylinders with an inbuilt regulator.

In NSW there are three models in use: Air Liquide, Coregas and BOC. Air/Oxygen Blenders are often used in Emergency Departments, Paediatric Units, Neonatal Intensive Care Units, Special Care Nurseries, Birthing Suites and Operating Suites.

In both incidents, staff heard a continued audible hiss during use due to higher pressure from the oxygen cylinder, delivering a 5% higher concentration of oxygen than prescribed. There was no patient harm in either event as staff continued treatment and were guided by patient’s clinical observations. Neonatal patients are at highest risk of harm should there be any discrepancy in prescribed versus delivered oxygen concentration.

Consultation with gas manufacturers indicate that oxygen cylinders with inbuilt regulators should not be used with gas blenders. A normal cylinder with separate regulator should be used for this purpose.

Example of O2 cylinder with inbuilt regulator

Example of cylinder with separate regulator

Recomended actions by Local Health Districts/Networks

1. Distribute this Safety Notice to all relevant managerial, clinical and biomedical engineering staff to raise awareness that oxygen cylinders with inbuilt regulators are not to be used with an Air/Oxygen Blender or gas mixer

2. Conduct an audit of areas that use Air/Oxygen Blenders to ensure they are not used with gas cylinders with inbuilt regulators. If any are found, change the cylinder to a cylinder with separate regulator

3. In consultation with hospital Biomedical Departments, review and/or develop checking strategies to mitigate this risk and ensure clinicians are familiar with equipment. Consider incorporating into monthly WHS inspections and annual Biomedical Engineering inspections.

4. By 4 October 2019, provide a response to CEC-Recalls inbox with audit results and confirmation that checking strategies are in place.