



### **Issue: Oxy-vivas and Positive Pressure Ventilation**

*Raised by:* Mardi Greifhahn (RAN Angurugu)

*Background:* Request for the inclusion of adult and paediatric Laerdal masks to Oxy-viva equipment to allow for positive pressure oxygen administration using the oxygen demand valve attachment.

*Discussion:* Expert opinion was sought re: Demand Valve Resuscitators. Are they safe to use and maintain in the Remote setting?

Literature was inconclusive regarding advantages of Bag-Valve-Mask (BVM) over the Demand Valve Resuscitator (DVR) by a trained health professional. The risk of gastric insufflation and subsequent pulmonary aspiration with an unprotected airway using either BVM or DVR were only marginally different.

Manufacturer information regarding DVR states that the pressure relief valve is triggered at 54-60cm H<sub>2</sub>O. Anaesthetic technician RDH advised that the equipment often measured pressures up to 65cm H<sub>2</sub>O in their experience. Pressure relief valves on the BVM (paediatric and neonatal models only) are pre set at 35-40cm H<sub>2</sub>O. DVR's are not recommended on paediatric clients and clients with COAD as per manufacturers instructions.

Maintenance of equipment is required annually as with remaining components of Oxy-viva.

Anaesthetic Technicians also advise that the BVM should be used with an in-line filter to protect equipment from contamination if equipment cannot be cleaned promptly between uses.

Due to the safety issues of the pressure relief valves triggered at a high pressure and the manufacturer's recommendation not to use with paediatric clients and COAD clients the demand valves and positive pressure ventilation equipment should be removed from the Oxy-viva units. This could occur at the next scheduled maintenance of equipment.

Medical Engineering Branch to be notified to remove demand valve equipment as Oxy-viva's come in for annual servicing.

*Consultation:* Dr Brian Spain (Director of Anaesthesia RDH), Mick Bell (Anaesthetic Dept. RDH)

*References:* Gabbot, D.A., Baskett, P.J.F. *Management of the airway and ventilation during resuscitation*. British Journal of Anaesthesia 1997; 79: 159-171.

*Outcome:* **Demand Valves to be removed from Oxy-viva's.**

(Removal to be carried out at scheduled maintenance, by biomedical engineers.)