

# Ten frequently asked questions about the Glostavent and draw over anaesthesia

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**Reports of the successful use of the Glostavent anaesthetic machine in difficult environments have prompted many questions. Here are some of the more common ones posed by anaesthetists who are planning to work with unfamiliar equipment in situations far removed from their comfort zones.**

**Q1. What is the Glostavent?**

**A.** It is an anaesthetic machine that has been specifically designed to deliver a safe anaesthetic in locations where normal facilities are unreliable or non-existent. For example, it can function in the absence of oxygen or electricity and does not require the attention of highly skilled engineers for servicing and maintenance.

It has three principal components; a draw over breathing system, a gas driven ventilator and an oxygen concentrator.

**Q2. What exactly is a draw over system and why is it used?**

**A.** It is a breathing system that can deliver inhalational anaesthesia in the absence of compressed gases. In its simplest form it consists of an open ended reservoir with a side port for supplementary oxygen, a vaporiser with a low resistance to allow spontaneous breathing, a self inflating bag for controlled or assisted respiration and a valve to prevent re-breathing of expired gases.

**Q3. Can it be used for both controlled and spontaneous respiration?**

**A.** Yes. Spontaneous respiration requires an airtight fit around the facemask to enable sub atmospheric pressure to be generated. If this cannot be achieved e.g. uncooperative patient or facial trauma, continuous flow is required.

**Q4. How is it converted to provide continuous flow?**

**A.** If the flow of oxygen entering the reservoir is increased until it exceeds the patient's minute volume leaving the reservoir the pressure in the reservoir

rises and flow automatically becomes continuous. If there is no oxygen source available the self-inflating bag is used to create the necessary pressure.

**Q5. Can it be used on infants and neonates?**

**A.** Yes – in these instances assisted ventilation is advisable to overcome the resistance of the breathing system. If oxygen is available a Mapleson E system can be used.

**Q6. Which volatile agents can be used?**

**A.** A basic vaporiser is calibrated for both halothane and isoflurane. A separate vaporiser is available for sevoflurane.

**Q7. Is the Glostavent portable and can it function in any location?**

**A.** The standard Glostavent with oxygen concentrator and ventilator is not portable. However, there is a separate portable version, known as the DPA 01, consisting of a simple draw over breathing system supplied in a rigid case and weighing just 10 Kg.

**Q8. How much does the Glostavent cost and where can it be obtained?**

**A.** The standard model costs £13500 and the portable model costs £3000. They can be obtained from Diamedica, a British engineering company in Devon. Details can be obtained from [www.diamedica.co.uk](http://www.diamedica.co.uk).

**Q9. Does draw over anaesthesia have any advantage over TIVA with propofol?**

**A.** Yes. No electricity is required. There is no wastage of anaesthetic agent at the end of the operation. No additional equipment is required for oxygen therapy or controlled ventilation.

**Q10. Where can I see it demonstrated in the UK?**

**A.** Demonstrations and films can be arranged via the manufacturers, Diamedica Ltd, Grange Hill Industrial estate, Bratton Fleming, Devon, EX31 4UH or [info@diamedica.co.uk](mailto:info@diamedica.co.uk).