Portable anaesthesia machine

Country of origin | United Kingdom

Health problem addressed

In remote locations, anaesthesia may be non-existent or unreliable which can prevent emergency surgery. For instance, millions of mothers and babies die from birth complications; many of which could be saved by C-sections if safe anaesthesia were available. Anaesthesia is also vital for treatment of traumas, hernias, animal bites, burns, infections, and congenital deformities.

Product description

This device is a complete inhalational anaesthesia system that is suitable for a variety of settings. It includes a valve with a circuit removing the valve, a reservoir unit for pre-oxygenation, a vaporiser for consistency over a wide temperature range, and is calibrated for Halothane/Isoflurane or Sevoflurane to overcome possible supply problems.

Product functionality

The device is used for spontaneous breathing or assisted ventilation, and drawover or continuous flow inhalational anaesthetics.

Developer's claims of product benefits

Most anaesthetic machines are designed to function in high-resource environments by specialized operators and require skilled technical support and maintenance. Current solutions require compressed gases and stable electricity supplies, which are not suitable for rapid response in austere environments. This device is robust, affordable, lightweight and easily transportable. It is easy to operate and virtually maintenance free, making it suitable for use by local personnel. It is extremely cost-effective and economic to use as there is no requirement for expensive consumables. Supremely safe, it can be used where supply of electricity and medical gases are unreliable or non-existent.

Operating steps

Following the rapid assembly of the three principal components: vaporiser, reservoir, and breathing system, the product is ready for use. The product is intended for use by medical personnel trained in delivery of draw-over anaesthesia (e.g. anaesthesia physician, nurse or officer). It is designed to be easy to operate and require little maintenance.

Development stage

The product was developed at the request of and with feedback from those operating in the field. The product is in use in 15 low-income countries and feedback from operators confirms its ease of use.

Future work and challenges

This product will be promoted at existing training courses for anaesthetists in North America, UK, Africa and Australia. It will be demonstrated at exhibitions worldwide, and published in international peer-reviewed journals.

User and environment

User: Anaesthesia physician, nurse, officer

Training: None

Maintenance: None

Environment of use

Settings: Rural settings, ambulatory, primary (health post, health center), secondary (general hospital), tertiary (specialists hospital)

Requirements: None

Product specifications

Dimensions (mm): 470 x 330 x 170

Weight (kg): 9.5

Consumables: Inhalational anaesthetic agent

Life time: >10 years

Shelf life: >10 years

Retail Price (USD): 4589

List price (USD): 4589

Other features: Portable and reusable

Year of commercialization: 2010

Currently sold in: Sold from UK for use in Australia, Bangladesh, Burma, Canada, Democratic Republic of Congo, Fiji, Gabon, Guatemala, Haiti, Honduras, India, Kenya, Mexico, Nepal, New Zealand, Rwanda, Sudan, Togo, Uganda, Zambia.

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