Reusable neonatal suction device

Country of origin | Norway

Health problem addressed

Nearly 1 million newborns in developing countries die from birth asphyxia each year. A similar number are disabled due to compromised breathing at birth. To stimulate spontaneous breathing, or bag-mask ventilate effectively, an open airway is mandatory. Often this requires clearing the mouth and nose of mucous and meconium using vacuum.

Product description

The proposed solution is a bulb suction device that is particularly suitable for use in developing countries. It is easy to use and reusable when disinfected in accordance with instructions, over the product's lifespan.

Product functionality

The product benefits newborns suffering from birth asphyxia and in need of clearing the upper airways. Squeezing the bulb generates vacuum so that the birth attendant can extract mucus and meconium from the baby's mouth and nostrils.

Developer's claims of product benefits

This product is clinically effective, easy and safe to use. It is an improvement over the neonatal suction devices typically used in low-resource settings (i.e., mouth suction or hand bulb suctions, available in non-cleanable versions and mainly intended for single patient use) as it can be easily opened, cleaned and boiled for disinfection after use, it is made of very durable silicone and withstands several hundred times of reuse. The transparent material makes it easy for the user to see whether it has been cleaned since last use situation; the price (available on a not-for-profit basis) combined with number of use situations dramatically reduces the cost per use compared to existing products.

Operating steps

Ensure that the device is clean before use on patient. Squeeze bulb to generate vacuum, and place the nozzle tip into the newborn's oral or nasal cavity. Slowly release bulb squeeze to extract the mucus, discharge contents into a water container, towel or similar. For repetitive suctioning, keep the body squeezed until suctioning again.

Development stage

The product has been available on a not-for-profit basis for newborn resuscitation projects in developing countries since April 2010. It has been FDA device listed, and is developed to applicable standards and regulation required for CE-marking. Self-declaration for CE-marking is imminent within March 2011.

Future work and challenges

Financing: Although the products is highly affordable and available on not-for-profit basis, individual health care facilities and educational institutions in low-and middle income countries often have limited financial resources and may need to obtain funding from governments or international aid organizations.

User and environment

User: Family member, midwife, nurse, physician

Training: None

Maintenance: Any person responsible for disinfection.

Environment of use

Requirements: The only requirement is that it must be possible to clean and disinfect the device (before first use and between patient uses). Cleaning can be performed by boiling the one-piece device in water, or by more advanced methods.

Product specifications

Dimensions (mm): 40 x 40 x 130

Weight (kg): 0.06

Consumables: None

Life time: 5 years

Retail Price (USD): 3

List price (USD): 3

Other features: Portable and reusable.

Year of commercialization: 2010

Currently available in: 68 countries identified by UN as focus countries relative to UN Millennium.

Contact details Ingrid Lærdal | Email suctiondevice@gmail.com | Telephone +47 5151 1855, +47 9514 5168 | Fax +47 5152 3557