CO_2 Insufflation Devices

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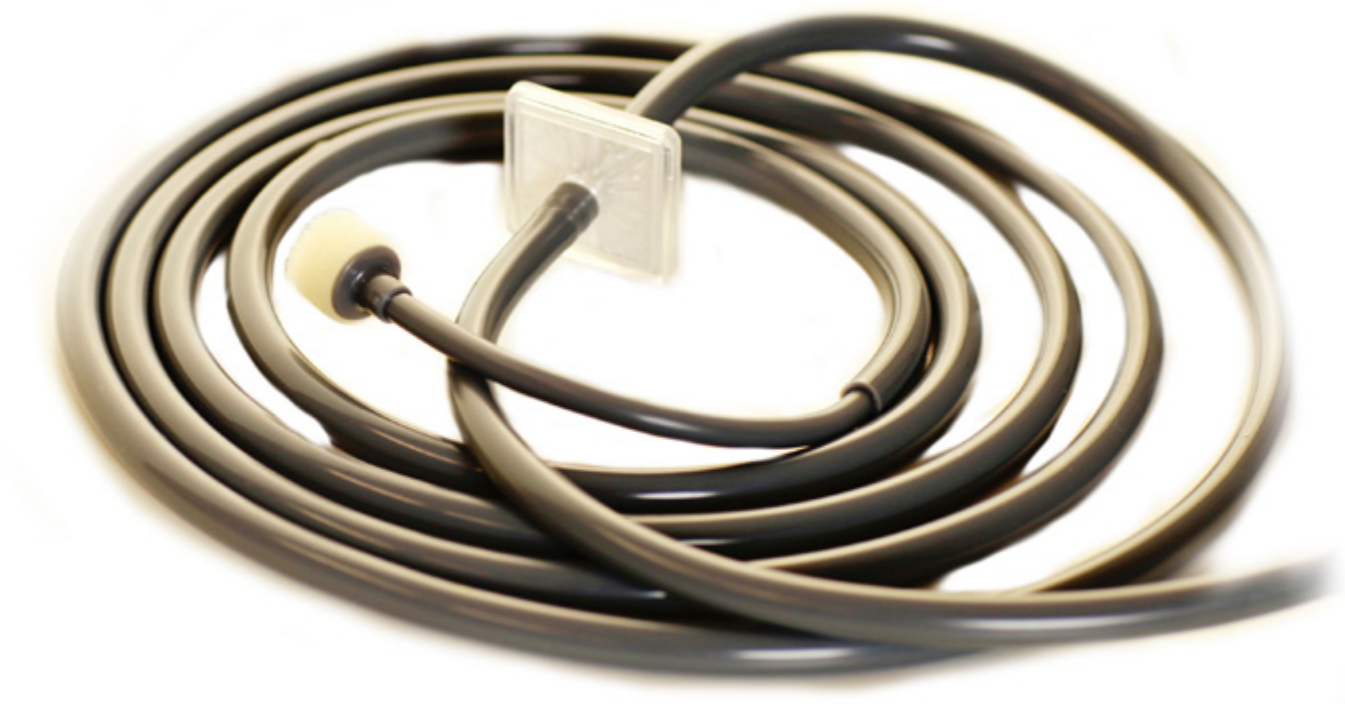
The CarbonAid® and CarbonMini® are innovative carbon dioxide insufflation devices, specifically designed to provide a controlled high flow of turbulence free CO_2 into the thoracic cavity during open heart surgery.

During surgery, the sternotomy unavoidably exposes the thoracic cavity to air and particles that can carry bacteria with them, increasing the risk of airborne contamination that leads to post-operative infections — correct CO_2 insufflation with the CarbonAid® and CarbonMini® can provide a:

- Protective, bacteriostatic environment inside the chest that prevents microscopic particles from entering the cavity.
- Controlled and even cascade of CO_2 that assists with de-airing to prevent air embolism.



The research and development into the CarbonAid and CarbonMini's unique diffuser make them technically superior to other devices on the market.

The CarbonAid® and CarbonMini® can deliver a high CO_2 gas flow without any turbulence[1,2,3,4] and as a result, this creates a 100% CO_2 atmosphere inside the thoracic wound area, preventing air embolism from occurring.

Both feature a malleable shaft to maintain position, and an innovative sponge tip that continues to deliver a laminar flow of CO_2 at a sufficient rate both during and after being subjected to liquid (i.e. blood, saline). Each product contains a highly bacterial filter and a long tubing for connection to a CO_2 flow meter.

Chalice Medical Ltd. are the UK distributor of the CarbonAid® and CarbonMini®, supplied by Cardia Innovation AB.

1) van der Linden J, Persson M, Svenarud P. Carbon dioxide insufflation on the number and behavior of air microemboli in open-heart surgery - Response. Circulation. 2004 Aug;110(5):E55-56.

2) Persson M, Svenarud P, van der Linden J. What is the optimal device for carbon dioxide de-airing of the cardiothoracic wound and how should it be positioned? Journal of Cardiothoracic & Vascular Anesthesia. 2004 Apr;18(2):180-4.

3) Svenarud P, van der Linden J. Carbon dioxide de-airing techniques. Proceedings of the European Association for Cardio-thoracic Surgery. 2004 Sep; 103-5.

4) Persson M, van der Linden J. De-airing of a cardiothoracic wound cavity model with carbon dioxide: theory and comparison of a gas diffuser with conventional tubes. Journal of Cardiothoracic & Vascular Anesthesia. 2003 Jun;17(3):329-35.

(Information provided by Cardia Innovation AB).