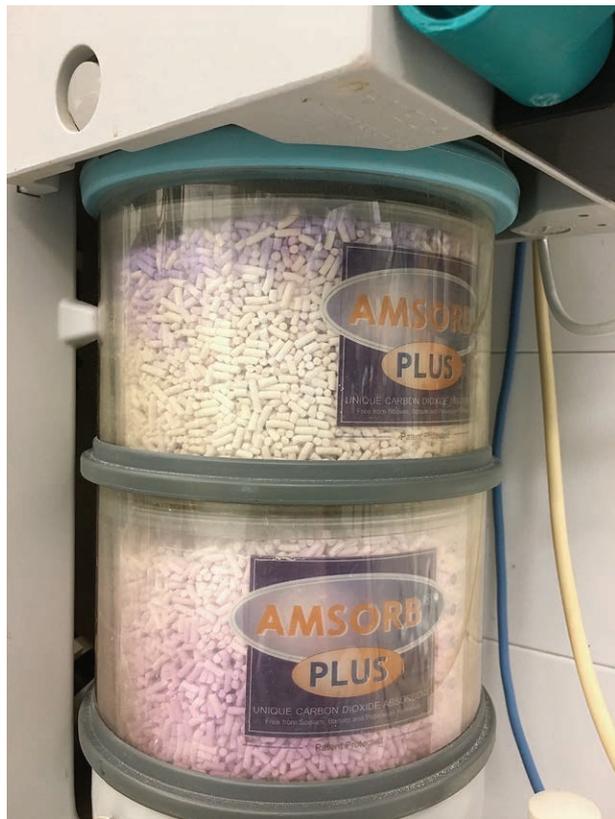


Simultaneous Color Change at Opposite Ends of Carbon Dioxide Absorbent Canisters

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THE image shows carbon dioxide absorbent that is violet at the top and bottom of the canisters. This was observed on a Monday after a weekend of nonuse when fresh gas was left flowing. Like other absorbents, Amsorb Plus (Armstrong Medical, Ireland)¹ changes color when exhausted because alkaline absorbents convert carbon dioxide to carbonic acid, and the ethyl violet indicator changes color when the pH drops to less than 10.3. During use of this anesthesia breathing circuit, exhaled gas flows through the canisters from top to bottom. The absorbent at the top of the upper canister in this image is violet, indicating that it is exhausted. During nonuse, fresh gas can flow retrograde through the canisters, causing desiccation. Unlike other absorbents, Amsorb Plus also changes color when desiccated,² so the absorbent at the bottom of the lower canister in this image is violet because it is desiccated. The absorbent in this image is still perfectly safe for use because it is not totally exhausted and the absorbent will not produce toxic substances. Armstrong Medical recommends replacing the absorbent in this dual-canister system when the top canister and half of the bottom canister have changed color.

Desiccated Amsorb Plus, unlike some other absorbents, does not interact with volatile anesthetics to produce carbon monoxide or compound A.³ The desiccated absorbent in this image will change back to its original color when rehydrated by humidified exhaled gas during use.

Competing Interests

The authors declare no competing interests.

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