Use of Coolsticks in district general hospital

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Abstract

Introduction: Ethyl chloride spray is conventionally used for testing cold sensation during spinal or epidural blocks. Coolsticks are reusable, durable, non-toxic stainless steel want sticks that can be cooled and are a cheaper alternative to ethyl chloride spray. The aim of this study was to estimate the cost and carbon savings of switching from ethyl chloride spray to Coolstick use.

Methods: The use of Coolsticks at a single district general hospital’s (Good Hope Hospital, Sutton Coldfield, UK) main theatres was audited in July 2023. The volume of ethyl chloride use in the obstetric theatre in 2022-23 was calculated based on pharmacy requisition forms. Estimates of CO2 equivalent emissions per stick and per ethyl chloride spray use were based on published data (Green Ward study from Dorset). Cost and CO2 equivalent emissions savings with cold sticks were calculated and extrapolated onto all seven theatres within Good Hope Hospital.

Results: Only 25% of anaesthetists used Coolsticks, despite all being aware of their availability. The main reason stated for this was “adherence to usual practice”. In the obstetric theatre in 2022-23, 104 cans of ethyl chloride were used. Switching to Coolstick use would save £2,080 and 1,693 kg CO2 equivalent per theatre per year. Extrapolating across the hospital, the potential saving was £14,560 and 11,852 kg CO2 equivalent per year.

Conclusion: Use of Coolsticks is cost-saving and carbon-efficient. National associations should consider publishing formal recommendations to support their uptake. Research around clinical efficacy and patient satisfaction would speed uptake into clinical practice.