

It's time to make the Cool Stick, stick.

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Introduction

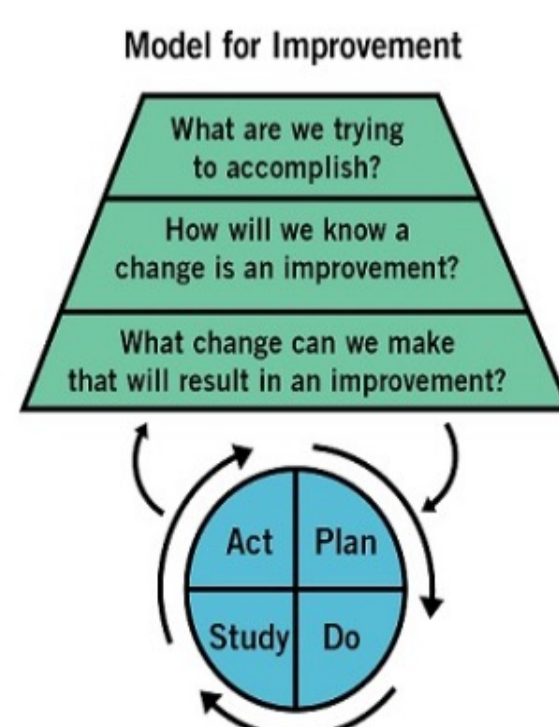
The majority of caesarean sections in the UK are performed under neuro-axial blockade. The main method of testing the level of this block in our trust is ethyl chloride spray. This is an aerosolised spray of chloroethane which has many draw backs , including cost and it's environmental impact. [1]

Those draw backs include:



Ethyl chloride is only manufactured in Germany , then delivered 1155km to England and then onto Craigavon hospital another 500km.

- It is on the National Emissions Standards For Hazardous Air Pollutions list. It is acutely toxic to birds, animals and aquatic life and affects the growth rate of plants. Once used, the spray is released into the environment and remains in the atmosphere for 48 days before it breaks down.
- The cost of purchasing Ethyl Chloride sprays for the trust is £1059.5 every month or £12,714 per year.
- Ethyl chloride can induce allergic reactions to the skin for some patients. Exposure to high levels of ethyl chloride has been shown to result in temporary feelings of drunkenness, dizziness and lack of muscle coordination.



The cool stick is an alternative method to assess the level of blockade with many advantages and easier disposal, yet it is poorly advertised as an alternative and is not often used in our maternity department.

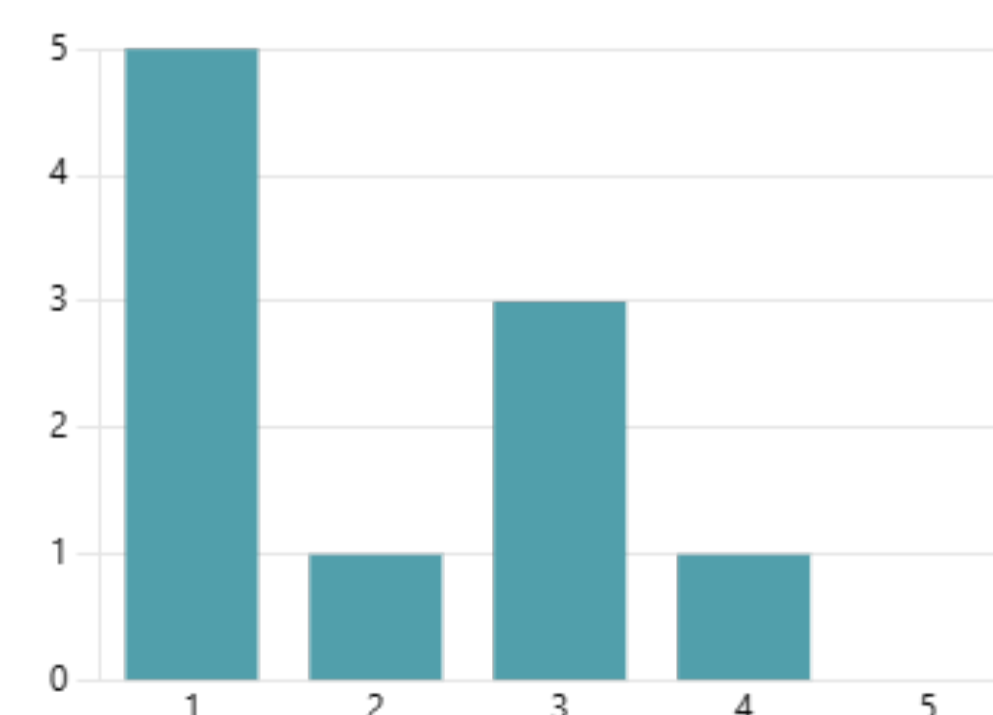
Aim

The aim of this quality improvement project was to educate our maternity department on the benefits of using the cool stick in assessing the level of neuro-axial blockade and make it more likely that anaesthetists choose to use the cool stick , over ethyl chloride spray in maternity.

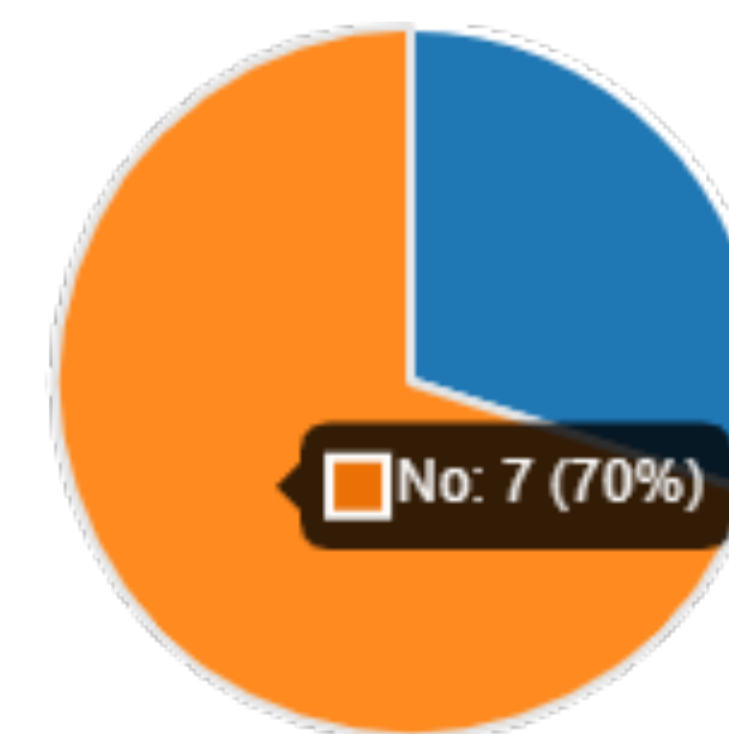
Method

We circulated a qualitative survey to colleagues of all levels, ascertaining prior use of the cool stick and knowledge of issues associated with ethyl chloride spray. We then carried out an education session and displayed posters throughout the maternity theatre. We then re-surveyed colleagues and assessed whether we had improved our department's knowledge about the benefits of the cool stick and improved the likelihood anaesthetists choosing to use the cool stick in maternity.

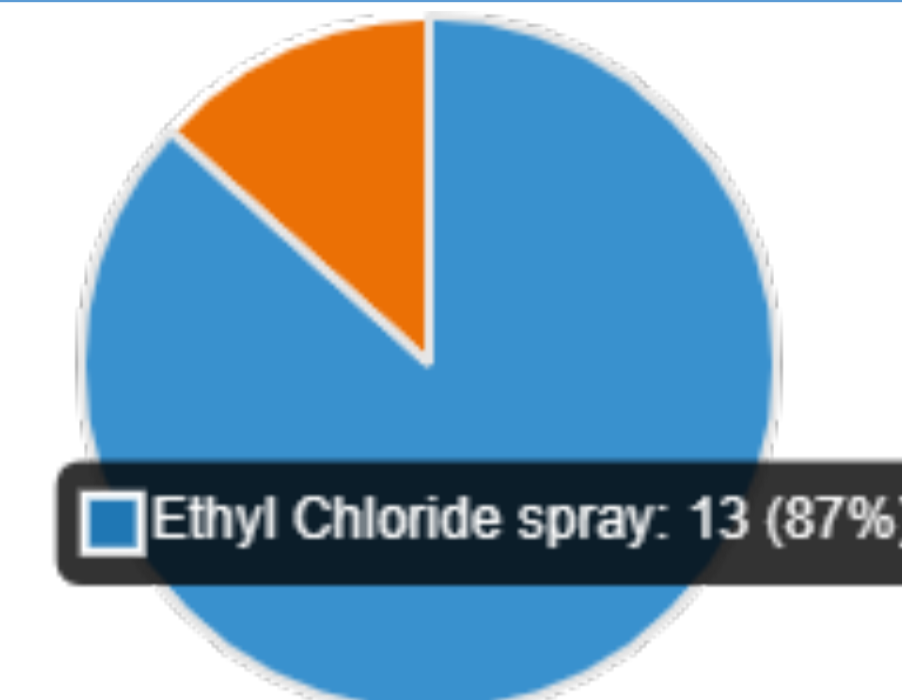
Results



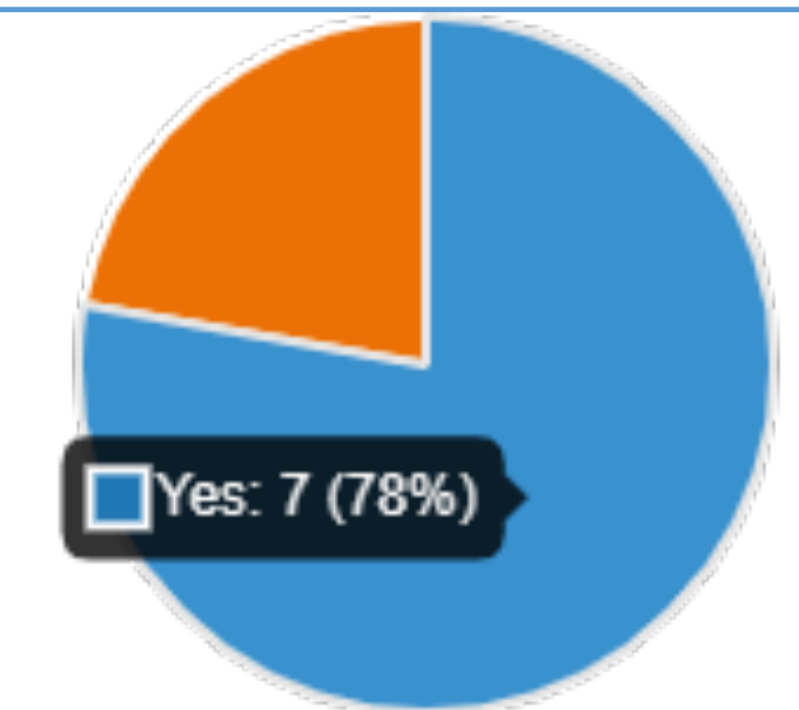
The bar chart shows survey respondents view on ease of use of the cool stick. 1 being extremely easy – 5 being difficult.



This pie chart shows that 70% of survey respondents prior to our teaching were unaware of the problems associated with ethyl chloride spray.



Pie chart showing pre-teaching survey results - 87% of respondents would choose ethyl chloride spray over the cool stick.



Pie chart showing results following teaching, 78% of respondents were more likely to use the cool stick , now knowing ethyl chloride spray draw backs.

Discussion

Our results showed that following this education session, all respondents had used the cool stick and they were 78% more likely to try the cool stick in maternity theatres. This is in comparison to 87% of respondents prior to our teaching choosing ethyl chloride spray as their first choice.

Conclusion

In keeping with all areas of anaesthesia there is rarely a 'one size fits all' approach and anaesthetists differ on their preference of equipment. Some anaesthetists were not in favour of a shift towards the cool stick , and others wanted neither the spray nor the cool stick. Overall, it was a successful quality improvement project with our aim to encourage more use of the cool stick , but it will remain important to have both choices available to assess neuro-axial blockade. Going forwards, we hope further cycles of this project will show a reduction in the volume of ethyl chloride spray ordered for our department and with this reduced costs and a reduced carbon footprint

[1] Arsanious, Nugent, Rafia, Papoutsos, C. McCabe 2023 'Reducing ethyl chloride usage with innovative cool sticks' , BJA VOLUME 6, 100153