



# THE ROLE OF HUMAN FACTORS IN THE DECISION TO ADMINISTER GENERAL ANAESTHESIA FOR EMERGENCY CAESAREAN SECTIONS.

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## BACKGROUND

Regional anaesthesia is preferred over general anaesthesia (GA) for emergency caesarean section (CS) due to its benefits for the mother and baby. A previous study in our institution identified that GA may be performed unnecessarily in some cases due to failures of communication or other human factor causes. This could potentially lead to adverse events due to the significant risks associated with GA in emergency CS. Human factor approaches have transformed other high-risk industries, with a large potential for quality improvement and enhanced efficiency in the healthcare industry.

## AIMS

The aims of this study were to:

- Determine how human factors influence the decision to perform GA for emergency CS.
- Improve our understanding of the decision-making process and the factors that aided or hindered the anaesthesiologist during this critical time.
- Identify areas of possible improvement which may be beneficial in the development of a decision-making support tool for staff.

## METHODS

- Ethics approval was granted from the Research Ethics Committee.
- Study consisted of interviews of anaesthesiologists with audio recordings taken.
- Interviews were semi-structured and commenced with the interviewee reciting a recent case they were involved in, where GA was required for emergency CS.
- We employed the Critical Decision Method analysis framework to determine factors influencing decision making.
- The Human Factors Interview Protocol (HIPE) was used to further elucidate human factors involved.
- Qualitative analysis was performed using thematic analysis by two independent investigators.

## RESULTS

- Five anaesthesiologists were interviewed in this study with interviews lasting between 20-30 minutes. Our study identified a number of factors that influenced the decision to perform a GA for emergency CS, as well as data on the human factor enablers and barriers seen in these scenarios. This included:



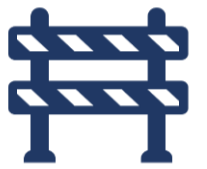
### Influencing Factors

- Foetal wellbeing
- Time pressure
- Communication behaviour
- Previous experience
- Hospital culture



### Human Factor Enablers

- Presence of senior help
- Equipment preparation
- Continuous communication



### Human Factor Barriers

- Delays in communication
- No shared mental model
- Unclear language
- Feelings of stress
- Lack of experience

- Notably 100 percent of participants were aware that they were under stress at the time of emergency CS.
- With 60% of the participants rating their level of stress greater than 8/10.
- An instance of poor communication was reported in each of the clinical cases recited by the participants including failure to highlight the case at an appropriate timepoint and unclear language relating to urgency.
- Hospital culture also influenced the participant's decision in 80% of cases.

## Conclusion

- Human factors have a significant influence on the decision to administer GA for emergency CS.
- Our study has identified several areas for improvement principally around interdisciplinary communication and language used to convey urgency.
- Developments in these areas could reduce the number of unnecessary GAs and facilitate the development of a decision making support tool for staff.