

# IMPLEMENTATION OF PHYSIOLOGICAL INTERPRETATION OF CARDIOTOCOGRAPHS

HYWEL DDA UNIVERSITY HEALTH BOARD

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## BACKGROUND

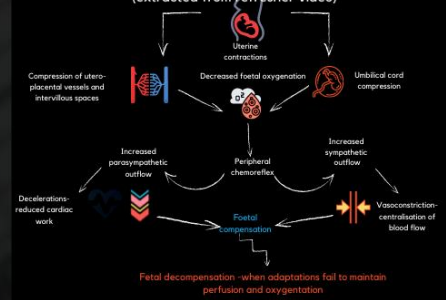
Since the introduction of cardiotography (CTG) in the 1970s continuous fetal monitoring has failed to show improved outcomes for perinatal deaths or cerebral palsy rates. Each Baby Counts reports have shown recurrent evidence of poor outcomes due to misinterpretation and failure to act on CTG abnormalities.

This has identified the need for improvements in training and practice. There is also a need to reduce the number of operative deliveries performed due to inappropriate interpretation of fetal monitoring.

Several maternity units in the UK, including in Hywel Dda University Health Board, are successfully using physiological interpretation (PI) as the tool for interpreting CTGs.

Almost all the health boards using PI have discontinued the use of fetal blood sampling and shown a decline in the incidence of adverse neonatal outcomes, particularly hypoxic ischaemic encephalopathy (HIE) rates.

FIG 1 Graphic summary of physiology of intrapartum evolving hypoxia (extracted from refresher video)



## METHOD

Multidisciplinary training on PI has been conducted regularly since 2016 with provision of

- CTG masterclasses
- Weekly CTG reflections meetings
- Monthly case reflection and teaching on common theme
- Establishment of a multidisciplinary task force to coordinate training

## DISCUSSION

Challenges faced:

- PI deviates from widely practised national guidance
- Changing longstanding personal and group perception and attitudes to foetal monitoring
- Adaptations to delivery of training required during the COVID-19 pandemic

Measures taken to overcome challenges:

- Multidisciplinary training for all staff in an anonymised and blame-free environment
- Maximising opportunities and variety of virtual learning through Microsoft Teams, Sway small group teaching and video refresher
- Regular communication with clinical staff and incorporation of feedback to make learning interactive and involve stakeholders
- Support of senior clinical and management staff

We have achieved a reduction in the percentage of emergency Caesarean section deliveries for foetal distress.

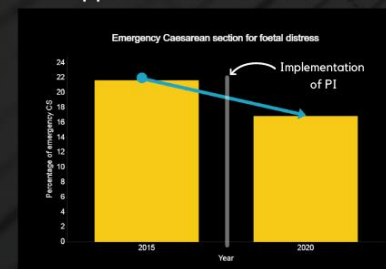


FIG 2 Bar chart of percentage of emergency Caesarean section

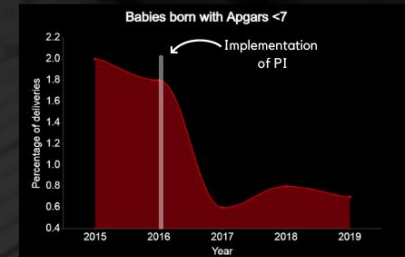


FIG 3 Graph of percentage of babies with Apgar <7)

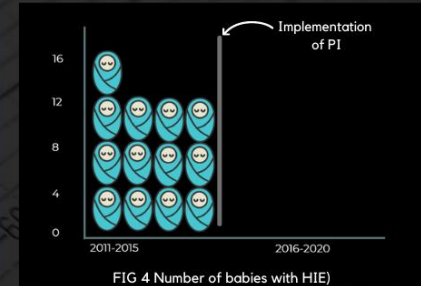


FIG 4 Number of babies with HIE)

Following the introduction of PI our units have seen a reduction in the percentage of babies delivered with an Apgar score <7.

The cases of grade 2/3 HIE secondary to intrapartum events have reduced to 0 over the same time period.

## CONCLUSION

There is ample evidence that a system of pattern recognition for interpretation of foetal monitoring does not improve perinatal outcomes.

Our health board has achieved improvements in the condition of babies at birth following the implementation of PI and regular multidisciplinary learning and reflection.

## REFERENCES

Roberts, R, Kumar, B. Clinical reflective practice. The Obstetrician & Gynaecologist 2020; 22: 75– 82. <https://doi.org/10.1111/tog.12625>  
Lewisham and Greenwich NHS Trust ([rcog.org.uk](http://rcog.org.uk))  
Physiological CTG - Guideline ([physiological-ctg.com](http://physiological-ctg.com))  
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