

# ST-ANALYSIS ON ELECTRONIC FOETAL MONITORING IS COST-EFFECTIVE FROM BOTH THE MATERNAL AND NEONATAL PERSPECTIVE.

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## ABSTRACT

### OBJECTIVE:

Electronic foetal monitoring (EFM) together with non-invasive ST-analysis (STAN) has been suggested as a superior technique to EFM alone for foetal surveillance to prevent metabolic acidosis. This study aims to compare the cost-effectiveness of these two techniques from both maternal (short term) as neonatal (long term) perspective to guide clinical decision-making.

### METHODS:

We created two models: a maternal model, focused on the difference in mode of delivery as most important outcome, and a neonatal Markov model focused on the differences in metabolic acidosis - and its relationship to cerebral palsy (CP) - as the most relevant outcome to estimate the long-term cost-effectiveness. The cost to prevent one instrumental delivery was estimated in the maternal model. The costs to prevent one metabolic acidosis and the costs per quality adjusted life years were calculated in the neonatal model.

### RESULTS:

The average costs of STAN are only €34 higher when compared to EFM alone. From maternal perspective the cost of preventing one instrumental delivery was estimated at €2602. From neonatal perspective the cost to prevent one case of metabolic acidosis was €14 509. Over the long term, STAN becomes a dominant (cost saving) strategy if >1% of the patients exposed to metabolic acidosis acquire CP.

### CONCLUSIONS:

Our study suggests that STAN, when compared to EFM alone, can be a cost-effective strategy from both a maternal and neonatal perspective.