Door-step cardiotocography

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Members pf the guideline group

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This guideline addresses only low risk pregnancies characterized by:

- Robson group I: Nulliparous, spontaneous labor, singleton, cephalic presentation, and term pregnancy.
- Robson group III: Parous, spontaneous labor, singleton, cephalic presentation, and term pregnancy.
- Being at low risk (level 1 of 4) according to the Danish Health and Medicines Authority.
- Having a normal anomaly ultrasound examination.
- Reporting normal fetal activity.
- Gestational age: 37^{+1} – 41^{+4} weeks.
- The liquor is clear (in case of broken fetal membranes)
- Estimated fetal weight is normal.
- No maternal chronic diseases.
- BMI < 30.
- No psychological or social challenges (smoking, drugs, alcohol, medicine)
- No complications in the present or prior pregnancies.

Guidelines

- We recommend that all laboring women undergo a risk assessment.
- We recommend that laboring women at low risk have the fetal hearth rate assessed by Doptone for at least one minute – before, during and after a contraction.
- Alternatively, laboring women at low risk should be offered a CTG for 20-30 minutes (doorstep CTG). These women should be informed about a slightly increased risk of minor interventions like continuous CTG and scalp-blood sampling.

Background: Door-step cardiotocography (CTG) was introduced in the 1980s as a screening method for fetal asphyxia during labor. An observational study (Ingemarsson 1986) was the foundation for admission CTG to be introduced in many labor wards. Since then several randomized studies have been conducted but none of them have shown an improved perinatal outcome by the use of admission CTG.

Methods: A literature search was made in Pubmed, Embase and the Cochrane library. Only articles regarding door-step CTG and low-risk pregnancy was selected. Some of the observational studies were included even though they included both low-risk and high-risk pregnancies. A level of evidence as described by the Centre for Evidence-based Medicine (Oxford University, Oxford, UK)

was assigned to all selected studies. A search was also conducted on the international guidelines from the United Kingdom, Canada, Australia/New Zealand and Norway.

Results: Four RCTs did not find any statistically significant difference in neonatal outcome but showed a statistically significant increased risk of minor obstetric interventions. A meta-analysis of 12 observational studies (n = 5981) showed diverging results regarding the neonatal outcome, however, the studies included both low-risk and high-risk pregnancies.
The guidelines from the United Kingdom, Canada, and Norway are based on three of the four RCTs and 11 observational studies. All guidelines conclude that admission CTG cannot be recommended for low-risk pregnancies. The guidelines from New Zealand and Australia make it optional for the labor wards to use admission CTG or not. No guideline was found for Sweden and the USA regarding door-step CTG.

Conclusion/Discussion: Based on the four RCTs and the 12 observational studies there is no evidence of better perinatal outcome with door-step CTG in low-risk pregnancies. However, an increased risk of minor obstetric interventions was found.