

EXECUTIVE SUMMARY

Synthetic osmotic dilators (Dilapan-S) or dinoprostone vaginal inserts (Propess) for inpatient induction of labour: A UK cost-consequence model

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Objective:

- To evaluate the cost, staff time and clinical consequences of utilizing DILAPAN-S compared to Propess for cervical ripening during inpatient induction of labour (IOL) in the United Kingdom.

Materials and methods:

- A health-economic model was developed comparing IOL utilizing two NICE-recommended cervical ripening agents: DILAPAN-S and Propess.
- Induction-to-delivery care pathways, including staff-time requirements, were modeled on the basis of SOLVE trial and clinical experience from three UK maternity units.
- The care pathway included the prescription and insertion of the cervical ripening agent, cervical ripening, waiting time before labour initiation, and the time from labour to birth.
- Possible events requiring midwife attention during cervical ripening were: hyperstimulation, analgesics administration, amniotomy, oxytocin augmentation, and fetal monitoring.
- Cost and clinical inputs were sourced from the SOLVE trial and peer-reviewed literature identified from a structured review of PubMed, supplemented by manual searches and a consensus of the clinical authors' experience and hospital protocols.

Results:

- The use of DILAPAN-S was associated with a reduction in staff-time requirements.
- The mean required midwifery time was decreased by 147 minutes (and by 11 minutes for obstetricians). This was primarily due to reduced monitoring requirements with DILAPAN-S.
- Moreover, DILAPAN-S was associated with a lower rate of hyperstimulation and need for strong opioid analgesics, which further reduced staff time.
- Introducing DILAPAN-S was found to be cost neutral compared to Propess; total care costs is expected to be 3,525 GBP (DILAPAN-S) and 3,531 GBP (Propess), resp.

Key take away messages:

- Compared to prostaglandins, DILAPAN-S offers a significant reduction in staff time requirement, which can help to reduce the workload on maternity units.
- With an average of 5 dilators used for cervical ripening, DILAPAN-S direct cost is higher than Propess in the UK. However, the model shows that induction of labour with Dilapan-S is cost neutral compared to Propess. It's related to the fact that direct costs represent approximately 1% of total IOL care costs only. Other parameters such as staff time savings play a much more important role in cost-effectiveness evaluation.