

An Audit of Instrumental Vaginal Delivery and Maternal/Neonatal Outcomes

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Introduction

Instrumental vaginal deliveries account for ≈13% of all Australian births¹ (with state to state variations).

Its goal is to expedite birth for maternal and/or fetal benefit while mitigating any delivery-related morbidity.²

Studies have shown³:

- Forceps delivery has a higher risk of maternal complications
- Vacuum extraction has a higher risk of fetal complications.

Objectives

To audit instrumental deliveries at Fiona Stanley Hospital in Western Australia and compare performance against the standard⁴ with a view to enhancing health care service delivery and improving maternal and neonatal outcomes.

Methods

A retrospective case notes analysis of the first 73 patients in 2017 who underwent a successful instrumental delivery at Fiona Stanley Hospital, WA.

Exclusion criteria:

Patients who attempted an instrumental delivery but ultimately delivered via caesarean section.

Data tool included:

- Maternal demographics,
- Labour information/variables
- Instrument information
- Maternal and neonatal complications

Results

Demographics:

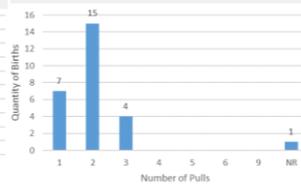
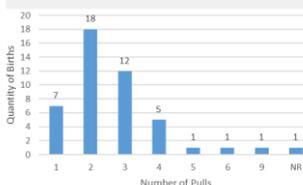
79% (N=58) were nulliparous. 72.4% of these used epidural analgesia.

Location:

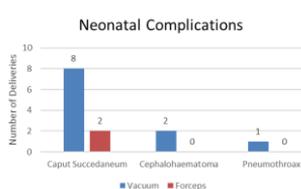
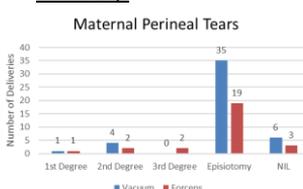
- Delivery Room: **63% (N=46)** of births
- Theatre: **37% (N=27)** of births. All were associated with high risk deliveries⁴.

Instrumentation:

Vacuum Extraction	Forceps Delivery
63% (N=46) of cases	37% (N=27) of cases
Failure rate of 11% (N=3)	All successful
Average time of 7.34 min	Average time of 5.79 min
Number of Pulls- 80% under 3	Number of Pulls- all under 3



Morbidity:



Discussion

Instrumental vaginal delivery plays a key role in current obstetric practice.

Both forceps and vacuum are acceptable instruments for operative vaginal delivery each with their own risks and benefits.

Careful clinical assessment of the whole situation must be undertaken and candidates selected appropriately weighing up individual risks and benefits.

Nulliparous births with epidurals are associated with increased risk of instrumental assistance.

It is critical to identify cases with a high risk of failure and carry them out appropriately in theatre as trials.

References:

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3. O'Mahony, F., Hofmeyr, G., & Menon, V. Choice of instruments for assisted vaginal delivery (Review). Cochrane Database of Systematic Reviews 2010.
4. RCOG. (2011). Green-top guideline No. 26: Operative vaginal deliver. RCOG.