

# Complex vaginal deliveries

## *Why are we still doing them?*

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**Before beginning, I should perhaps quote from James Young Simpson, the late Professor of Midwifery at Edinburgh University and inventor of both the Simpson's air tractor, the original forerunner of the modern vacuum extractor, and Simpson's forceps: 'Obstetrics is not an exact science, and in our penury of truth we ought to be accurate in our statements, generous in our doubts, and tolerant in our convictions.'**

His near simultaneous development of both a vacuum extractor and a pair of forceps suggests that uncertainty over how best to affect an instrumental delivery is far from new.

My initial thoughts when asked to discuss why 'we' are no longer doing complex vaginal deliveries were that I wasn't aware that 'we' were no longer doing them. The evidence suggests that we probably are, though possibly in slightly smaller numbers, in theatre rather than in the delivery room and using different instruments.

For the purpose of this discussion, I will define complex vaginal delivery as an instrumental delivery where the fetal head is not in an occipito-anterior position.

*'The incidence of malposition has not changed and, like it or not, the great majority of complex vaginal deliveries are going to be done by Ventouse or caesarean section in the future.'*

Being well into the middle third of my consultant career, I would have been one of the last generation of juniors to be let loose on delivery unit with a pair of Kjelland's forceps and perhaps some indirect supervision from a senior registrar writing up their MD thesis far away in the doctors' mess. Even at that time, their use was in steady decline. Recent Australian data confirms that within a few years almost no practitioners will be confident in their use.

In a survey of 303 obstetric trainees in Australia in 2007<sup>1</sup>, the median number of Kjelland's deliveries performed by trainees in Year Four was only two, with only ten per cent of final year trainees having performed ten or more. More importantly, 94 per cent of final year trainees stated the intention was that they would not be performing Kjelland's forceps as a specialist. Earlier Australian studies<sup>2</sup> had shown a similar but less extreme picture and this most recent survey has confirmed a rapid decline in trainees' and new specialists' experience with this instrument.

However, the incidence of malposition has not changed and, like it or not, the great majority of complex vaginal deliveries are going to be done by Ventouse or caesarean section in the future.

Is this a concern? Systematic reviews report that the risk of maternal trauma is lower with a Ventouse than a forceps delivery. They also report that, when used for a trial of labour in theatre (for any

position), there is a greater chance of conversion to caesarean section.<sup>3</sup> Women transferred to theatre at full dilatation for delivery have a higher risk of haemorrhage and prolonged hospital stay if delivered by caesarean section than if delivered by a successful instrumental delivery while in theatre.<sup>4</sup> The unanswered question is whether the apparently higher morbidity of rotational forceps is balanced by the lower success rate of rotational Ventouse and higher morbidity of caesarean section for those failed instrumental deliveries. Confounders are that cohort studies report varying rates of morbidity with Kjelland's forceps. They also report lower rates of conversion to caesarean section, as well as a lower morbidity if a caesarean section is required, with increasing operator experience. Does it all depend on how good the obstetrician is?

The increased risk of conversion to caesarean section that appears to be associated with the use of the Ventouse (or at least when used by a wide range of operators) for a rotational delivery is probably an important factor in the gradual movement of the complex vaginal delivery out of the delivery room into the operating theatre. One recent UK cohort study suggested that four per cent of women are now delivered in theatre by instrumental delivery or a caesarean section at full dilatation.<sup>4</sup> Performing a high proportion of rotational deliveries in theatre would be a move that I would fully support. In our overstretched and poorly staffed delivery units, a failed rotational Ventouse in the delivery room can be the beginning of a stressful journey to the operating theatre of wildly unpredictable duration. Initiating the rotational delivery in theatre might slightly increase the conversion to caesarean rate and frequently annoy theatre staff, but it will dramatically shorten the time from abandoning the procedure to safely delivering the baby.

A successful rotational delivery does result in a much higher chance of a vaginal delivery next time simply because the proportion of women who even attempt a vaginal birth after caesarean is relatively low. That said, one should not underestimate the importance of post-traumatic stress associated with instrumental delivery. A similar number of women report such symptoms after an instrumental delivery in theatre as women who experience a section at full dilation.<sup>5</sup> Post-delivery follow-up is often far more elastic after an instrumental delivery, but there is evidence to support providing women who have had a successful trial in theatre an opportunity for debrief and as much psychological support as those who required a caesarean delivery.

So will we still be doing complex vaginal deliveries in the future? Yes, of course. For the future, we should probably just admit that the Kjelland's forceps have been effectively consigned to history and concentrate on making rotational delivery using the Ventouse more effective and safer. This sentiment might inflame experienced Kjelland's users. However, like those 94 per cent of current trainees, I felt at the end of my training that I had done more than enough

Kjelland's (and perhaps more importantly, seen more than enough effected with varying degrees of expertise by colleagues) to feel that I was better off concentrating my skills on the use of the occipito-posterior cup (OP cup).

There is ample evidence that many operators are poorly trained in vacuum extraction and, given that the success of this procedure relies entirely on correct cup placement and traction, we need to ensure that training in its use is both structured and comprehensive. We also need to accept that many of these deliveries will now be done in theatre and adjust both our labour ward protocols and staffing to facilitate this. Finally, we also need to recognise that there may be just as much psychological morbidity associated with the successful 'complex' vaginal delivery as an unsuccessful one and ensure that we support women at the time of their delivery and post-natally in order to minimise this.

### References

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