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To ECV or not to ECV? The current evidence base concerning external cephalic version

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[Shawn Walker](#)

City University London

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In the second of our series on breech birth, Shawn Walker explains why turning a breech baby to be head down will help reduce the risks – and provide benefits – to both mother and baby

To ECV or not to ECV? The current evidence base concerning external cephalic version

SUMMARY: External cephalic version (ECV) is the technique of attempting to turn a baby in the womb from a head-up to a head-down position. The practice is grounded on evidence that vaginal breech birth (VBB) presents greater short-term risks for babies than caesarean section (CS) (Hofmeyr et al 2011), but that labour and vaginal birth also offer benefits to both mothers and babies. Therefore, if we can turn babies to a head-down position, we can reduce the risks associated with both VBB and CS, and enable mother and baby to benefit from labour and birth.

Keywords Pregnancy, external cephalic version, ECV, breech, shared decision making

Author Shawn Walker, lecturer in midwifery at City University, London

ECV reduces the likelihood of both non-cephalic presentation at birth and CS

What we know

As a general rule, labour and vaginal birth are good for babies and mothers

In 2010, approximately 72 per cent of all elective caesarean sections (CS) were performed because a baby was in a breech position, or because of a previous CS (Bragg et al 2010). Evidence suggests that babies born by CS may be at greater risk for various long-term health problems such as diabetes, childhood obesity, asthma and eczema, and non-specific health problems at two years of age (Sinha and Bewley 2012; Cho and Norman 2013). For mothers, a CS carries a small increased risk of serious adverse outcomes (Royal College of

Obstetricians and Gynaecologists (RCOG) 2006).

Additionally, CS increases risks for both mothers and babies in future pregnancies (Vlemmix et al 2013).

External cephalic version increases the normal birth rate in most cases

The most recent Cochrane Review (Hofmeyr and Kulier 2012) included seven randomised controlled trials (RCTs) and concluded that ECV reduces the likelihood of both non-cephalic presentation at birth and CS. This takes into account the increased likelihood of a CS or operative birth after ECV as opposed to birth with no ECV, and the need to attempt



ECV performed by Dr Helen Simpson, Consultant Obstetrician, South Tees Foundation Hospital

- 1) Disengaging the breech
- 2) Lifting the breech and gently rotating
- 3) Encouraging baby to somersault
- 4) Stabilising the cephalic presentation

approximately three ECVs to prevent one CS (de Hundt et al 2014). However, those seven RCTs showed considerable variation in the effect ECV had on the normal birth rate. In one trial, where ECV success rates were low and success of VBB high, ECV had no effect on the normal birth rate. Where VBB is less well supported and ECV success rates higher than 40 per cent, ECV makes a significant impact.

External cephalic version should be performed any time after 36 weeks

Early ECV (prior to 36 weeks) is associated with a decrease in non-cephalic presentations at birth, but no decrease in the CS rate, and it may increase premature labour (Hofmyer and Kulier 2012). Also, ECV does not become less likely to succeed past 40 weeks; in some cases, for multiparous women, the opposite has been observed (Bogner et al 2012). A second (or first) ECV attempt with regional anaesthesia prior to a booked CS at term is a good option (Ben-Meir et al 2007).

Multiple factors influence the success rate of ECV

ECV is more likely to be successful for multiparous women and babies who have flexed legs. It is least likely to be successful for nulliparous women, and women who have oligohydramnios, anterior placentas or frank breech (legs extended) babies. The use of tocolysis (uterine relaxant) and regional anaesthesia are associated with higher success rates (George et al 2014). However, perhaps the biggest influence on the success rate of ECV is the skill and experience of the obstetrician or midwife attempting it. Success rates of different providers vary greatly, even within the same institution (Bogner et al 2012).

Women's experiences of ECV vary greatly

Women's perceptions of ECV are highly dependent on the success of the procedure. Women who have successful ECVs tend to experience the >>

procedure as less painful than those for whom it is unsuccessful (Bogner et al 2014). The experience of pain is also worse in women with fear about the procedure, anxiety or depression, and this needs to be taken into account when counselling women (Truijens et al 2014). Many providers admit to steering women towards accepting an ECV, but this may undermine a woman's involvement in decision making and lead to decisional conflict (Say et al 2013).

ECV is associated with a small risk of complications

ECV appears to be comparatively safe, meaning that the complications observed are no greater than what we would expect in the population generally (Hofmeyr and Kulier 2012). Complications directly attributed to the procedure are rare but can include vaginal bleeding and severe bradycardia, initiating an emergency CS for about one in 200 women, almost always resulting in a good outcome for the baby. Recent research suggests that adverse neonatal and obstetric outcomes may be greater following failed ECVs compared to successful ECVs or breech controls where no ECV has been attempted, and a successful VBB is less likely following a failed ECV compared with no attempt (Balayla et al 2014).

What we don't know

Ultimately, we don't know whether ECV improves outcomes for babies

ECV lowers the non-cephalic birth rate, but this in itself does not appear to change the risk level for these babies. After reviewing the evidence of the RCTs mentioned above, the 2012 Cochrane Review concluded that ECV did not result in a difference in Apgar rates at one or five minutes, low umbilical artery pH levels, neonatal admissions or perinatal deaths. This is significant because most of these trials were

published before the Term Breech trial (Hannah et al 2000), and most of the women whose ECVs failed went on to attempt VBBs. More recent research has shown similar results (Reinhard et al 2013).

This corresponds to the Term Breech trial's surprising data that, despite higher short-term morbidity and mortality for those who planned VBB, long-term outcomes for infants at two years did not differ (Whyte et al 2004). Perhaps the common perception that breech presentation itself is a problem should be modified by the understanding that babies who spontaneously assume a head-down position are at less risk of an adverse outcome (Balayla et al 2014). Whilst ECV is not a panacea and cannot undo underlying problems which may have contributed to breech positioning (Mostello et al 2014), a successful ECV will increase the chances of a vaginal birth; in areas where VBB is not supported, this may be mothers' and babies' only chance to access the benefits of labour and normal birth.

To ECV or not to ECV? Women navigate through a complex matrix of options, each of which is a reasonable choice. We do best by women when both high quality ECV services and a VBB are both easily accessible and well-supported.

Perhaps the biggest influence on the success rate of ECV is the skill and experience of the obstetrician or midwife attempting it

Vignette

Marie is a low-risk multip who has had two previous straightforward cephalic births of babies weighing 4.0 kg and 3.7 kg. She is 37 weeks pregnant with a frank breech baby, well engaged, currently estimated to weigh 3.5 kg. After counselling and a thorough obstetric review, she has a strong preference to plan a VBB and is referred to the senior midwifery team who caseload women requesting a VBB. Her breech-experienced team is comfortable supporting her until around 41 weeks, when it is likely her baby will weigh over 4.0 kg, so Marie chooses to book an ECV at this point.

What might happen?

- Straightforward vaginal breech birth at 39+ weeks (45-75 per cent chance)
- Baby turns spontaneously at 40 weeks and she has a water birth in the MLU (12-13 per cent chance)
- Successful ECV at 41 weeks (90 per cent chance of success)
- Waters break at 40 weeks, but no labour ensues. Marie chooses a CS at this point, as her team recommends not inducing breech labours. She is happy her baby has chosen his birthday.

Marie's hypothetical scenario illustrates a flexible, supportive approach to the choices we offer women with breech-presenting babies, which is most possible where providers are experienced and comfortable with all options, and where women receive consistent counselling within a continuity model. [tpm](#)

Shawn Walker is a lecturer in midwifery at City University, London

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