External Cephalic Version & The Anaesthetist

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Jerusalem, Israel

OAA National Conference
Torquay, May 2015
I have no disclosures
Woman with breech presentation

Blogged on mumsnet.co.uk for advice

Wants elective caesarean section

Leaves the operating room with a **lovely baby** and a **uterine scar**
Internal cephalic version and breech babies

The problem
How we can help
Why aren’t we doing it?
Breech babies were often delivered vaginally
Poor neonatal outcomes reported for vaginal breech delivery led to recommendations for external cephalic version or elective planned caesarean delivery

A COG/SMFM OBSTETRIC CARE CONSENSUS

Safe prevention of the primary cesarean delivery

This document was developed jointly by the American College of Obstetricians and Gynecologists (the College) and the Society for Maternal—Fetal Medicine with the assistance of Aaron B. Caughey, MD, PhD; Alison G. Cahill, MD, MSCI; Jeanne-Marie Guise, MD, MPH; and Dwight J. Rouse, MD, MSPH

- Breech presentation
- CD
- Repeat CD
- Pathological placental implantation
- Vaginal delivery
Variation in rates of caesarean section among English NHS trusts after accounting for maternal and clinical risk: cross sectional study

19% elective caesarean delivery performed for breech presentation among 620 604 singleton births
ACOG/SMFM OBSTETRIC CARE CONSENSUS

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23 Celebrities Who've Given Birth Via C-Section

by Rebecca Gruber  2/16/15

Like us on Facebook  1,036,716 people like this.
TURN your breech baby

5 Exercises to Turn a Breech Baby

Health & Parenting
Hi there. I had it last time but not til 39+5. It didn’t work then and I ended up with an ELCS. I was bricking it but actually it was OK. Consultant gave me a good exam first and then said he put odds of success at 50%. Left me and husband alone for a bit to have a think about it a bit too.

ECV itself was OK, bit painful but got gas and air so I laughed through it! Felt bruised afterwards but OK really. Would try it again. There are some good ECV stories on mumsnet if I remember correctly.

Number 2 was breech too up until about 4 weeks ago, but this time I tried Webster technique from a chiropractor which got bubs to shift. There’s also moxibustion and reflexology which can help turn a breech baby. I think moxi is in the NICE guidelines.

Looking back now I’d consider trying for a breech birth if ECV didn’t work... Trying to negotiate a VBAC this time round has been a nightmare and if I’d had more time to prepare, and got the right support, I think I could have attempted it at least. Just something to think about if you don’t have ECV or it isn’t...
Patient information factsheet

Breech babies

The purpose of this factsheet is to explain what is meant by the term 'breech' and the choices available to you if your baby remains in the breech position after 36 weeks of pregnancy.

This includes the procedures used to encourage your baby to turn into a head-down (cephalic) position, if this is appropriate and the options for giving birth to a baby in the breech position if turning your baby isn’t possible.

Turning a breech baby in the womb (external cephalic version)

Information for you

Published February 2008

Royal College of Obstetricians and Gynaecologists

Setting standards to improve women's health
7. Developing an ECV service

An ECV service, provided by appropriately trained clinicians, should be available to all women with a breech presentation at term.
4.3 What is the success rate of ECV and what influences it?

Women should be counselled that, with a trained operator, about 50% of ECV attempts will be successful.

Results vary from 30% up to 80% in different series.\textsuperscript{7,16,17,18} Race, parity, uterine tone, liquor volume, engagement of the breech and whether the head is palpable, and the use of tocolysis, all affect the success rate.\textsuperscript{18,19} Published individual success rates may vary because of case selection as well as
Clinical score for the outcome of external cephalic version: A two-phase prospective study


500 prospectively assessed ECV cases to identify success factors, followed by validation set among 1000 women

**Table 2** Predictive index for the outcome of external cephalic version at term

<table>
<thead>
<tr>
<th>Parity</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primiparous</td>
<td>Biparous</td>
<td>Triparous  or more</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anterior</td>
<td>Fundal lateral</td>
<td>Posterior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frank incomplete</td>
<td>Complete</td>
<td>Double footling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>Normal</td>
<td>Abundant</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 4** Prediction of success based on score of external cephalic version (ECV) index

<table>
<thead>
<tr>
<th>Score of ECV Index</th>
<th>n = 1000 (%)</th>
<th>Success rate (%)</th>
<th>Fisher’s 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–6</td>
<td>346 (34.6)</td>
<td>30.9</td>
<td>26.1–36.1</td>
</tr>
<tr>
<td>7–8</td>
<td>451 (45.1)</td>
<td>56.5</td>
<td>51.8–61.2</td>
</tr>
<tr>
<td>9–14</td>
<td>203 (20.3)</td>
<td>76.8</td>
<td>70.4–82.5</td>
</tr>
</tbody>
</table>
Are all women suitable for ECV?

5 guidelines mentioning 18 contraindications
(5 to 13 per guideline)
Contraindications were not reproducible between the guidelines
Oligohydramnios was the only one mentioned in all guidelines.
Macrosomia, uterine scar, ruptured membranes
– no evidence found to support any of these

Large observational studies suggest complications are rare

Placental abruption risk 0.1%
Emergency caesarean 0.4%

Cochrane Database Syst Rev 2015
New Zealand: Among 196 women surveyed (response rate 75%), women were mainly concerned about perceived risks.

Hong Kong: Most women, 590/735 (80.3%), chose elective caesarean delivery, despite 82% vaginal delivery rate following successful ECV.

Women don’t want ECV

Cho LY. Hong Kong Med J 2012;18
Raynes-Greenow CH, BMC Pregnancy Childbirth 2010;10
Maier B, J Perinat Med 2011;39
Pain may deter women from undergoing ECV

Pain relief for ECV may increase success rates through reduction in abdominal wall guarding, abdominal muscle tone

Yogev Y et al. Int J Gynaecol Obstet 2002;79
Cluver et al, Cochrane 2012 CD000184
Goetzinger et al, Obstet Gynecol 2011;118
Sultan et al, IJOA 2011;20
Lavoie et al, Can J Anesth 2010;57

Randomised control trials = 6 + 1
Non randomised studies = 6
Abstracts = 2
<table>
<thead>
<tr>
<th>Authors</th>
<th>Neuraxial drugs</th>
<th>Neuraxial block</th>
<th>Control</th>
<th>Effect in neuraxial group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dugoff</td>
<td>Spinal B 2.5 mg</td>
<td>Analgesia</td>
<td>No Rx</td>
<td>NS</td>
</tr>
<tr>
<td>Sullivan</td>
<td>Spinal B 2.5 mg</td>
<td>Analgesia</td>
<td>Iv fentanyl</td>
<td>NS</td>
</tr>
<tr>
<td>Mancuso</td>
<td>Epidural L 260 mg</td>
<td>Anaesthesia</td>
<td>No Rx</td>
<td>Increase</td>
</tr>
<tr>
<td>Schorr</td>
<td>Epidural L to T4</td>
<td>Anaesthesia</td>
<td>No Rx</td>
<td>Increase</td>
</tr>
<tr>
<td>Weiniger-N</td>
<td>Spinal B 7.5 mg</td>
<td>Anaesthesia</td>
<td>No Rx</td>
<td>Increase</td>
</tr>
<tr>
<td>Weiniger-M</td>
<td>Spinal B 7.5 mg</td>
<td>Anaesthesia</td>
<td>No Rx</td>
<td>Increase</td>
</tr>
<tr>
<td>Khaw</td>
<td>Spinal 9 mg</td>
<td>Anaesthesia</td>
<td>Remi/No Rx</td>
<td>Increase</td>
</tr>
</tbody>
</table>

B = bupivacaine; L = lignocaine
<table>
<thead>
<tr>
<th>Meta-analysis</th>
<th>No. women receiving neuraxial block</th>
<th>ECV success rates with neuraxial block</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavoie Anaesthesia</td>
<td>247</td>
<td>Increased</td>
</tr>
<tr>
<td>Lavoie Analgesia</td>
<td>434</td>
<td>No effect</td>
</tr>
<tr>
<td>Goetzinger Epidural</td>
<td>89</td>
<td>Increased</td>
</tr>
<tr>
<td>Goetzinger Spinal</td>
<td>164</td>
<td>No effect</td>
</tr>
</tbody>
</table>

**A. Lavoie, J. Guay**

### Effects of central neuraxial blocks on the success rate of fetal versions

<table>
<thead>
<tr>
<th>Group by Dose</th>
<th>Study name</th>
<th>Statistics for each study</th>
<th>Success / Total</th>
<th>Risk ratio and 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analgesic</td>
<td>Delisle</td>
<td>Risk ratio 1.363, Lower limit 0.936, Upper limit 1.984, p-Value 0.106</td>
<td>41/99 31/102</td>
<td></td>
</tr>
<tr>
<td>Analgesic</td>
<td>Dugoff</td>
<td>Risk ratio 1.040, Lower limit 0.666, Upper limit 1.624, p-Value 0.863</td>
<td>22/50 22/52</td>
<td></td>
</tr>
<tr>
<td>Analgesic</td>
<td>Hollard</td>
<td>Risk ratio 1.006, Lower limit 0.542, Upper limit 1.867, p-Value 0.985</td>
<td>9/17 10/19</td>
<td></td>
</tr>
<tr>
<td>Analgesic</td>
<td>Sullivan</td>
<td>Risk ratio 1.197, Lower limit 0.744, Upper limit 1.926, p-Value 0.459</td>
<td>22/48 18/47</td>
<td></td>
</tr>
<tr>
<td>Analgesic</td>
<td>Subtotal</td>
<td>Risk ratio 1.182, Lower limit 0.940, Upper limit 1.485, p-Value 0.152</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anesthetic</td>
<td>Mancuso</td>
<td>Risk ratio 1.778, Lower limit 1.148, Upper limit 2.753, p-Value 0.010</td>
<td>32/54 18/54</td>
<td></td>
</tr>
<tr>
<td>Anesthetic</td>
<td>Schorr</td>
<td>Risk ratio 2.119, Lower limit 1.241, Upper limit 3.620, p-Value 0.006</td>
<td>24/35 11/34</td>
<td></td>
</tr>
<tr>
<td>Anesthetic</td>
<td>Weiniger</td>
<td>Risk ratio 2.061, Lower limit 1.203, Upper limit 3.529, p-Value 0.008</td>
<td>24/36 11/34</td>
<td></td>
</tr>
<tr>
<td>Anesthetic</td>
<td>Subtotal</td>
<td>Risk ratio 1.950, Lower limit 1.464, Upper limit 2.597, p-Value 0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>Risk ratio 1.435, Lower limit 1.201, Upper limit 1.716, p-Value 0.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

0.1 0.2 0.5 1 2 5 10

Favours Control Favours CNB
How do other people do neuraxial block for ECV?

SOAP member survey; 30% response rate (323 respondents)
62% of units perform less than 50% ECV
Complications of ECV with neuraxial block

One headache requiring epidural blood patch

3 = retrospective analyses
3 = prospective non-randomised studies
## Delivery outcomes following ECV with neuraxial block

<table>
<thead>
<tr>
<th>Authors</th>
<th>Treatment</th>
<th>Vaginal cephalic delivery in treatment group</th>
<th>Vaginal cephalic delivery in control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dugoff</td>
<td>Analgesia</td>
<td>32% 16/50</td>
<td>48% 25/52</td>
</tr>
<tr>
<td>Sullivan</td>
<td>Analgesia</td>
<td>36% 17/47</td>
<td>52% 12/48</td>
</tr>
<tr>
<td>Mancuso</td>
<td>Anaesthesia</td>
<td>52% 28/54</td>
<td>24% 13/54</td>
</tr>
<tr>
<td>Schorr</td>
<td>Anaesthesia</td>
<td>66% 23/35</td>
<td>21% 7/34</td>
</tr>
<tr>
<td>Weiniger N</td>
<td>Anaesthesia</td>
<td>44% 16/36</td>
<td>24% 8/34</td>
</tr>
<tr>
<td>Weiniger M</td>
<td>Anaesthesia</td>
<td>80% 25/31</td>
<td>58% 19/33</td>
</tr>
<tr>
<td>Khaw</td>
<td>Anaesthesia</td>
<td>63% 40/63</td>
<td>51% 64/126</td>
</tr>
</tbody>
</table>
The Impact of ECV Service is Limited by Antenatal Breech Detection

UK single center survey of ECV service; 1998-9 vs. 2008-9
Only 33.8% women underwent ECV attempt
Main reason was lack of antenatal diagnosis
ECV attempts did increase from 29 to 39% of breech presentation

Hemelaar J and Impey LW; Birth 2015; epub
ECV performed in all eligible women?

UK survey of 100 Obstetricians, found that over one-third had no ECV training

Single centre study in the US reported only 49% of breech presentation women have ECV
  Clock et al. J Perinatology 2009; 29

Survey of practice in Africa, 11 countries, 91% response rate
  79% did not offer ECV, 31% perform vaginal breech delivery
  Mukaindo A. Int J Obstet Gynecol 2012;116
ECV with neuraxial block in the UK

International Journal of Obstetric Anesthesia

P61 Anaesthesia for external cephalic version: a survey of UK lead obstetric anaesthetists

NW Parry, Y Poonawala
Anaesthetics, Birmingham Womens Hospital, Birmingham, UK

Introduction: There is much debate (Cochrane, 2009) about the optimal mode of delivery for breech presentation and an estimated 95% of units in the UK perform external cephalic version (ECV) in the antenatal period. However, a recent survey of UK hospitals (Parry et al, 2012) showed that only 66% of units performed ECV with neuraxial block in the UK, and 96% of units rarely or never give anaesthesia for ECV. This study aimed to determine the current practice and associated risk of anaesthesia for ECV in the UK.

Methods: An OAA approved survey was sent electronically to 213 registered Lead Obstetric Consultants (OAA Survey number 120). 140 were returned: a response rate of 66.7%. This survey addressed the type of anaesthetic services, protocols for ECV and the risk of anaesthetic complications associated with ECV.

Results: Further to the study of Parry et al (2012), Over 80% of hospitals performed ECV in the delivery room, operating theatre, antenatal clinic or antenatal ward or a day assessment unit. The majority of units reported that patients were not pre-assessed by an anaesthetist despite the potential for increased risk of fetal bradycardia. Up to half of the hospitals had implemented a protocol prior to the study of Parry et al (2012) to increase the safety of patients undergoing ECV. However, 96% of units rarely or never give anaesthesia for ECV.

Discussion: In the UK, obstetric practice is to perform ECV without spinal anaesthesia. The majority of units report that patients are not pre-assessed by an anaesthetist despite the potential for increased risk of fetal bradycardia. Up to half of the hospitals have implemented a protocol prior to the study of Parry et al (2012) to increase the safety of patients undergoing ECV.

Conclusions: ECV has failed in an estimated 25% of attempts. ECV with neuraxial block should be considered as a safer alternative.
Neuraxial block on first ECV attempt or after failed ECV attempt?

Neuraxial block is associated with increased success rates after failed initial ECV attempt.

Of 23 failed ECV in the no-drug control group, 18 were re-randomised.
In the remifentanil group, 0/9 ECV were successful.
In the spinal group 7/9 were successful.
Khaw et al BJA 2015 epub

Not enough evidence to recommend timing of block – initial or after failed attempt.
If ECV with neuraxial block is so great, how come everyone isn’t having it?

Response rate 30%, n= 323

Why ECV + Neuraxial Block is not being used

- MFM not requesting
- Other non-NB techniques used
- Concern for complications
- Logistics
- Patient preference
- None

Response rate 30%, n=323
Logistics

Where to perform ECV? OR, PACU, Clinic
Timing? Pre-delivery, or directly prior to caesarean?
Reserve for women who desire large families?
ECV is **recommended by RCOG** to enable vaginal cephalic delivery and potentially avoid caesarean delivery

Unclear if every suitable woman has timely information to **about ECV** – knowledge is power

ECV is an opportunity for change in a climate where vaginal breech delivery is rarely performed and caesarean delivery is over-used for breech

Neuraxial block can increase the ECV success rates
Consider – engage with local teams of midwives and obstetricians to expand the ECV service – challenge everyone to do better
Thank you