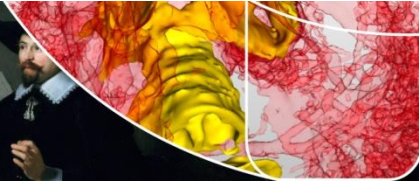
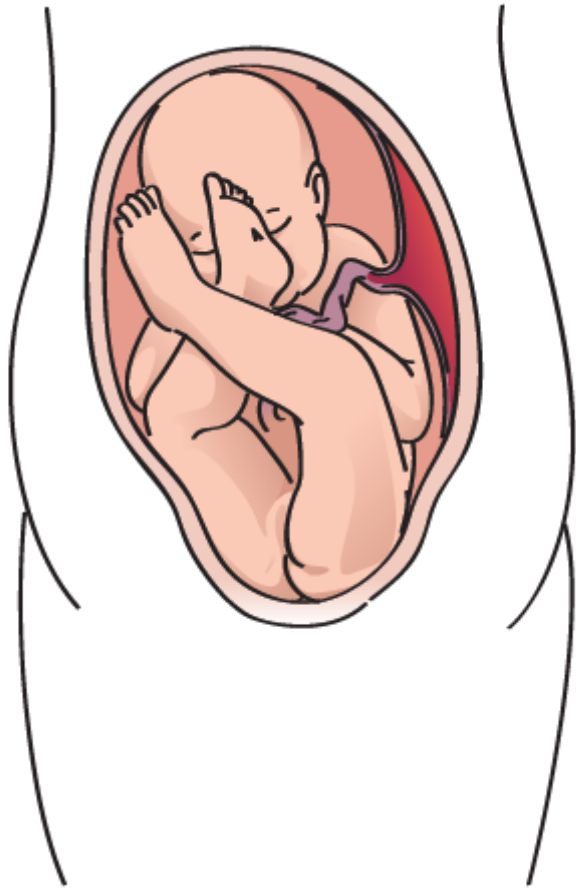
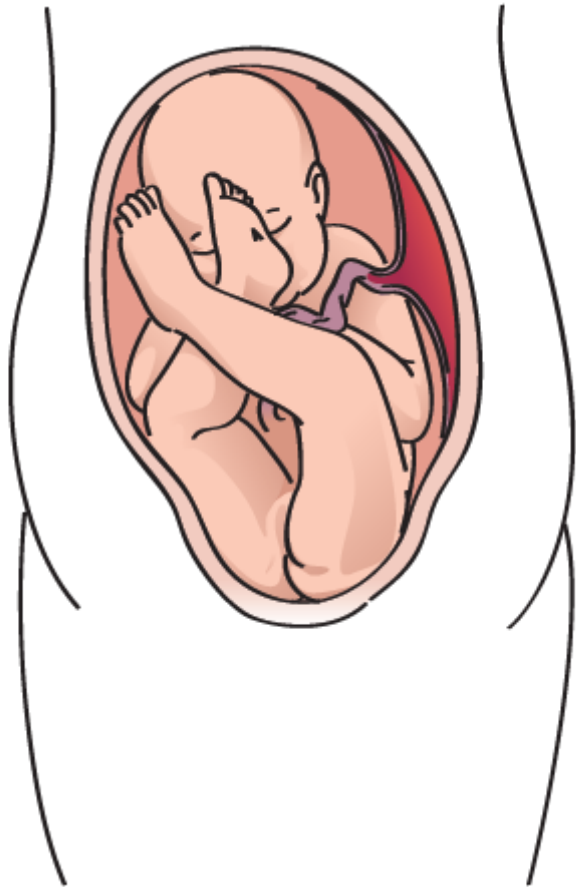


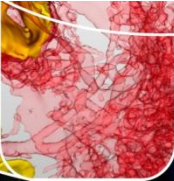


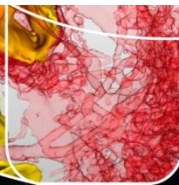
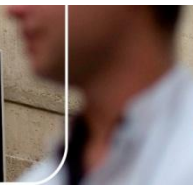
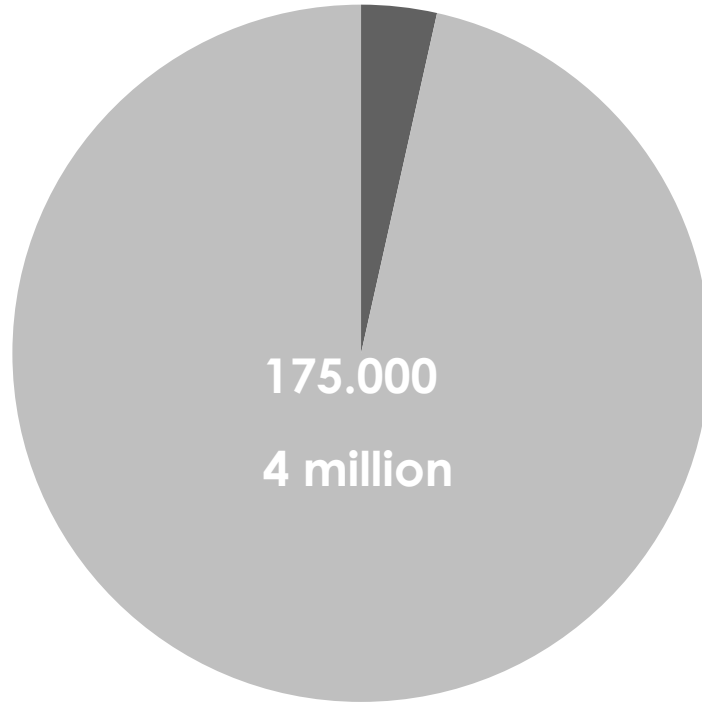
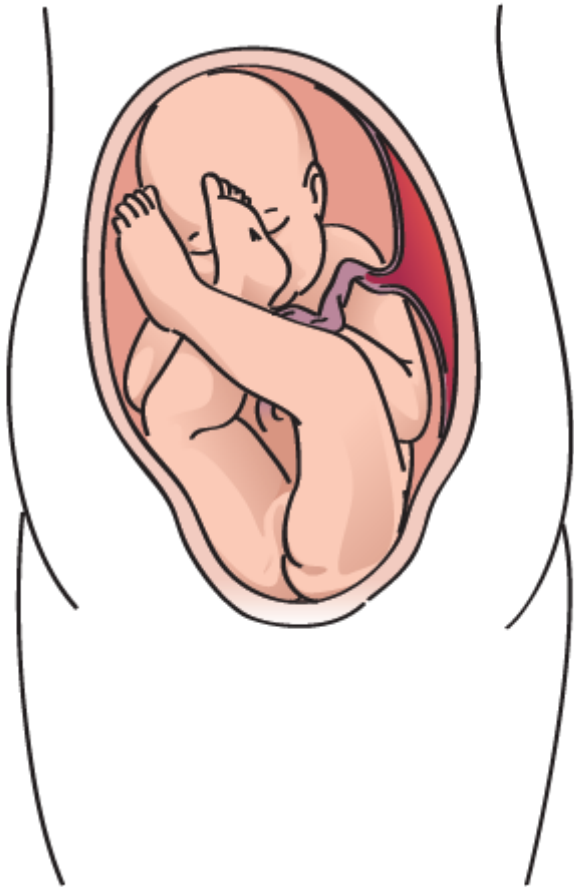
**TURN THAT  
BREECH!**

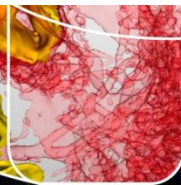
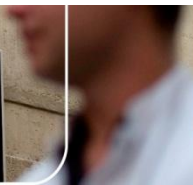
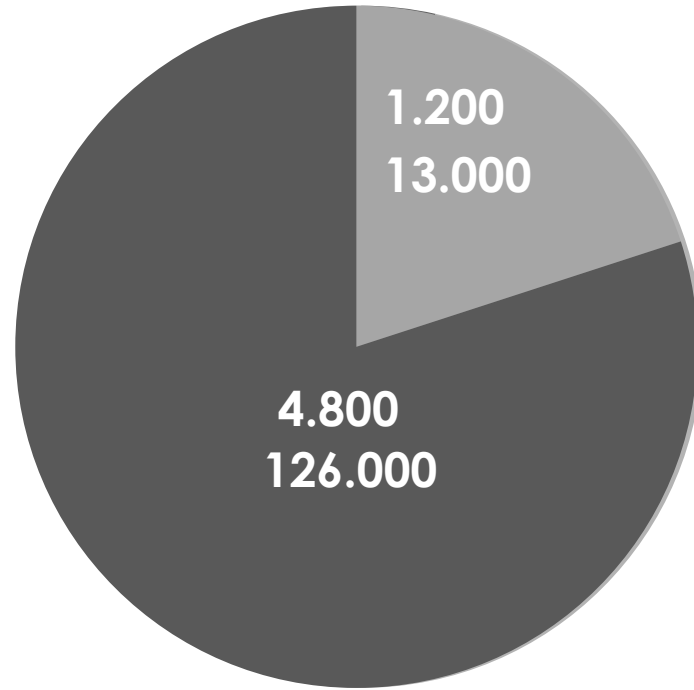
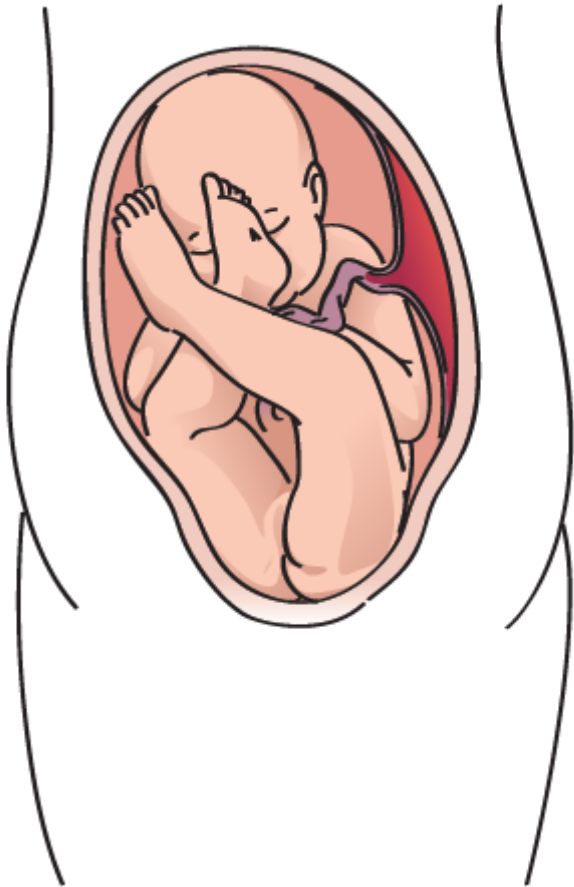


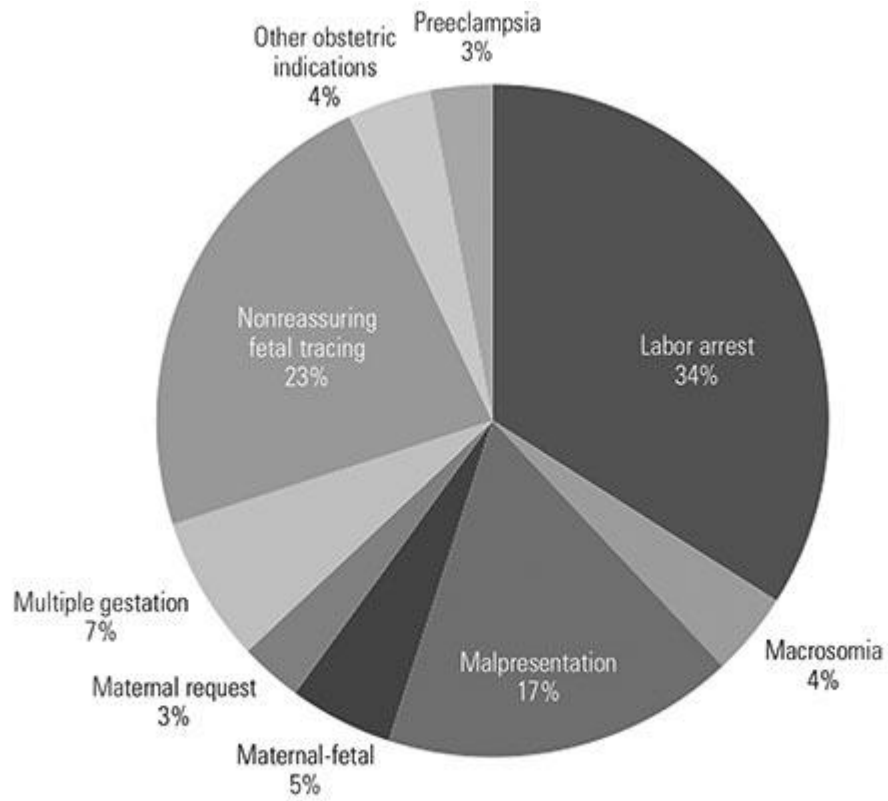


175.000

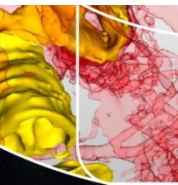
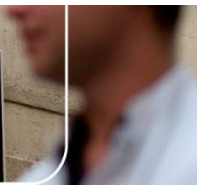


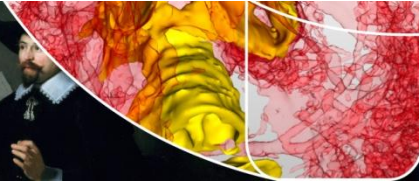
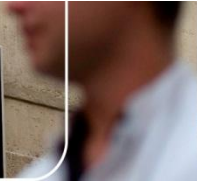
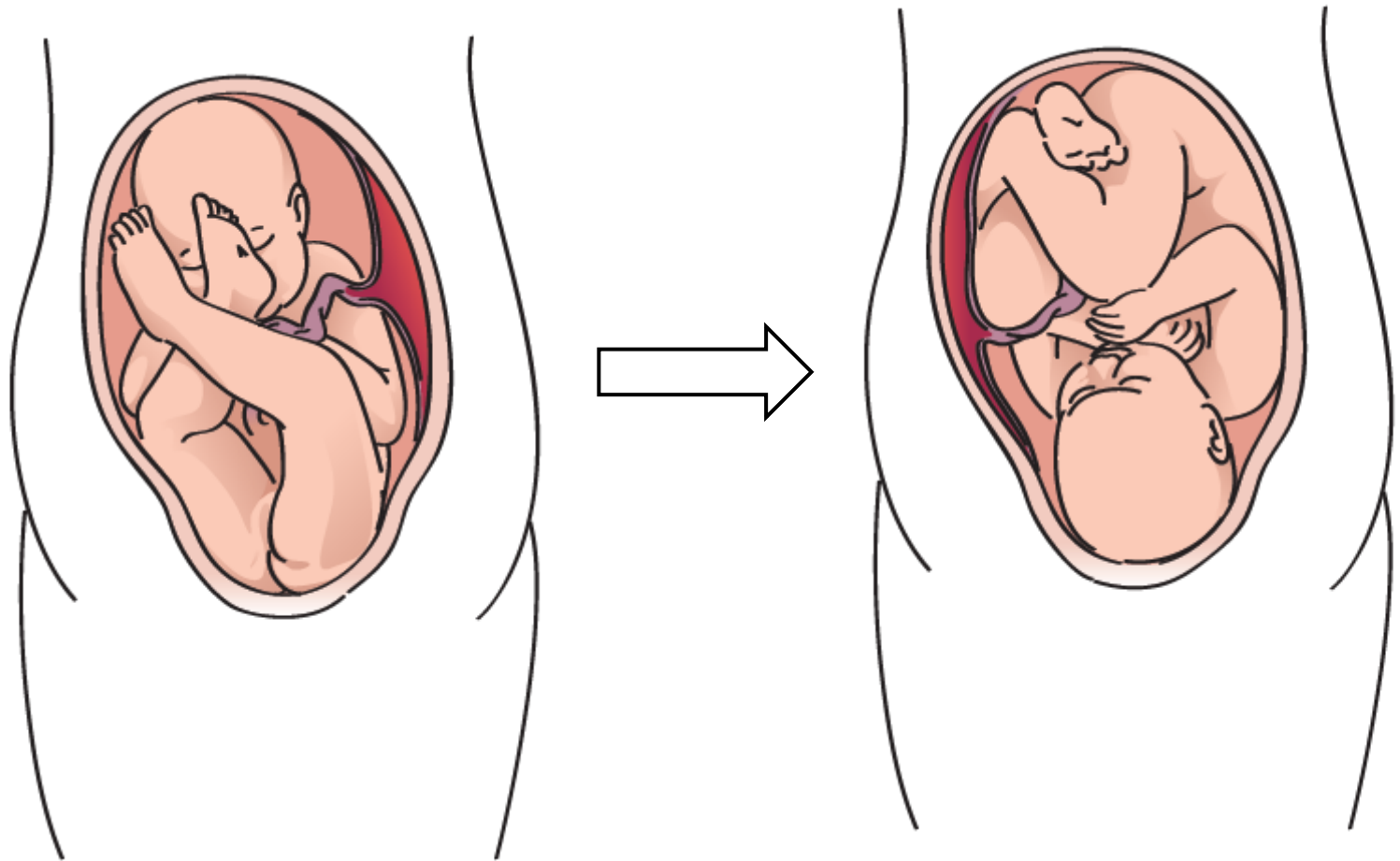




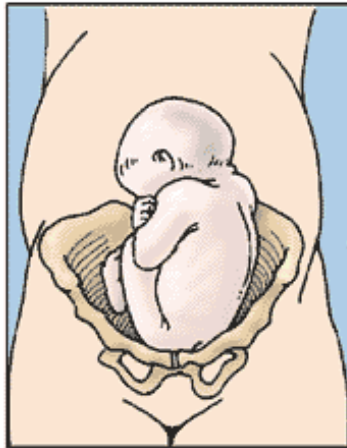


**Fig. 3.** Indications for primary cesarean delivery. (Data from Barber EL, Lundsberg LS, Belanger K, Pettker CM, Funai EF, Illuzzi JL. Indications contributing to the increasing cesarean delivery rate. *Obstet Gynecol* 2011;118:29–38.)

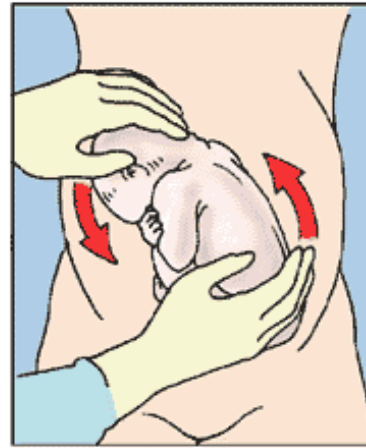




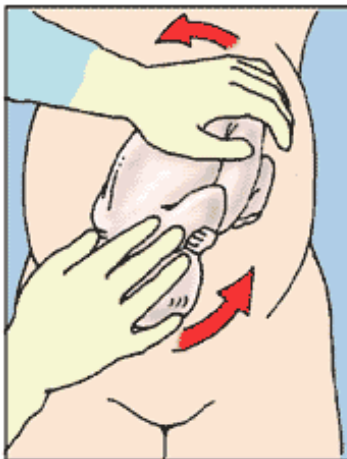
## Procedure for Turning the Baby



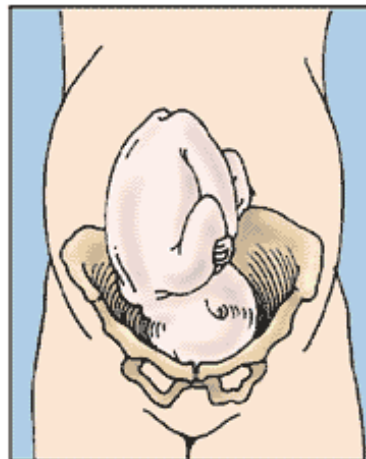
1. The baby is in breech position.



2. The doctor feels for the baby's head and bottom.

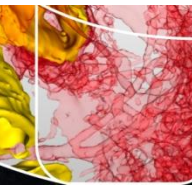
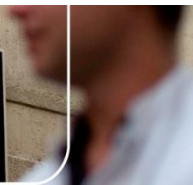


3. The doctor turns the baby around.



4. The baby is in position for normal delivery.

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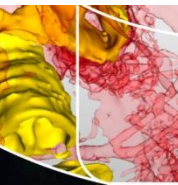
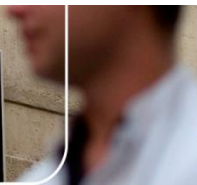
# Success rate

- 40-60%
- Significant reduction in CS RR 0.63 (0.44-0.90)
- Experience operator, tocolysis

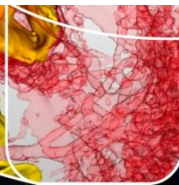
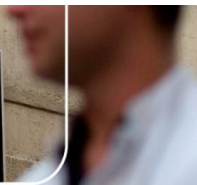


# Favourable conditions

- Relaxed uterus (OR 18 [12-29])
- Unengaged breech (OR 9.4 [6.3-14]),
- Palpable head (OR 6.3 [4.3-9.2])
- Multiparity (OR 2.5 [2.3-2.8])
- Posterior placenta (OR 1.9 [1.5-2.4])
- Maternal weight < 65 kg (OR 1.8 [CI 1.2-2.6])
- AFI > 10 (OR 1.8 [1.5-2.1])
- Complete breech (OR 1.8 [1.1-1.7])



# Safety

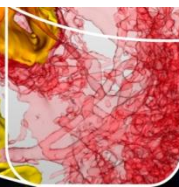
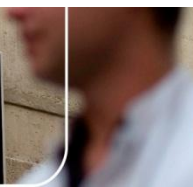


# Complications

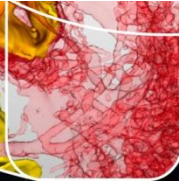
Abnormal CTG	6.1%
Fetomaternal transfusion	0.9%
Emergency CS	0.35%
Still birth	0.09%
Placental abruption	0.08%
Vaginal bleeding	0.3%
Cord Prolapse	0.06%

< 1%

Obstet Gynecol. 2008 Nov;112(5):1143-51. doi: 10.1097/AOG.0b013e31818b4ade.  
External cephalic version-related risks: a meta-analysis.  
Grootscholten K1, Kok M, Oei SG, Mol BW, van der Post JA.



# Eligibility



# Contraindications

- 5 national guidelines
- 18 contraindications (5-13)
- Oligohydramnios

Contraindications for external cephalic version in breech position at term: a systematic review.  
Rosman AN1, Guijt A, Vlemmix F, Rijnders M, Mol BW, Kok M.  
Acta Obstet Gynecol Scand. 2013 Feb;92(2):137-42



# Literature

- 60 studies
- 39 different contraindications
- None evidence based



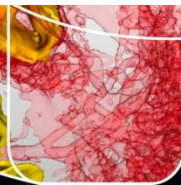
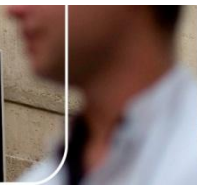
# level III

- Placental abruption in history
- Signs of placental abruption in current pregnancy
- Severe preeclampsia or HELLP syndrome
- Signs of fetal distress





# Timing



# Early ECV

- More amniotic fluid
- Not yet engaged
- 10-15% breech
- Risk preterm delivery



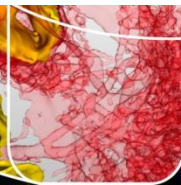
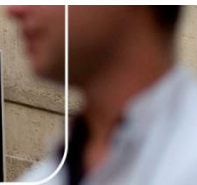
# RCT

- early(34-36 wk) versus late(>36 wk)
- Reduced breech presentation
  - 41.1% versus 49.1% (RR 0.84, 95%-BI 0.75-0.94)
- CS
  - 52% versus 56% (RR 0.93, 95%-BI 0.85, 1.02)
- Preterm delivery
  - 6.5% versus 4.4% (RR 1.48, 95%-BI 0.97, 2.26 )

The Early External Cephalic Version (ECV) 2 Trial: an international multicentre randomised controlled trial of timing of ECV for breech pregnancies.  
Hutton EK, Hannah ME, Ross SJ, Delisle MF, Carson GD, Windrim R, Ohlsson A, Willan AR, Gafni A, Sylvestre G, Natale R, Barrett Y, Pollard JK, Dunn MS, Turtle P; Early ECV2 Trial Collaborative Group.  
BJOG. 2011 Apr;118(5):564-77. doi: 10.1111/j.1471-0528.2010.02837.x. Epub 2011 Feb 4.



# How?



# Procedure

- CTG
- Ultrasound
- Examination
- Ultrasound gel
- 2 operators?
- Tocolysis
- Head roll
- Anti-D immunoglobulin



# Successful ECV, but...

- Systematic review
- 11 studies, 46,641 deliveries
- 21% CS
  - ↑CS for dystocia OR 2.2 (95% CI 1.6–3.0)
  - ↑ CS for fetal distress OR 2.2 (95% CI 1.6–2.9)
  - ↑ instrumental deliveries OR 1.4 (95% CI 1.1–1.7).

Mode of delivery after successful external cephalic version: a systematic review and meta-analysis.  
de Hundt M1, Velzel J, de Groot CJ, Mol BW, Kok M.  
Obstet Gynecol. 2014 Jun;123(6):1327-34.





ECV is safe



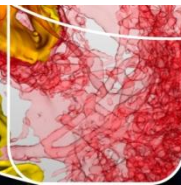
ECV is effective



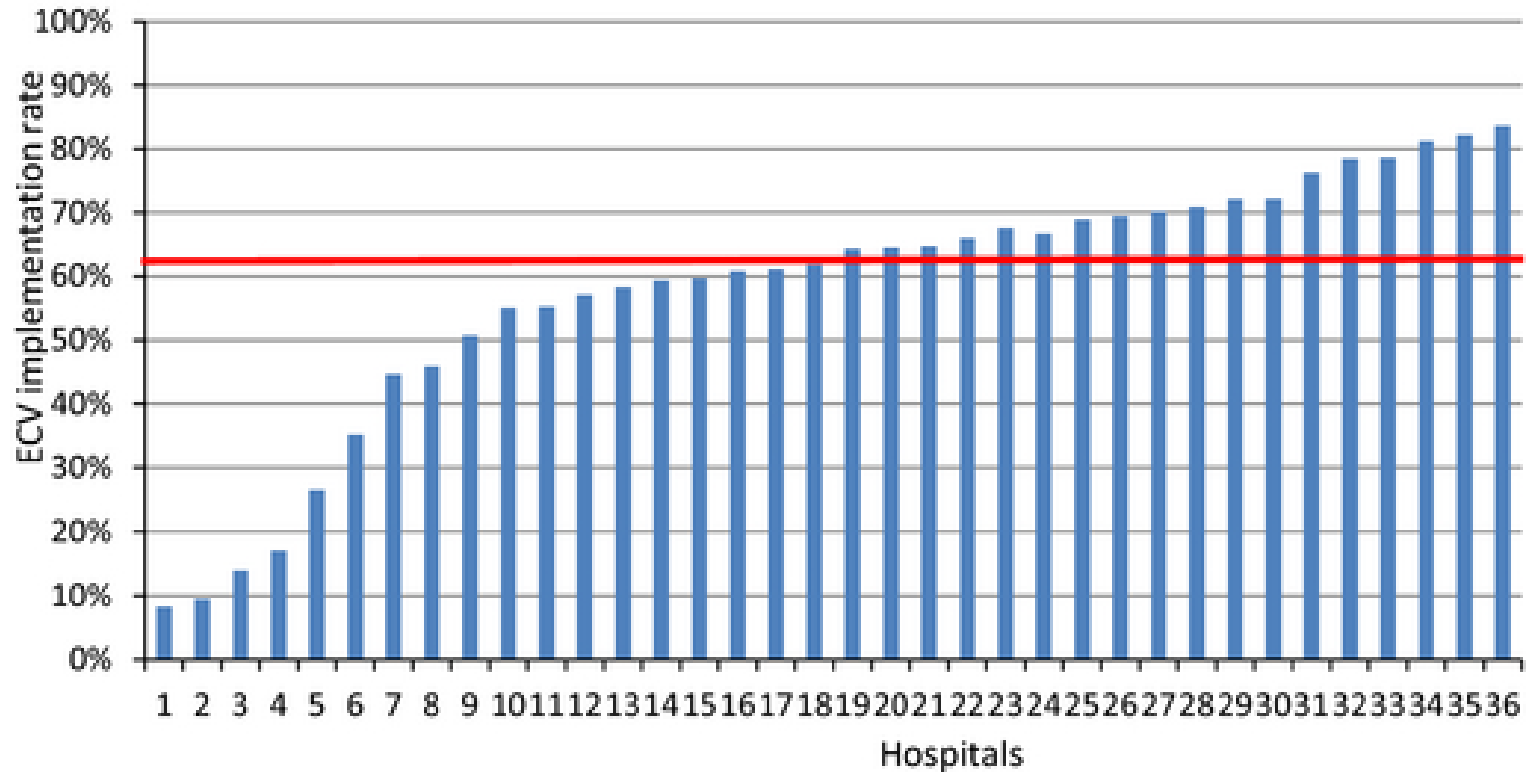
More eligible women than you think...



Offer ECV to every eligible woman!



# ECV implementation



Birth. 2014 Dec;41(4):323-9. doi: 10.1111/birt.12133. Epub 2014 Oct 6.

Implementation of external cephalic version in the Netherlands: a retrospective cohort study.

Vlemmix F1, Rosman AN, te Hoven S, van de Berg S, Fleuren MA, Rijnders ME, Beuckens A, Opmeer BC, Mol BW, Kok M.







**TURN THAT  
BREECH!**