

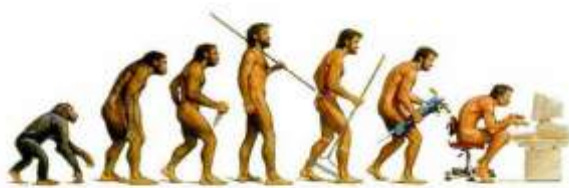
Rethinking the Physiology of Breech Birth – A cohort study in Frankfurt Germany 2004 – 2011

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Australia



Parteras Tradicionales



Breech delivery- Frankfurt experience

Frankfurt Study

- retrospective cohort study
- all women who presented breech at 37 weeks or more
- Goethe University Hospital in Frankfurt, Germany.
- January 1, 2004 to June 30, 2011

Figure 1. Flowchart of Planned Mode of Delivery for 971 Breech Deliveries, Frankfurt, Germany January 1, 2004 – June 30, 2011

977 Women presenting breech

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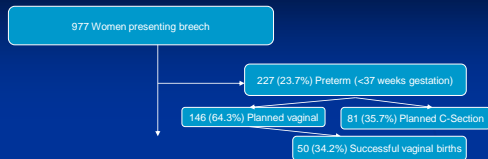


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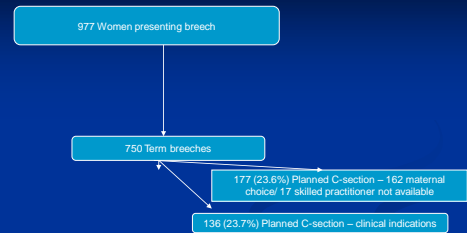


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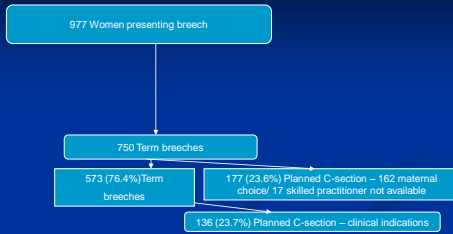


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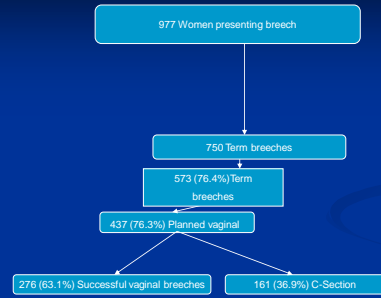


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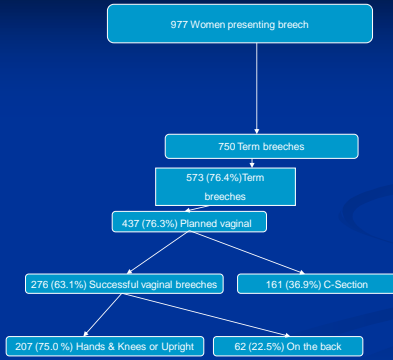
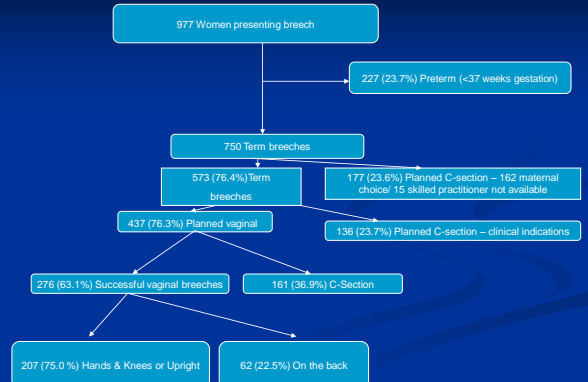


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Ottawa 2009



Ottawa 2009



Table 1: Maternal, Obstetric, and Fetal Characteristics

	Planned Cesarean Delivery N=313 n (%)	Planned Vaginal Delivery N=437 N (%)	<i>P</i>
Birth Year			
2004 - 2005	82 (26.2)	72 (16.5)	0.082
2006 - 2007	85 (27.2)	95 (21.7)	
2008 - 2009	82 (26.2)	126 (28.8)	
2010 - 2011	64 (20.4)	143 (33.0)	
Parity			
Primipara	237 (75.7)	226 (70.0)	0.055
Para 2	62 (19.9)	174 (23.2)	
Para 3 +	14 (4.4)	37 (6.8)	

	Planned Cesarean Delivery N=313 N (%)	Planned Vaginal Delivery N=437 N (%)	P
Type of breech			0.000
Frank	218 (69.6)	295 (67.5)	
Incomplete	14 (4.5)	47 (10.8)	
Complete	30 (9.6)	59 (13.5)	
Footling	6 (1.9)	17 (3.9)	
Oblique Lie	14 (4.8)	8 (1.8)	
Missing	31 (9.9)	11 (2.5)	

Reasons for Cesarean Before or During Labour *	Planned Cesarean N=313 N (%)	Planned Vaginal N=437 N (%)	P
Mothers wish	165 (52.7)	18 (4.1)	
Delay in stage 1	0	46 (10.5)	
Delay in Stage 2	0	47 (10.8)	
Abnormal CTG/Doppler	14 (4.4)	30 (6.9)	
Uterine scar and/or uterine pathology as bicornuate uterus, fibroids	30 (9.6)	6 (1.4)	
Placenta problems (e.g placenta praevia, accreta)	5 (1.6)	2 (0.5)	
Prolapse of cord or other fetal parts	1 (0.3)	13 (3.0)	
Bleeding	13 (4.1)	8 (1.8)	
Cervical dilation or contractions before date of planned section	18 (5.7)	1 (0.2)	
Maternal reason (e.g. present or previous disease or problems)**	48 (15.3)	0 (0.0)	
Conjugata Vera Obstetrica < =12	7 (2.2)	6 (1.4)	
Other Perceived CPD			
Amino infection	3 (1.0)	3 (0.7)	
Fetal anomalies Needs adjustment	6 (1.9)***	8 (1.8)****	
IUGR	2 (0.6)	0	
Other fetal reasons	3 (1.0)****	1 (0.2)****	
Obstetrician for vaginal breech not available	17 (5.4)	0 (0.0)	

Table 2. Outcomes by Planned Mode of Delivery at Labour Initiation for 750 Term Breech Deliveries in Frankfurt, Germany January 1, 2004 – June 30, 2011

	Planned Cesarean Delivery N=313 n (%; 95% CI)	Planned Vaginal Delivery N=437 n (%; 95% CI)
Child Potential Complications		
5-min Apgar <4-	0	1
<7	0	11 (2.5%)
Small for gestational age or IUGR	14 (4.5%)	12 (2.7%)
Cord around the Neck	30 (9.6 %)	82 (18.8)

	Planned Cesarean Delivery N=313 n (%)	Planned Vaginal Delivery N=437 N (%)	P
Birth Injuries With Anomalies			
Fracture of clavicle	1	1 on back	
Fracture of clavicle+brach plexus	0	1 on back	
Fractures of humerus	0	1 on back	
Hip dislocation	1	0	
Bruising	1+	1 on back	
Birth Injuries No Anomalies			
Fracture of humerus	0	2 1 back 1up	
Brachial plexus injuries	0	1 upright	
Parietal skull fracture~	0	0	
Sternocleidomastoid injury	0	0	
Cutaneous wound	3	2 (c-ecets)	
Bruising	1+	10- (4 back 3up)	
Cerebral hemorrhage	0	1 on back	
Total Birth Injuries	7+ (2.2% +) 5 (1.6%)	20 (4.6%) 9 (2.1%)	

	Planned Cesarean Delivery N=313 n (%)	Planned Vaginal Delivery N=437 n (%)	Relative Risk and 95% Confidence Interval RR (95% CI)
NICU > 4 days~	15 (5.0%)	20(4.8%)	0.95 (.45 to 2.03)
Intubation***	0	2	
Intubation>24 hours***~	0	0	
Seizures	0	1****	
Parenteral or tube feeding>4 days~	0	0	
Fetal and neonatal deaths without life-threatening anomalies **~	0	0	-
Fetal and neonatal serious morbidity. (The composite of all babies labelled with ~)	15 (5.0%)	20(4.8%)	0.95 (.45 to 2.03)

Table 3: Manoeuvres and Outcomes Term Breeches Successfully Delivered Vaginally, Comparing On the Back with Hands & Knees or Upright

	Vaginal Breech Birth on the Back N=62 n (%)	Vaginal Breech Birth, Hands & Knees or Upright N= 207 n (%)	% Upright or Hands&Knees
Year			
2004	13	2	13%
2005	11	15	55%
2006	9	16	64%
2007	12	13	52%
2008	8	29	78%
2009	4	43	90%
2010	3	59	89%
2011	2	28	87%
Overall			74%
Delivery Position			
On the back	62 (100%)	200 (96.6)	
Hands and Knees Standing		7 (3.4)	

	On the Back N=62 n (%)	Hands & Knees or Upright N= 207 n (%)	
Help Delivering The Body			
Manoeuvres Required for Delivering the Body	42 (67.7 %)	36 (17.4 %)	
Loveset	1 (1.6)	16 (7.7)	
Classical (posterior arm first, raising the baby)	20 (32.3)	15 (7.2)	
Bickenbach	4 (6.4)	1 (0.5)	
Bracht (folding the baby)	22 (35.5)	4 (1.9)	
Help Delivering the Head			
Suprapubic Pressure	4 (6.5)	3 (1.4)	
Frank nudge	0 (0.0)	45 (21.7)	

	Vaginal Breech Birth on the Back N=62 n (%)	Hands and Knees or Upright N= 207 n (%)	Relative Risk and 95% Confidence Interval RR (95% CI)
NICU >4 days	4(6.8 %)	8(4.0%)	0.59 (0.15 to 2.8)

Frankfurt Results

- 750 breeches at term
- 313 (41.7%) received a scheduled cesarean section, half of them at the mother's request.
- 276/437 (63.1%) successfully delivered vaginally.
- Three neonatal deaths – all involved lethal anomalies.

Frankfurt Results

- 36 (17.4%) births on hands and knees or in an upright position, the mothers required manoeuvres for delivering the body
- 42 (67.7 %) delivering on their back required a manoeuvre
- Forceps were never required

Results

- Admissions to the NICU >4 days were similar – Planned vaginal 4.8% and planned Cesarean Section 5.0%
- Among babies born vaginally, those who delivered on hands and knees or upright position had a lower percentage in the NICU >4 days (4.0%) compared to those born on their back (6.8%).

Conclusions

- Maternal and infant risks were similar for planned vaginal and planned Cesarean
- Maternal position in breech birth may impact perinatal and maternal outcomes.
- The Frankfurt experience suggests the upright position or hands and knees position reduces the need for intervention and negative sequelae in the vaginal breech.
- Larger studies would help to confirm whether or not these suggestive findings can be replicated.