

**Breech Delivery**  
Âeí ngäi ngæåüç  
**Shoulder Dystocia**  
Âeí khoï do vai

**James W. Van Hook, MD**

**Dept. OBGYN**

**University of Texas Medical Branch**

**Galveston, TX**

# Background:

## Kiãún thæic chung

- Prevalence of breech presentation varies with gestational age.

**Tyí lâû ngäi ngæãüc thay ääøi theo tuäøi thai**

– 33% 21-24 weeks

**33% 21-24 tuáön**

– 14% 29-32 weeks

**14% 29-32 tuáön**

– 3-4% term

**3-4% thai äuí thäing**

# **Background:**

## **Kiãún thæic chung**

- **Prenatal mortality and morbidity higher (3 times cephalic)**

**Tyí lãu tæi vong træãic sinh vai bãûnh suáút cao hãn (3 láön ngãi ááöu)**

- **Umbilical cord prolapse- more prevalent (except with frank breech presentation)**

**Sa dáy räún – thæãìng gâúp hãn (ngoãui træi ngãi ngæãüc kiãøu mæng)**

# Background (2)

## Kiãún thæic chung (2)

- Breech presentation may be independent risk factor for neurologically-impaired infant

**Ngäi ngæãüc coï thãø laì yãúu táú nguy cả  
ãäüc láúp ääúi vãi treí keim phait triãøn vãø  
tháøn kinh**

- Breech presentation associated with cerebral palsy- irrespective of route of delivery

**Ngäi ngæãüc äi keim vãi baûi naño – báút  
luãûn ããø ãmãing naño**

(Schutte and associates, 1985; Gilstrap, 1995)

# Background (2)

## Kiǎún thæic chung (2)

- “It is possible that breech presentation is not coincidental but is a consequence of poor fetal quality, in which case medical intervention is unlikely to reduce perinatal mortality”

“Coĩ thǎø ràòng ngǎi mǎng khǎng phaĩ laì sæu trùing hǎüp ngáúu nhiǎn màì laì háu quai cuía thai keim phaít triǎøn, sæu can thiǎüp vǎo màüt y hoüc trong nhæing træàing hǎüp àoĩ khǎng chàõc laim giaím âæãüc tyí lâu tæi vong chu sinh”

(Schutte and associates, 1985; Gilstrap, 1995)

# Factors Associated With Breech Delivery

Caic yãúu táú pháúi háüp vãi äeí ngäi mäng

- High parity (**Äeí nhiãöu**)
- Prematurity (**Äeí non**)
- Multiple Gestation (**Äa thai**)
- Polyhydramnios/Oligohydramnios (**Äa äúi/Thiãøu äúi**)
- Uterine Anomalies (**Dë daüng tæí cung**)
- Fetal Anomalies (**Dë daüng thai**)
- Prior Breech Delivery (**Tiãön sæí äeí ngäi ngæãüc**)

# United States Trends: Breech Delivery

Xu hæåïng áí Myî: Âeí ngäi ngæåüç

- In the U. S., trend for delivery of breech infants has shifted toward C-section

Áí Myî, coi xu hæåïng thiãn vãö mäø láúy thai áí caïc træåïng háüç âeí ngäi ngæåüç

– 22% C-section rate 1963-1973

22% tyí læu mäø láúy thai 1963-1973

– 94% in 1979

94% nàm 1979

– Breech presentations account for 15% of all C-section

Ngäi ngæåüç chiãúm 15% caïc træåïng háüç mäø láúy thai

# United States Trends: Breech Delivery

Xu hæåïng áí Myî: Âeí ngäi ngæåüc

- Reasons for shift in trend:

**Caic lyï do thiãn vãö xu hæåïng mãø láúy thai:**

- Belief that perinatal mortality/morbidity improved

**Giaím tyí lâû tæí vong/bãûnh suáút chu sinh âæåüc cái thiãn**

- Inadequate resident training

**Viãûc âaìo taûo bãic sé nãüi truï khãng âuí**

- Medicolegal climate

**Xu thãú của y hoïc**



# **Term Breech- Delivery**

## **Âeí ngäi ngæåüç âuí thaïng**

- Outcome data are mixed for vaginal versus C-section delivery in breech presentation at term**

**Caïc säú liãûu vãö viãûç âeí âæåìng  
dæåïï âäúi vãi mäø láúy thai áí ngäi  
ngæåüç âuí thaïng váùn coìn láùn läün**

**(Weiner, 1992; Cheng and Hannah, 1993)**

# Term Breech- Delivery

## Âeí ngäi ngæãüç âuí thaïng

- Weiner reported 57% success in planned delivery of frank breech- no significant difference in perinatal morbidity/mortality (3.1 versus 3.7/1000)

**Weiner âaî baïo caïo 57% thaïnh câng vâii âeí coï kãú hoaûch âäúi vâii ngäi mäng khäng hoàin toàin – khäng coï sæu khäic biãút coï yï nghéa vãö bãûnh suáút/tæí suáút chu sinh (3,1 so vâii 3,7/1000)**

(Weiner, 1992; Cheng and Hannah, 1993)

# Term Breech- Delivery

Âeí ngäi ngæåüç âuí thaïng

- Cheng and Hannah reported higher m/m in planned vaginal delivery [OR 3.86 (2.2-6.7) mortality; OR 3.96 (2.76-5.67) morbidity]

**Cheng và Hannah âaî baïo caïo tyí lâû tæí vong me cao hân trong âeí âæåìng dæåïi coi kãú hoaûch [hoàûc tyí lâû tæí vong 3,86 (2,2-6,7); hoàûc bãûnh suáút 3,96 (2,76-5,67)]** (Weiner, 1992; Cheng and Hannah, 1993)

# Preterm Delivery-Breech

## Âeí ngäi ngæãüc chæa âuí thaïng

- At present, no large randomized studies for preterm breech delivery

Hiãûn nay, chæa coi nghiãñ cæiu ngáùu nghiãñ quy mã lain âäúi vãi äeí ngäi ngæãüc chæa âuí thaïng

- Retrospective studies suggest improved outcome with C-section of fetuses < 1500 gm

Caïc nghiãñ cæiu häöi cæiu cho tháúy kãút quái täút hãn vãi mãø láúy thai ääúi vãi caïc

thai < 1500 gm (Gilstrap, 1995; Effer, 1983; Cunningham, 1997)

# **Preterm Delivery-Breech**

**Âeí ngäi ngæãüc chæa âuí thaing**

- In extremely low birthweight infants (< 1000 gm) difference in outcome not as pronounced**

**Caic treí coi troüng læång khi sinh cæüc tháúp (<1000 gm) coi kãút quai khaiic biãút khäng nhæ thäng baio**

**(Gilstrap, 1995; Effer, 1983; Cunningham, 1997)**

# Preterm Delivery-Breech

Âeí ngäi ngæãüc chæa âuí thaing

- Relative size of fetal head may play a role in morbidity. Issue of intracerebral hemorrhage and preterm breech delivery is not clear

**Kêch thæãic tæång ääúi cuía äáöu thai nhi coi thãø äoing mäüt vai troi trong bãûnh suáút. Háûu quái xuáút huyãút näüi soü vai äeí ngäi ngæãüc chæa âuí thaing laì khäng roì raing**

(Gilstrap, 1995; Effer, 1983; Cunningham, 1997)

# Version of Breech Presentation

Thuí thuáût xoay thai trong ngăi  
ngăăüç

- **External Version-** performed entirely exterior to the external abdominal wall

**Ngoăüi xoay – âăăüç thăêüç hiăün hoăin toăin  
tăèi băn ngoăi thănh buâng**

- **Internal Version-** hand introduced into the uterine cavity

**Năüi xoay – âăăa băin tay văo trong loing tăi  
cung**

(Zhang et al, 1993; Van Dorsten et al, 1981)

# Version of Breech Presentation

## Thuí thuáút xoay thai trong ngăi ngăăüç

- If external version is not applied in the early term period, 80% of non-cephalic presentations will remain as such at delivery

**Năúu ngoăüi xoay khăng âăăüç aíp duông trong thăi kyì găön âuí thăing, 80% căic ngăi khăng phăi ngăi âăöü seî trçnh diăün khi sinh**

- U.S. reported success rate approx. 50-80%

**Ăí Myî âăi baío căio tyí lăü thănh căng xăúp xè 50-80%**

(Zhang et al, 1993; Van Dorsten et al, 1981)



## Version of Breech Presentation(2)

### Thuí thuáút xoay thai trong ngăi ngæảüç (2)

- **Indication: Malpresentation at early term**  
**Chè àenh: ngăi thai báút lảüi gảön áuí thaing**
- **Predictors for success:**  
**Caic yảúu táú dảu àoain cho sảu thàinh cằg:**
  - Presenting part not engaged  
**Phảön thai phả chæa loüt**
  - Normal amount of amniotic fluid  
**Lảảüng áúi bçnh thæảìng**
  - Fetal back not positioned posteriorly  
**Lảeng thai khảng nảòm phêa sau**
  - Mother not obese  
**Meü khảng beio phç**

# Version of Breech Presentation(2)

## Thuí thuáût xoay thai trong ngăi ngæảüç (2)

- **Contraindications:**

- Chăúng chề âënh**

- **Obvious CPD or anomaly**

- Báút tæảng xæỉng âáöu-cháûu træảic  
âáy**

- **Surgically scarred uterus**

- Tæỉ cung coi seûo mãø**

## **Version of Breech Presentation(3)**

### **Thuí thuáút xoay thai trong ngăi ngăãüç (3)**

- **Informed consent- 1% serious complication rate**

**Caíc taíc giáí taín thành tyí lăü biăún chăeing  
nghiăĩm troüng laì 1%**

- **Leopold and ultrasound ascertainment of fetal position and lie**

**Thuí thuáút Leopold vai siău ám biăút chàõc  
vê trê vai tæ thăü cuía thai**

**(Thorp, 1991; Fernandez, 1997)**

## **Version of Breech Presentation(3)**

### **Thuí thuáút xoay thai trong ngài ngæảüç (3)**

- Fetal buttocks lifted out of pelvis with cephalic hand providing countertraction**

**Mäng thai nhi âæảüç náng lãn khoíi khung cháúu vãiì bảìn tay áí phêa âáöu taüo ra sæü keio ngæảüç xuảúng**

**(Thorp, 1991; Fernandez, 1997)**

## **Version of Breech Presentation(3)**

### **Thuí thuáút xoay thai trong ngäi ngæåüç (3)**

- **Uterine relaxation (betasympathomimetic)  
possibly beneficial**

**Thuäúc giäin tæí cung (cæåìng giao caím  
beta) coi thãø coi låüi**

- **Rh-immune globulin given as indicated  
Cho Globulin miãùn dëch Rh nhæ âæåüç  
chè âënh**

**(Thorp, 1991; Fernandez, 1997)**

# Conduct of Breech Delivery-Requirements

## Caïch xæí trê ngäi ngæãüc – Caïc yãu cáöu

- **Facilities- Capable of C-section**  
**Âiãöu kiãün deí daìng – Coi thãø pháí mæø láúy thai**
- **Physician- Experience in vaginal breech delivery**  
**Tháöy thuäúc – coi kinh nghiãüm trong viãüc âãí âeí ngäi ngæãüc bàòng âæãìng dæãii**

(ACOG, 1986)

# Conduct of Breech Delivery-Requirements

## Caïch xæí trê ngäi ngæãüc – Caïc yãu cáöu

- Anesthesia-Personnel present for delivery  
**Vã caím – Nhán viãn sàôn saìng cho cuãüc  
æeí**
- Type-Frank breech  
**Loaùi – Ngäi mæng khäng hoàin toàin**
- Size-1500 gm < Estimated fetal weight <  
4000 gm  
**Kêch thæãic – 1500 gm < Troüng læãüng  
æãic tênh cuía thai < 4000 gm**

(ACOG, 1986)

# **Conduct of Breech Delivery-Requirements**

## **Caïch xæí trê ngäi ngæãüç – Caïc yãu cáöu**

- **Exclusion of macrocephaly, intractable head extension**

**Loaüi træi ááöu to, keïo thai màöc ááöu háüu**

- **Adequate labor and adequate pelvimetry**

**Chuyãøn daü áuí láu vai khung cháüu räüng raï**

(ACOG, 1986)



# **Mechanics of Labor and Delivery- Breech Presentation**

**Cả chấu chuyãøn daũ vai âeí trong ngäi  
ngæãüc**

- **Labor mechanism**  
**Cả chấu chuyãøn daũ**
- **Spontaneous versus extraction (until  
periumbilical delivery afforded)**  
**Âeí tæũ nhiãn ngæãüc vãi can thiãũp  
(cho ãũn khi gãõng âeí ãæãüc ãũn  
ngang räũn)**

# **Mechanics of Labor and Delivery- Breech Presentation**

**Cả cháu chuyển dần vai áeí trong ngái  
ngæáüc**

- **Pinard maneuver (Thuí thuáût Pinard)**
- **Extraction (Keïo thai)**
- **Nuchal arms (Cáinh tay áí phêa gaiy)**
- **Mauriceau maneuver (Thuí thuáût Mauriceau)**
- **Piper forceps (Keìm Piper)**

# Shoulder Dystocia

## Âeí khoĩ do vai

- Incidence of “true” shoulder dystocia approx. 1%

**Bãûnh suáút cuía âeí khoĩ do vai tháút sæû xáúp xè 1%**

- Maneuvers used for delivery

**Caïc thuí thuáút âæãüc dùng trong cuãüc âeí**

- Head-to-body delivery time of > 60 seconds

**Âeí âãõu âãún thán > 60 giáy**  
(Cahill and Benedetti, 1978; Spong, 1995; Cunningham, 1997)

# Shoulder Dystocia

## Âeí khoĩ do vai

- **Positive (albeit not absolute) relationship to birthweight and torso to head ratios**  
**Coĩ máúi liãn hãu roi raing (màuc dui khäng tuyãút âäúi) vãi troüng læåüng thai khi sinh vai tyí læu thán so vãi äáöu**

(Gabbe and Benedetti, 1978; Spong, 1995, Cunningham, 1997)

# Shoulder Dystocia

## Âeí khoĩ do vai

- Fetal injury or asphyxia risk is present  
**Luãn coi tãøn thãảng thai nhi hoãuc nguy cả ngaũt**
  - Brachial plexus injury  
**Tãøn thãảng ãaĩm rãúi cãĩnh tay**
  - Clavicular fracture  
**Gãĩy xãảng ãoĩn**

(Gabbe and Benedetti, 1978; Spong, 1995, Cunningham, 1997)

# Brachial Plexus Injury

## Täøn thæång âaïm räúi cäinh tay

- Erb Palsy- paralysis of nerve roots of C5-T1- with upper arm paralysis

**Chæïng liãût Erb – liãût caïc räù tháön kinh C5-T1 – vãi liãût cäinh tay trãn**

- Arm paralysis with sparing of hand

**Liãût cäinh tay**

- C5-6 associated with breech delivery

**C5-6 âi keìm vãi âeí ngäi mäng**

- C5-7 or C5-T1 associated with vaginal deliveries

**C5-7 hoäüc C5-T1 âi keìm vãi âeí äæàng dæäi**

(Cunningham, 1997)

## **Brachial Plexus Injury**

**Täøn thæång âaïm räúi cäinh tay**

- Occurs from stretching of nerve roots-  
can occur as consequence of  
“unremarkable” delivery

**Xaíy ra do keïo giaïn caïc rãù tháön kinh**

– coï thãø laì háuu quái cuía cuäüc âeí

**“khäng theo doï kyî”**

(Cunningham, 1997)

## **Brachial Plexus Injury**

**Täøn thæång âaim räúi cainh tay**

**– < 10% of shoulder dystocia cases result in permanent brachial plexus injury (75-90% Erb cases resolve, 4-40% shoulder dystocias associated with Erb palsy)**

**< 10% cuía caïc træång háüp âeí khoï do vai gáy nãn täøn thæång âaim räúi cainh tay vénh viãùn (75-90% caïc træång háüp Erb chuyãøn sang, 4-40% caïc âeí khoï do vai âi keìm vãi chæing liãût Erb)**

**(Cunningham, 1997)**



## **Brachial Plexus Injury**

**Täøn thæång âaïm räúi cainh tay**

- **Klumpke paralysis- Lower nerve brachial plexus injury**

**Chæïng liãût Klumple – täøn thæång âaïm räúi cainh tay vë trê tháúp hân**

**– Associated with hand paralysis**

**Phäúi háüp vâïi liãût bân tay**

**(Cunningham, 1997)**

# Clavicle Fracture/Humeral Fracture

## Gaïy xæång àoìn/gaïy xæång caiñh tay

- Incidence:  
**Bãûnh suáút:**
  - 1-2%-Clavicle  
**1-2% - Xæång àoìn**
  - Humeral: much less common  
**Xæång caiñh tay: êt hản nhiãöu**

(Chez, 1994; Turpenney and Nimmo, 1993)

# **Clavicle Fracture/Humeral Fracture**

## **Gaïy xæång àoìn/gaïy xæång caih tay**

- **Clavicular fractures may occur as consequence of “normal delivery”- they generally are not associated with clinical significance**

**Gaïy xæång àoìn coi thãø xaíy ra ngay trong “cuäüc aeí bçnh thæàng” – thæàng khäng coi yi nghéa vãø màüt lám saìng**

**(Chez, 1994; Turpenney and Nimmo, 1993)**

# **Clavicle Fracture/Humeral Fracture**

## **Gãy xương đòn/gãy xương cánh tay**

- **Humeral fractures may occur with difficult deliveries- may also occur spontaneously**  
**Gãy xương cánh tay có thể xảy ra trong các cuộc đẻ khó – cũng có thể xảy ra tự nhiên**

(Chez, 1994; Turpenny and Nimmo, 1993)

# Relationship Between Birthweight and Shoulder Dystocia- Parkland Hospital

Mäúi liän hãu giæia troüng læåüing thai luic sinh vai âeí khoi do vai – Bãûnh viãûn Parkland

Birthweight                      Total Births                      Shoulder Dystocia  
Troüng læåüing thai luic sinh      Täong säu läön sinh                      Äeí khoi do vai

<4000 gm	10,101	0.42%
4001-4500 gm	704	5.4%
>4500 gm	91	19%
All Weights	10,896	0.9%

(Modified from Cunningham et al, 1997)

# Relationship Between Diabetes, Birthweight and Shoulder Dystocia

Mãúi liãn hãu giæia Âaïi âæång, Troüng læåüng thai luïc sinh vaì Âeí khoï do vai

Birthweight Troüng læåüng thai luïc sinh	No Diabetes Khäng âaïi âæång	Diabetes Âaïi âæång
---	---------------------------------	------------------------

< 4000 gm	0.1-1.1%	0.6-3.7%
4000-4449 gm	1.1-10%	4.9-23%
≥ 4,500 gm	4.1-22.6%	20-50%

(Acker, 1985, Huff, 1991; ACOG, 1997)

## **Risk of Shoulder Dystocia- Diabetes**

**Nguy cả củi áeí khoĩ do vai – Áaĩi áæảìng**

**Risk of Shoulder Dystocia According to Diabetic Status**

**Nguy cả áeí khoĩ do vai theo tặnh traũng áaĩi áæảìng**

<b>Acker et al, 1985</b>	<b>Rate Ratio 5.2</b>
<b>Bahar, 1996</b>	<b>OR 4.3 (2.2-8.3)</b>
<b>Langer, 1991</b>	<ul style="list-style-type: none"><li>•RR &lt;4000 gm 2.6 (1.29-5.34)</li><li>•RR &gt;4000 gm 3.6 (2.37-4.76)</li></ul>
<b>Sandmire, 1988</b>	<b>RR 6.5 (1.5-27.1)</b>

**(ACOG, 1997)**

# Planned C-section?- Shoulder Dystocia

## Mãø láúy thai coi kãú hoaûch? – Ấeí khiõ do vai

- Estimation of birthweight not reliable  
( $\pm 20\%$  by ultrasound)

**Ấeíc læåüing troüing læåüing thai khäng chàõc chàõn ( $\pm 20\%$  dæüa vaìo siãu ám)**

- Pelvimetry subjective  
**Ấo khung cháúu chúí quan**

(ACOG, 1997; Keller, 1991; Langer, 1991)



# **Planned C-section?- Shoulder Dystocia**

## **Mãø láúy thai coi kãú hoaûch? – Âeí khoi do vai**

- Approx. 2500 C-sections required to prevent one case of shoulder dystocia if all babies > 4000 gm delivered by C-section**

**Xáúp xè 2500 træång háüp cáön mãø láúy thai ããø giaíi quyãút mãüt træång háüp ãeí khoi do vai nãúu táút cáí cáic em beí >4000 gm ããöu ãæãüc mãø láúy thai**

**(ACOG, 1997; Keller, 1991; Langer, 1991)**

# **Planned C-section?- Shoulder Dystocia**

## **Mãø láúy thai coi kãú hoaûch? – Ấeí khoi do vai**

- **Data may be suggestive of better yield in diabetics > 4000 gm (4250 gm?; > 4500 gm?)**

**Dãi liãûu coi thãø gãüi yï mãic cao hãn trong trãeing hãüp ãaii ãæãing > 4000 gm (4250 gm?; > 4500 gm?)**

**(ACOG, 1997; Keller, 1991; Langer, 1991)**

## **Prior History of Shoulder Dystocia- Recurrence Risk**

**Tiãön sæí âeí khoï do vai – Nguy cả taiï diãùn**

- **Smith reported 12% recurrence –  
recurrence not related to increased  
birthweight as compared to prior delivery**  
**Smith âaï baïo caïo 12% taiï phait – taiï  
phait khãng liãn quan ããún troüng læãüng  
thai gia tàng khi so vãi láön âeí træãic**

**(Smith, 1994; Baskett and Allen, 1995)**

# **Prior History of Shoulder Dystocia- Recurrence Risk**

**Tiãön sæí âeí khoï do vai – Nguy cả taïi diãùn**

- **Baskett and Allen reported 1-2%  
recurrence of shoulder dystocia**

**Baskett và Allen âaï baïo caïo 1-2% taïi phait  
cuía âeí khoï do vai**

- **Conclusion: Prior history confers increased  
subsequent risk (how much?)**

**Toïm laûi: Tiãön sæí laïm tàng nguy cả vãö  
sau (Bao nhiãu?)**

**(Smith, 1994; Baskett and Allen, 1995)**

# Summary- Shoulder Dystocia

## Toim tàõt – Âeí khoi do vai

- Most cases of shoulder dystocia cannot be predicted or prevented

Háöu háút caic træàìng háüp âeí khoi do vai khäng thãø dæû âoain hoàuc ngàn ngæia træâic

- Ultrasound estimation of fetal weight to determine macrosomia are of limited accuracy

Siãu ám æâic læåüng troüng læåüng thai âeí xaic âenh thai to lai mäüt biãün phaip chênh

# Summary- Shoulder Dystocia

## Toim tãõt – Åeí khoí do vai

- Planned C-section for the non-diabetic is not a reasonable strategy

Mãø láúy thai coí kãú hoaûch åäúi vãii meû khãng bê åaïi åæång khãng phaïi laì mãüt chiãún læåüc háüp lyï

- Planned C-section for diabetic pregnancies greater than 4000-4500 gm may be reasonable

Mãø láúy thai coí kãú hoaûch åäúi vãii thai phuû bê åaïi åæång vãii troüng læåüng thai læin hãn 4000-4500gm coí leî laì háüp lyï