In the name of God

سهیلا بانی-عضو هیئت علمی دانشگاه علوم پزشکی تبریز

PROMPT

PRactical Obstetric MultiProfessional Training

Course Manual

سهیلا بانی-عضو هیئت علمی دانشگاه علوم پزشکی
تبریز

Edited by

Tim Draycott, Cathy Winter, Jo Crofts and Sonia Barnfield

Vaginal breech

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Key learning points

- The importance of continuous electronic fetal monitoring in labour (even if decision has been made to perform a caesarean section).
- Confirmation of full dilatation.
- A wait visualisation of the breech at the perineum before encouraging active pushing.
- Limited intervention is the key - avoid traction

Common difficulties observed in training drills

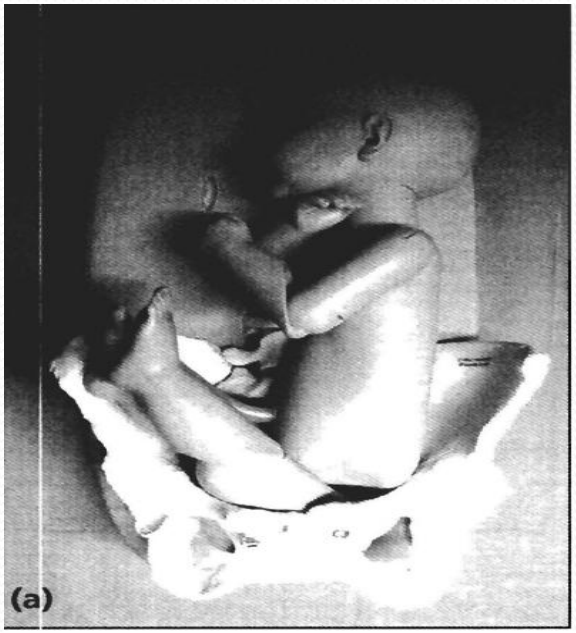
- Reluctance to allow the breech to descend without intervention.
- Premature commencement of assisted breech manoeuvres.
- Pressure on non-bony prominences when handling the baby.

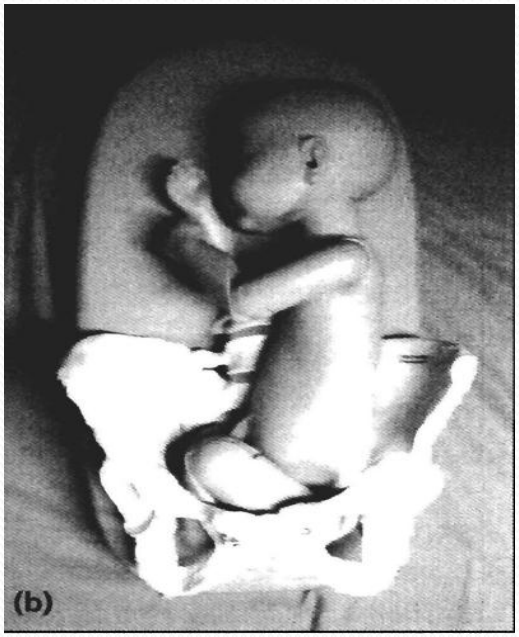
Introduction

Definition

Fi9ure 9.1. Types of breech

prpsentation (clockwise): (a) extended (65;%) hips flexed, knees extended; (b) flexed (10%) hips flexed, knees flexed but feet not below the buttocks; (c) footling (25%) feet or knees are lowest (either single or dOble footling)





Predisposing factors

Box 9.1. Factors associated with breech presentation

- Previous term breech presentation
- Premature labour
- High parity
- Multiple pregnancy
- Polyhydramnios
- Oligohydramnios
- Uterine anomalies
- Pelvic tumour or fibroids
- Placenta praevia
- Hydrocephaly/anencephaly
- Fetal neuromuscular disorders
- Fetal head and neck tumours

It is important that practitioners maintain and update their skills in assisting vaginal breech deliveries. Their skills may be required cause of maternal choice or for other reasons such as a breech presentation of the second twin, an unexpected breech presentation in advanced labour or for a breech preterm birth.

RCOG(Royal College of Obstetricians and Gynaecologists) recommendations for mode of delivery are shown in Box 9.2.

Box 9.2. Summary of RCOG recommendations regarding mode of delivery in breech presentation (adapted from RCOG Green-top Guideline No.20b)[1]

- Neonatal morbidity and mortality is reduced by planned caesarean section in breech presentation at term.
- There is no evidence that caesarean section for the first or second twin (breech presentation) is more beneficial.
- There is no evidence that caesarean section for a preterm breech is more beneficial.
- There is no evidence that caesarean section for a labouring breech is more beneficial.
- There is no evidence to support external cephalic version (ECV) in preterm breech.
- There is no evidence of long-term benefit in perinatal outcome for a breech presentation delivered by elective caesarean section.

Management of vaginal breech delivery

- **Spontaneous breech delivery:**

  The fetus is allowed to deliver without assistance or manipulation. This accounts for a small proportion of deliveries, most of which are very preterm.

- **Assisted breech delivery:**

  The most common method of vaginal breech delivery. Recognised manoeuvres are used to assist delivery as and when required.

- **Total breech extraction:**

  Mainly reserved for delivery of the non-cephalic second twin. It involves grasping one or both of the fetal feet from the uterine cavity and bringing them down through the vagina, before continuing with the manoeuvres used in an assisted breech delivery. This should not be attempted in singleton pregnancies, as it is associated with a high rate of birth injury (25%) and mortality (10%).

Management of the first stage of labour

It is recommended that a vaginal breech birth should take place in a hospital with facilities for emergency caesarean section. There is no systematic evidence available regarding the complications of breech birth outside the hospital setting.

Preparation

- Inform the senior midwife, senior obstetrician, anaesthetist and theatre staff of admission and ensure key members of staff are introduced to the parents.

- Discuss the mode of delivery again with the woman and ensure that she still wishes to opt for a vaginal breech birth .

- Discuss analgesia early in the process. There is no evidence that epidural anaesthesia is essential and it should not be routinely advised. A woman should have a choice of analgesia during breech labour and birth.

- Explain all delivery techniques and the necessity for the presence of a neonatologist at delivery.
- Establish intravenous access and take blood for full blood count and group and save.
- The delivery room and neonatal resuscitation equipment should be prepared. Ensure that prerequisites for an assisted vaginal delivery are present: operative delivery pack, forceps, lithotomy supports.

Electronic fetal monitoring

Owing to the greater risks of perinatal morbidity and mortality, continuous EFM should be offered and recommended to women with a breech presentation throughout labour and delivery.

The seventh CESDI(Confidential Enquiry into Stillbirths and Deaths in Infancy) annual report reviewed 56 singleton breech deliveries and found clinical evidence of hypoxia before delivery in all but one case.

The report concluded that:

'The assessments and decisions made by health professionals, during labour,in particular those regarding intrapartum fetal surveillance, were the critical factors in the avoidable deaths'. A fetal scalp electrode can be placed on the fetal buttock if required but fetal blood sampling is not recommended.

Labour progress

Labour augmentation with oxytocin is not recommended .

Amniotomy should be performed with caution and may be necessary to allow for the use of internal fetal heart rate monitoring.

Once Spontaneous rupture of the membranes occurs, a vaginal examination should be performed to exclude a cord prolapse.

Management of the second stage of labour

- If there is delay in the descent of the breech at any point in the second stage of labour, a caesarean section should be considered, as this may be a sign of relative fetopelvic disproportion.

- A breech delivery should be undertaken or supervised by a practitioner with adequate experience and skills in the delivery techniques required for a breech birth. The attendants should include a senior midwife, obstetrician and neonatologist (the senior midwife may also have valuable experience of vaginal breech deliveries). An anaesthetist should be present on the labour ward at the time of delivery and theatre staff should be on stand-by.

Women should be advised that, as most experience with vaginal breech birth is with the mother in the lithotomy position, this should be the position recommended for delivery.

Consider a pudendal block if there is no epidural analgesia. Once the breech is visible at the prineum, active pushing should be encouraged.

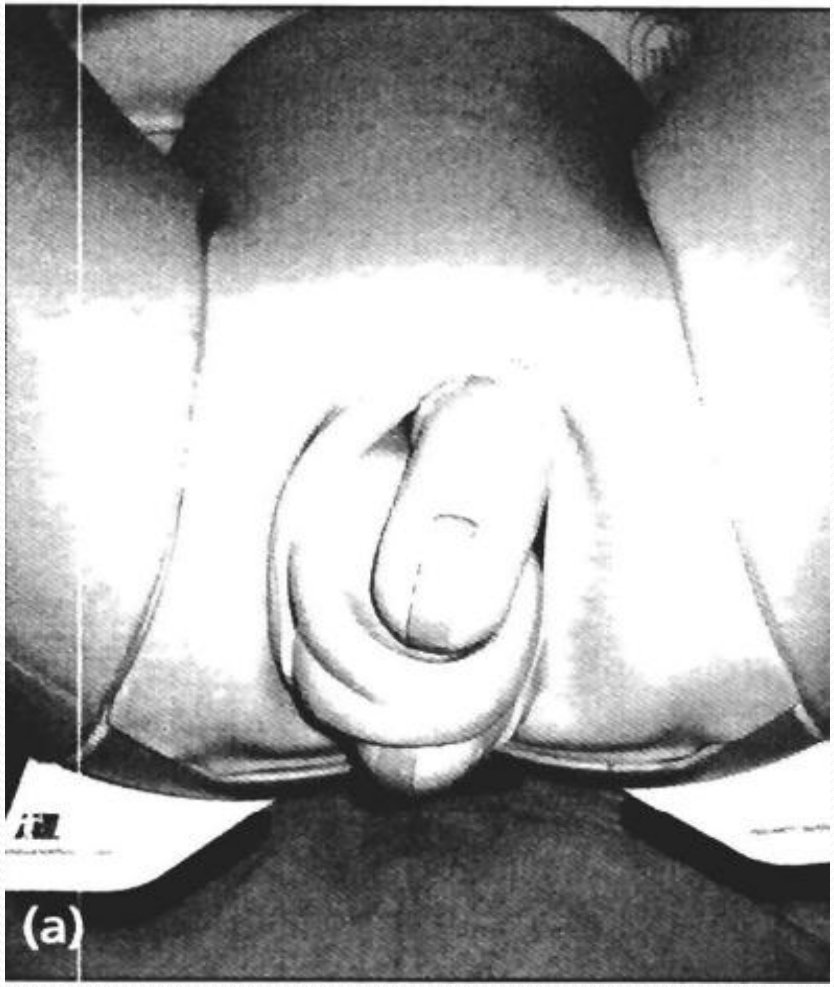
Remember: limited operator intervention is key

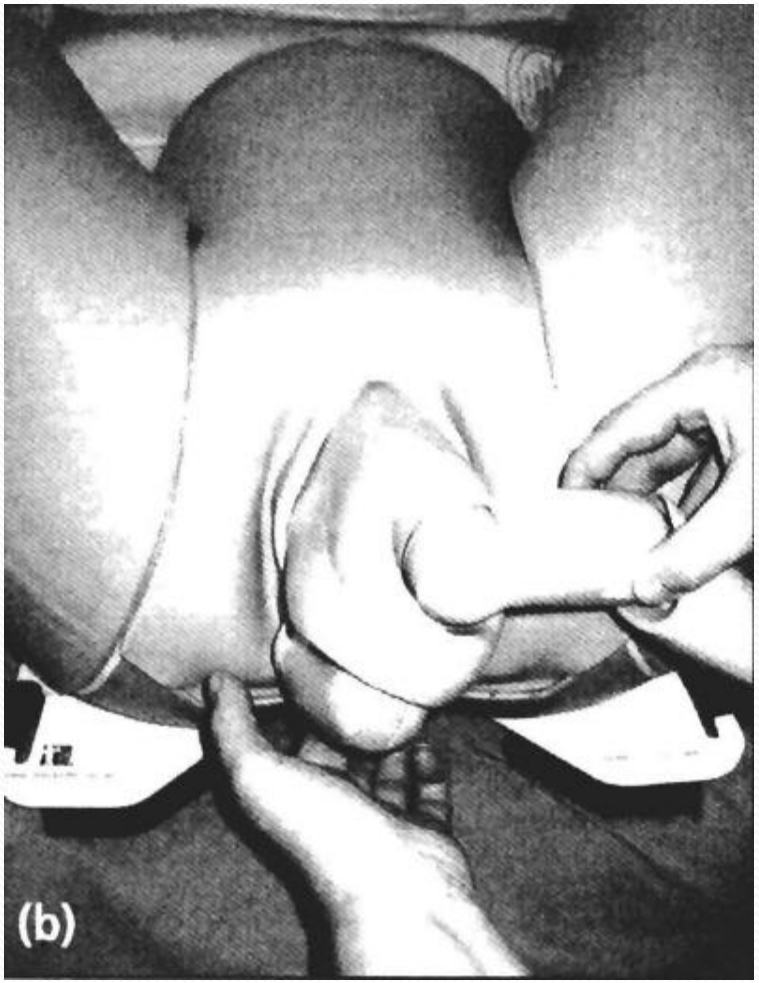
Vaginal breech delivery: assisted manoeuvres

- An episiotomy should only be performed when indicated to facilitate the delivery.

- When handling the baby, ensure that support is provided over the bony prominences so that the risk of soft tissue internal injury is reduced.

- Spontaneous delivery of the limbs and trunk is preferable (Figure 9.2a)but the legs may need to be released by applying pressure to the popliteal fossae (Figure 9.2b).


(a)

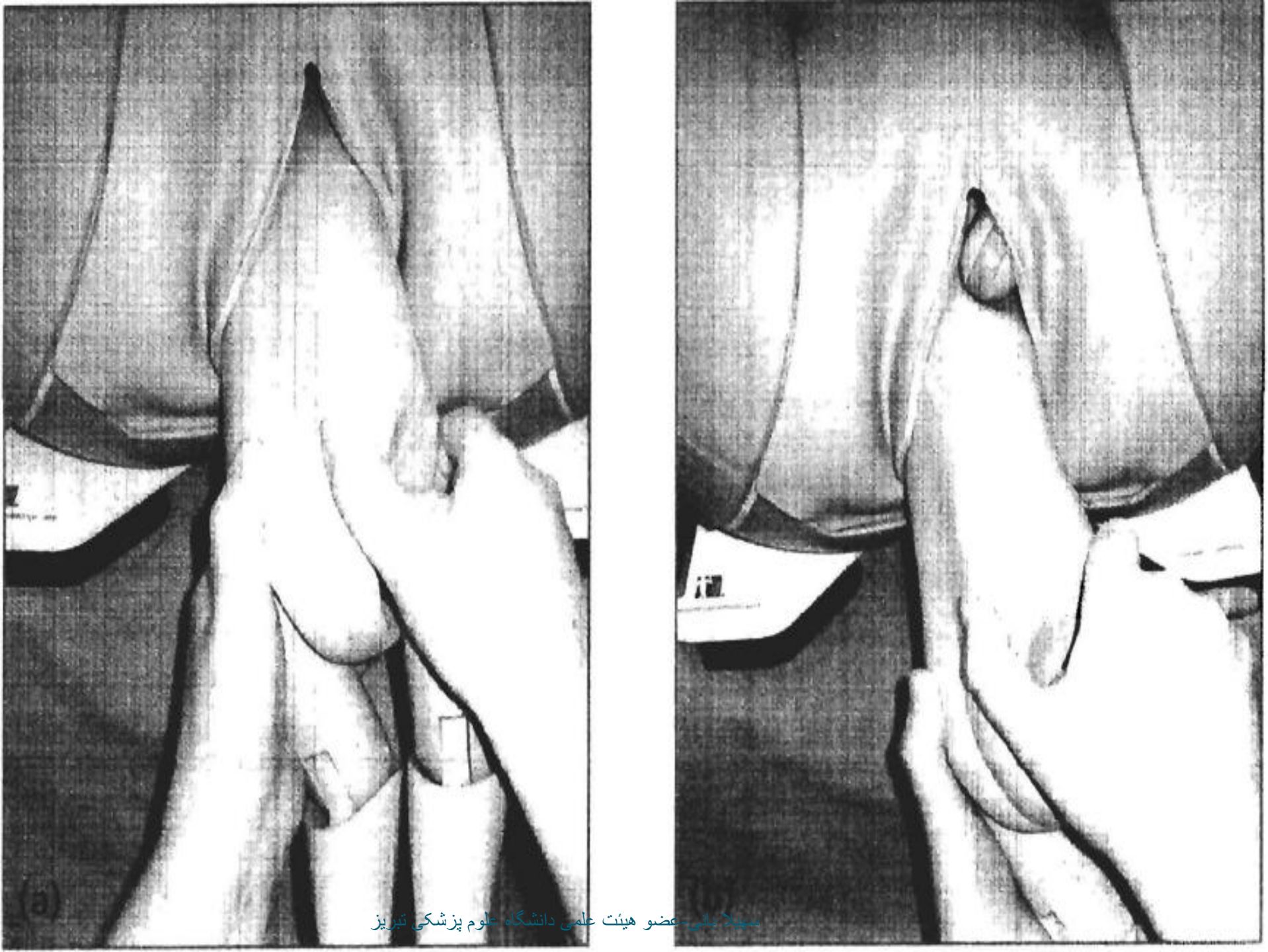

(b)

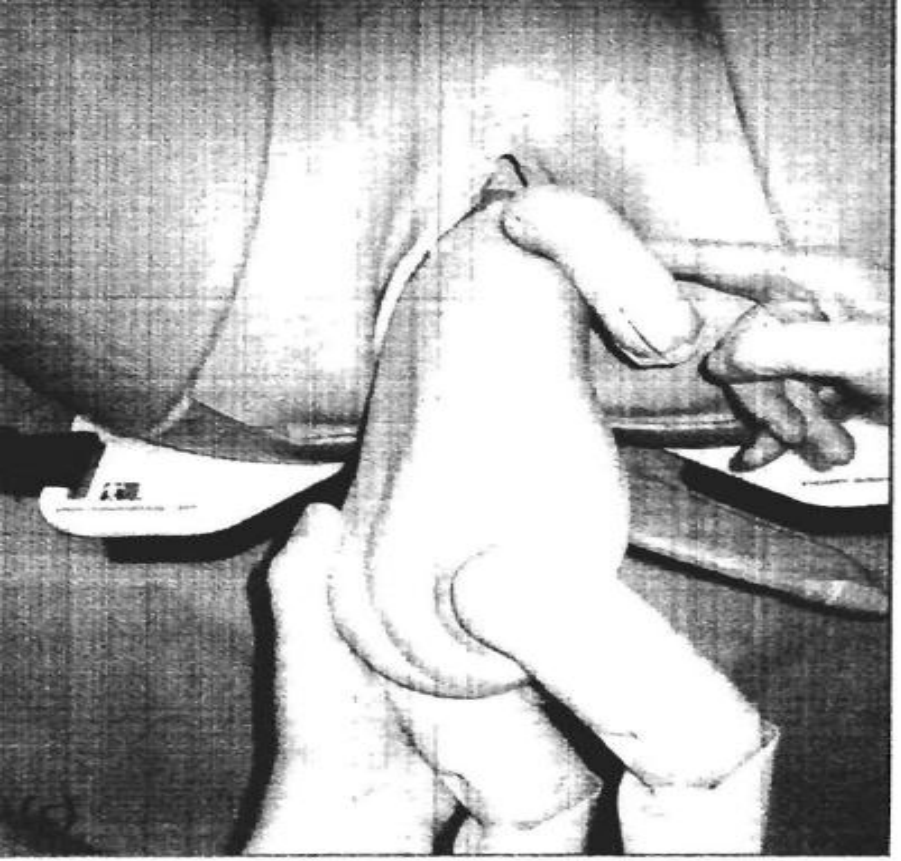
❖Consider correcting the position of the buttocks to sacroanterior, if required.

❖Avoid handling the umbilical cord as it may spasm.

❖Allow spontaneous delivery until the scapulae are visible.

❖If the arms do not deliver spontaneously, use the Lovsett's manoeuvre, as shown in Figure 9.3.





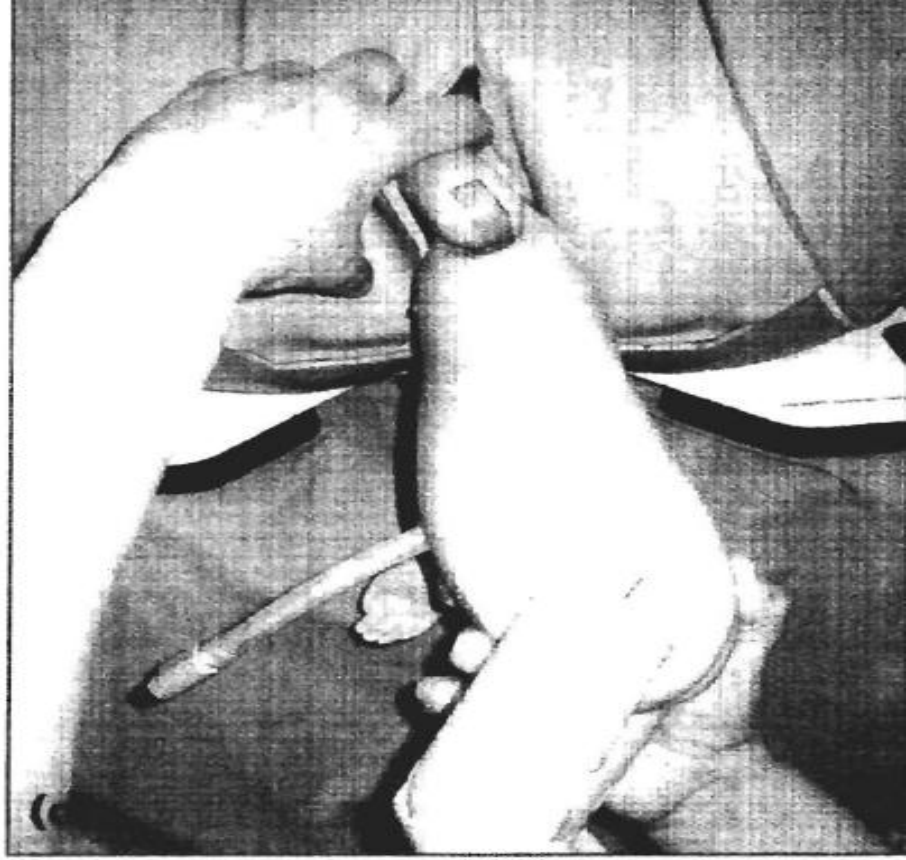


Figure 9.3. Lovsett's manoeuvre: (a) Gently hold the baby over the bony prominences of the hips and turn half a circle. Keep the back uppermost and simultaneously apply downward traction; (b) The lateral arm is now anterior and can be delivered under the public arch; (c) Place one or two fingers on the upper part of the arm and draw it down over the chest as the elbow is flexed and sweep over the face; (d) Turn the baby back half a circle to deliver the second arm. Keep the back uppermost and simultaneously apply downward traction and deliver the second arm under the public arch

Enqagement in the pelvis of the aftercoming head

- Allow the baby to hang until the nape of the neck is visible; the head can then be delivered.

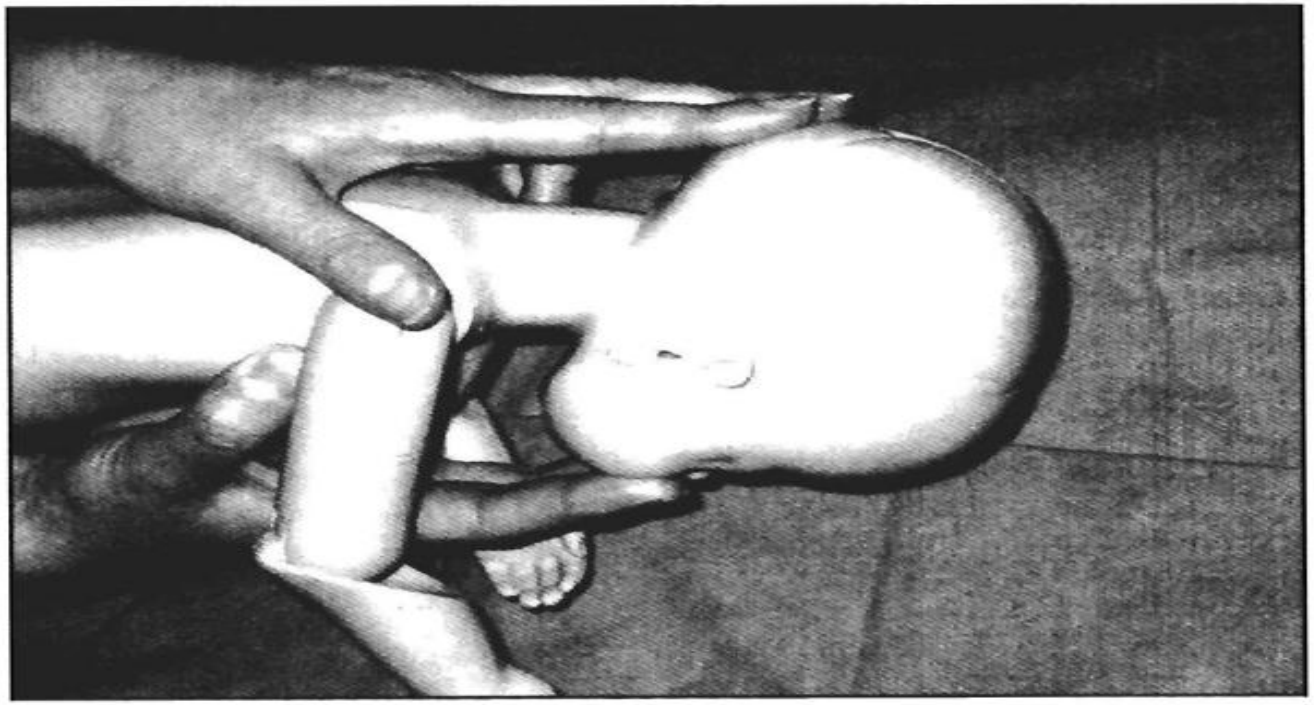
- If the head does not deliver spontaneously, an assistant may apply supra pubic pressure to assist flexion of the head.

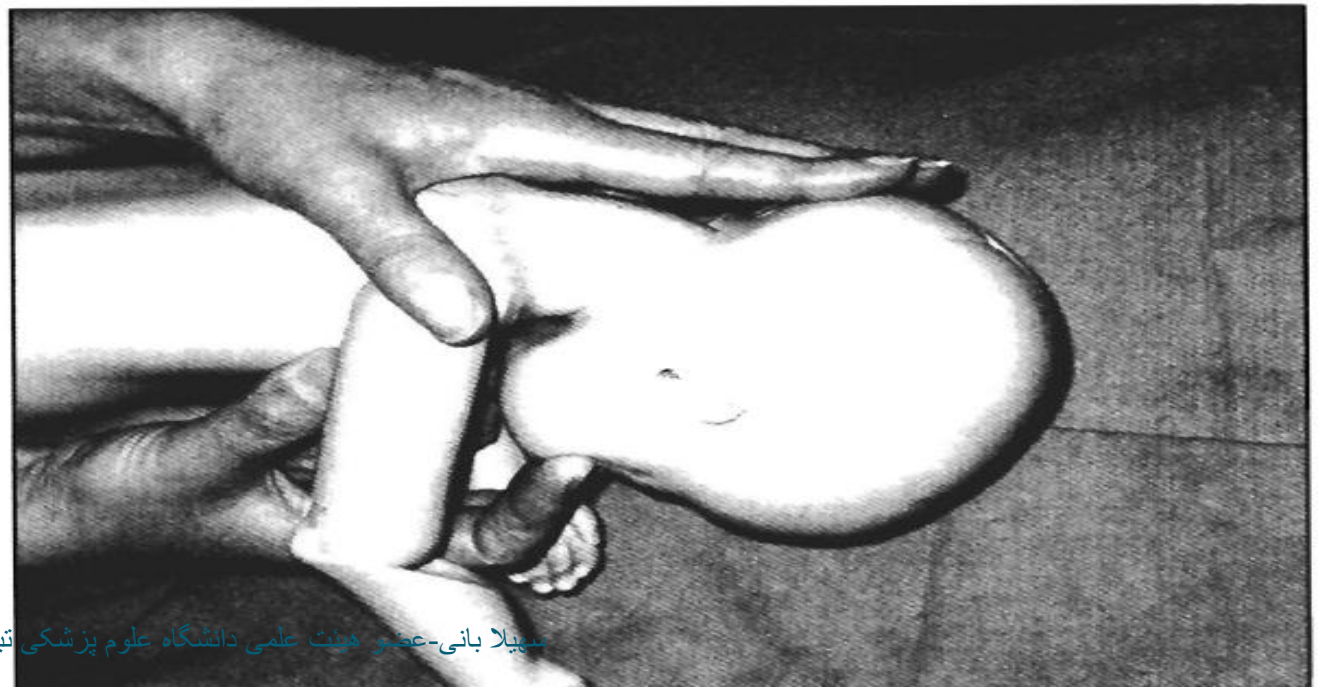
Mauriceau-Smellie-Veit manoeuvre

- **The Mauriceau-Smellie-Veit manoeuvre may be required for delivery of the aftercoming head (Figure 9.4). When using this manoeuvre, the baby's body should be supported with your arm. The first and third finger of your hand should be placed on the cheekbones (note that the middle finger is no longer placed in the fetal mouth as fetal injury has been reported). With the other hand, gentle traction should be applied simultaneously to the shoulders, using two fingers to flex the occiput (Figure 9.5).**

Figure 9.4. The Mauriceau-Smellie-Veit manoeuvre for delivery of the aftercoming head

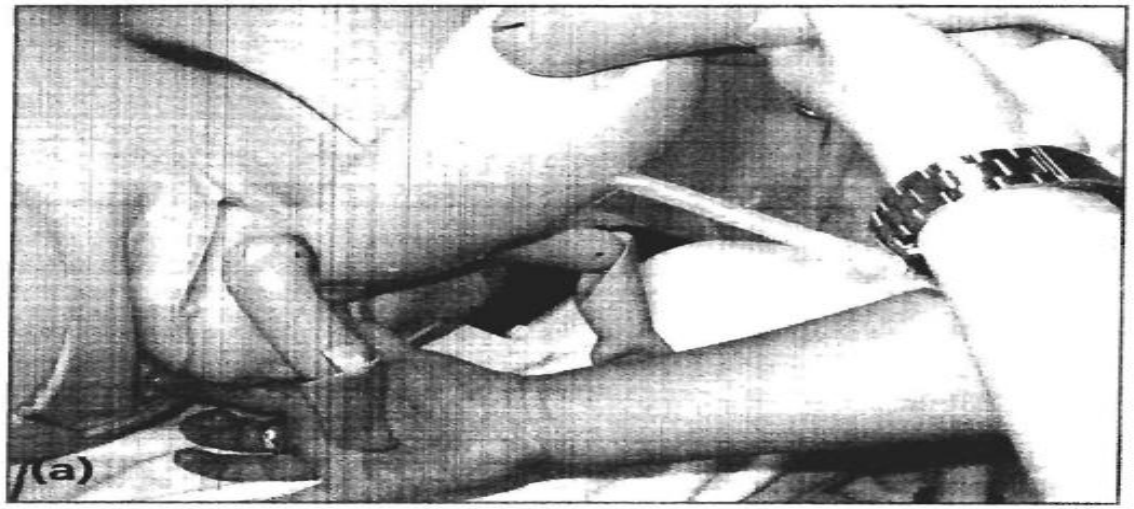
Figure 9.5. Flexion and delivery of the fetal head using the Mauriceau-Smellie-Veit manoeuvre





Burns-Marshall technique

- Another way of delivering the head is to raise the body vertically and have an assistant hold the baby's feet (Burns-Marshall technique). Sometimes,this will promote spontaneous delivery of the head (Figure 9.6).



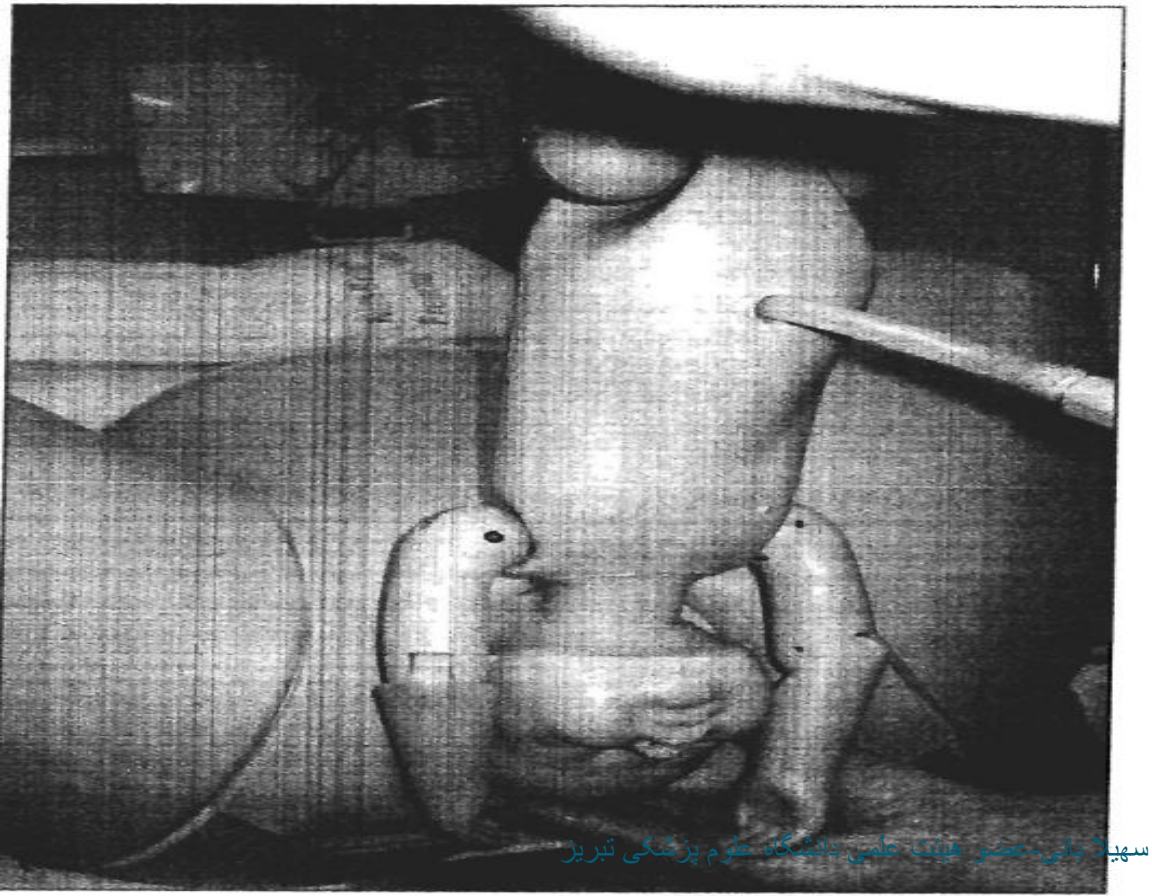


Figure 9.6. The Burns–Marshall technique for delivering the head

Forceps delivery of the head

- Alternatively, the fetal head can be delivered with the aid of forceps. An ass istant should hold the baby and the forceps should be applied from underneath the fetal body. The axis of traction should aim to flex the head (Figlure 9.7).
- There is debate over which type of forceps should be used for this procedure: Kielland, Rhodes' and Wrigley's forceps have all been reported.
- Th ere is no experimental evidence to indicate which of the above techniques is preferable and previous experience of the practitioner may be an important factor in the decision as to which method is chosen. However,concern has been expressed about the risks of the Burns-Marshall method if used incorrectly, as it may lead to over-extension of the baby's neck.

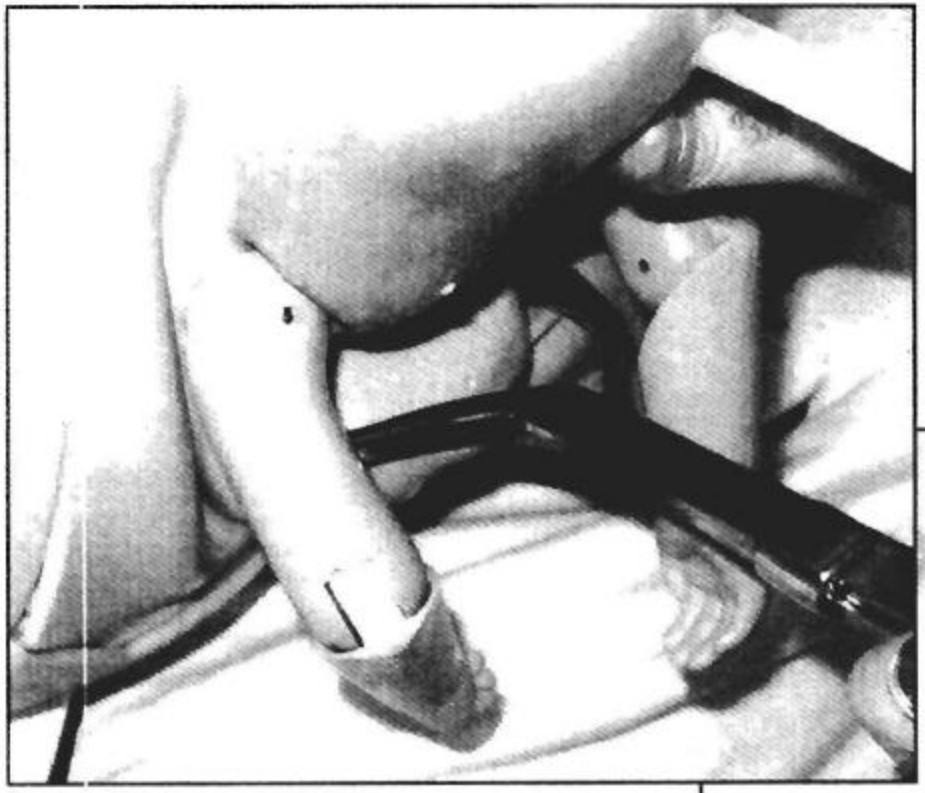
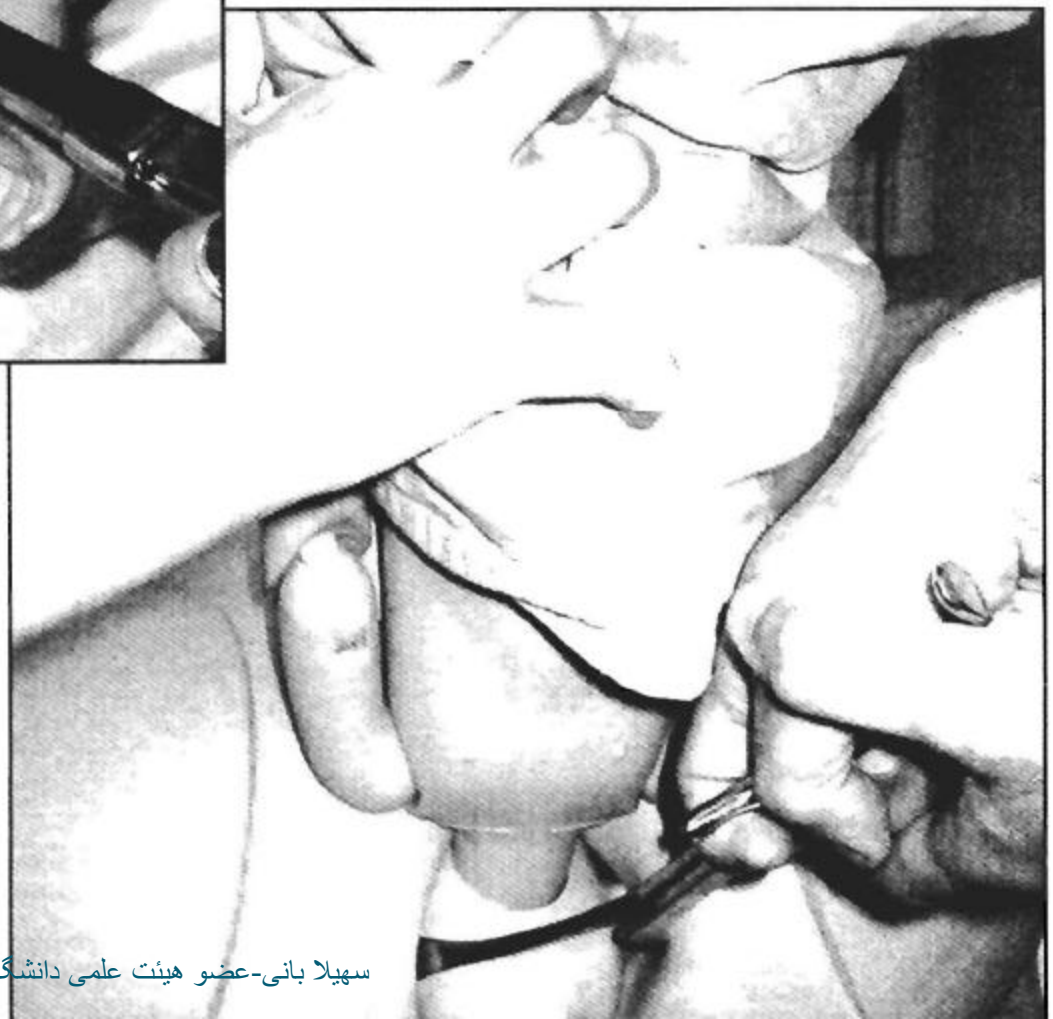


Figure 9.7.
Kielland forceps
delivery of the head



Complications and potential solutions

- ***Failure to deliver the aftercoming head***

  If conservative methods fail to deliver the head then symphysiotomy or caesarean section should be performed.

  There have been successful deliveries described by both symphysiotomy and rapid caesarean section when attempts to deliver the aftercoming head have failed.

Head entrapment during a preterm breech delivery

The major cause of head entrapment is the delivery of the preterm fetal trunk through an incompletely dilated cervix. In this situation, the cervix can be incised to release the head. The incisions should be made at 10 and2 o'clock, to avoid the cervical neurovascular bundles which run laterally into the cervix. Care should be taken as extension into the lower segment of the uterus can occur. Similar rates of head entrapment have been described for vaginal and abdominal delivery.

- ***Nuchal arms***

  This is when one or both of the arms is extended and trapped behind the fetal head, complicating up to 5% of breech deliveries (Figure 9.8). It may be caused by early traction on a breech, which should be avoided. Twenty-five percent of cases result in neonatal trauma, such as brachial plexus injuries. To deliver nuchal arms, the fetal trunk must be rotated to enable the fetal face to turn towards the maternal symphysis pubis. This reduces the tension on the arm and allows delivery using Lovsett's manoeuvre.

- ***Cord prolapse***

  This is more common with footling breech presentations (10-25%), which is why caesarean section is strongly recommended. The most important factor with cord prolapse is prevention. Amniotomy should only be undertaken with caution.

Fetal risks associated with vaginal breech birth

CESDI highlighted that the highest risk group were those unexpected breech presentations which were confirmed for the first time during labour.

Box 9.3. Fetal risks associated with vaginal breech birth

Intrapartum death

Intracranial haemorrhage

Brachial plexus injury

Rupture of the liver, kidney or spleen

Dislocation of the neck, shoulder or hip

Fractured clavicle, humerus or femur

Cord prolapse