

PERINATAL EDUCATION PROGRAMME

THE SECOND STAGE OF LABOUR

UNIT 9

OBJECTIVES

When you have completed this unit you should be able to:

1. Identify the onset of the second stage of labour.
2. Decide when the patient should start to bear down.
3. Communicate effectively with a patient during labour.
4. Use the maternal effort to the best advantage when the patient bears down.
5. Make careful observations during the second stage of labour.
6. Accurately evaluate progress in the second stage of labour.
7. Manage a patient with a prolonged the second stage of labour.
8. Diagnose and manage impacted shoulders.

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9-1 WHAT CLINICAL SIGNS INDICATE THE START AND END OF THE SECOND STAGE OF LABOUR?

The second stage of labour starts when the patient's cervix is fully dilated and ends when the infant is completely delivered.

9-2 WHAT SYMPTOMS AND SIGNS INDICATE THAT THE SECOND STAGE OF LABOUR HAS BEGUN?

One or more of the following may occur:

1. Uterine contractions increase in both frequency and duration, i.e. they are more frequent and last longer.
2. The patient becomes restless.
3. Nausea and vomiting often occur.
4. The patient has an uncontrollable urge to bear down (push).
5. The perineum bulges during a contraction as it is stretched by the fetal head.

An abdominal examination to assess the amount of head palpable above the pelvic brim, followed by a vaginal examination, must now be done.

9-3 SHOULD THE PATIENT START BEARING DOWN AS SOON AS THE CERVIX IS FULLY DILATED?

No. The patient should wait until the fetal head starts to distend the perineum, when she will experience a strong urge to bear down. The fetal head will be engaged with ONE FIFTH OF THE FETAL HEAD palpable above the brim of the pelvis.

A PATIENT SHOULD ONLY START BEARING DOWN WHEN THE FETAL HEAD DISTENDS THE PERINEUM AND SHE HAS A STRONG URGE TO BEAR DOWN

9-4 WHAT IS THE DEFINITION OF ENGAGEMENT OF THE FETAL HEAD AND WHAT AMOUNT OF FETAL HEAD WILL THEN BE PALPABLE ABOVE THE PELVIC BRIM?

The fetal head is engaged when the largest transverse diameter of the head (the biparietal diameter) has passed through the pelvic inlet. When the fetal head is engaged, 2/5 or less of the head is palpable above the pelvic brim.

THE FETAL HEAD IS ENGAGED WHEN ONLY 2/5 OR LESS OF THE HEAD IS PALPABLE ABOVE THE BRIM OF THE PELVIS

Engagement usually starts before the onset of labour. Initially 5/5 of the head is palpable above the pelvic brim, but when engagement has been completed, the head is no longer palpable on abdominal examination. Engagement of the head CANNOT be determined on vaginal examination.

9-5 IS THERE A DIFFERENCE BETWEEN PRIMIGRAVIDAS AND MULTIGRAVIDAS AT THE START OF THE SECOND STAGE OF LABOUR?

Yes. In primigravidas the head is usually engaged when the cervix reaches full dilatation. In contrast, multigravidas often reach full cervical dilatation when the fetal head is still 3/5 or more palpable above the pelvic brim (i.e. the head is still not engaged).

9-6 IN A PATIENT WITH A FULLY DILATED CERVIX BUT AN UNENGAGED FETAL HEAD, WHEN IS IT SAFE TO WAIT FOR ENGAGEMENT BEFORE ALLOWING THE PATIENT TO BEAR DOWN?

1. If there are no signs of fetal distress.
2. If there are no signs of cephalopelvic disproportion.

WAITING FOR ENGAGEMENT OF THE HEAD IN A PATIENT WITH A FULLY DILATED CERVIX SHOULD ONLY BE ALLOWED IF THERE ARE NO SIGNS OF FETAL DISTRESS OR CEPHALOPELVIC DISPROPORTION

9-7 HOW LONG SHOULD YOU WAIT BEFORE ASKING THE PATIENT TO BEAR DOWN IF THE CERVIX IS FULLY DILATED BUT THE HEAD IS NOT YET ENGAGED?

1. The patient should be assessed after an hour if there are no signs of fetal distress and the maternal observations are normal.
2. Usually engagement of the head will occur and the patient will feel a strong urge to bear down within an hour.
3. If the head has still not engaged after an hour, you can wait a further hour provided that all other observations are normal and there are **NO SIGNS OF CEPHALOPELVIC DISPROPORTION**.
4. If the head has not engaged after waiting 2 hours, a doctor must carefully examine the patient for cephalopelvic disproportion which may be present as a result of a big fetus or an abnormal presentation of the fetal head.

9-8 IN WHAT POSITION SHOULD THE PATIENT BE DELIVERED?

1. The patient is usually delivered on her back (i.e. the dorsal position) because it is easier for the person managing the delivery. However, this position has the disadvantage that it may cause postural hypotension which may result in fetal distress. This problem can be avoided if a firm pillow is placed under one of the patient's hips so that she is turned 15° onto her side and does not lie flat on her back.
2. The lateral position (i.e. on her side) prevents the problem of postural hypotension. In addition, the person conducting the delivery has a good view of the vulva and perineum, the pelvic muscles are relaxed, and the delivery can be better controlled. The lateral position is particularly useful when the patient will not give her full co-operation.
3. The upright position (i.e. vertical or squatting position) is becoming more frequently used. The patient sits on her heels and supports herself on outstretched arms. This position has the following advantages:
 - (i) The maternal effort becomes more effective.
 - (ii) The duration of the second stage is shortened.
 - (iii) Fewer patients need an assisted delivery.
4. The semi-Fowler's position, where the patient's back is lifted to 45° from the horizontal, may be used instead of the upright position. This partial sitting position is comfortable both for the patient and the person conducting the delivery.

The position used during the second stage of labour depends on the patient's choice and the circumstances under which the delivery is conducted. The position chosen should allow for the best maternal effort at bearing down.

9-9 HOW WOULD YOU GET THE BEST MATERNAL CO-OPERATION DURING THE SECOND STAGE OF LABOUR?

1. Good communication between the patient and the midwife or doctor is very important. A relationship of trust developed during the first stage of labour will encourage good communication and co-operation during the second stage.
2. The patient must know what is expected of her during the second stage. The person conducting the delivery should encourage and support the patient and inform her about the progress. Good co-operation and attempts at bearing down should be praised.

9-10 HOW SHOULD YOU ENSURE THAT A PATIENT BEARS DOWN AS EFFECTIVELY AS POSSIBLE?

1. While the patient is passive in the first stage, she must actively use her strength during the second stage of labour to assist the uterine contractions. The more effectively she uses her strength, the shorter the second stage will be.

2. The midwife or doctor must make sure that the patient knows when and how to bear down.
3. It is important that she rests between contractions and bears down during contractions.
4. At the height of the contraction, the patient is asked to take a deep breath, to put her chin on her chest, and to bear down as if she were going to empty her rectum. This action is most effective and easiest if the patient holds onto her legs or some other firm object.
5. Each bearing down effort should last as long as possible. This is better than a number of short efforts.
6. When the patient needs to breathe while pushing, she must quickly breathe out, take a deep breath and bear down again.
7. With multigravidas, it is sometimes necessary for the patient to breathe rather than push during a contraction to prevent the fetal head from delivering too quickly.

GOOD COMMUNICATION BETWEEN THE PATIENT AND THE PERSON CONDUCTING THE DELIVERY IS VERY IMPORTANT DURING LABOUR

9-11 WHAT OBSERVATIONS MUST BE MADE DURING THE SECOND STAGE OF LABOUR?

If the head is still not engaged and it is decided to wait for engagement, the same observations usually made during the first stage of labour should be continued.

If the head is engaged and the patient is asked to bear down, the following observations must be done:

1. Listen to the fetal heart between contractions to determine the baseline fetal heart rate.
2. Listen to the fetal heart immediately after EACH contraction. If the fetal heart rate remains the same as that of the baseline rate, you are reassured that the fetus is in good condition. However, if the fetal heart is slower at the end of the contraction, and the slow heart rate takes more than 30 seconds to return to the baseline rate (i.e. a late deceleration), the fetus must be delivered as rapidly as possible because fetal distress has developed.
3. Observe the frequency and duration of the uterine contractions.
4. Look for any vaginal bleeding.
5. Record the progress of labour.

9-12 HOW SHOULD YOU MANAGE FETAL DISTRESS IN THE SECOND STAGE OF LABOUR?

1. An episiotomy should be done, if the fetal head distends the perineum when the patient bears down, so that the fetus can be delivered with the next contraction.
2. If the perineum does not bulge with contractions and it appears as if the fetus will not be delivered after the next 2 efforts at bearing down, then the doctor must be called to perform an assisted delivery.

9-13 HOW IS PROGRESS MONITORED IN THE SECOND STAGE OF LABOUR?

With every uterine contraction and attempt at bearing down there should be some progress in the descent of the fetal head onto the perineum.

9-14 WHAT SHOULD BE DONE IF THERE IS NO PROGRESS IN THE DESCENT OF THE HEAD ONTO THE PERINEUM?

1. If the patient has at least 2 contractions in 10 minutes, each lasting 40 seconds or more and there is no progress in the descent of the head after 4 attempts at bearing down, a doctor must assess the patient for a possible assisted delivery.
2. If a primigravida has inadequate uterine contractions and there are no signs of cephalopelvic disproportion (i.e. 2+ moulding or less), an oxytocin infusion should be started (as described in unit 8). When strong contractions are obtained the patient must start bearing down.
3. If there is no progress in the descent of the head and signs of cephalopelvic disproportion are present (i.e. 3+ moulding), the patient should not bear down. Instead she should concentrate on her breathing during contractions. The doctor must urgently assess the patient as a caesarean section is indicated.

WITH STRONG CONTRACTIONS AND GOOD BEARING DOWN THERE SHOULD BE PROGRESS IN THE DESCENT OF THE PRESENTING PART ONTO THE PERINEUM

9-15 HOW SHOULD THE SECOND STAGE OF LABOUR BE MANAGED?

The midwife or doctor managing the second stage of labour must always be prepared for possible complications. Equipment which may be required must be at hand and in good working order. Drugs which may be needed must be easily available.

1. **EMPTYING THE BLADDER:** Any factor, such as a full bladder, that prevents descent of the fetal head or decreases the strength of uterine contractions should be corrected. Therefore, it is very important for the patient to empty her bladder before starting to bear down.
2. **SUPPORTING THE PERINEUM:** A swab should be placed over the patient's anus to prevent the vulva, and later the fetal head, being soiled with stool (i.e. faeces). It is important to support the perineum in order to:
 - (i) Increase flexion of the fetal head so that the smallest possible diameter passes through the vagina. This can be done by pressing immediately above the anus.
 - (ii) Relieve the pressure on the perineum. Remember that the perineum must be in view all the time.
3. **CROWNING OF THE HEAD:** When the head is crowning the vaginal outlet is stretched and an episiotomy may be indicated. The midwife or doctor should place one hand on the vertex to prevent sudden delivery of the head. The other hand, supporting the perineum, is now moved upwards to help extend the head. It is important that the fetal head is only controlled and not held back.
4. **FEELING FOR A CORD:** Check that the umbilical cord is not wrapped tightly around the infant's neck. A loose cord can be slipped over the head but a tight cord should be clamped and cut.
5. **DELIVERING OF THE SHOULDERS AND BODY:** With gentle continuous posterior traction on the head and lateral flexion, the anterior shoulder is delivered from under the symphysis pubis. The posterior shoulder is then lifted over the perineum. The rest of the infant's body is now delivered, following the curve of the birth canal and not by simply pulling it straight out of the vagina.

9-16 WHAT IS THE PLACE OF AN EPISIOTOMY IN MODERN MIDWIFERY?

An episiotomy is not done routinely but only if there is a good indication, such as:

1. When the infant needs to be **DELIVERED WITHOUT DELAY:**
 - (i) Fetal distress during the second stage of labour.
 - (ii) Maternal exhaustion.
 - (iii) A prolonged second stage of labour when the fetal head bulges the perineum and it is obvious that an episiotomy will hasten the delivery.
 - (iv) When a quick and easy second stage is needed, e.g. in a patient with heart valve disease.
2. With the delivery of a **PRETERM INFANT** when an easy delivery is wanted.
3. When there is a **HIGH RISK OF A THIRD DEGREE TEAR:**
 - (i) A thick, tight perineum.
 - (ii) A previous third degree tear.
 - (iii) A repaired rectocele.
4. When a **BREECH OR FORCEPS DELIVERY** is done.

9-17 DOES A SECOND DEGREE TEAR HEAL FASTER AND WITH FEWER COMPLICATIONS THAN AN EPISIOTOMY?

Yes. A second degree tear is easier to repair and heals quicker with less pain and discomfort than an episiotomy. Therefore, a second degree tear is preferable to an episiotomy. A episiotomy should not be done routinely in primigravidas.

AN EPISIOTOMY SHOULD ONLY BE DONE IF THERE IS A DEFINITE INDICATION

9-18 WHICH TYPE OF EPISIOTOMY SHOULD BE DONE?

Usually a mediolateral episiotomy is done. However, if the midwife or doctor has experience with the technique, a median episiotomy can be done.

The method of performing a mediolateral episiotomy is described in skills workshop 9 of this PEP manual.

9-19 WHAT IS THE DEFINITION OF A PROLONGED SECOND STAGE OF LABOUR?

When diagnosing a prolonged second stage the time is usually measured from the start of bearing down. If a primigravida bears down for more than 45 minutes, or a multigravida for more than 30 minutes, without the infant being delivered, a prolonged second stage of labour is diagnosed.

9-20 HOW SHOULD YOU MANAGE A PATIENT WITH A PROLONGED SECOND STAGE OF LABOUR?

1. If a doctor is available, the doctor should assess the patient. Usually an assisted delivery is done once cephalopelvic disproportion has been excluded and 1/5 or no fetal head remains above the pelvic brim. A caesarean section should be done if cephalopelvic disproportion is present.
2. If a doctor is not available, the patient should be referred to a level 1 or 2 hospital with facilities to perform a caesarean section.

PROLONGED SECOND STAGE OF LABOUR IS A DANGEROUS COMPLICATION WHICH REQUIRES IMMEDIATE AND APPROPRIATE MANAGEMENT

9-21 HOW SHOULD A PATIENT WITH PROLONGED SECOND STAGE OF LABOUR BE MANAGED DURING TRANSFER TO A HOSPITAL FOR CAESAREAN SECTION?

1. The patient should lie on her side and not bear down with contractions. Instead, she should concentrate on her breathing.
2. An intravenous infusion should be started and 2 ampoules (5 µg each) of hexoprenaline (Ipradol) given slowly intravenously or 3 nifedipine (Adalat) 10 mg capsules (30 mg in total) by mouth, provided there are no contraindications (as listed in unit 5).
3. If there are any signs of fetal distress the patient should be given oxygen by face mask.

9-22 WHAT FACTORS DURING THE ANTENATAL PERIOD, OR FIRST STAGE OF LABOUR, WOULD INDICATE THAT THE PATIENT IS AT AN INCREASED RISK OF A PROLONGED SECOND STAGE OF LABOUR?

1. Factors during the ANTENATAL PERIOD which suggest that the patient will deliver a large infant:
 - (i) A patient with an symphysis-fundus height measurement above the 90th centile, when multiple pregnancy and polyhydramnios have been excluded, i.e. there appears to be a large fetus.
 - (ii) A patient with impaired glucose tolerance or diabetes mellitus.
 - (iii) A patient who weighs more than 85 kg.
 - (iv) A patient with a previous infant weighing 4 kg or more at birth.
2. Factors during the FIRST STAGE OF LABOUR:
 - (i) An estimated fetal weight, assessed on abdominal examination, of 4 kg or more.
 - (ii) A patient with poor progress in the first stage of labour before eventually reaching full cervical dilatation.
 - (iii) A patient who progressed normally during the active phase of the first stage of labour, but whose progress was slower from 7 or 8 cm until full dilatation.

SLOW PROGRESS IN THE FIRST STAGE OF LABOUR MAY BE FOLLOWED BY A PROLONGED SECOND STAGE OF LABOUR

9-23 WHEN SHOULD YOU FIRST SUCTION THE INFANT'S AIRWAYS AT DELIVERY?

1. With MECONIUM STAINED LIQUOR: Once the infant's head has been delivered, do not carry on with the delivery until the infant's mouth and throat have been well suctioned. If necessary hold the shoulders back until the airways have been cleared. Always suction the mouth first before clearing the nose.
2. With CLEAR LIQUOR: Suctioning the infant's airways is not necessary before delivering the shoulders. After delivery suctioning is only needed if the infant does not breathe well.

Resuscitation of the newborn infant is fully discussed in unit 16 of the Newborn Care manual of the Perinatal Education Programme.

9-24 WHICH PATIENTS ARE AT HIGH RISK OF DEVELOPING IMPACTED SHOULDERS (SHOULDER DYSTOCIA)?

The same patients who are at high risk of a prolonged second stage of labour, as discussed in 9-22.

9-25 WHAT SIGNS DURING THE SECOND STAGE OF LABOUR INDICATE THAT THE SHOULDERS ARE IMPACTED?

1. Normally the infant's head is delivered by extension. However, with impacted shoulders the head is held back, does not fall forward on the perineum and does not undergo the normal rotation.
2. The size of the infant's head and cheeks at delivery indicate that the infant is big and fat. Usually the patient is also fat.
3. Attempts at external rotation, lateral flexion and traction fail to deliver the shoulders.

The earlier these signs of impacted shoulders are recognized, the better is the chance that this complication will be successfully managed.

9-26 HOW SHOULD A PATIENT WITH IMPACTED SHOULDERS BE MANAGED?

The following management should be carefully followed in a step-by-step manner:

1. The patient must be told that a serious complication has developed and that she must give the midwife or doctor her full co-operation.
2. The patient should be moved so that her buttocks are over the edge of the bed to allow good downward traction on the fetal head. This can be done rapidly by removing the end of the bed or by turning the patient across the bed.
3. The patient's hips and knees must be fully flexed so that her knees almost touch her shoulders. The midwife or doctor must hold the infant's head between both hands and firmly pull the head down (posteriorly) while an assistant must at the same time press firmly just above the patient's symphysis pubis. The suprapubic pressure must be firm enough to allow the assistant's hand to pass behind the symphysis pubis. This procedure helps to get the infant's anterior shoulder to pass under the symphysis pubis. The patient must bear down as strongly as possible during these attempts to deliver the shoulders.

*** *This procedure to deliver impacted shoulders is called the MacRobert's method.*

4. If the infant is not delivered after 2 attempts, you should deliver the posterior shoulder:
 - (i) The midwife or doctor should place a right hand (if right-handed) or a left hand (if left-handed) posterior to the fetus in the vagina to reach the infant's shoulder. The cavity of the sacrum is the only area which provides space for manipulation.
 - (ii) The posterior arm of the infant should be followed until the elbow is reached. The arm must be flexed at the elbow and then pulled anteriorly over the chest and out of the vagina. Delivery of the posterior arm also delivers the posterior shoulder.

- (iii) The anterior shoulder can now be freed by pulling the infant's head down (posteriorly).
- (iv) If the anterior shoulder cannot be released, the infant must be rotated through 180°. During the rotation the infant's head and freed arm should be firmly held. The freed arm will indicate the direction of the rotation, i.e. turn the infant so that the shoulder follows the freed arm. The trapped shoulder can now be released by inserting a hand posteriorly, flexing the arm at the elbow and pulling the arm out of the vagina.

The rules of delivering impacted shoulders must be followed carefully without panicking. If the infant is delivered within 5 minutes of detecting the complication, no brain damage should occur. While the above management helps to reduce the risk of birth injury, fracture of the clavicle or humerus may occur with delivery of the posterior shoulder. This is preferable to an Erb's (brachial) palsy. Time should not be wasted trying other methods which are not effective.

IMPACTION OF THE SHOULDERS IS A SERIOUS COMPLICATION AND REQUIRES FAST AND EFFECTIVE MANAGEMENT ACCORDING TO A CLEAR PLAN

CASE PROBLEMS

CASE 1

A multiparous patient presents in labour at 18:00. The fetal head is palpable 3/5 above the pelvic brim and the cervix is found to be 7 cm dilated. The vaginal examination is repeated at 21:00 when the alert line indicates that the cervix should be fully dilated. The examination confirms that the cervix is fully dilated. However, the fetal head is still not engaged. Preparations are made for her to start bearing down.

1. **Do you agree that the patient should start bearing down now that she has reached full dilatation of the cervix?**

No. She should not start bearing down until the fetal head is fully engaged and has reached the perineum.

2. **What symptoms and signs would indicate to you that the patient should start bearing down?**

The patient will have an uncontrollable urge to bear down. In addition the fetal head will be engaged on abdominal examination and the fetal head will distend the perineum when the patient bears down.

3. **If the abdominal examination shows that the fetal head is not engaged what conditions must be met when deciding to wait before allowing the patient to bear down?**

Fetal distress must be excluded by making sure that there are no late fetal heart rate decelerations. Cephalopelvic disproportion must also be excluded by finding 2+ moulding or less on vaginal examination.

4. **How long is it safe to wait for the fetal head to engage?**

The patient should be examined again after an hour. If the head is still not engaged, you can wait for a further hour provided that there are still no signs of either cephalopelvic disproportion or fetal distress. Thereafter, a doctor must be called to evaluate the management.

5. **Would you manage a primigravid patient in the same way as a multigravida if she reached full cervical dilatation without engagement of the fetal head?**

Usually primigravidas only reach full cervical dilatation after the fetal head has engaged. Therefore, there is a greater chance of cephalopelvic disproportion in a primigravida than in a multigravida who may reach full cervical dilatation with an unengaged fetal head.

CASE 2

A patient who progressed normally during the first stage of labour until a cervical dilatation of 7 cm reaches full dilatation of the cervix after a further 5 hours. At the last examination 3/5 of the fetal head is still palpable above the pelvic brim while 3+ moulding is found on vaginal examination. The patient is prepared for the second stage of labour and is asked to bear down with contractions.

1. **What complications would you expect when you consider the patient's progress during the first stage of labour?**

A prolonged second stage of labour as the patient's progress in labour was slower than expected between 7 cm and full dilatation.

2. **What would be the most likely cause of a prolonged second stage in this patient?**

Cephalopelvic disproportion as indicated by an unengaged fetal head and 3+ moulding.

3. **Do you agree with the decision to allow the patient to bear down because she is fully dilated?**

No. As the patient has cephalopelvic disproportion, a caesarean section must be performed.

4. **How should this patient be managed further if she is at a clinic?**

She must be referred to a hospital with facilities to perform a caesarean section.

5. **What arrangements must be made to make the transfer of this patient as safe as possible?**

The patient must lie on her side and an intravenous infusion must be started. If there are no contraindications, the contractions must be stopped with intravenous hexoprenaline (Ipradol) or oral nifedipine (Adalat). If there is any concern about the condition of the fetus, the patient must be given face mask oxygen.

CASE 3

A primigravid patient has still not delivered after her cervix has been fully dilated for 45 minutes. The fetal head is not palpable abdominally and bulges the perineum when the patient bears down with contractions. A prolonged second stage is diagnosed and the doctor is called to assess the patient.

1. **Do you agree with the diagnosis of prolonged second stage?**

This will depend on when the patient started to bear down and whether her attempts at bearing down were effective. The diagnosis is correct if she has been bearing down well for 45 minutes.

2. **What should your management be if the patient has been bearing down well for 45 minutes?**

As the head is not palpable abdominally and is distending the perineum, an episiotomy should be done. Thereafter, if the infant has not been delivered after a few contractions with the patient bearing down well, a doctor must be called to evaluate the patient.

3. **Should an episiotomy be done at the delivery of all primigravidas?**

No. Only if there is a definite indication for an episiotomy. In this case an episiotomy is indicated as the second stage is prolonged and delivery would probably be rapidly achieved with an episiotomy.

4. **The infant is delivered just before an episiotomy is done and after the birth it is noticed that the patient has a second degree perineal tear. Would it have been preferable to have done an episiotomy?**

No. A second degree tear should not be seen as a complication as it is preferable to an episiotomy. A second degree tear is easier to repair, heals faster and causes less pain and discomfort than an episiotomy.

5. **How would you have managed this patient if the prolonged labour was due to poor co-operation and ineffective attempts at bearing down by the patient?**

Good communication between the staff and the patient during the first stage of labour should have established a trusting relationship. The patient should have been told exactly what she should do during the second stage. She should also have been supported, encouraged and praised.

CASE 4

A multigravid patient weighing 110 kg progresses to full cervical dilatation. After 30 minutes in the second stage of labour, the infant's head is delivered with difficulty. The head is held back and does not fall forward on the perineum while rotation of the head does not occur.

1. **What complication has occurred during the second stage of labour?**

Impaction of the shoulders (i.e. shoulder dystocia).

2. **How could this complication have been predicted?**

An overweight patient is at risk for developing impacted shoulders as infants born to these patients are often very big.

3. **How should this patient be further managed?**

The patient's buttocks must be moved to the edge of the bed so that good posterior traction can be applied to the infant's head. This can be done quickly if the end of the bed can be removed or if the patient can be swung around across the bed. The patient's hips and knees should be flexed so that her knees almost reach her shoulders. The infant's head should be firmly held between both hands and pulled downwards (posteriorly) while an assistant, at the same time, presses down over the suprapubic area.

4. **What should the further management be if these attempts to deliver the shoulders are not successful?**

An immediate attempt must be made to deliver the infant's posterior arm. The person conducting the delivery must place a hand posterior to the fetus in the vagina, flex the infant's posterior arm at the elbow and pull it out anteriorly over the chest. When the arm is pulled out the posterior shoulder will automatically be delivered as well. The anterior shoulder can now be released by pulling the infant's head downwards.