Preventing Prolonged Labour: a practical guide

The Partograph

Part II: User's Manual
ACKNOWLEDGEMENTS

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GLOSSARY

AIDS  Acquired immunodeficiency syndrome
ANC  Antenatal care
CPD  Cephalopelvic disproportion
EPI  Expanded Programme on Immunization
FIGO  Federation of International Obstetrics and Gynaecology
HDP  Hypertensive disorders of pregnancy
HIV  Human immunodeficiency virus
ICM  International Confederation of Midwives
IEC  Information, education and communication
IUD  Intrauterine device
LGV  Lymphogranuloma venereum
MCH  Maternal and Child Health
min  minute
NGO  Nongovernmental organization
PID  Pelvic inflammatory disease
PPH  Postpartum haemorrhage
STDs  Sexually transmitted diseases
SVD  Spontaneous vertex
TB  Tuberculosis
TBA  Traditional birth attendant
UTI  Urinary tract infection
<  Less than
>  More than

Time conversion from 12 hour clock to 24 hour clock

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1. GENERAL REMARKS

This manual is designed to teach the use of the partograph in the management of labour. It does not set out to teach the principles and physiology of labour.

The principles behind the partograph, particularly the partograph described in this series with its pre-drawn alert and action lines, are described in Principles and Strategy (WHO document WHO/FHE/MSM/93.8). It is assumed that a tutor working with this User's Manual for teaching purposes will have acquired a working knowledge of these principles and can pass this information on to the trainees as appropriate. Consequently this manual concentrates on the practical aspects of using the partograph as a managerial tool in labour and not on theoretical aspects.

2. INTRODUCTION FOR USERS

This manual describes the use of the partograph as a tool to help in the management of labour. A partograph is used to record all observations made on a woman in labour. Its central feature is a graph, where dilatation of the cervix as assessed by vaginal examination is plotted. By noting the rate at which the cervix dilates, it is possible to identify women whose labours are abnormally slow and who require special attention. These women are at risk of developing prolonged and obstructed labour due to cephalopelvic disproportion (CPD), which may lead to serious problems, such as ruptured uterus and death of the fetus. Other problems that may result from slow progress in labour include postpartum haemorrhage and infection.

By helping to identify at an early stage those women whose labour is slow, the partograph should prevent some of these problems. It is also a very clear way of recording all labour observations on one chart, making it easy to detect any other abnormalities.

3. WHO SHOULD NOT HAVE A PARTOGRAPH IN LABOUR

Before describing how to use the partograph, it is important to realise that it is a tool for managing labour only. It does not help to identify other risk factors which may have been present before labour started.

Only start a partograph when you have checked that there are no complications of the pregnancy that require immediate action.
4. **OBJECTIVES OF THIS MANUAL**

After studying this training manual, the physician and midwifery personnel should be able to:

- Understand the concept of the partograph.
- Record the observations accurately on the partograph.
- Understand the difference between the latent and the active phases of labour.
- Interpret a recorded partograph and recognize any deviation from the norm.
- Monitor the progress of labour, recognize the need for action at the appropriate time, and decide on timely referral.
- Explain to mothers and other members of the community the significance of the partograph.

5. **OBSERVATIONS CHARTED ON THE PARTOGRAPH (Figure II.1)**

Observations and recordings will be explained in the following sequence:

**The progress of labour**

- Cervical dilatation

- Descent of the fetal head
  - Abdominal palpation of fifths of head felt above the pelvic brim

- Uterine contractions
  - Frequency per 10 minutes
  - Duration (shown by differential shading)

**The fetal condition**

- Fetal heart rate
- Membranes and liquor
- Moulding of the fetal skull

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The Partograph:
Fig. II.1
The maternal condition

- Pulse, blood pressure and temperature
- Urine (volume, protein, acetone)
- Drugs and IV fluids
- Oxytocin regime

5.1 The Progress of Labour

5.1.1 Latent and active phases of labour

The first stage of labour is divided into the latent and active phases.

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Starting the Partograph

A partograph chart must only be started when a woman is in labour. You must be sure that she is contracting enough to start a partograph.

In the latent phase

- Contractions must be 2 or more in 10 minutes, each lasting 20 seconds or more.

In the active phase

- Contractions must be 1 or more in 10 minutes, each lasting 20 seconds or more.
5.1.2 Cervical dilatation

The rate of cervical dilation changes from the latent to the active phase of labour.

- **The latent phase** (slow period of cervical dilatation) is from 0-2 cm with a gradual shortening of the cervix.
- **The active phase** (faster period of cervical dilatation) is from 3 cm to 10 cm (full cervical dilatation).

In the centre of the partograph is a graph. Along the left side are numbers 0-10 against squares: each square represents 1 cm dilatation. Along the bottom of the graph are numbers 0-24: each square represents 1 hour.

Dilatation of the cervix is measured in centimetres (cm) and a diagram of a useful learning aid is found in Annex 1.

The dilatation of the cervix is plotted (recorded) with an "X". The first vaginal examination, on admission, includes a pelvic assessment and the findings are recorded. Thereafter, vaginal examinations are made every 4 hours, unless contraindicated. However, in advanced labour, women may be assessed more frequently, particularly the multipara.
Example: Plotting cervical dilatation when admission is in the active phase

Look at Fig. II.2. In the section labelled active phase there is an "alert" line, a straight line from 3-10 cm. When a woman is admitted in the active phase, the dilatation of the cervix is plotted on the alert line and the clock time written directly under the X in the space for time.

If progress is satisfactory, the plotting of cervical dilatation will remain on or to the left of the alert line.

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**Fig. II.2**

**Observations on Fig. II.2**

- Dilatation of the cervix was 4 cm: active phase.
- Dilatation is plotted on the alert line at 4 cm.
- The time of admission was 15:00.
- At 17:00 dilatation was 10 cm.
- Time in the first stage of labour in hospital was only 2 hours.
Example: Plotting cervical dilatation when admission is in the *latent* phase

Look at Fig. II.3. The latent phase normally should not take longer than 8 hours. When admission is in the latent phase, dilatation of the cervix is plotted at 0 time and vaginal examination made every 4 hours.

![Graph showing cervical dilatation with latent and active phases marked](image)

**Figure II.3**

**Observations on Fig. II.3**

- Admission was at 9:00 and the cervix was 1 cm dilated.
- At 13:00 the cervix was 2 cm dilated.
- At 17:00 the cervix was 3 cm dilated when she entered the active phase of labour.
- At 20:00 the cervix was 10 cm (fully dilated).
- Latent phase lasted 8 hours and active phase lasted 3 hours.
Example: (Transfer from latent to active phase): Plotting cervical dilatation when admission is in the latent phase and goes into active phase in less than 8 hours.

When dilatation is 0-2 cm, plotting must be in the latent phase area of the cervicograph. When labour goes into the active phase, plotting must be transferred by a broken line to the alert line. The recordings of cervical dilatation and time are plotted 4 hours after admission, then transferred immediately to the alert line using the letters "TR", leaving the area between the transferred recording blank. The broken transfer line is not part of the process of labour.

**Figure II.4**

**Observations on Fig. II.4**

- Admission time was 14:00 and the dilatation was 2 cm.
- At 18:00 the dilatation was 6 cm - active phase.
- Time and dilatation were immediately transferred to the alert line.
- At 22:00 the cervix was 10 cm.
- She had a total of 3 vaginal examinations.
- The length of the first stage of labour in hospital was 8 hours.
5.1.3 Descent of the fetal head

For labour to progress well, dilatation of the cervix should be accompanied by descent of the head. However, descent may not take place until the cervix has reached about 7 cm dilatation.

Descent of the head is measured by abdominal palpation and expressed in terms of fifths above the pelvic brim (see Fig. II.5). It is found to be a more reliable way of gauging descent than vaginal examination where large caput formation often leads the inexperienced to confuse scalp descent with skull descent.
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**Fig. II.5**

* S = Sinciput; O = Occiput

Source: Philpott RH & Castle WM (1)

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Descent of the head should always be assessed by abdominal examination immediately before doing a vaginal examination.

For convenience, the width of the 5 fingers is a guide to the expression in fifths of the head above the brim. A head that is mobile above the brim will accommodate the full width of 5 fingers (closed) (Figs. II.6 and II.6A).

As the head descends, the portion of the head remaining above the brim will be represented by fewer fingers (4/5, 3/5, etc.)

It is generally accepted that the head is engaged when the portion above the brim is represented by 2 fingers width or less (Figs. II.7 and II.7A).
Fig. II.6
Head is mobile above the brim = 5/5

Fig. II.6A
Head accommodates full width of 5 fingers above the brim

Fig. II.7
Head is engaged = 2/5

Fig. II.7A
Head accommodates 2 fingers above the brim
Example: Plotting descent of the fetal head

Look at Fig. II.8. On the left-hand side of the graph is the word "descent" with lines going from 5-0. Descent is plotted with an "O" on the partograph (Fig. II.8).

![Graph showing descent of the fetal head](image)

**Fig. II.8**

**Observations on Fig. II.8**

- On admission at 13:00, the head was 5/5 above the pelvic brim and the cervix was 1 cm dilated.
- After 4 hours at 17:00, the head was 4/5 above the brim and the cervix was 5 cm dilated.
- Labour is now in the active phase. Cervical dilatation, is transferred to the alert line; descent of head and time are transferred to the vertical line downwards from 6 cm.
- After 3 hours, the head was only 1/5 above the pelvic brim and the cervix was 10 cm dilated.
- The length of the first stage of labour observed in the unit was 7 hours.
Points to Remember

1. Assessing descent of the head assists in detecting progress in labour.
2. Descent is assessed abdominally in fifths felt above the pelvic brim.
3. Immediately before a vaginal examination, an abdominal examination must always be done.

5.1.4 Uterine contractions

For labour to progress well, there must be good uterine contractions. In normal labour they usually become more frequent and last longer as labour progresses.

Observing uterine contractions

Observations on the contractions are made every hour in the latent phase of labour and every half-hour in the active phase.

There are two observations made of the contractions:
1. The frequency: How often are they felt?
2. The duration: How long do they last?

The frequency of contractions is assessed by the number of contractions in a 10-minutes period. The duration of the contractions is from the time the contraction is first felt abdominally to the time when the contraction passes off, measured in seconds.

Starting the Partograph

On page 4 of this Manual, the rules for starting the partograph are given. This depends on the frequency and duration of contractions. Read these rules again. The partograph must not be started if a woman is not in labour.
Recording contractions on the partograph

As already illustrated in Fig. II.1, on the partograph below the time line, there is an area of 5 blank squares high going across the length of the graph; and at the left-hand side is written "contractions per 10 minutes". Each square represents 1 contraction, so that if 2 contractions are felt in 10 minutes, 2 squares will be shaded (filled in).

Figure II.9 shows the three possible ways the duration of contractions can be shaded.

![Partograph Diagram](image)

**Fig. II.9**

Source: Philpott RH, Sapiro KE, Axton JHM (2)

**Observations on Fig. II.9**

1st half-hour  In the last 10 minutes of that half-hour, there were 2 contractions, each lasting less than 20 seconds.

3rd half-hour  In the last 10 minutes of that half-hour, there were 3 contractions, each lasting less than 20 seconds.

6th half-hour  In the last 10 minutes of that half-hour there were 4 contractions, each lasting between 20 and 40 seconds.

7th half-hour  In the last 10 minutes of that half-hour, there were 5 contractions, each lasting more than 40 seconds.
Example: Plotting frequency and duration of contractions

Look at Fig. II.10.

Observations on Fig. II.10

- The woman was admitted at 14:00 in the active phase of labour.
- The cervix was 3 cm dilated, the head was 4/5 above the pelvic brim.
- Contractions: there was 1 contraction in 10 minutes, lasting 20-40 seconds. After 1 half-hour, there were 2 contractions in 10 minutes, each lasting 20-40 seconds.
- At 18:00 the cervix was 7 cm dilated, the head 3/5 above the pelvic brim and there were 4 contractions in 10 minutes, each lasting between 20 and 40 seconds.
- At 21:00 the cervix was 10 cm, the head 0/5 above the pelvic brim and there were 5 contractions in 10 minutes, each lasting over 40 seconds.
Points to Remember

1. Contraction are observed for frequency and duration.
2. The number of contractions in 10 minutes is recorded.
3. The 3 ways of shading duration of contractions are: a) less than 20 seconds; b) 20-40 seconds; c) more than 40 seconds.
4. Recording must be made beneath the correct time entry on the partograph.
5. In the active phase, the partograph should be started when there is one or more contractions in 10 minutes, each lasting more than 20 seconds.

5.2 The Fetal Condition

5.2.1 Fetal heart rate

Observing the fetal heart rate is a safe and reliable clinical way of knowing that the fetus is well. The best time to listen to the fetal heart is just after the contraction has passed its strongest phase. Listen to the fetal heart for 1 minute with the woman in the lateral position if possible.

The fetal heart rate is recorded at the top of the partograph (see Fig. II.11). It is recorded every half-hour and each square represents one half-hour. The lines for 120 and 160 are darker, to remind the recorder that these are the limits of the normal fetal heart rate.

Abnormal fetal heart rates

A rate >160 beats/min (tachycardia) and <120 beats/min (bradycardia) may indicate fetal distress.

If an abnormal heart rate is heard, listen every 15 minutes for at least 1 minute immediately after a contraction. If the heart rate remains abnormal over 3 observations, action should be taken unless delivery is very close.

A heartbeat of 100 or lower indicates very severe distress and action should be taken at once.
5.2.2 Membranes and liquor

The state of the liquor can assist in assessing the fetal condition.

There are 4 different ways to record the state of the liquor on the partograph, immediately below the fetal heart rate recordings (see Fig. II.11):

1. If the membranes are intact: record as the letter "I" for intact.
2. If the membranes are ruptured and liquor is clear: record as the letter "C" for clear.
3. If the membranes are ruptured and liquor is meconium-stained: record as the letter "M" for meconium.
4. If the membranes are ruptured and liquor is absent: record as the letter "A" for absent.

This observation is made at each vaginal examination.

If there is thick meconium at any time or absent liquor at the time of membrane rupture, listen to the fetal heart more frequently, as these may be signs of fetal distress.

5.2.3 Moulding of the fetal skull bones

Moulding is an important indication of how adequately the pelvis can accommodate the fetal head. Increasing moulding with the head high in the pelvis is an ominous sign of cephalopelvic disproportion.

There are 4 different ways to record the moulding on the partograph, immediately beneath those of the state of liquor (see Fig II.11):

1. If bones are separated and the sutures can be felt easily: record as the letter "O".
2. If bones are just touching each other: record as +.
3. If bones are overlapping: record as ++.
4. If bones are overlapping severely: record as +++.

Moulding may be difficult to assess in the presence of a large caput, but that in itself should alert the attendant to possible cephalopelvic disproportion.
Points to Remember

1. Listen to the fetal heart rate immediately after the peak of a contraction with the woman in the lateral position.

2. Recordings are made every half-hour in the first stage of normal labour.

3. Normal fetal heart rate is between 120-160 beats/minutes.

4. Increasing moulding with a high head is a sign of disproportion.

5.3 The Maternal Condition

All the recordings for the maternal condition are entered at the foot of the partograph, below the recording of uterine contractions (see Fig. II.11).

5.3.1 Pulse, blood pressure and temperature

- Pulse rate: every half-hour.
- Blood pressure: once every 4 hours, or more frequently, if indicated.
- Temperature: once every 4 hours, or more frequently, if indicated.

5.3.2 Urine: volume, protein and acetone

- Check for protein or acetone in the urine.
- Measure urine volume. (Encourage the woman to pass urine every 2-4 hours).

5.3.3 Drugs and IV fluids

These are charted in the appropriate column just below the area for oxytocin regime.
5.3.4 Oxytocin regime

There is a separate area for recording oxytocin titration just below the column for contractions.

All entries are recorded in relation to the time at which the observations are made.

To see a completed partograph of a normal first stage of labour, look at Fig. II.11.

**Points to Remember**

1. **Time of admission is 0 time, when the woman comes in the latent phase of labour.**
2. **When the active phase of labour begins, all recordings are transferred, plotting the cervical dilatation on the alert line.**
3. **If the woman comes in the active phase of labour, recording of cervical dilatation starts on the alert line.**
4. **When progress of labour is normal, plotting of the cervical dilatation remains on the alert line or to the left of it.**
PARTOGRAPH

Name: Mrs B. Gravida 1 Para 0 Hospital no. 1059

Date of admission: 27.3.1988 Time of admission: 5:00 Ruptured membranes: 2 hours

Cervix (cm) [Plot X]

Descent of head [Plot O]

Contractions per 10 mins

Oxytocin U/L drops/min

Drugs given and IV fluids

Pulse and BP

Temp °C 36.8 37 37 37

Urine:
- protein
- acetone
- volume: 500 100 100 80

SVD of live female infant at 13:10 on 27.3.1988, wt 3800 gms

Fig. II.11
6. **ABNORMAL PROGRESS OF LABOUR**

6.1 **Prolonged Latent Phase**

If a woman is admitted in labour in the latent phase (less than 3 cm dilated) and remains in the latent phase for the next 8 hours, progress is abnormal and she must be transferred to a hospital for a decision about further action.

This is why there is a heavy line drawn on the partograph at the end of 8 hours of the latent phase.

**Example: Plotting prolonged latent phase**

Look at Fig. II.12.

![Partograph](image)

**Fig. II.12**

**Observations on Fig. II.12.**

- On admission at 7:00, the head was 5/5 above the pelvic brim and the cervix was 1 cm dilated. There were 2 contractions in 10 minutes, each lasting 20-40 seconds.
• After 4 hours at 11:00, the head was 4/5 above the pelvic brim and the cervix was 2 cm dilated. In the last 10 minutes of that half-hour, there were 2 contractions, each lasting between 20 and 40 seconds.

• Four hours later at 15:00, the head was still 4/5 above the pelvic brim and the cervix was still 2 cm dilated. There were 3 contractions in 10 minutes, each lasting between 20 and 40 seconds.

• The length of the latent phase was 8 hours in the unit.

6.2 Prolonged Active Phase

6.2.1 Moving to the right of the alert line

In the active phase of labour, plotting of cervical dilatation will normally remain on, or to the left of the alert line. But some will move to the right of the alert line and this warns that labour may be prolonged.

When the dilatation moves to the right of the alert line and if adequate facilities are not available to deal with obstetric emergencies, the woman must be transferred to a hospital unless she is near delivery. By transferring her at this time, it allows time for the woman to be adequately assessed for appropriate intervention if she reaches the action line.

6.2.2 At the action line

The action line is 4 hours to the right of the alert line. If a woman’s labour reaches this line, a decision must be made about the cause of the slow progress, and appropriate action taken. This decision and action must be taken in a hospital with facilities to deal with obstetric emergencies.
Example: Plotting dilatation that crosses the alert line and reaches the action line

Look at Fig. II.13.

![Graph showing cervix dilatation over time](image)

Fig. II.13

Observations on Fig. II.13

- At 8:00 the cervix is 3 cm dilated on the alert line. The woman may remain in the health unit.

- At 12:00 the cervix is 6 cm dilated and the graph has moved to the right of the alert line. The woman must be transferred to an institution with facilities for obstetric interventions.

- At 16:00 the cervix is 7 cm dilated and the graph is on the action line. A decision must be made on what action needs to be taken.
Observations on Fig. II.14

The shaded area between alert and action lines in the active phase and beyond 8 hours in the latent phase would require referral from a health centre and/or extra vigilance in hospital.

Points to Remember

1. All women whose cervicograph moves to the right of the alert line must be transferred and managed in an institution with adequate facilities for obstetric interventions, unless delivery is near.

2. At the action line the woman must be carefully reassessed for the reason for lack of progress and a decision made on further management.
7. **MANAGEMENT OF LABOUR**

The following is the protocol for labour management used in a large multicentre trial of the WHO partograph. This protocol achieved excellent results and its use in conjunction with the partograph is recommended, although local adaptation may be made.

7.1 **Normal Latent and Active Phases**

(Latent phase is less than 8 hours and progress in active phase remains on or left of alert line.)

- Do not augment with oxytocin or intervene unless complications develop.
- Artificial rupture of membranes (ARM):
  - no ARM in the latent phase.
  - ARM at any time in the active phase.

7.2 **Between Alert and Action lines**

- *In a health centre:* the woman must be transferred to hospital with facilities for caesarean section, unless the cervix is almost fully dilated.

  ARM may be performed if the membranes are still intact, and observe labour progress for a short period of time before transfer.

- *In hospital:* perform ARM if membranes intact, and continue routine observations.

7.3 **At or Beyond Active Phase Action Line**

- Full medical assessment.
- Consider intravenous infusion/bladder catheterisation/analgesia.
- Options:
  - Delivery (normally caesarean section), if fetal distress or obstructed labour.
  - Oxytocin augmentation by intravenous infusion, if no contraindications.
  - Supportive therapy only (if satisfactory progress now established and dilatation could be anticipated at 1 cm/hour or faster).
7.4 Prolonged Latent Phase (>8 hours)

- Full medical assessment.

- Options:

  1. No action (woman not in labour, abandon partograph).
  2. Delivery by caesarean section (if fetal distress or factors likely to lead to obstruction or other medical complications necessitating termination of labour).
  3. ARM + oxytocin (if contraction pattern and/or cervical assessment suggest continuing labour).

- Further review (in cases continuing in labour):

  - Continue vaginal examinations once every 4 hours, up to 12 hours.
  
  - If not in active phase after 8 hours of oxytocin, delivery by caesarean section.
  
  - If active phase is reached within or by 8 hours but progress in active phase is <1 cm/hour, delivery by caesarean section may be considered.
  
  - Monitor fetal heart every half-hour while on oxytocin.

7.5 Further Notes

Oxytocin

A local regime may be used; the WHO trial did not specify a particular oxytocin regime. Oxytocin should be titrated against uterine contractions and increased every half-hour until contractions are 3 or 4 in 10 minutes, each lasting 40-50 seconds. It may be maintained at that rate throughout the second and third stages of labour.
Stop oxytocin infusion if there is evidence of uterine hyperactivity and/or fetal distress.

Oxytocin was used in women of all parities in the multicentre trial. However, it must be used with caution in multiparous women and rarely, if at all, in women of para 5 or more.

Membranes

If membranes have been ruptured for 12 hours or more, antibiotics should be given.

Fetal distress

- In a health centre: transfer to hospital with facilities for operative delivery.
- In hospital, immediate management:
  - Stop oxytocin.
  - Turn woman on left side.
  - Vaginal examination to exclude cord prolapse and observe amniotic fluid.
  - Adequate hydration.
  - Oxygen, if available.
8. EXERCISES

Exercise No. 1: Look at the partograph (see Fig. II.15) and answer the following questions.

1. On admission to hospital
   a) What was the clock time?
   b) What was the cervical dilatation?
   c) What phase of labour was the woman in?

2. Describe the frequency and duration of the uterine contractions at 7:00.

3. At 7:00 what was the fetal heart rate and the state of the membranes?

4. What is the purpose of the alert line?

Exercise No. 2: Recording and plotting on the partograph (see Fig. II.16).

Mrs X was admitted in labour at 14:00. On abdominal examination the contractions were 2 in 10 minutes, each lasting 20 seconds. The head was 5/5 above the brim and the fetal heart was 130/min. On vaginal examination the cervix was 2 cm dilated, membranes were intact, no moulding felt.

Her blood pressure was 110/70 mmHg; her pulse 78/min; temperature 36.6°C. She passed 100 ml of urine; protein and acetone were negative.

1. An abdominal and vaginal examination was carried out on Mrs X at 18:00. Record and plot the following:
   a) Time of examination
   b) Fetal heart rate of 140/min
   c) Membranes ruptured, liquor clear
   d) No moulding
   e) Cervix 5 cm dilated
   f) Descent of the head 3/5 above the brim
   g) Uterine contractions 3 in 10 minutes, each lasting 50 seconds
   h) Blood pressure of 105/70 mmHg; pulse 80/min, temperature 37°C.

2. What is the latest expected time Mrs X will reach 10 cm dilatation should labour progress satisfactorily?

3. If a vaginal examination is made at 22:00 and the cervix is 7 cm dilated, what would the management be in:
   a) A health centre?
   b) A hospital?
**PARTOGRAPH**

<table>
<thead>
<tr>
<th>Name</th>
<th>Gravida</th>
<th>Para</th>
<th>Hospital no.</th>
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<tbody>
<tr>
<td>Date of admission</td>
<td>Time of admission</td>
<td>Ruptured membranes</td>
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<tr>
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<tr>
<td>Fetal heart rate</td>
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<tr>
<td>Rate</td>
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<tr>
<td>Liquor Moulding</td>
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<th>10</th>
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<td>Cervix (cm) [Plot X]</td>
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<td>6</td>
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<td>Descent of head [Plot Y]</td>
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<td>Constrictions per 10 mins</td>
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<td>2</td>
<td>3</td>
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<th>3</th>
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<tbody>
<tr>
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<td>3</td>
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<td>100</td>
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<td>90</td>
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**Fig. II.15**
Fig. II.16
Answers to Exercise No. 1 (See Fig. II.15)

1. a) 3:00 b) 3 cm c) active phase

2. 4 contractions in 10 minutes, each lasting over 40 seconds, at 7:00

3. Fetal heart rate 130/min
   Membranes were ruptured (liquor clear) at 7:00

4. Acts as a warning that labour in the active phase is delayed when cervical
dilatation moves over to the right of it; or assists in early detection of delay
in labour or warns the attendant of time to transfer a woman to hospital.

Answers to Exercise No. 2

1. Completed partograph (see Fig. II.17)

2. 23:00

3. a) Immediate transfer to hospital because of delay - moving to the right
   of the alert line

   b) Careful reassessment of cause of delay and cephalopelvic
   disproportion
9. REFERENCES


ANNEX 1

DILATATION OF CERVIX

1 cm
2 cm
3 cm
4 cm
5 cm
7 cm
8 cm

FULL dilatation when NO CERVIX is felt

This aid cutout to be reproduced in plywood is a useful tool in the practice of accurate measuring of dilatation. It may be hung in the labour ward for use by staff and students.
Safe Motherhood Resource list

Abortion: A tabulation of available data on the frequency and mortality of unsafe abortion. WHO FHE MSM 93.13


Detecting pre-eclampsia: A practical guide – Using and maintaining blood pressure equipment. WHO MCH MSM 92.3.


The risks to women of pregnancy and childbearing in adolescence: A selected annotated bibliography. 1989. WHO MCH 89.5.

The role of women’s organizations in primary health care with special reference to maternal and child health including family planning. WHO FHE WHD 88.1.

Women’s Groups, NGOs and Safe Motherhood. WHO FHE MSM 92.3.


Unless otherwise stated, all the above materials are available free of charge from:
World Health Organization.
1211 Geneva 27, Switzerland.
Tel +41 22 79 21 11.
Fax +41 22 79 17 46; Telex 27821
Complications arising during pregnancy and childbirth cause the deaths of half a million women every year, the vast majority in the developing world. Over 4 million newborn babies die each year, most of them as a result of poorly managed pregnancies and deliveries. Millions more women and babies suffer debilitating and life-long consequences of ill-health.

The World Health Organization seeks to alleviate the burden of suffering borne by women, children and families, through its Maternal Health and Safe Motherhood Programme which seeks to reduce levels of maternal and neonatal mortality and ill-health significantly by the year 2000.

The Organization's activities fall into four main areas:

- technical cooperation with countries in planning, implementing, managing and evaluating national safe motherhood and newborn care programmes;
- epidemiological research into levels and causes of maternal and neonatal mortality and operational research on cost-effective ways of reducing deaths and disabilities;
- strengthening human resources for the provision of essential obstetric care, including development of standard treatment and management protocols, programme planning guidelines and training materials;
- production of advocacy materials and collection, analysis and dissemination of information to provide scientifically sound data on the nature and dimensions of maternal and newborn mortality and morbidity and how change can be brought about.

If you would like to know more about the WHO Maternal Health and Safe Motherhood Programme, write to:

Maternal Health and Safe Motherhood Programme
Division of Family Health
World Health Organization
1211 Geneva 27
Switzerland