PartoMa Guidelines

Partogram-Associated Labour Management Guidelines

Version 1.2 | Launched in March 2015
Latest minor revisions in wording/graphics: January 2016

The PartoMa Project
Department of Obstetrics & Gynaecology,
Mnazi Mmoja Hospital

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The partogram must be used in the care for ALL women in labour (unless immediate need for intervention on admission)

The partogram is a decision support tool: Each assessment requires analysis of the partogram as a whole by

3 DIAGNOSTIC QUESTIONS:
1. Is mother in a good condition?
2. Is baby in a good condition?
3. Is progress normal?

If any of these is abnormal, consult with guidelines and/or a senior colleague

! The PartoMa guidelines represent the best possible management for the majority of patients, but there may be situations where alternative management is preferable. In such cases, treatment should be discussed with colleagues.

ABBREVIATIONS
ARM, artificial rupture of membranes  GCS, Glasgow Coma Scale  SBP, systolic blood pressure
BP, blood pressure  Hr., hour  SRM, spontaneous rupture of membranes
Bpm, beats per minute  lm, intramuscular  Temp, temperature
CPD, cephalopelvic disproportion  Iv, intravenous  TR, transfer
CS, caesarean section  Min., minutes  UTI, urinary tract infection
DBP, diastolic blood pressure  MmHg, millimetres of mercury  PV, per vaginal examination
E.g., for example  PROM, premature rupture of membranes  ≤, less than or equal to
FHR, fetal heart rate  RR, respiratory rate  ≥, greater than or equal to

REFERENCES
Adjustments have been made to reach best possible use at Mnazi Mmoja Hospital
World Health Organization’s “Managing Complications in Pregnancy and Childbirth: A Guide for Midwives and Doctors” (2007) was used as the main frame, but supplemented by evidence-based guidelines from Royal College of Obstetrics and Gynaecology, International Federation of Gynecology and Obstetrics, the Advanced Life-saving Skills in Obstetrics course, the LIVKAN chart for pre-eclampsia/eclampsia, and the Safe Delivery App.
UNCOMPLICATED LABOUR: ROUTINE ASSESSMENTS IN LATENT & ACTIVE PHASE

When maternal vital signs, FHR and progress are normal

ON ADMISSION

Obstetric history
Prev. and present pregnancy

Initial assessments
FHR Pulse, BP
Pulse, BP Contractions

Obstetric risks needing extra attention?
E.g. maternal illness, previous CS, concerns for the baby, PROM, meconium stained liquor, vaginal bleeding, induction of labour

LATENT PHASE
Regular painful contractions & cervix < 4 cm

Every 4 hrs.
& when changes occur:
(E.g. rupture of membranes or increasing contractions)

Pulse, BP FHR *
Abdominal exam (lie/presentation?)
PV **
Contractions ***

FIRST STAGE, ACTIVE PHASE
Cervix 4 - 9 cm ****

Every ½ hr. (every 1 hr. as a minimum):
FHR*

Every 2 hrs.:
Contractions **
Urine output (encourage bladder emptying spontaneously)

Every 4 hrs.:
PV **
Pulse, BP

SECOND STAGE, ACTIVE PHASE
Cervix fully dilated

Monitor FHR closely *:
Before pushing: Every 15 min.
When pushing: After every contraction

Assure emptying bladder before starting to push and every ½ hr.

Contractions & PV **:
Every ½ hr.

Pulse & BP: As in first stage of labour

* AUSCULTATION OF FHR

Auscultate after a contraction for minimum 1 min.
Always assure that it is FHR and not maternal Pulse

** PV - What to assess?
Cervical dilatation and state of cervix
(effacement, thin/thick, rigid/soft, oedematous)
Vagina (warm+moist/hot+dry)
State of membranes
Head descent (in relation to ischial spines or fifths of head palpable)
Colour of liquor if ruptured membranes
Presentation and position
Moulding & caput (if membranes are ruptured)

*** CONTRACTIONS
Contractions are assessed by palpating the abdomen for 10 min. and carefully registering frequency and duration of each uterine tightening.

! Strong contractions are 3-5 contractions per 10 min., each lasting more than 40 sec.

**** TRANSFER TO ACTIVE PHASE

! Active phase starts when cervix is 4 cm dilated

! If the patient is admitted in latent phase, when active phase starts, all observations must be transferred to the alert line (see also the partogram on page 0)
UNCOMPROMISED BIRTH: ROUTINE POST-DELIVERY CARE

AFTER DELIVERY OF BABY
Mother: Active management of third stage
(IM Oxytocin 10 units, controlled cord traction and uterine massage)

Baby: Apgar score * (1 and 5 min.)
Skin-to-skin contact
Breastfeeding (within 30 min.)

BEFORE DISCHARGE
Mother: Pulse, BP, urination, vaginal discharge
Baby: Birth weight

Give instructions:
1. Danger signs for mother & baby (fever, bleeding)
2. Information on any complications
3. Family planning

AFTER DELIVERY OF PLACENTA
Mother: Perineal/genital trauma?
Placenta complete?

EVERY 15 MIN. IN THE FIRST 2 HRS.
Every 30 min. as a minimum
Mother: General condition
Uterine consistency
(height of fundus)
Vaginal blood loss

Baby: Breathing, colour & warmth
Cord bleeding
(teach mother to help assessing)

* APGAR SCORE

<table>
<thead>
<tr>
<th>Appearance</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue/pale all over</td>
<td>Blue/pale limbs &amp; pink body</td>
<td>Pink body &amp; limbs</td>
<td></td>
</tr>
<tr>
<td>Pulse</td>
<td>Absent</td>
<td>&lt; 100</td>
<td>≥ 100</td>
</tr>
<tr>
<td>Grime</td>
<td>No response to stimulation</td>
<td>Grimace when stimulated</td>
<td>Cry when stimulated</td>
</tr>
<tr>
<td>Activity</td>
<td>None</td>
<td>Some flexion</td>
<td>All limbs flexed</td>
</tr>
<tr>
<td>Respiration</td>
<td>Absent</td>
<td>Weak</td>
<td>Strong</td>
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</tbody>
</table>

SUPPORTIVE CARE DURING LABOUR & DELIVERY
Routine care for ALL women in labour

1. Respect, empathy & caring support
2. Timely assessments, documentation & analyses of the partogram (remember the 3 diagnostic questions, page 0)
3. Clear, timely and supportive communication
4. Privacy and confidentiality
5. Cleanliness:
   - Strict hand washing before and after procedures
   - Gloves for all procedures, e.g. PVs
   - Wash hands before and after PV
   - Ensure cleanliness of birthing area & clean up spills immediately
   ! Alcohol handrub is the best disinfectant
   ! Do not share towels or soap
6. Ambulation (position of woman's choice)
7. Urination
   (encourage spontaneous bladder emptying every 2 hrs.)
8. Eating and drinking freely
### FETAL HEART RATE (FHR) & LIQUOR

#### FETAL HEART RATE (FHR)

<table>
<thead>
<tr>
<th>FHR (bpm)</th>
<th>Normal FHR (FHR 120-160 bpm)</th>
<th>Non-reassuring FHR (FHR 161-180 bpm)</th>
<th>Abnormal FHR (continuous FHR &gt; 180 bpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>180</td>
<td>First stage of active labour: FHR every 30 min.</td>
<td>Intrauterine resuscitation*, FHR every 15 min.</td>
<td>Suspect fetal distress and/or maternal infection: Pulse, BP, Temp (if fever, see page 6)</td>
</tr>
<tr>
<td>170</td>
<td>Second stage of active labour: FHR every 15 min. when descending to pelvic floor</td>
<td></td>
<td>Intrauterine resuscitation*, FHR every 15 min.</td>
</tr>
<tr>
<td>160</td>
<td>FHR after every contraction when pushing</td>
<td></td>
<td>If no improvement after 1 hr.: Fast delivery by vacuum extraction or CS (page 7)</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140</td>
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<td>130</td>
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<tr>
<td>70</td>
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</tbody>
</table>

#### LIQUOR (I/C/B/M)

Blood stained liquor / Antepartum bleeding
- Observe for signs of shock (page 6)
- Cause of bleeding?:
  1. Abruptio placenta
  2. Ruptured uterus
  3. Placenta praevia
  4. Vasa praevia
  5. Other cause

- **Meconium**
  - Can be a sign of fetal distress: Assess FHR and signs of obstruction (page 4)
  - At delivery: IMMEDIATE suctioning of baby’s nose and mouth (before drying baby)

- **Pushing is the most dangerous time for the baby:**
  - FHR after every contraction & constant attendance

- **Always ensure that it is FHR, not maternal pulse**

#### **INTRAUTERINE RESUSCITATION**

- Woman on left side (if no improvement, then right side)
- Stop oxytocin if administered
- Assess Pulse, BP, FHR, PV, Temp

#### **FHR NOT HEARD**

**Confirmation of absent FHR:**
- Ask colleague to reassess FHR (with Dopptone) & perform ultrasound

**Confirmed intrauterine fetal death:**
- Plan for vaginal birth:
  - Induction/augmentation of labour
  - Craniotomy (if obstructed labour)
  - Observe for signs of infection and treat (page 6)
  - Provide emotional support

- CS only as last option or if severe maternal compromise

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SECOND STAGE OF ACTIVE PHASE OF LABOUR  
Cervix fully dilated

<table>
<thead>
<tr>
<th>≤ 1 hr. and pushing ≤ 30 min.</th>
<th>1-2 hrs and/or pushing 30-60 min.</th>
<th>&gt; 2 hrs and/or pushing &gt; 1 hr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive / encouraging care</td>
<td>Exclude malposition</td>
<td>Vacuum extraction (page 7)</td>
</tr>
<tr>
<td></td>
<td>Consider augmentation:</td>
<td>(if bony part of fetal head at or below ischial spines)</td>
</tr>
<tr>
<td></td>
<td>(if presenting part not visible at vulva)</td>
<td>CS as last resort</td>
</tr>
<tr>
<td></td>
<td>- ARM &amp; Oxytocin **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- IV Normal Saline or Ringer’s Lactate 250 mL/hr. (if BP &lt; 140/90)</td>
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<tr>
<td></td>
<td>PV every 15-30 min.</td>
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</tr>
</tbody>
</table>

** 5 Ps - why poor progress of labour?**

- **Power**: If <4 strong contractions /10 min., augment: ARM, IV fluid, ambulation, oxytocin ** (see specific instructions above)
- **Psyche**: Encourage, reassure, reduce anxiety
- **Passenger**: Malposition/malpresentation? (if yes, vaginal delivery possible?)
- **Pelvis**: True CPD may be considered when failed trial of augmentation

**oxytocin augmentation**

**Indication:** Severe poor progress of labour and <4 strong contractions /10 min.
**Start dose:** Oxytocin 2.5 units in 500 ml Normal Saline or Ringer’s Lactate at 10 drops/min.
**Every 15 min.:** Carefully count FHR, contractions, oxytocin drops per min.
**Every 30 min.:** Increase infusion rate by 5 drops/min. hourly until 4-5 strong contractions/10 min. Maximum 60 drops/min. Maintain this rate until delivery.  

**NEVER > 5 CONTRACTIONS per 10 MIN.**
If hyperstimulation, stop oxytocin.
# SEVERE Hypertension / Pre-eclampsia:

### Medication (SLOWLY):
- Anticonvulsant * & Antihypertensive **

### Assess every 30 min. (use the specific observation sheets):
- Pulse, BP, RR, Temp, FHR, GCS

### Symptoms of organ failure *** or Magnesium Sulphate toxicity *?
- Ask patient and assess lungs, urine output, urine dipstick, patellar reflexes

### Strict fluid balance:
- Catheterize bladder (fluid intake & output, proteinuria)
- If urine output <30mL/hr.: IV Ringer’s Lactate 1L in 8 hrs

### Plan for delivery within 12 hrs. of admission (if at all possible, vaginal delivery is preferable)

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# MILD-MODERATE Hypertension / Pre-eclampsia:

### Ask & observe for symptoms of organ failure ***
- Assess lungs, urine output, proteinuria, patellar reflexes
- Reassess Pulse & BP every hr. FHR every 30 min.

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# NORMAL

### BP every 4 hrs.
(for other routine assessments, see page 1)

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# **ANTIHYPERTENSIVE**

### MAGNESIUM SULPHATE (50%):

#### Loading dose:
- IV 4 g in 250 mL Normal Saline SLOWLY over 15 min.
- IM 5 g + 1 mL 2% Lignocaine in each buttock

#### Maintenance dose:
- IM 5g + 1mL 2% Lignocaine every 4 hrs, alternate buttocks

#### Check for toxicity and DO NOT repeat dose if:
- RR < 16/min.
- Urinary output < 30 ml/hr.
- Patellar reflexes diminished or absent

#### Antidote:
- IV Calcium Gluconate 1 gram (10mL in 10% solution) over 10 min.

#### Duration:
- Continue maintenance dose for 24 hrs. after delivery or last convolution, whichever occurs last

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# ***DIAGNOSING PRE-ECLAMPSIA***

### MILD-MODERATE pre-eclampsia:
- Hypertension on two consecutive readings AND Proteinuria ≥ ++

### SEVERE pre-eclampsia:
- Pre-eclampsia AND
- Severe hypertension OR
- Symptoms of organ failure:
  - Headache (persistent & severe)
  - Blurred vision
  - Upper abdominal pain (persistent)
  - Decreased urine production (< 30 ml/hr)
  - Breathlessness (pulmonary oedema)

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# Convulsions (eclampsia):

### Treat as eclampsia until other diagnosis is confirmed

1. Shout for help
2. Airways and breathing
3. Position on left side and protect from injuries
4. Insert IV lines
5. Start Magnesium Sulphate SLOWLY *
6. Oxygen by mask / nasally

Additional management as for severe pre-eclampsia

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# Other considerations:

- SBP ≥ 160 and/or DBP ≥ 110 (mmHg)
- SBP 140-159 and/or DBP 90-109 (mmHg)
- SBP 100-139 and/or DBP 60-89 (mmHg)

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# Version 1.2

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LOW BLOOD PRESSURE (BP), HIGH PULSE & HIGH TEMPERATURE (Temp)

LOW BLOOD PRESSURE (BP) OR LOW/HIGH PULSE

- SBP < 100 (mmHg)

  Immediate danger signs?:
  - SBP < 90 (SHOCK)
  - Unconscious (if convulsions, see page 5)
  - Cardiac arrest (START CARDIAC MASSAGE & VENTILATION)

- or

  Pulse < 60 bpm
  or Pulse > 110 bpm (also see below)

  Elevate legs

  Vital signs every 15 min.:
  Pulse, BP, RR, temp, PV, blood loss, FHR, urine output

  Oxygen (by mask / nasal cannulae)

  Collect blood
  Haemoglobin, blood group, cross-match and clotting-test

  Insert IV lines (wide bore cannula):
  IV Normal Saline or Ringer’s Lactate 2L in 20-40 min.

  Catheterize bladder (fluid intake and output)

  Determine & manage cause:
  1. bleeding
  2. sepsis
  3. trauma
  4. cardiac
  5. other

HIGH PULSE (P)

- Pulse > 100
  OR FHR > 160

  Consider maternal infection, dehydration or bleeding?
  - Pulse, BP, RR, Temp, FHR every 15-30 min.
  - Uterine pain?
  - PV (blood loss, foulsmelling vaginal discharge)
  - Sufficient fluid intake?

  If P > 110: SUSPECT SHOCK (see above)

HIGH TEMPERATURE (Temp)

- Temp ≥ 38°C = FEVER

  Antibiotics until delivery:
  For example (if not allergic):
  Ampicillin 2g IV /6 hours AND Gentamicin 5 mg/kg IV /24 hrs.

  Tablet Paracetamol 1 gram every 6 hrs.

  Consider diagnosis & order relevant laboratory tests:
  UTI, Chorioamnionitis, Malaria, Sepsis
  (remember to adjust treatment accordingly)

  Plan for delivery within 12 hrs.
  (If latent phase, augment labour, page 4)

  Measure Pulse, BP, RR, FHR every 15-30 min. Measure Temp hourly
**Contraindications for CS:**
If the woman is medically unstable (e.g. severe hypertension), it is recommended that the maternal condition is stabilized first, and delivery considered only for obstetric indications.

**Maximum time from deciding on emergency CS to delivery:**
- **If fetal or maternal compromise:** 30 minutes
  *(E.g. fetal distress, cord prolapse with pulsating cord, severe antepartum haemorrhage, maternal medical condition)*
- **If no maternal or fetal compromise, but early delivery is needed:** 75 minutes
  *(E.g. poor progress in active labour, 2 times previous lower segment CS, placenta praevia)*

**VACUUM EXTRACTION**

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**Most important indications:**
- Fetal distress *(page 3)*
- Poor progress in second stage of labour *(page 4)*

**Required beforehand:**
1. Cervix fully dilated
2. Cephalic presentation, membranes ruptured
3. Fetal head at or below ischial spines *(level 1/5 or 0/5)*
4. Gestational age 34 weeks or more
5. Birth attendant trained in vacuum extraction

**The A-J approach to vacuum extraction:**

A **Ask for help**
Address the patient
*(inform that you need patient to cooperate and keep pushing when there is contraction)*

Abdominal Palpation *(descent of head)*

B **Bladder empty?**

C **Cervix must be fully dilated**
Contractions are needed *(oxytocin needed? Page 4)*

D **Determine position of the head**
*(locate the posterior triangular fontanel)*

E **Equipment ready?**
*(delivery tray, towels, neonatal resuscitator, vacuum extractor)*

F **Flexion point must be located**
*(place the edge of the cup at the tip of the posterior triangular fontanel)*
Feel for vaginal tissue between cup and fetal skull to avoid perineal trauma
*(before and after applying suction)*

G **Gentle, steady traction with no rocking during contractions**
*(first contractions downward traction, during following contractions more upward)*

H **HALT traction between contractions**
- HALT and abandon if 3 pop-offs
- HALT if 3 pulls with no progress
- HALT after 20 min. of use *(if delivery not achieved)*

I **Intact perineum! When head is delivered, protect perineum with one hand**
*(incision is only rarely needed)*

J **When the Jaw is reachable, release vacuum and remove cup**

* ! **If the procedure is not possible or fails, CS should be performed immediately**

* ! **Compared to spontaneous vaginal birth, vacuum extraction has increased risk of perineal trauma and minor trauma to the head of the baby**

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Guidelines development team:
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Internal review:
The guidelines were reviewed twice at Mnazi Mmoja Hospital; first by six nurse-midwives and doctors, and secondly by a 4 weeks pilot testing and evaluation by 32 birth attendants.

External peer-review:
The PartoMa guidelines are peer-reviewed by seven international experts specialized in midwifery/obstetrics.

Continual adjustments to reach reality in the best possible way:
Suggestions for improvements are always welcome. Thank you to the entire group of birth attendants at Mnazi Mmoja Hospital who have helped adjusting the guidelines during the first year.

More information on the PartoMa study:
publichealth.ku.dk/sections/global/project/partoma/

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All reasonable precautions have been taken by the PartoMa study team to verify the information contained in this publication, and both text and graphical presentations are internationally peer-reviewed. The PartoMa guidelines are primarily developed to guide the health providers to the best possible care in the low resourced referral hospital of Zanzibar, Mnazi Mmoja Hospital. The material is being distributed without warranty of any kind, and the responsibility for the interpretation and use of the material lies with the reader.